

SAN DIEGO GAS & ELECTRIC COMPANY'S ARTESIAN 230KV SUBSTATION EXPANSION PROJECT

CPUC A.16-08-010

Initial Study / Mitigated Negative Declaration

Prepared for
California Public Utilities Commission

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TABLE OF CONTENTS

San Diego Gas and Electric's Artesian 230kV Substation Expansion Project Initial Study / Mitigated Negative Declaration (A.16-08-010)

	<u>Page</u>
Acronyms and Abbreviations	vii
Executive Summary	ES-1
Introduction	ES-1
Project Description	ES-1
Environmental Determination	ES-2
1. Introduction	1-1
1.1 CEQA Process	1-1
1.2 Public Review Process	1-2
1.3 CPUC Jurisdiction	1-2
1.4 References	1-3
2. Project Description	2-1
2.1 Introduction	2-1
2.2 Proposed Project Location and Overview	2-1
2.3 Existing System	2-4
2.4 SDG&E's Proposed Project	2-7
2.5 Right-of-Way Requirements	2-35
2.6 Construction	2-36
2.7 Operation and Maintenance	2-66
2.8 Applicant Proposed Measures	2-69
2.9 Electric and Magnetic Fields Summary	2-70
2.10 Required Approvals	2-71
2.11 References	2-72
3. Environmental Checklist and Discussion	3-1
3.1 Aesthetics	3.1-1
3.2 Agriculture and Forestry Resources	3.2-1
3.3 Air Quality	3.3-1
3.4 Biological Resources	3.4-1
3.5 Cultural Resources	3.5-1
3.6 Energy Conservation	3.6-1
3.7 Geology, Soils, and Seismicity	3.7-1
3.8 Greenhouse Gas Emissions	3.8-1
3.9 Hazards and Hazardous Materials	3.9-1

	<u>Page</u>
3. Environmental Checklist and Discussion (continued)	
3.10 Hydrology and Water Quality	3.10-1
3.11 Land Use and Planning	3.11-1
3.12 Mineral Resources	3.12-1
3.13 Noise and Acoustics	3.13-1
3.14 Population and Housing	3.14-1
3.15 Public Services	3.15-1
3.16 Recreation	3.16-1
3.17 Transportation and Traffic	3.17-1
3.18 Utilities and Service Systems	3.18-1
3.19 Mandatory Findings of Significance	3.19-1
4. Report Preparers	4-1
5. Mitigation Monitoring, Reporting and Compliance Program	5-1

Appendices (*provided on CD*)

A. Mailing List	A-1
B. Field Management Plan	B-1
C. Air Quality and GHG Emission Calculations	C-1
C.1 Supplement to SDG&E Construction Emission Estimates	C.1-1
C.2 SDG&E Construction Emission Estimates	C.2-1
C.3 Health Risk Assessment	C.3-1

List of Figures

2-1	Proposed Project Location Map	2-2
2-2	Existing and Proposed System Configurations	2-5
2-3	Existing System Configuration and NERC Violation in Poway Area Load Pocket	2-6
2-4	Artesian Substation site Plan	2-8
2-5	Project Overview	2-9
2-5a	Proposed Project Detailed Route Map	2-13
2-5b	Proposed Project Detailed Route Map	2-14
2-5c	Proposed Project Detailed Route Map	2-15
2-5d	Proposed Project Detailed Route Map	2-16
2-5e	Proposed Project Detailed Route Map	2-17
2-5f	Proposed Project Detailed Route Map	2-18
2-5g	Proposed Project Detailed Route Map	2-19
2-5h	Proposed Project Detailed Route Map	2-20
2-5i	Proposed Project Detailed Route Map	2-21
2-5j	Proposed Project Detailed Route Map	2-22
2-6	Diagram of Typical Underground Connection	2-25
2-7	Typical Tubular Steel 230kV Dead-End Foundation Pole (1 of 4)	2-29
	Typical 69kV Steel Double Circuit Direct Buried Pole (2 of 4)	2-30
	Typical 69kV Steel Double Circuit Dead-End Foundation Pole (3 of 4)	2-31
	Typical 69kV Double Circuit Steel Cable Pole (4 of 4)	2-32
2-8	Photographs of Typical Structures	2-33
3.1-1	Photographic Viewpoints	3.1-4
3.1-2a	Representative Photographs VP 1 & 2	3.1-5

	<u>Page</u>
List of Figures (continued)	
3.1-2b Representative Photographs VP 3 & 4.....	3.1-6
3.1-2c Representative Photographs VP 5 & 6.....	3.1-7
3.1-2d Representative Photographs VP 7 & 8.....	3.1-8
3.1-2e Representative Photographs VP 9 & 10.....	3.1-9
3.1-2f Representative Photographs VP 11 & 12.....	3.1-10
3.1-2g Representative Photographs VP 13 & 14.....	3.1-11
3.1-2h Representative Photographs VP 15 & 16.....	3.1-12
3.1-2i Representative Photographs VP 17 & 18.....	3.1-13
3.1-2j Representative Photographs VP 19 & 20.....	3.1-14
3.1-2k Representative Photographs VP 21 & 22.....	3.1-15
3.1-3 Existing View and Visual Simulation from Camino del Sur.....	3.1-24
3.1-4 Existing View and Visual Simulation from Camino del Sur at Babcock Street	3.1-25
3.1-5 Existing View and Visual Simulation from Camino del Sur at Maranatha Drive ...	3.1-26
3.1-6 Existing View and Visual Simulation from Camino del Sur near Babcock Street .	3.1-27
3.1-7 Existing View and Visual Simulation from White Alder Court	3.1-28
3.1-8 Existing View and Visual Simulation from Rancho Bernardo Road at Camino del Norte.....	3.1-29
3.1-9 Existing View and Visual Simulation from Rancho Bernardo Road.....	3.1-30
3.2-1 California Department of Conservation Important Farmland	3.2-3
3.4-1a Vegetation Communities	3.4-3
3.4-1b Vegetation Communities	3.4-4
3.4-1c Vegetation Communities	3.4-5
3.4-1d Vegetation Communities	3.4-6
3.4-1e Vegetation Communities	3.4-7
3.4-1f Vegetation Communities	3.4-8
3.4-1g Vegetation Communities	3.4-9
3.4-1h Vegetation Communities	3.4-10
3.4-1i Vegetation Communities	3.4-11
3.4-1j Vegetation Communities	3.4-12
3.4-2a CNDDDB & USFWS Documented Species Occurrences Map	3.4-25
3.4-2b CNDDDB & USFWS Documented Species Occurrences Map	3.4-26
3.4-2c CNDDDB & USFWS Documented Species Occurrences Map	3.4-27
3.4-3 USFWS Designated Critical Habitat	3.4-37
3.7-1 Geologic Units in the Study Area.....	3.7-3
3.7-2 Soils in the Project Area.....	3.7-5
3.7-3 Faults and Geologic Hazard Zones in the Study Area.....	3.7-8
3.9-1 Fire Hazard Zone	3.9-5
3.10-1 Surface Hydrology and 100 Year Flood Zones in the Project Vicinity	3.10-3
3.11-1 Local Jurisdictions and Communities	3.11-2
3.11-2 Land Use Designations	3.11-3
3.11-3 Zoning Designations.....	3.11-4
3.11-4 Habitat Conservation Plans.....	3.11-5
3.13-1 Noise Measurement Locations	3.13-6
3.13-2 Predicted Noise Level Contours for the Artesian Substation.....	3.13-14
3.19-1 Cumulative Projects	3.19-4

	<u>Page</u>
List of Tables	
ES-1 Permits and Approvals that May Be Required.....	ES-4
ES-2 Environmental Impacts with Implementation of Applicant Proposed Measures and Mitigation Measures	ES-6
2-1 Forecasted Non-Coincident Loads (MW) in Poway Area Load Pocket	2-4
2-2 Project Components.....	2-12
2-3 Transmission, Distribution, and Power Line Components	2-28
2-4 Typical Pole Metrics	2-34
2-5 Transmission, Distribution, and Power Line Structures	2-35
2-6a Construction Phasing	2-36
2-6b Construction Schedule	2-37
2-7 Project Temporary and Permanent Ground Disturbance	2-37
2-8 Approximate Access Road Metrics.....	2-42
2-9 Proposed Project Cut and Fill Summary	2-46
2-10 Common Destination of Retired Project Components	2-48
2-11 Construction Equipment and Use.....	2-58
2-12 Construction Personnel Daily Trips	2-63
2-13 Daily Hauling Trips for Major Construction Tasks.....	2-64
2-14 Peak Daily Traffic Trips	2-65
2-15 Operation and Maintenance Increase Summary	2-66
2-16 Applicant Proposed Measures	2-69
2-17 Anticipated Potential Permit, Approval, and Consultation Requirements	2-71
3.1-1 Summary of Project Components, Primary Viewers, Representative Photographs, and Visual Simulations.....	3.1-3
3.1-2 Guidelines for Determining Adverse Visual Impact Significance	3.1-22
3.3-1 Air Quality Data Summary (2011-2015) for the Study Area.....	3.3-4
3.3-2 Study Area Attainment Status	3.3-5
3.3-3 National and State Ambient Air Quality Standards	3.3-7
3.3-4 Maximum Daily Construction Emissions Summary	3.3-13
3.3-5 Maximum Increase in Carcinogenic Risk for Off-Site Sensitive Receptors	3.3-16
3.4-1 Vegetation Communities within the Study Area	3.4-13
3.4-2 Special-Status Wildlife Species with Potential to Occur in the Study Area	3.4-18
3.4-3 Potential for Special-Status Plant Species to Occur in the Study Area	3.4-30
3.4-4 Special-Status Plant Species Observed within the Study Area	3.4-36
3.4-5 Impacts to Sensitive Vegetation Communities	3.4-52
3.5-1 Resources within and Adjacent to the Proposed Project Site.....	3.5-7
3.7-1 Geologic Units in the Study Area.....	3.7-2
3.8-1 California GHG Emissions.....	3.8-3
3.8-2 Proposed Project Construction GHG Emissions	3.8-10
3.8-3 Proposed Project Amortized Annual Emissions	3.8-11
3.9-1 Hazardous Materials Sites in the Study Area	3.9-3
3.9-2 Schools within 0.25 Mile of the Proposed Project Site	3.9-3
3.10-1 Designated Beneficial Uses of Water Bodies in the Study Area.....	3.10-5
3.11-1 Jurisdictions of the Project Sites and Alignments	3.11-8
3.11-2 San Diego County Zoning Ordinance Permitted Uses	3.11-11
3.11-3 County of San Diego Zoning for Incorporated Areas and Permitted Uses	3.11-14
3.12-1 California Mineral Land Classification System Category Descriptions	3.12-3
3.13-1 Ambient Noise Measurements	3.13-5
3.13-2 County and City of San Diego Sound Level Limits	3.13-7
3.13-3 Maximum Sound Level Limits for Impulsive Noise	3.13-8
3.13-4 Artesian Substation Expansion Construction Noise Levels at Existing Land Uses	3.13-10

	<u>Page</u>
List of Tables (continued)	
3.13-5 Vibration Source Levels from Construction Equipment	3.13-15
3.13-6 Vibration Source Levels from Blasting.....	3.13-16
3.14-1 Projected Population Growth, 2010 – 2050	3.14-1
3.14-2 2010 Housing Data Estimates	3.14-2
3.17-1 Summary of Study Area Roadway Characteristics.....	3.17-2
3.17-2 Level of Service Definitions	3.17-3
3.17-3 Bus Lines within the Study Area.....	3.17-4
3.18-1 Landfills to be Used by the Proposed Project.....	3.18-3
3.19-1 Cumulative Scenario	3.19-5
5-1 Mitigation Monitoring, Reporting, and Compliance Program for the SDG&E Artesian 230kV Substation Expansion Project	5-10

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ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
ac	acre
ACSR	aluminum conductor steel reinforced
ACSS	aluminum conductor steel supported
ags	above ground surface
AIA	Airport Influence Area
AIS	Air Insulated Substation
APLIC	Avian Power Line Interaction Committee
ALUC	Airport Land Use Commission
ALUCP	Airport Land Use Compatibility Plan
amsl	above mean sea level
APM	Applicant Proposed Measure
APN	Assessor's Parcel Number
ARPA	Archaeological Resource Protection Act
ASCE	American Society of Civil Engineers
ATCM	Airborne Toxic Control Measure
BAAQMD	Bay Area Air Quality Management District
BGEPA	Bald Eagle and Golden Eagle Protection Act
BLM	United States Department of Interior, Bureau of Land Management
BMP	Best Management Practice
BUOW	Western burrowing owl
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
Cal/EPA	California Environmental Protection Agency
CAL FIRE	California Department of Forestry and Fire Protection
Cal/OSHA	California Occupational Safety and Health Administration
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CBC	California Building Code
CCR	California Code of Regulations
CDC	California Department of Conservation
CDFW	California Department of Fish and Wildlife
CDPH	California Department of Public Health
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations

CGS	California Geological Survey
CH ₄	methane
CIWMP	Countywide Integrated Waste Management Plan
CMP	Congestion Management Plan
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	carbon monoxide
CO ₂	carbon dioxide
CO ₂ e	carbon dioxide equivalent
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources
CRPR	California Rare Plant Rank
CWA	Federal Water Pollution Control Act (Clean Water Act)
dB	decibel
dBA	A-weighted decibel
DHS	California Department of Health Services
DOT	United States Department of Transportation
DPM	diesel particulate matter
DTSC	United States Department of Toxic Substance Control
DWR	California Department of Water Resources
EDCAQMD	El Dorado County Air Quality Management District
EDCTC	El Dorado County Transportation Commission
EIR	Environmental Impact Report
EMF	Electric and Magnetic Fields
EPRI	Electric Power Research Institute
ESA	Environmental Science Associates
FAA	Federal Aviation Administration
FE	Federally Endangered
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
FMMP	Farmland Mapping and Monitoring Program
FR	Federal Register
ft	foot
FTA	Federal Transit Authority
GHG	greenhouse gas
GIS	Geographic Information System
GO	General Order
GWP	global warming potential

Ha	hectare
HFC	hydrofluorocarbon
Hz	hertz
I	Interstate
IBC	International Building Code
IEEE	Institute of Electrical and Electronic Engineers
in.	inches
INRMP	Integrated Natural Resources Management Plan
IPCC	Intergovernmental Panel on Climate Change
IS	Initial Study
IS/MND	Initial Study/Mitigated Negative Declaration
KOP	Key Observation Point
km	kilometer
kV	kilovolt
LED	Light-emitting diode
LDR	Low-Density Residential
LDS	light-duty steel
L_{dn}	day-night noise level
L_{eq}	equivalent sound level
L_{max}	maximum sound level
L_{min}	minimum sound level
LOS	Level of Service
LST	lattice steel tower
L_x	The sound level that is equaled or exceeded x percent of a specified time period.
m	meter
MBTA	Migratory Bird Treaty Act
mi	mile
MMRCP	Mitigation Monitoring, Reporting, and Compliance Program
MND	Mitigated Negative Declaration
mph	miles per hour
MRDS	Mineral Resources Data System
MRZ	Mineral Resource Zone
MSDS	Material Safety Data Sheet
msl	mean sea level
MW	megawatt
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCIC	North Central Information Center
NAGPRA	Native American Graves Protection and Repatriation Act

NHPA	National Historic Preservation Act
NO	nitric oxide
NO ₂	nitrogen dioxide
NOI	Notice of Intent
NOP	Notice of Preparation
NO _x	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
O&M	Operation and Maintenance
OEHHA	Office of Environmental Health Hazard Assessment
OHWM	Ordinary High Water Mark
OSHA	Occupational Safety and Health Administration
PEA	Proponent's Environmental Assessment
PGA	peak ground acceleration
PM ₁₀	particulate matter less than 10 microns in diameter
PM _{2.5}	particulate matter less than 2.5 microns in diameter
PPV	peak particle velocity
Project	Artesian 230kV Substation Expansion Project
PSHA	Probabilistic Seismic Hazard Assessment
PTC	Permit to Construct
QSP	qualified SWPPP practitioner
RAQS	Regional Air Quality Strategy
RCNM	Roadway Construction Noise Model
RCRA	Resource Conservation and Recovery Act
ROG	reactive organic gases
ROW	right(s)-of-way
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCAQMD	South Coast Air Quality Management District
SDC	Seismic Design Category
SDG&E	San Diego Gas and Electric Company
SE	State Endangered under CESA
SF ₆	sulfur hexafluoride
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SLF	Sacred Land Files
SMARTS	Stormwater Multiple Applications and Report Tracking Systems
SDAPCD	San Diego Air Pollution Control District
SO ₂	sulfur dioxide
SPCC	Spill Prevention and Control Countermeasures

SSC	CDFW Species of Special Concern
ST	Threatened under CESA
SVRA	State Vehicular Recreation Area
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	Toxic Air Contaminant
TL	Transmission Line
TSP	tubular steel pole
UBC	Uniform Building Code
UCMP	University of California's Museum of Paleontology
USACE	United States Army Corps of Engineers
USC	United States Code
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
v/c	volume/capacity ratio
WDR	waste discharge requirement

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EXECUTIVE SUMMARY

Introduction

San Diego Gas and Electric Company (SDG&E), in its California Public Utilities Commission (CPUC) application (A.16-08-010), filed on August 17, 2016, proposed to expand the existing Artesian Substation to enable an addition of a 230/69kV yard to alleviate the existing 69kV congestion at the existing Sycamore Canyon Substation (Proposed Project), pursuant to CPUC General Order (GO) 131-D. The application includes the Proponent's Environmental Assessment (PEA) prepared pursuant to Rule 2.4 of the CPUC's Rules of Practice and Procedure.

The Proposed Project is subject to the California Environmental Quality Act (CEQA). CEQA requires a lead agency, here, the CPUC, to prepare an Initial Study (IS) to determine if the project may have a significant effect on the environment (CEQA Guidelines §15063(a)). If the agency determines there is substantial evidence that the project may cause a significant effect on the environment, it shall prepare an Environmental Impact Report (EIR). The lead agency shall prepare a negative declaration if there is no substantial evidence that the project may cause a significant effect on the environment (CEQA Guidelines § 15063(b)). If the IS identifies potentially significant effects of the project but the applicant agrees to revisions that would avoid or mitigate the effects to a point where clearly no significant effects would occur, then a Mitigated Negative Declaration (MND) shall be prepared (Pub. Res. Code §§21064.5, 21080(c); 14 Cal. Code §§15064(f)(2), 15070(b)).

Based on the analysis in the Initial Study/proposed Mitigated Negative Declaration (IS/MND), it has been determined, based on substantial evidence, that, through the incorporation of feasible mitigation measures agreed to by SDG&E all potentially significant environmental impacts of the Proposed Project would be avoided or reduced to a point where clearly no significant effects would occur. For this reason, adoption of an IS/MND would satisfy the requirements of CEQA.

Project Description

The Proposed Project consists of the following primary components:

- Within SDG&E's fee-owned property, build a new 230/69kV air insulated substation (AIS) at the existing 69/12kV Artesian Substation site;
- Within SDG&E's fee-owned property adjacent to the existing Artesian Substation site, relocate, rebuild and expand the existing 69kV facility with a new substation;
- Loop in existing 230kV TL23051 into the new 230kV substation yard at Artesian Substation.

- Reconnector an existing double-circuit 69kV power line (2.2 miles) located between the Artesian and Bernardo Substations, including the replacement of existing wood pole structures with new steel pole structures as needed, and the removal of some existing pole structures from service;
- Construction of new underground 69kV powerline getaways (0.8 mile) outside the existing Artesian and Bernardo substations;
- Minor distribution line upgrades, including the removal of existing distribution underbuild¹ and wood pole structures; and
- Minor modifications at the existing Bernardo (2.1 acres) and Rancho Carmel (1.3 acres) substations within the existing footprints.

Environmental Determination

The IS/MND was prepared to identify the potential environmental effects resulting from implementation of the Proposed Project, evaluate the level of significance of these effects, and identify the revisions in the Proposed Project agreed to by SDG&E that would avoid the effects or reduce them below established thresholds of significance. The IS/MND relies on information from SDG&E's Application for a Permit to Construct, the PEA, Project site reconnaissance, SDG&E's responses to data requests by the CPUC, and the environmental expertise of the CPUC's consultant, who prepared the IS/MND.

SDG&E identified a number of Applicant Proposed Measures (APMs) to avoid or reduce potential impacts associated with the Proposed Project. All APMs are considered part of the Proposed Project for the purpose of this IS/MND and, upon adoption of the Final MND, would become part of the Mitigation Monitoring, Reporting, and Compliance Program to assure that implementation of and compliance with the APMs would be monitored and enforced by the CPUC. Based on the analysis documented in the IS/MND, in addition to implementation of APMs, mitigation measures are recommended for the following resource areas, to reduce impacts of the Proposed Project to a less than significant level:

- | | |
|------------------------|-----------------------------------|
| • Air Quality | • Hazards and Hazardous Materials |
| • Biological Resources | • Noise and Vibration |
| • Cultural Resources | • Utilities and Service Systems |

The mitigation measures either supplement or supersede the APMs as indicated. SDG&E has agreed to implement all of the recommended mitigation measures as part of the Proposed Project. Upon adoption of the Final MND, the recommended mitigation measures would become part of the Project Mitigation Monitoring, Reporting, and Compliance Program.

¹ "Underbuild" refers to the practice where lower voltage conductor (typically distribution) is located on higher voltage pole structures, placed between the ground and the higher voltage lines.

Environmental impacts, APMs, and mitigation measures for the Proposed Project are provided in Section 3 of this IS/MND. **Table ES-2** identifies the environmental impacts of the Project and recommended mitigation measures. The draft Mitigation Monitoring, Reporting, and Compliance Plan included in Section 5 of this IS/MND will be updated if needed to reflect the CPUC's decision on the Project, including any revisions to the mitigation measures that must be implemented if the Proposed Project is approved.

Required Approvals

The Proposed Project would require federal and state permits associated with ground-disturbing work. Local permits also would be required for grading and construction within, under, or over roadways.

TABLE ES-1
PERMITS AND APPROVALS THAT MAY BE REQUIRED

Permit/Approval/Consultation	Agency	Jurisdiction/Purpose	Permit Status
Federal Agencies			
Federal Endangered Species Act	United States Fish & Wildlife Service (USFWS)	Take of listed species during installation of new facilities	TBD ¹
Lighting and Aerial Marking	Federal Aviation Authority	Construction of overhead facilities potentially requiring aerial marking	To be submitted, anticipated to be required
State Agencies²			
Permit To Construct	CPUC	Overall project approval and CEQA review	PEA submitted concurrent with PTC application
NPDES-General Construction Permit	State Water Resources Control Board	Stormwater discharges associated with construction activities disturbing more than one acre of land.	To be submitted
California Endangered Species Act	California Department of Fish and Wildlife (CDFW)	Take of listed species during installation of new facilities	TBD ¹
Waste Discharge Waiver or General Order	State/Regional Water Quality Control Board (WQCB)	Use of Recycled Water for Construction	To be submitted
Superload (Oversize) Load Permit	Caltrans	Transport of 230/69 kV transformers (oversized loads)	To be submitted
Local Agencies			
Encroachment Permit and Traffic Control Plan(s)	City of San Diego	Construction within, under, or over City roadways	To be submitted
Encroachment Permit and Traffic Control Plan(s)	County of San Diego	Construction within, under, or over County roadways	To be submitted
Grading Permit	City of San Diego	Grading at the Artesian Substation expansion Site	To be submitted

NOTES: Table contents based upon preliminary engineering and are subject to change

¹ If required, take authority would be granted through either compliance with the SDG&E Subregional NCCP or through individual permits under Section 10 of the Federal Endangered Species Act and Section 2081 of the California Fish and Game Code. Refer to Section 5.4 for additional information.

² A solid waste disposal permit is not anticipated to be required for the Project

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 or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Based upon an Initial Study, it is determined that the proposed Project WOULD NOT HAVE a significant effect on the environment with the incorporation of the Applicant Proposed Measures (APMs) and mitigation measures (attached). The Initial Study is available for review at the CPUC, 505 Van Ness Avenue, San Francisco, California 94102.



Andrew Barnsdale
Project Manager

February 9, 2018

Date

TABLE ES-2
ENVIRONMENTAL IMPACTS WITH IMPLEMENTATION OF
APPLICANT PROPOSED MEASURES AND MITIGATION MEASURES

Environmental Impact	Applicant Proposed Measures (APM) and Mitigation Measures (MM) Identified in the IS/MND	Significance after APMs and Mitigation
Air Quality	<p>MM AIR-1: Use of Tier-4 Engines. SDG&E (and/or its construction contractor(s)) shall ensure that at least 81 percent of all diesel-powered equipment use (tracked as horse-power hours) during construction activities at Artesian Substation (defined as construction Phases 1, 2, 5, and 6) is from equipment that meet USEPA-certified Tier 4 standards, the highest USEPA-certified tiered emission standards, or are otherwise equipped with Level 3 diesel particulate filters (DPFs). If DPF retrofits are not used as part of the construction fleet, a minimum of 78 percent of the equipment use hours shall be from equipment that are certified Tier 4. An initial listing that identifies each off-road unit's certified tier specification and/or diesel particulate filter status to be operated at the Artesian Substation shall be submitted to the CPUC for review and approval prior to commencement of construction activities at the Artesian Substation site. Construction activities at the Artesian Substation site shall not commence until the equipment listing has been approved by the CPUC. As SDG&E requires new or replacement construction equipment at the Artesian Substation site, SDG&E shall submit verification of the certified engine tier or Level 3 DPF retrofit prior to use on the Project. Prior to the commencement of construction, SDG&E and CPUC shall develop a diesel-powered equipment use hours tracking tool and procedure. The tracking tool shall be utilized by SDG&E (and/or its construction contractor(s)) to keep track of the daily equipment use hours of all diesel-powered equipment. If all diesel-powered equipment is either certified Tier 4 or is retrofitted with a Level 3 DPF, the tracking tool would not be required. The tracking tool shall be maintained by SDG&E and tracking updates shall be submitted to the CPUC on a weekly basis to track the Project's compliance. The updated tracking tool shall be submitted to the CPUC no later than the Wednesday of the following week.</p>	Less than significant.
Biological Resources	<p>APM BIO-1: If work is scheduled to occur within suitable burrowing owl habitat (as determined in the Biological Technical Report), burrowing owl surveys will be conducted prior to construction consistent with the Take Avoidance Surveys described in the 2012 Staff Report on Burrowing Owl Mitigation. If burrowing owls are identified within approximately 150 meters (492 feet) of the proposed work area, SDG&E will implement the recommendations of said staff report to avoid impacts to burrowing owl.</p>	Less than Significant
	<p>APM BIO-2: SDG&E will compensate for temporary and permanent impacts according to Table 7.4 of the SDG&E NCCP.</p>	
	<p>APM BIO-3: If construction occurs during the nesting or breeding season, SDG&E will perform a site survey in the area where the work is to occur. This survey will be performed to determine the presence or absence of nesting birds. If an active nest is identified, (i.e., containing eggs or young) a suitable construction buffer will be implemented to ensure that the birds are not substantially adversely affected. If the birds are federal or state-listed species, SDG&E will consult with the USFWS and CDFW as necessary. Monitoring of the nest will continue until the birds have fledged or construction is no longer occurring on site.</p>	
	<p>APM BIO-4: SDG&E will complete a PSR for the entire Project area prior to construction to verify the location of rare plants.</p>	
	<p>APM BIO-5: SDG&E will complete a PSR for the entire Project area prior to construction to verify the location of sensitive biological resources.</p>	
	<p>APM BIO-6: Prior to the start of construction, SDG&E will conduct training of all project personnel regarding the appropriate work practices necessary to effectively implement the Proposed Project APMs, standard operating procedures, and to comply with the applicable environmental laws and regulations.</p>	

TABLE ES-2 (CONTINUED)
ENVIRONMENTAL IMPACTS WITH IMPLEMENTATION OF
APPLICANT PROPOSED MEASURES AND MITIGATION MEASURES

Environmental Impact	Applicant Proposed Measures (APM) and Mitigation Measures (MM) Identified in the IS/MND	Significance after APMs and Mitigation
Biological Resources (cont.)	APM BIO-7: A biological monitor will be present during ground-disturbing and vegetation removal activities located within environmentally sensitive areas. Immediately prior to initial ground-disturbing activities and/or vegetation removal, the biological monitor will survey the site to ensure that no sensitive species will be impacted.	
	APM BIO-8: If modifications to the pole work areas are required to conduct the work, SDG&E's on-site environmental monitors, as appropriate, will assist construction crews in the field to locate pole work areas that avoid and minimize impacts to sensitive environmental resources.	
	MM BIO-1 Plant Surveys Consistent with the new 5-Year LE-HCP and the existing SDG&E Subregional NCCP, SDG&E will complete a PSR for the entire Project area prior to construction to verify the location of rare plants. Based on the PSR findings, to the extent feasible, the final project design shall avoid and minimize impacts on known special-status plant populations within and adjacent to the construction footprints, with complete avoidance of any non-covered federal or State-listed plant species. SDG&E and/or its contractors shall design facilities to avoid sensitive plant populations whenever possible, shall install exclusion fencing around sensitive plant populations with as large a buffer as possible to minimize the potential for direct and indirect impacts. Any special status plants that cannot be avoided will be mitigated under the terms of the PSR. Mitigation shall include relocation of plants and implementation of a Restoration and Mitigation Plan (see MM BIO-2).	
	MM BIO-2: Plant Salvage and Replanting Where avoidance of non-listed plant species is not feasible even with the implementation of minimization efforts described under MM BIO-1, SDG&E and/or its contractors shall compensate for any loss through plant salvage and replanting, as follows: <ul style="list-style-type: none"> • A qualified ecologist shall develop a Restoration and Mitigation Plan according to CDFW guidelines and in coordination with CDFW. At a minimum, the plan shall include collection of complete plants or reproductive structures (as appropriate) from affected plants, a full description of microhabitat conditions necessary for each affected species, seed germination requirements, proposed restoration techniques for temporarily disturbed occurrences, an assessment of potential transplant and enhancement sites, a description of performance criteria, and a monitoring program to follow the progress of transplanted individuals. 	Less than Significant
	MM BIO-3: QCB compensation. Where avoidance of suitable habitat for QCB is not feasible, SDG&E shall compensate for the loss through habitat-based compensatory mitigation per the SDG&E Low-Effect Habitat Conservation Plan for the Quino Checkerspot Butterfly.	Less than Significant
Cultural Resources	APM CUL-1: Native American monitoring may be implemented if substation, transmission, power or distribution line construction has the potential to impact identified and mapped traditional locations or places. The role of the Native American monitor shall be to represent tribal concerns and communicate with the tribal council. Appropriate representatives will be identified based on the location of the identified traditional location or place.	
	MM CUL-1: Retention of Qualified Archaeologist. Prior to the start of any ground disturbing activity, a qualified archaeologist, defined as an archaeologist meeting the Secretary of the Interior's Standards for professional archaeology (U.S. Department of the Interior, 2008) shall be retained by SDG&E to carry out all mitigation measures related to archaeological resources.	Less than Significant

TABLE ES-2 (CONTINUED)
ENVIRONMENTAL IMPACTS WITH IMPLEMENTATION OF
APPLICANT PROPOSED MEASURES AND MITIGATION MEASURES

Environmental Impact	Applicant Proposed Measures (APM) and Mitigation Measures (MM) Identified in the IS/MND	Significance after APMs and Mitigation
Cultural Resources (cont.)	MM CUL-2: Pre-construction Cultural Resources Sensitivity Training. Prior to the start of any ground-disturbing activity, the qualified archaeologist shall prepare cultural resources sensitivity training materials for use during Project-wide Environmental Awareness Training (or equivalent). The cultural resources sensitivity training shall be conducted by a qualified environmental trainer (often the Lead Environmental Inspector [LEI] or equivalent position) working under the supervision of the qualified archaeologist. The qualified archaeologist shall determine and ensure the suitability of the qualified environmental trainer. The cultural resources sensitivity training shall be conducted for all construction personnel. Construction personnel will be informed of the types of archaeological resources that may be encountered, and of the proper procedures to be enacted in the event of an inadvertent discovery of archaeological resources or human remains. SDG&E shall ensure that construction personnel are made available for and attend the training and retain documentation demonstrating attendance.	Less than Significant
	MM CUL-3: Restrictions on Work Outside of Designated Work Areas. Approved work areas will be established and construction crews shall be instructed to stay within the approved work areas and shall not conduct any Project-related work out side of the defined areas.	Less than Significant
	MM CUL-4: Archaeological Monitoring. An archaeological monitor working under the supervision of the qualified archaeologist shall monitor all ground disturbing activities that occur within 100 feet of resources CA-SDI-11487, -11508, -5098, and -11744. Monitors shall have the authority to redirect work within 100 feet in the event of a discovery and provisions of MM-CUL-5 shall be implemented. If ground disturbing activities are occurring simultaneously in areas located more than 500 feet apart, additional monitors shall be retained to adequately observe ground disturbing activities. The qualified archaeologist, in consultation with the CPUC and SDG&E, shall have the discretion to modify the monitoring requirements based on in-field observations of subsurface conditions. The archaeological monitor shall keep daily logs detailing the types of activities and soils observed, and any discoveries. After monitoring has been completed, the qualified archaeologist shall prepare a monitoring report that details the results of monitoring. The report shall be submitted to CPUC and SDG&E. A copy of the final report will be filed at the South Coast Information Center.	Less than Significant
	MM CUL-5: Unanticipated Discoveries. In the event of the unanticipated discovery of archaeological materials all work shall immediately cease in the area (within approximately 100 feet) of the discovery until it can be evaluated by the qualified archaeologist. Construction shall not resume until the qualified archaeologist has conferred with CPUC and notified SDG&E's Cultural Resource Specialist and Environmental Project Manager regarding the significance of the resource. If it is determined that the discovered archaeological resource constitutes a historical resource or a unique archaeological resource under CEQA, avoidance and preservation in place is the preferred manner of mitigation. Preservation in place may be accomplished by, but is not limited to, avoidance, incorporating the resource into open space, capping, or deeding the site into a permanent conservation easement. In the event that preservation in place is demonstrated to be infeasible and data recovery through excavation is the only feasible mitigation available, a Cultural Resources Treatment Plan shall be prepared and implemented by the qualified archaeologist in consultation with CPUC and SDG&E that provides for the adequate recovery of the scientifically consequential information contained in the archaeological resource. The qualified archaeologist and CPUC will consult with appropriate Native American representatives in determining treatment for prehistoric or Native American resources to ensure cultural values ascribed to the resource, beyond that which is scientifically important, are considered.	Less than Significant
	MM CUL-6: Retention of Qualified Paleontologist. Prior to the start of any ground-disturbing activity, a qualified paleontologist meeting the Society for Vertebrate Paleontology's professional standards (SVP, 2010) shall be retained by SDG&E to carry out all mitigation measures related to paleontological resources.	Less than Significant

TABLE ES-2 (CONTINUED)
ENVIRONMENTAL IMPACTS WITH IMPLEMENTATION OF
APPLICANT PROPOSED MEASURES AND MITIGATION MEASURES

Environmental Impact	Applicant Proposed Measures (APM) and Mitigation Measures (MM) Identified in the IS/MND	Significance after APMs and Mitigation
Cultural Resources (cont.)	MM CUL-7: Paleontological Sensitivity Training. Prior to start of any ground-disturbing activity, the qualified paleontologist shall prepare paleontological resource sensitivity training materials for use during Project-wide Environmental Awareness Program training (or equivalent). The cultural resource sensitivity training shall be conducted by a qualified environmental trainer (often the Lead Environmental Inspector [LEI] or equivalent position) working under the supervision of the qualified paleontologist. The qualified paleontologist shall determine and ensure the suitability of the qualified environmental trainer. The paleontological resources sensitivity training shall be conducted for all construction personnel. Construction personnel will be informed of the types of paleontological resources that may be encountered, and of the proper procedures to be enacted in the event of an inadvertent discovery of paleontological resources. SDG&E shall ensure that construction personnel are made available for and attend the training and retain documentation demonstrating attendance.	Less than Significant
	MM CUL-8: Paleontological Monitoring. A paleontological monitor working under the supervision of the qualified paleontologist shall monitor all ground-disturbing that involve the original cutting of previously undisturbed sediments associated with the Friars and/or Mission Valley Formations, as well activities associated with the installation of the 69kV and 230kV tubular steel poles and cable pole foundations. The paleontological monitor shall keep daily logs detailing the types of activities and soils observed, and any discoveries. A cross-trained archaeological/paleontological monitor may conduct both paleontological monitoring and the archaeological monitoring described in MM CUL 4. After monitoring has been completed, the qualified paleontologists shall prepare a monitoring report that details the results of monitoring. The report shall be submitted to CPUC and SDG&E.	Less than Significant
	MM CUL-9: Recovery of Paleontological Resources. In the event of the discovery of paleontological resources, the paleontological monitor shall have the authority to divert or temporarily halt construction activities within 50 feet of the discovery to allow recovery of fossil remains in a timely fashion. The qualified paleontologist shall contact CPUC's Cultural Resource Specialist and SDG&E's Cultural Resource Specialist and Environmental Project Manager at the time of discovery. In conjunction with the CPUC's Cultural Resources Specialist and SDG&E's Cultural Resource Specialist and Environmental Project Manager, the qualified paleontologist shall evaluate the significance of the find and if it is determined that the discovery constitutes a significant resource under CEQA, a Paleontological Resources Treatment Plan shall be prepared and implemented by a qualified paleontologist in consultation with CPUC and SDG&E. The treatment plan shall include provisions for the recovery of the discovered fossils along with pertinent stratigraphic data, as well the recovery of small fossil remains, such as isolated mammal teeth, through the collection of bulk-sedimentary-matrix samples for off-site wet screening, as necessary. Fossil remains collected during monitoring and salvage shall be cleaned, repaired, sorted, cataloged, and deposited in a scientific institution with permanent paleontological collections, and a paleontological monitoring report shall be written. The report(s) documenting the implementation of the Paleontological Resources Treatment Plan shall be submitted to CPUC and SDG&E.	Less than Significant
Hazards and Hazardous Materials	MM HAZ-1: Hazardous Materials Management Plan. SDG&E shall prepare and implement a Hazardous Materials Management Plan (HMMP). The HMMP would outline hazardous material handling, use, storage, and disposal requirements, as well as hazardous waste management practices. The HMMP will be developed to ensure that all hazardous materials and wastes would be handled and disposed of according to applicable rules and regulations. The HMMP will include procedures to address hazardous material storage, employee training requirements, hazard recognition, first aid/emergency medical procedures, hazardous material release containment/control procedures, hazard communication training, Personal Protective Equipment training, and release reporting requirements.	Less than Significant
	MM HAZ-2: Use of Tier-4 Engines. Implement MM AIR-1 regarding diesel-powered construction equipment emissions.	Less than Significant

TABLE ES-2 (CONTINUED)
ENVIRONMENTAL IMPACTS WITH IMPLEMENTATION OF
APPLICANT PROPOSED MEASURES AND MITIGATION MEASURES

Environmental Impact	Applicant Proposed Measures (APM) and Mitigation Measures (MM) Identified in the IS/MND	Significance after APMs and Mitigation
Hazards and Hazardous Materials (cont.)	<p>MM HAZ-3: Fire Safety. SDG&E and/or its contractors shall prepare a project-specific Construction Fire Prevention Plan (CFPP) to ensure the health and safety of construction workers and the public from fire-related hazards. The appropriate fire departments shall be consulted during plan preparation and the CFPP will include fire safety measures as recommended. The CFPP shall list fire prevention, and extinguishment procedures and specific emergency response and evacuation measures that would be followed during emergency situations. The CFPP also would provide smoking and fire-related rules, storage and parking areas, usage of spark arrestors on construction equipment, and fire-suppression tools and equipment. The CFPP shall include, but not be limited to, the following:</p> <ul style="list-style-type: none"> • SDG&E and/or its contractors shall have water tanks, water trucks, or portable water backpacks (where space or access for a water truck or water tank is limited) sited/available in the Project area for fire protection. • All construction vehicles shall have fire suppression equipment. • All construction workers shall receive training on the proper use of fire-fighting equipment and procedures to be followed in the event of a fire. • As construction may occur simultaneously at several locations, each construction site shall be equipped with fire extinguishers and fire-fighting equipment sufficient to extinguish small fires. • Construction personnel shall be required to park vehicles away from dry vegetation. • Prior to construction, SDG&E shall contact and coordinate with the appropriate fire departments to determine the appropriate amounts of fire equipment to be carried on the vehicles and appropriate locations for the water tanks, water trucks, and/or water backpacks. SDG&E shall submit verification of its consultation with the appropriate fire departments to the CPUC. • The plan shall be submitted to CPUC staff for approval prior to commencement of construction activities and shall be distributed to all construction crew members prior to construction of the Project. • Cease work during Red Flag Warning events in areas where vegetation would be susceptible to accidental ignition by Project activities (such as welding or use of equipment that could create a spark). During Red Flag Warning events all non-emergency construction and maintenance activities would cease in affected areas. 	Less than Significant
Noise and Vibration	<p>APM NV-1: For the few locations where the Proposed Project could exceed the noise ordinance limits during construction, SDG&E would meet and confer with the City and County to discuss temporarily deviating from the requirements of the Noise Code as necessary.</p>	Less than Significant
	<p>MM NV-1 Variance Request. If it is determined that construction activities are necessary during nighttime hours or on a Sunday, SDG&E shall submit a variance request to the County of San Diego and/or City of San Diego planning departments to work outside of allowed construction hours. SDG&E shall provide CPUC with evidence that it has obtained the variance(s) prior to commencing such work.</p>	Less than Significant
	<p>MM NV-2: Construction Noise Reduction Plan. To reduce daytime noise impacts due to construction of the Proposed Project near sensitive receptors, SDG&E shall develop a Construction Noise Reduction Plan (Plan). The Plan shall be submitted to the CPUC at least 60 days prior to the commencement of construction activities for review and approval. The Plan shall present specific measures that identify how the City and County construction noise limits of 75 dBA as an Leq over a workday at nearby sensitive receptor locations will be adhered to, including but not limited to the following measures:</p>	Less than Significant

TABLE ES-2 (CONTINUED)
ENVIRONMENTAL IMPACTS WITH IMPLEMENTATION OF
APPLICANT PROPOSED MEASURES AND MITIGATION MEASURES

Environmental Impact	Applicant Proposed Measures (APM) and Mitigation Measures (MM) Identified in the IS/MND	Significance after APMs and Mitigation
Noise and Vibration (cont.)	<ul style="list-style-type: none"> When construction activities are conducted within 100 feet of sensitive receptor locations, noise barriers such as noise shields, barriers, blankets, or enclosures shall be used, where feasible, adjacent to or around noisy construction equipment. Noise control shields/barriers/blankets shall be made featuring weather-protected, sound-absorptive material on the construction-activity side of the noise shield/barrier/blanket. Distribute to the potentially affected residences within 100 feet of Project construction a "hotline" telephone number, which shall be attended during active construction working hours, for use by the public to register complaints. All complaints shall be logged noting date, time, complainants' name, nature of complaint, and any corrective action taken. When construction activities are conducted within 100 feet of sensitive receptor locations, construction equipment and trucks will be equipped with enhanced noise control measures (where feasible and reasonably available). Enhanced noise control measures will be identified in the Plan and could include, but not necessarily be limited to improved exhaust mufflers and intake silencers, engine enclosures, noise shields or shrouds, etc... Impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for project construction within 100 feet of sensitive receptor locations shall be hydraulically or electrically powered where feasible to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used; this muffler can lower noise levels from the exhaust by up to about 10 dB. External jackets on the tools themselves shall be used where feasible; this could achieve a reduction of 5 dB. Quieter procedures, such as use of drills rather than impact tools, shall be used whenever feasible. Note: if a noise reduction feature is not feasible, that does not alleviate the requirement to ensure that the noise levels are reduced to below the City and County of San Diego thresholds. Stationary construction noise sources located within 100 feet of sensitive receptor locations shall be located as far from adjacent receptors as possible, and they shall be muffled and enclosed within temporary sheds, incorporate insulation barriers, or other measures to the extent this does not interfere with construction. 	
	<p>MM NV-3: Vibration Reduction Plan. Prior to any blasting construction, the Applicant shall develop a Vibration Reduction Plan in coordination with an acoustical consultant, geotechnical engineer, and construction contractor, and submit the Plan to the CPUC for approval at least 60 days prior to any proposed blasting. The Vibration Reduction Plan shall include vibration reduction measures to ensure that surrounding buildings will be exposed to less than 0.2 PPV to prevent building damage. At a minimum, the plan shall consider the following measures:</p> <ul style="list-style-type: none"> Evidence of licensing, experience, and qualifications of blasting contractors. The Plan shall establish a vibration limit of 0.2 PPV at nearby structures in order to protect structures from blasting activities and identify specific locations for monitoring. At a minimum, a pre-blast survey shall be conducted of any potentially affected structures. The Plan shall identify the appropriate size of the explosive charge to ensure that a vibration level of 0.2 PPV is not exceeded at nearby structures. Impacted property owners shall be notified at least 48 hours prior to the visual inspections. Post-construction monitoring of structures shall be performed to identify (and repair if necessary) any damage from blasting vibrations. Any damage shall be documented by photograph, video, etc. This documentation shall be reviewed with the individual property owners and SDG&E shall arrange and fund any needed repairs. Documentation of these efforts shall be provided to the CPUC. 	Less than Significant

TABLE ES-2 (CONTINUED)
ENVIRONMENTAL IMPACTS WITH IMPLEMENTATION OF
APPLICANT PROPOSED MEASURES AND MITIGATION MEASURES

Environmental Impact	Applicant Proposed Measures (APM) and Mitigation Measures (MM) Identified in the IS/MND	Significance after APMs and Mitigation
Noise and Vibration (cont.)	<p>MM NV-4: Blasting Plan. Prior to conducting any blasting activities, SDG&E shall develop a Blast Plan in coordination with an acoustical consultant, geotechnical engineer, and construction contractor. The Blast Plan shall include at a minimum the following measures:</p> <ul style="list-style-type: none"> • Methods of matting or covering of blast area to prevent excessive air blast pressure. • Description of air blast monitoring program. • Blasting shall be limited to between the hours of 7:00 a.m. and 7:00 p.m. daily. • Blasting notification procedures, lead times, and list of those notified. Public notification to potentially affected sensitive receptors describing the expected extent and duration of the blasting. 	Less than Significant
	<p>MM NV-5: Nighttime Noise Reduction Plan. SDG&E and/or its contractors shall develop a Nighttime Noise and Nuisance Reduction Strategy Plan in the event that nighttime construction activity is determined to be necessary within 500 feet of sensitive receptors. The plan shall be submitted to the CPUC for review and approval prior to the commencement of nighttime construction activities. The strategy shall include a set of site-specific noise attenuation measures that apply state-of-the-art noise reduction technology to ensure that nighttime construction noise levels and associated nuisances are reduced to the extent feasible. The attenuation measures may include, but not be limited to, the control strategies and methods for implementation that are listed below.</p> <ul style="list-style-type: none"> • Plan construction activities to minimize the amount of nighttime construction. • Offer temporary relocation of residents within 200 feet of nighttime construction activities. • Temporary noise barriers, such as shields and blankets, shall be installed immediately adjacent to all nighttime stationary noise sources (e.g., auger rigs, generators, compressors, etc.). • Install temporary noise barriers that block the line of sight between nighttime activities and the closest residences within 500 feet. • The notification requirements identified in MM NV-2 shall be extended to include residences within 500 feet of pending nighttime construction activities. 	Less than Significant
Utilities and Service Systems	<p>MM US-1: Solid Waste Management Plan and Construction and Demolition Debris Recycling Plan. The Applicant will prepare and submit a Solid Waste Management Plan (Plan) to the CPUC, San Diego County, and the City of San Diego for review and approval prior to the start of construction. The Solid Waste Management Plan will outline how the applicant will sort, measure, and record the disposal of solid waste to ensure that 90% of inerts and 70% of all other materials recycled and diverted from a landfill. The Plan would detail reporting requirements to the CPUC, San Diego County, and the City of San Diego.</p> <p>Measures in the plan will include, but will not be limited to:</p> <ul style="list-style-type: none"> • Provision of space and/or bins for appropriate storage of recyclables on site; • Establishment of a recyclable material pickup area; • Development of a recordation system that details the amount of solid waste created, solid waste recycled, and solid waste delivered to each solid waste disposal facility. 	

SECTION 1

Introduction

On August 17, 2016 San Diego Gas and Electric Company (SDG&E) submitted a Permit to Construct (PTC) Application to the CPUC for the Artesian Substation Expansion Project (Proposed Project or Project). The Project proposes to expand and upgrade the existing 69/12kV Artesian Substation to enable the addition of a 230/69kV yard to alleviate the existing congestion at the existing Sycamore Canyon Substation within the Poway Load Pocket, as described in further detail in Section 2, Project Description. Pursuant to the requirements of the California Environmental Quality Act (CEQA), the CEQA Guidelines, and California Public Utilities Commission (CPUC) General Order (GO) 131-D, the CPUC prepared an Initial Study (IS) to evaluate potential environmental impacts of the Proposed Project.

If following preparation of an IS there is no substantial evidence of significant environmental effects, or if potential significant effects can be reduced to a point where clearly no significant effect on the environment would occur, a Negative Declaration shall be prepared (Pub.Res. Code §21080(c)(1)). If an IS prepared for a project indicates that significant environmental effect(s) which cannot be mitigated to a less than significant level could occur, the CPUC shall prepare an Environmental Impact Report (EIR).

A Mitigated Negative Declaration (MND) may be prepared when “the initial study has identified potentially significant effects on the environment, but (1) revisions in the project plans or proposals made by, or agreed to by, the applicant would avoid the effects or mitigate the effects to a point where clearly no significant effect on the environment would occur, and (2) there is no substantial evidence in light of the whole record before the public agency that the project, as revised, may have a significant effect on the environment” (Pub. Res. Code §21064.5). On July 21, 2017 the CPUC determined, based on the results of an IS, that the appropriate level of CEQA documentation for this Project is an MND.

This IS/MND identifies the potential environmental effects of the Project, evaluates their level of significance, and identifies the revisions in the Project agreed to by SDG&E that would avoid the effects or mitigate them below the level of significance. The information presented is based on SDG&E’s Application for a PTC, the Proponent’s Environmental Assessment (PEA) (SDG&E, 2016), and SDG&E’s responses to data requests by the CEQA team (SDG&E, 2017, 2018). This information is intended to describe construction, operation and maintenance requirements and activities to inform an analysis of the Proposed Project’s environmental effects.

1.1 CEQA Process

The CPUC determined that the Project with mitigation would not have a significant adverse effect on the environment. Therefore, this Draft Mitigated Negative Declaration (Draft MND) has been prepared.

On February 9, 2018, the CPUC filed a Notice of Completion (NOC) with the Governor's Office of Planning and Research (State Clearinghouse), published a Notice of Intent (NOI) to Adopt a Mitigated Negative Declaration, and released the Draft IS/MND for a 30-day public review period. The Draft IS/MND was distributed to federal, state, and local agency representatives, and the NOI was distributed to property owners within 300 feet of the Project and to other interested individuals, as outlined in Appendix A of the IS/Draft MND. Additionally, a Public Notice was published on February 8th and February 15th, 2018 in the Rancho Bernardo News Journal announcing the availability of the Draft IS/MND for public review in compliance with CEQA (see Appendix A).

1.2 Public Review Process

On February 9, 2018, the CPUC mailed a notice to relevant agencies, organizations, and individuals residing in the Project area, announcing that the Draft IS/MND was available for public review (recipients are identified in Appendix A). The CPUC established a Project voice mail phone number (619) 719-4186, e-mail address (ArtesianSub@esassoc.com), and Project web site (<http://www.cpuc.ca.gov/environment/info/esa/artesian/index.html>) to enable the public to ask questions, provide comments, and obtain additional information on the Project analyzed in the Draft IS/MND.

In accordance with Section 15105(b) of the CEQA Guidelines, the public review and comment period began on February 9, 2018 and ends on March 12, 2018. Copies of all written comments received on the Draft IS/MND will be included in Section 6 of the Final IS/MND.

1.3 CPUC Jurisdiction

The California Public Utilities Commission (CPUC) has sole and exclusive state jurisdiction over the siting and design of the Project. Pursuant to CPUC General Order No. 131-D, Section XIV.B, "Local jurisdictions acting pursuant to local authority are preempted from regulating electric power line projects, distribution lines, substations, or electric facilities constructed by public utilities subject to the CPUC's jurisdiction. However, in locating such projects, the public utilities shall consult with local agencies regarding land use matters." Consequently, public utilities are directed to consider local regulations and consult with local agencies, but the counties and cities' regulations are not applicable as the counties and cities do not have jurisdiction over the Project. Accordingly, the discussion of local land use regulations in this IS/MND is provided for informational purposes only.

1.4 References

San Diego Gas & Electric Co. (SDG&E) 2016. Proponent Environmental Assessment Artesian 230kV Substation Expansion Project, August 2016.

San Diego Gas & Electric Co. (SDG&E) 2017. Proponent Environmental Assessment Artesian 230kV Substation Expansion Project, Data Responses, 2017.

San Diego Gas & Electric Co. (SDG&E) 2018. Proponent Environmental Assessment Artesian 230kV Substation Expansion Project, Data Responses, 2018.

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SECTION 2

Project Description

2.1 Introduction

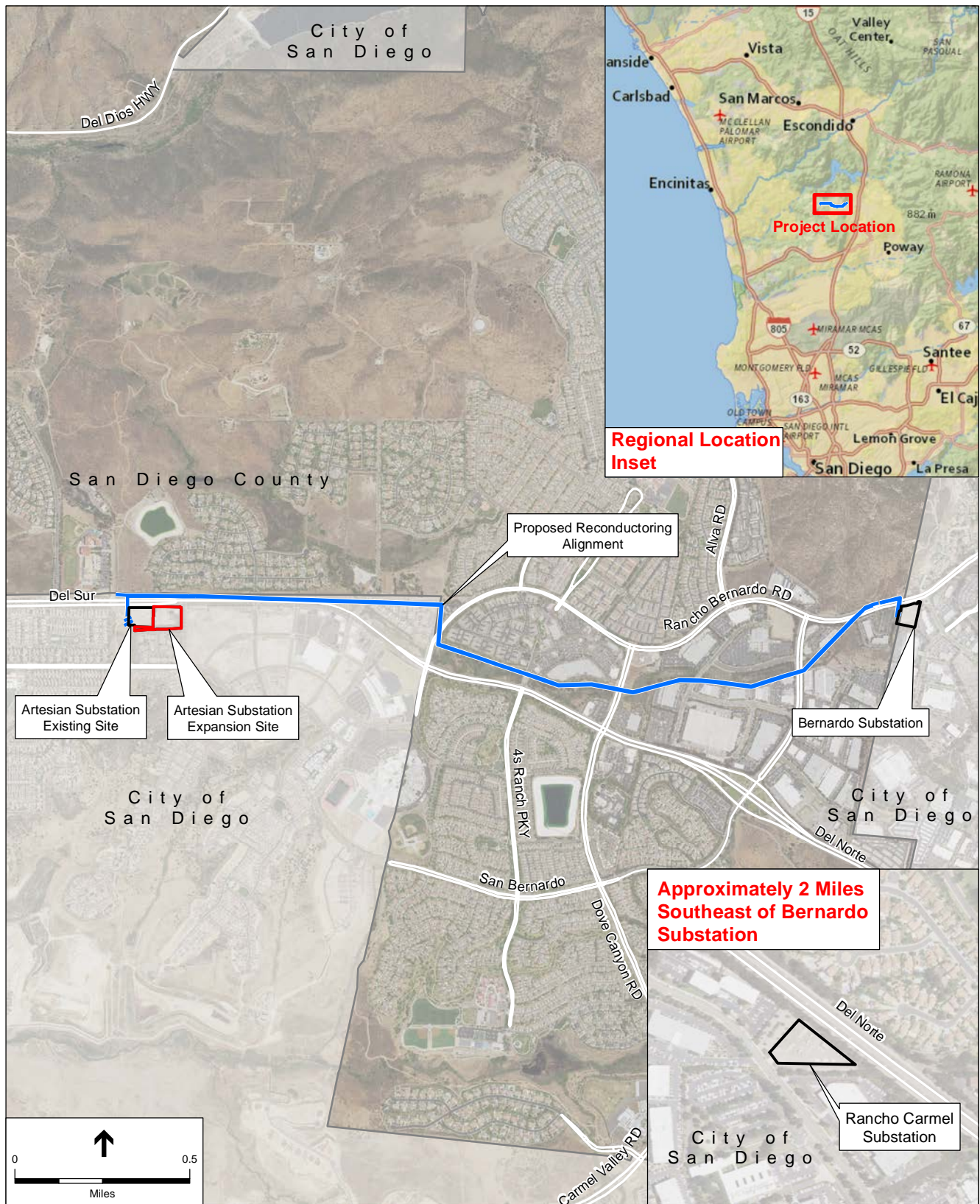
San Diego Gas and Electric Company (SDG&E) in its California Public Utilities Commission (CPUC) application (A.16-08-010), filed on August 17, 2016 (SDG&E 2016a), requests a Permit to Construct (PTC) the Artesian 230kV Substation Expansion Project (the Proposed Project, the Project). The Project comprises the expansion and rebuilding of the existing 69/12 kilovolt (kV) Artesian Substation including construction of a new connection to an existing 230kV transmission line, modifications at the existing Bernardo and Rancho Carmel substations, and reconductoring¹ of approximately 2.2 miles of the existing 69kV line between Artesian and Bernardo substations. Project components are described in detail in Section 2.4. The application includes the Proponent's Environmental Assessment (PEA) prepared pursuant to Rule 2.4 of the CPUC's Rules of Practice and Procedure. Under CPUC General Order 131-D, approval of this Project must comply with the California Environmental Quality Act (CEQA).

2.2 Proposed Project Location and Overview

The Proposed Project would be located in the western portion of San Diego County, with elements within both the City of San Diego and unincorporated county of San Diego, California (**Figure 2-1**). The Project would also use an existing staging yard located within the City of Escondido². The Proposed Project substation would be constructed within the existing Artesian Substation property boundary and the adjacent, SDG&E-owned parcel to the east, as well as at the existing Bernardo and Rancho Carmel substations and along the existing right of way (ROW) between Artesian and Bernardo. The Proposed Project includes the following main components.

Artesian Substation: As depicted on Figure 2-1, the existing 69/12 kV Artesian Substation site is located on a 2.7 acre developed site (existing 69/12kV substation footprint) located within an urbanized area in the City of San Diego. The Artesian Substation site is owned by SDG&E and

-
- ¹ The term "reconductor" refers to a process where existing overhead conductor is replaced with newer, typically higher ampacity conductor. Ampacity is defined as the maximum amount of electric current a conductor or device can carry before sustaining immediate or progressive deterioration.
- ² The Project includes use of an existing SDG&E-owned facility where space is available for the temporary storage of construction materials and equipment, the Northeast Annex Staging Yard, located within the City of Escondido. This site is already developed, no construction would be undertaken here and the yard would not be further modified as part of the Project, therefore setting details for this facility and the City of Escondido are generally not included in technical sections 3.1 through 3.18 except where use of this facility could result in an impact (air quality, noise, traffic).



SOURCE: SDG&E; Sempra Energy Utility

CPUC Artesian Substation . 120812.02

Figure 2-1
Proposed Project Location Map

is zoned for industrial uses; no rezoning would be required for the Project. It is bounded by Camino Del Sur to the north, an approximately 3.5-acre undeveloped, SDG&E-owned (commercially-zoned) parcel to the east (termed herein “the Artesian Substation Expansion site or proposed expansion site”), a residential apartment complex to the south, and a stormwater retention basin and existing SDG&E transmission corridor to the west. Babcock Street is located east of the SDG&E-owned parcel.

The new 230/69kV Artesian Substation would be constructed on the existing Artesian Substation site, part of which is currently occupied by the existing 69/12kV Artesian Substation facility. This facility (currently located on a 2.1 acre fenced area within the 2.7 acre site) would be dismantled and rebuilt on the Artesian Substation Expansion site to accommodate 230kV/69kV transformers and associated facilities.

A new connection (**Figure 2-2**) would loop an existing 230kV transmission line (TL23051) into the new Artesian Substation facility. The existing underground connection of power line TL6920 would be relocated to the new position. Additionally, new underground getaways would be constructed to connect existing overhead 69kV power lines TL616 and TL6939 and new TL6974 to the Artesian Substation. Distribution line upgrades would also be undertaken at Artesian Substation.

Bernardo Substation: The Proposed Project would require modifications at the existing Bernardo Substation, which is located in the City of San Diego on an approximately two-acre developed site zoned for industrial uses. It is bounded by Rancho Bernardo Road to the north and Via Del Campo to the east. Land to the north is generally open space with some residential development, while industrial uses are located to the east, south and west.

Rancho Carmel Substation: The Proposed Project would also require modifications at the existing Rancho Carmel Substation, which is located in the City of San Diego on an approximately 1.0 acre industrial site. The site is bounded by Innovation Drive to the south and Camino Del Norte to the north. Surrounding land uses comprise industrial enterprises to the south and west and developed residential uses to the north and east.

Reconductoring Alignment: The Proposed Project includes the reconductoring of approximately 2.2 miles of existing double-circuit 69kV power line located between the Artesian and Bernardo substations. The reconductoring would include the replacement of a number of existing wood pole structures with new steel pole structures as needed, with some existing pole structures being removed from service. The route is located within developed residential, industrial, open space, and commercial areas, as well as designated farmland – although the area surrounding this farmland is currently developed. The reconductoring route alignment is located immediately north of the existing Artesian Substation. It runs due east from the substation adjacent and just north of Camino Del Sur, crossing Four Gee Road and then turning immediately south to cross Rancho Bernardo Road. Just east of this crossing the route turns southeast, crossing open space south of a residential area and crossing 4S Ranch Parkway. Just east of this location the route turns due east and continues in that direction, crossing Dove Canyon Road and then turning north east. After crossing Goldentop Road the route continues east, turning northeast to cross Camino

San Bernardo and then turning northeast towards Rancho Bernardo Road. After crossing this road, the alignment continues northeast before terminating at the cable pole structures and transitioning to an underground alignment that runs south to connect into Bernardo Substation.

Additional detail on key Project components is provided in Sections 2.4.

2.3 Existing System

2.3.1 System Overview

The existing Artesian Substation forms part of the Poway Area Load Pocket³, shown in **Figure 2-3**. The Poway Area Load Pocket includes five 69/12 kV distribution substations⁴ located in the Poway, 4S Ranch, Rancho Peñasquitos, Carmel Mountain Ranch and Black Mountain Ranch communities and is forecasted to increase by approximately 12 percent over the next 10 years (2016-2026). The Poway Area Load Pocket is primarily supported by three 69kV power lines sourced from Sycamore Canyon Substation (230kV source). In 2013 the demand in this load pocket peaked at approximately 300 megawatts (MW), or six percent of the overall SDG&E system peak. The Poway Area Load is forecasted to grow 15 percent⁵ over the next ten years. **Table 2-1** shows the 10-year forecasted loads in the Poway Area Load Pocket for the 2016 Transmission Planning study cycle.

TABLE 2-1
FORECASTED NON-COINCIDENT LOADS (MW) IN POWAY AREA LOAD POCKET

Substation	Year of Operation						
	2016 (MW)	2017 (MW)	2018 (MW)	2019 (MW)	2020 (MW)	2021 (MW)	2026 ¹ (MW)
Artesian	41.3	42.3	43.4	44.4	45.4	45.9	48.5
Bernardo	100.0	102.0	103.3	104.5	105.8	107.1	113.4
Poway	45.7	46.2	46.6	47.1	47.5	48.0	50.2
Pomerado	72.1	72.7	73.3	73.9	74.5	75.1	78.0
Rancho Carmel	59.0	59.7	60.3	61.1	61.7	62.4	65.7
<i>Aggregate</i>	<i>318.1</i>	<i>322.9</i>	<i>326.9</i>	<i>330.9</i>	<i>334.9</i>	<i>338.5</i>	<i>355.8</i>

NOTES:

¹ The 10th year load forecast is extrapolated based on long term growth rates.

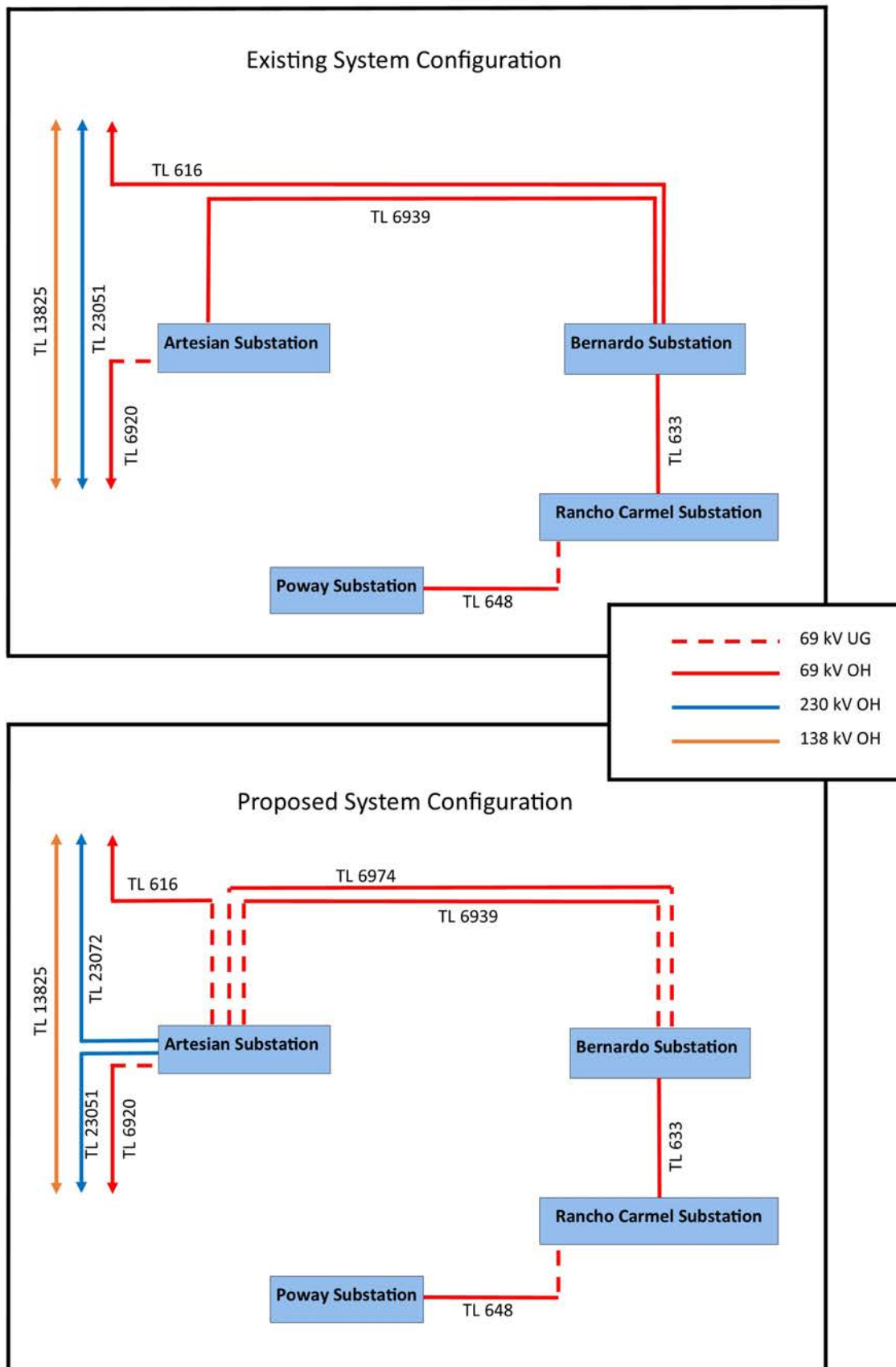
SOURCE: SDG&E Individual Non-Coincident Substation Load Forecast Published in 2016 (SDG&E 2016a)

The existing and proposed new system configuration is depicted in **Figure 2-2**.

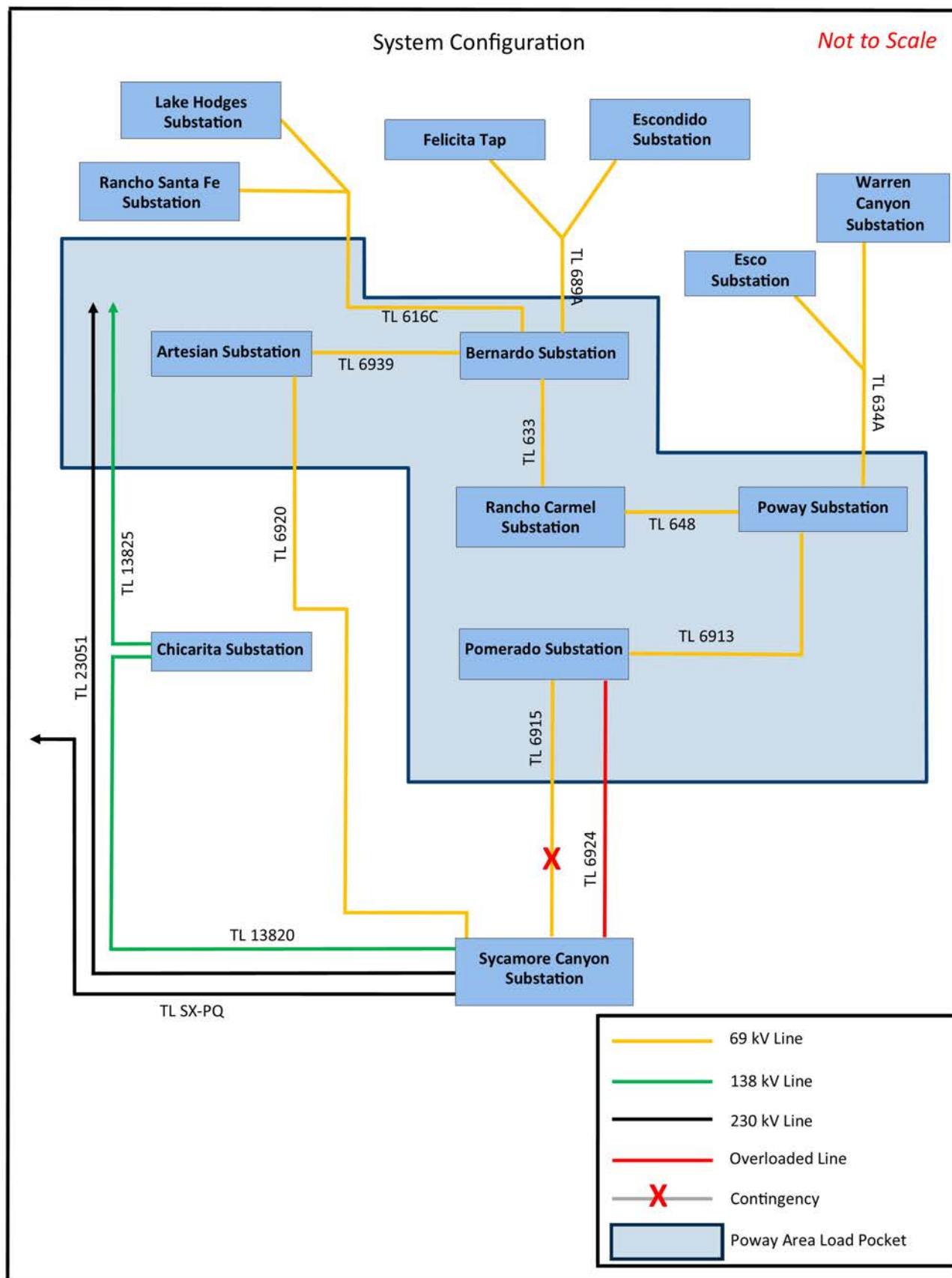
³ Load Pocket: Refers to general geographic area served from a common grouping of substations and related facilities.

⁴ From south to north: Pomerado, Poway, Rancho Carmel, Bernardo, and Artesian substations.

⁵ Average annual growth of 1.5 percent to an aggregate load of approximately 345 MW.



SOURCE: TRC, SDG&E, Sempra Energy Utility CPUC Artesian Substation . 120812.02
Figure 2-2
 Existing and Proposed System Configuration



SOURCE: TRC, SDG&E, Sempra Energy Utility

CPUC Artesian Substation . 120812.02

Figure 2-3
Existing System Configuration and NERC Violation in
Poway Area Load Pocket

2.3.2 Existing Substations

The existing Artesian Substation (**Figure 2-4**) is a 69/12kV air insulated substation (AIS) with two 69/12kV transformers and a 69kV grounding transformer. The Artesian Substation is connected to two 69kV power lines (TL6939 and TL6920) and 6 distribution lines. An existing SDG&E electric utility corridor is located immediately west of the Artesian site and contains a 230kV transmission line and a 138kV power line that bypass the Artesian Substation.

The Bernardo Substation (**Figure 2-5**) is a 69/12kV substation located approximately 2.2 miles east of the Artesian Substation. The Bernardo Substation contains connections to four 69kV power lines and 19 distribution lines (Figure 2-3). The Bernardo Substation is currently connected to the Artesian Substation via one 69kV power line (TL6939).

The Rancho Carmel Substation (Figure 2-5) is a 69/12kV substation that is located approximately 2.2 miles southeast of the Bernardo Substation. The Rancho Carmel Substation is connected to two 69kV power lines and eight distribution lines. The Rancho Carmel Substation is connected to the Bernardo Substation by one 69kV power line (TL633) (Figure 2-3).

2.3.3 Existing Transmission and Power Lines

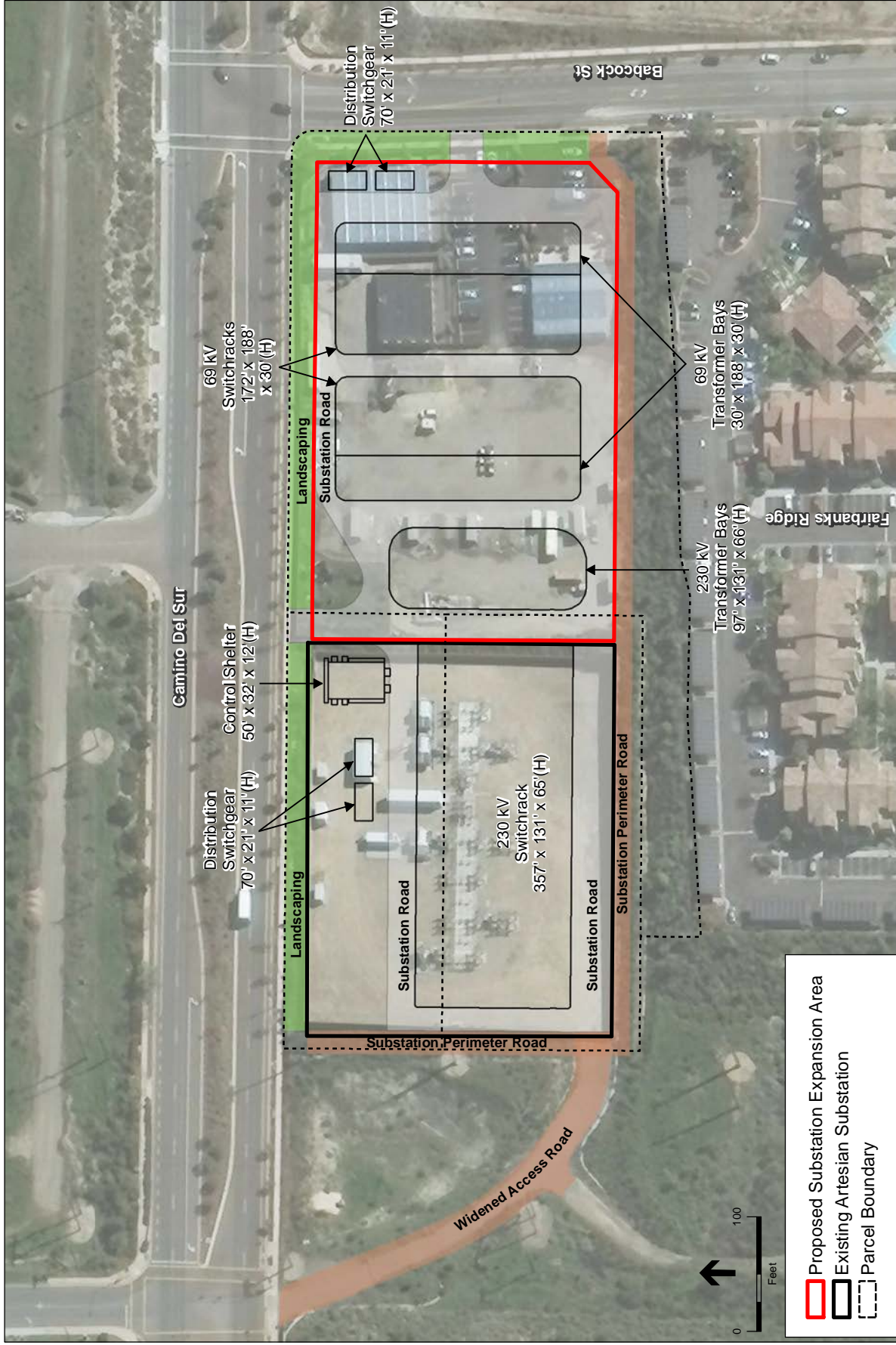
As shown in Figure 2-3, there are two 69kV power lines (TL6939 and TL6920) that connect to the Artesian Substation. There is also one 69kV (TL616), one 138kV (TL13825), and one 230kV (TL 23051) line located immediately adjacent to the Artesian Substation that do not connect to the substation. An additional 69kV power line (TL6939) connects the Artesian and Bernardo substations and one 69kV power line (TL633) connects the Bernardo and Rancho Carmel substations. TL6920 connects the Artesian Substation with the Sycamore Canyon Substation, and represents the primary source of power to the Artesian Substation.

2.4 SDG&E's Proposed Project

2.4.1 Substations

2.4.1.1 Artesian Substation

The expanded Artesian Substation would consist of a relocated and expanded 69/12kV substation yard located in the eastern portion of the Expansion Site and a new 230/69kV substation yard constructed on the existing Artesian Substation site, part of which is currently occupied by the existing 69/12kV Artesian Substation (Figure 2-4). This facility (currently located on a 2.1 acre fenced area within the 2.7 acre site) would be dismantled, relocated and rebuilt in an area to the east of its original location and expanded to accommodate 230kV/69kV transformers and associated facilities. The total area of the new facility (i.e., 230/69/12kV substation footprint) would be approximately 4.7 acres. Two new substation perimeter roads along the south and west substation borders (approximately 0.37 acre), substation landscaping along the east and northern borders (0.47 acres), a widened (existing) substation access road (0.23 acre) and an expanded (existing) stormwater retention basin (0.69 acre) would also be constructed at or adjacent to the expanded Artesian 230/69/12kV Substation.

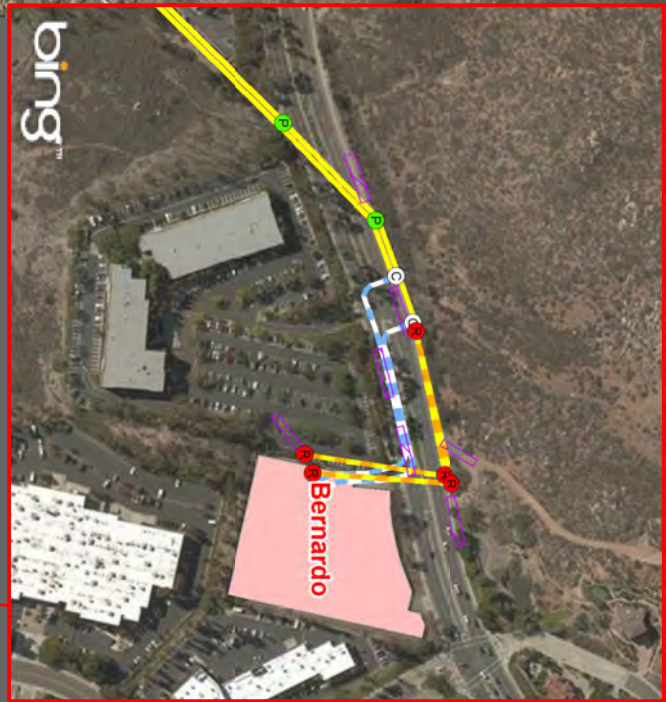
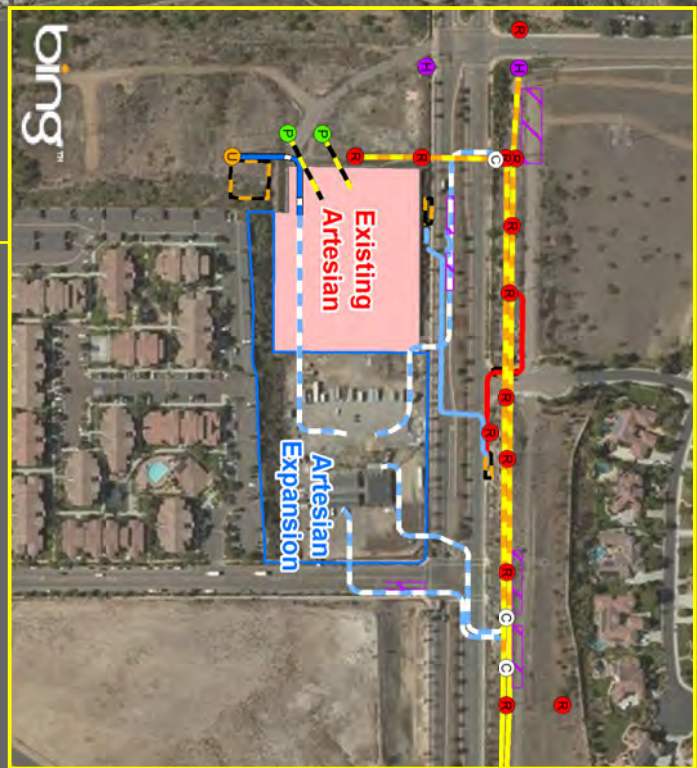
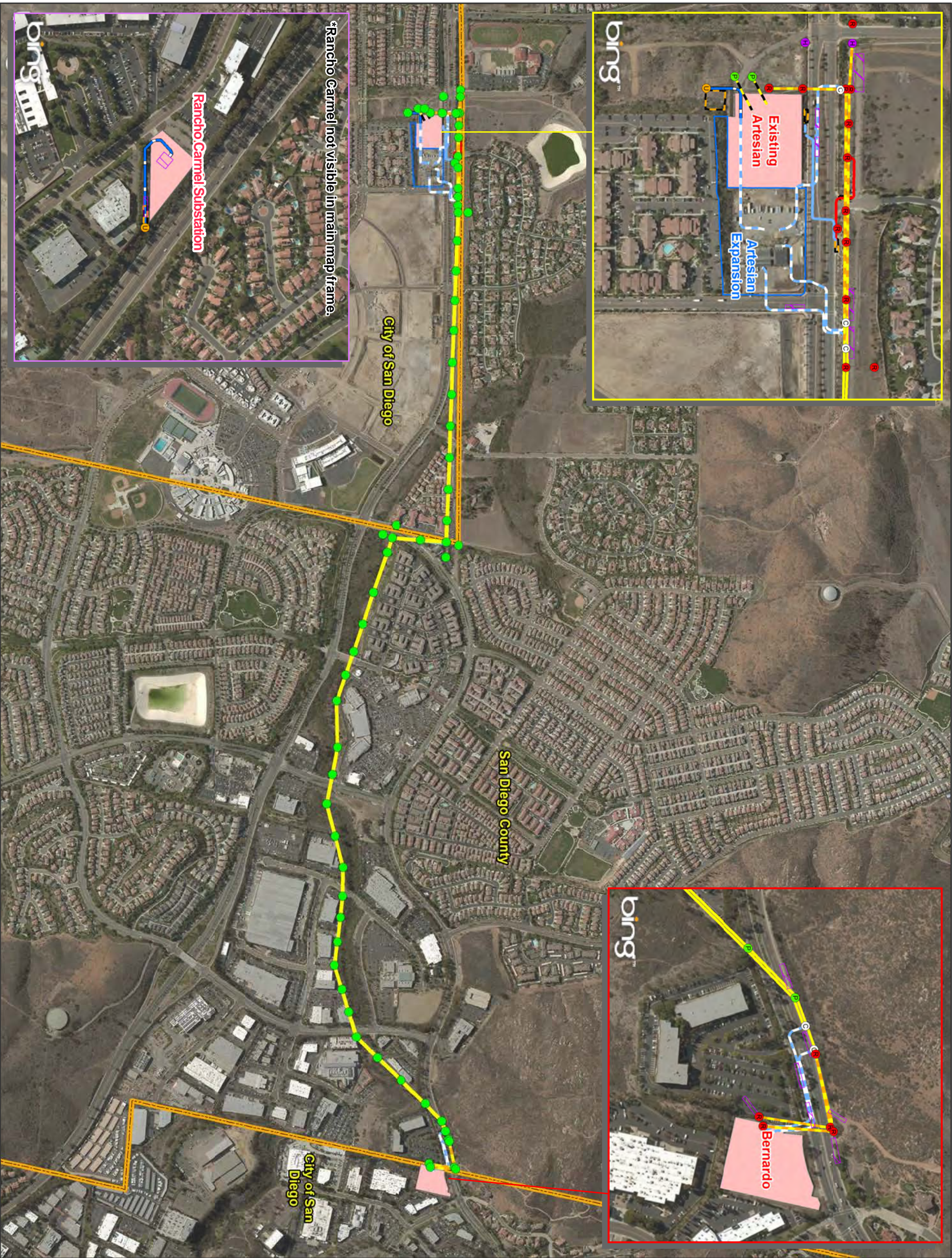


SOURCE: SDG&E, 2017

CPUC Artesian Substation - 120812.02

Figure 2-4

Artesian Substation Site Plan



Artesian 230kV Substation
Expansion Project
Project Overview
Figure 2-5

- Project Features**
- Project Structure
 - Foundation Cable Pole (New)
 - Overhead Work Only (Existing Structure)
 - Pier Foundation Pole (New)
 - Remove From Service (Existing Structure)
 - Overhead Work: New Underground Cable
 - Overhead 69kV Power Line (Reconductor)
 - Overhead 69kV Power Line to be Removed
 - Overhead 230kV Transmission Line Loop-in (New)
 - Underground Distribution Line (New)
 - Underground Power Line (New Cable in New Trench)
 - Underground Power Line (New Cable in Existing Conduit)
 - Springing / Pulling Site
 - Work / Staging Area
 - Other Project Areas
 - Artesian Expansion
 - Municipal Boundary

* Guard Structures, Access roads, Distribution Features, and Vaults not shown

0 500 1,000 1,500 Feet



Image courtesy of USGS © 2016 Microsoft Corporation. Content may not reflect National Geographic's current map policy. Sources: National Geographic, Esri, DeLorme, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, Increment P Corp., TRC, 2016, SDG&E, 2015

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A new connection would loop an existing 230kV transmission line (TL23051) into the new Artesian Substation facility with part of the line becoming the new TL23072 (Figure 2-3). The existing underground connection of power line TL6920 would be relocated to the new position. Additionally, new underground getaways would be constructed to connect existing overhead 69kV power lines TL616 and TL6939 and new TL6974 to the Artesian Substation. Distribution line upgrades would also be undertaken at Artesian Substation. This would include the removal of existing distribution infrastructure and wood pole structures and the installation of underground facilities.

Figure 2-4 contains an overview of the existing Artesian Substation site, showing the approximate locations for several proposed Project components, including a 50' x 32' control shelter, as well as switch-racks and transformer bays for the 230kV and 69kV systems on the proposed substation expansion site.

Additional details of Project components are provided in **Table 2-2**. A detailed map of the entire Project site is provided in **Figures 2-5a** through **2-5j**.

69/12kV Substation Yard

The proposed 69/12kV configuration would include the following components.

- A 69kV yard with double 69kV busses⁶ and four bays of breaker⁷ and a half configuration and four bays of single breaker-single bus.
- Four 69kV power lines with underground getaways.
- Two 69/12kV, 30 mega volt ampere (MVA) transformers, and two 69/12kV SL&P⁸ transformers.
- Existing 12kV (distribution) switchgear (remaining in its approximate current location).
- One new concrete masonry block control shelter.⁹
- A microwave tower consisting of an approximately 50-foot tall monopole near the control shelter.

⁶ Bus: A short form for Busbar or Bussbar. A metallic strip or bar (generally located within a Substation) used to connect various electrical elements energized at the same voltage, such as transmission line terminals, transformers and other Substation equipment. Used to carry large electrical currents over short distances and may consist of ridged metallic strips, bars, rods or interwoven wire.

⁷ Breaker: Refers to a circuit breaker used to automatically isolate and protect electrical equipment from damage during abnormal conditions.

⁸ SL&P: station light & power...transformers that are used to provide power within the substation itself.

⁹ Control Shelter: Building located at a Substation housing the various electronic equipment used to control the equipment located within the Substation such as the opening and closing of breakers and switches, and monitor critical system parameters

TABLE 2-2
PROJECT COMPONENTS

New 69/12kV Artesian Substation Yard

- Existing 12kV distribution switchgear remaining in approximate current location (on west parcel) with existing switchgear being replaced with a new duplicate section immediately north of current location.
 - Existing distribution conduit package intercepted into the new switchgear.
 - New double 69kV busses, four bays of breaker and a half configuration, each bay would consist of three breakers, six disconnects, and monitoring transformers.
 - An additional four new bays of single breaker – single bus.
 - Each 69kV main bus consisting of three deadend¹ structures, approximately 30 feet tall
 - Four new 69kV powerlines with underground getaways.
 - Two existing relocated 69/12kV, 30 mega volt ampere (MVA) transformers with oil containment basins and two 69/12kV SL&P transformers installed in a single breaker/single bus configuration.
 - Tie-in of existing conduit package into new switchgear.
 - New (50' X 32') 12' tall concrete masonry block control shelter to house substation's relays, controls batteries, and protection equipment.
 - New 50' tall monopole microwave tower near the control shelter.
 - Two new additional 69/12kV 30 MVA transformers with oil containment basins (future).
 - Removal of existing 69kV SL&P transformers after future 69/12kV 30 MVA transformers installed.
 - Two new 12kV capacitors, two new quarter sections of 12kV switchgear, four new 12kV circuit positions.
 - Three new spare positions which can be used for one additional 69kV feed from a future 230/69kV transformer and two additional 69kV power lines or three additional power lines.
 - New safety lighting (all 120v LED lights).
-

New 230/69 kV Artesian Substation Yard

- New double busses and two bays of breaker and a half configuration. Each bay with three breakers, six disconnects, potential transformers, and protection equipment, an approximately 55-foot line deadend structure plus a 10-foot static mast and an approximately 55-foot transformer deadend structure with a 10-foot static mast.
 - Two new 40' tall bus deadend structures for each 230kV main bus.
 - New 230/69kV, 224 MVA transformer with an oil spill containment basin.
 - New approximately 20-foot tall termination stand to terminate the 69kV underground bank leads into the 69kV yard.
 - Two new 230kV overhead transmission lines into the deadend structure.
 - A spare 230kV position which would accommodate either one 230/69kV, 224 MVA transformer or one additional 230kV transmission line. If the transformer is installed, it would be with an oil spill containment basin and one fire wall, approximately 52 feet long by 30 feet tall, would be installed between the second and first transformers.
 - A noise wall approximately 35 feet tall would be installed south and extend to the east and west of the 230/69kV transformers.
-

Infrastructure connecting Artesian to Bernardo Substation

- New 69kV underground powerline getaways (0.73 mile) outside Artesian and Bernardo substations.
-

Infrastructure getaway at Rancho Carmel Substation

- Replacement cable (approximately 0.1 mile).
-

Distribution Line Upgrades/ Pole Replacement and Power Line Reconductoring

- Trenching and duct bank installation.
 - Removal of 28 existing wood power line poles and associated stub poles (as applicable).
 - Installation of 14 new steel power line pole structures to replace wood poles.
 - Installation of 5 new power line poles.
 - Removal of distribution and communication only poles.
 - Stringing and conductor cable installation.
 - Removal of old structures.
-

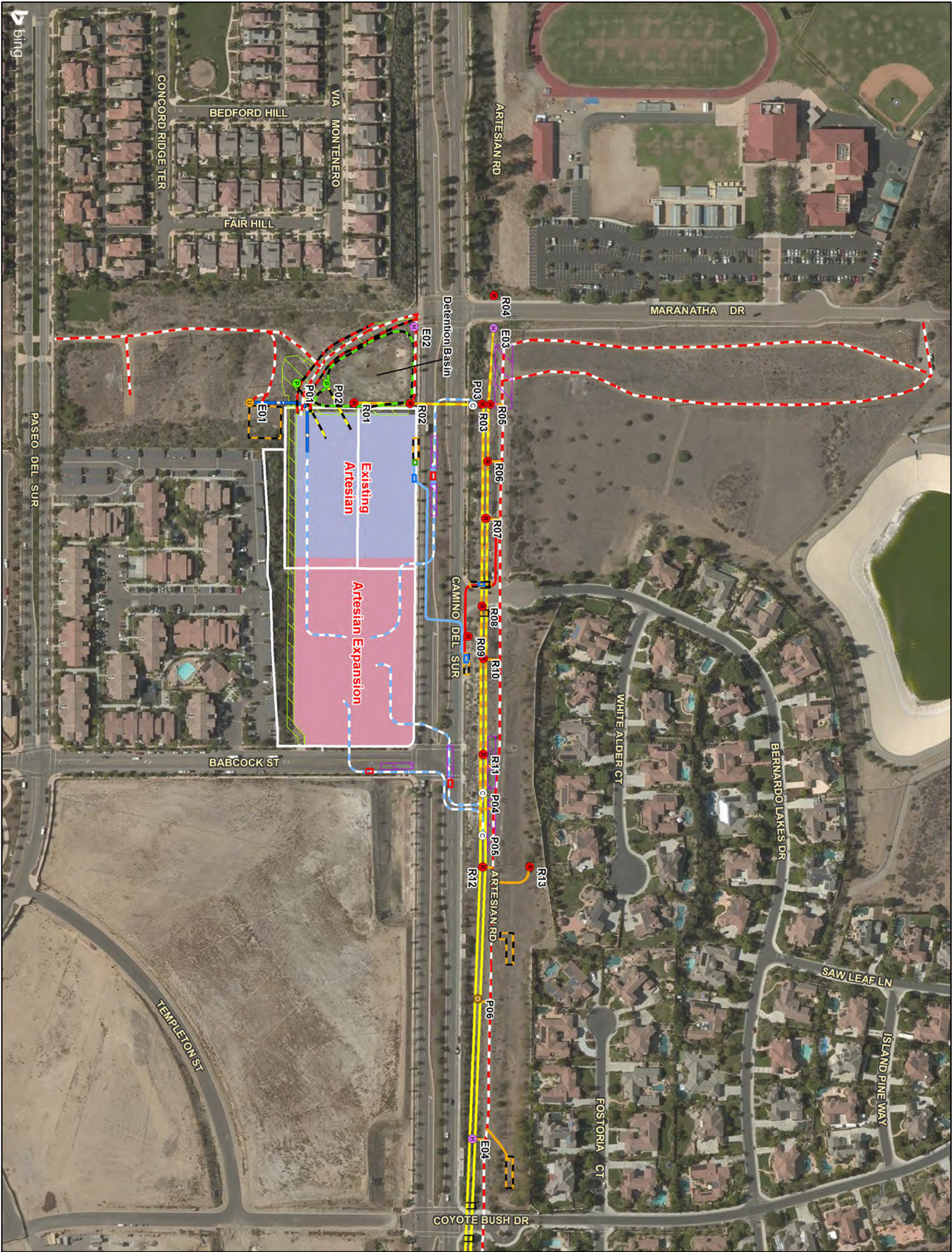
NOTE:

- ¹ **Deadend:** A self-supporting structure, using horizontal strain insulators and where the transmission or distribution conductors mechanically terminate. Dead-end towers may be used at a Substation as a transition to a "slack span", when the circuit changes to a buried cable, when a transmission line changes direction by more than a few degrees or when the power line must cross a large gap, such as a river, or valley

SOURCE: SDG&E 2016(a)

Artesian 230kV Substation
Expansion Project

Proposed Project
Detailed Route Map
Figure 2-5a



Legend:

- Direct Bury Pole (New)
- Foundation Cable Pole (New)
- Overhead Work, (Existing Structure)
- Overhead Work, New Underground Cable
- Pier Foundation Pole (New)
- Remove from Service (Existing Structure)
- Guard Structure
- Overhead 69kV Power Line (Reconductor)
- Overhead 69kV Power Line to be Removed
- Overhead 230kV Transmission Line Loop-in (New)
- Underground 12kV Distribution Line (New)
- Underground 12kV Distribution Line to be Removed
- Underground 69kV Power Line (New Cable in New Trench)
- Underground 69kV Power Line (New Cable in Existing Conduit)
- Existing Access
- Foot Path (Temporary)
- Overland Travel (Temporary)
- Widen Existing Road
- Future Detention Basin Limit
- Existing Distribution Feature
- Proposed Distribution Feature
- Stringing / Pulling Site
- Temporary Work / Staging Area
- 69kV Transmission Vault
- Maintenance Pad and Road
- Staging / Storage Yard
- SDG&E-Owned Parcels
- Other Project Area
- Artesian Expansion

Scale: 0 100 200 300 400 Feet

Map of the project area showing the location of the Artesian 230kV Substation and the proposed expansion area. The map includes labels for various streets and landmarks, such as Artesian Rd, Camino Del Sur, Babcock St, Templeton St, and the Artesian Substation. A north arrow is also present.

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Content may not reflect National Geographic's current map policy. Sources:
National Geographic, Esri, DeLorme, HERE, UNEP-WCMC, USGS, NASA,
ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp., NAVI, 2014, TRC,
2016, SDG&E, 2016



Artesian 230kV Substation
Expansion Project
Proposed Project
Detailed Route Map
Figure 2-5b

- Direct Bury Pole (New)
- Foundation Cable Pole (New)
- Overhead Work (Existing Structure)
- Overhead Work, New Underground Cable
- Pier Foundation Pole (New)
- Remove from Service (Existing Structure)
- Guard Structure
- Overhead 68kV Power Line (Reconductor)
- Overhead 68kV Power Line to be Removed
- Overhead 230kV Transmission Line Loop-in (New)
- Underground 12kV Distribution Line (New)
- Underground 12kV Distribution Line to be Removed
- Underground 68kV Power Line (New Cable in New Trench)
- Underground 68kV Power Line (New Cable in Existing Conduit)
- Existing Access
- Foot Path (Temporary)
- Overland Travel (Temporary)
- Widen Existing Road
- Future Detention Basin Limit
- Existing Distribution Feature
- Proposed Distribution Feature
- Stringing / Pulling Site
- Temporary Work / Staging Area
- 68kV Transmission Vault
- Maintenance Pad and Road
- Staging / Storage Yard
- SDG&E-Owned Parcels
- Other Project Area
- Artesian Expansion

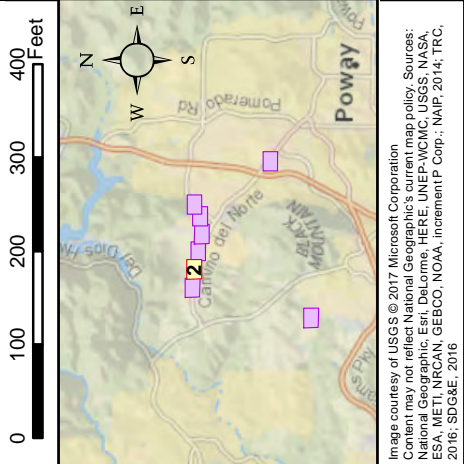


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ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp., NAIP, 2014; TRC,
2016; SDG&E, 2016

Artesian 230kV Substation
Expansion Project
Proposed Project
Detailed Route Map
Figure 2-5c

- Direct Bury Pole (New)
- Foundation Cable Pole (New)
- Overhead Work (Existing Structure)
- Overhead Work, New Underground Cable
- Pier Foundation Pole (New)
- Remove from Service (Existing Structure)
- Guard Structure
- Overhead 69kV Power Line (Reconductor)
- Overhead 69kV Power Line to be Removed
- Overhead 230kV Transmission Line Loop-in (New)
- Underground 12kV Distribution Line (New)
- Underground 12kV Distribution Line to be Removed
- Underground 69kV Power Line (New Cable in New Trench)
- Underground 69kV Power Line (New Cable in Existing Conduit)
- Existing Access
- Foot Path (Temporary)
- Overland Travel (Temporary)
- Widen Existing Road
- Future Detention Basin Limit
- Existing Distribution Feature
- Proposed Distribution Feature
- Stringing / Pulling Site
- Temporary Work / Staging Area
- 69kV Transmission Vault
- Maintenance Pad and Road
- Siting / Storage Yard
- SDG&E-Owned Parcels
- Other Project Area
- Artesian Expansion

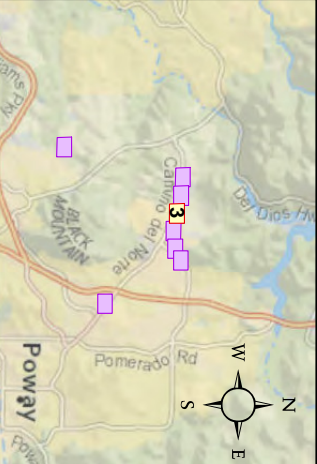
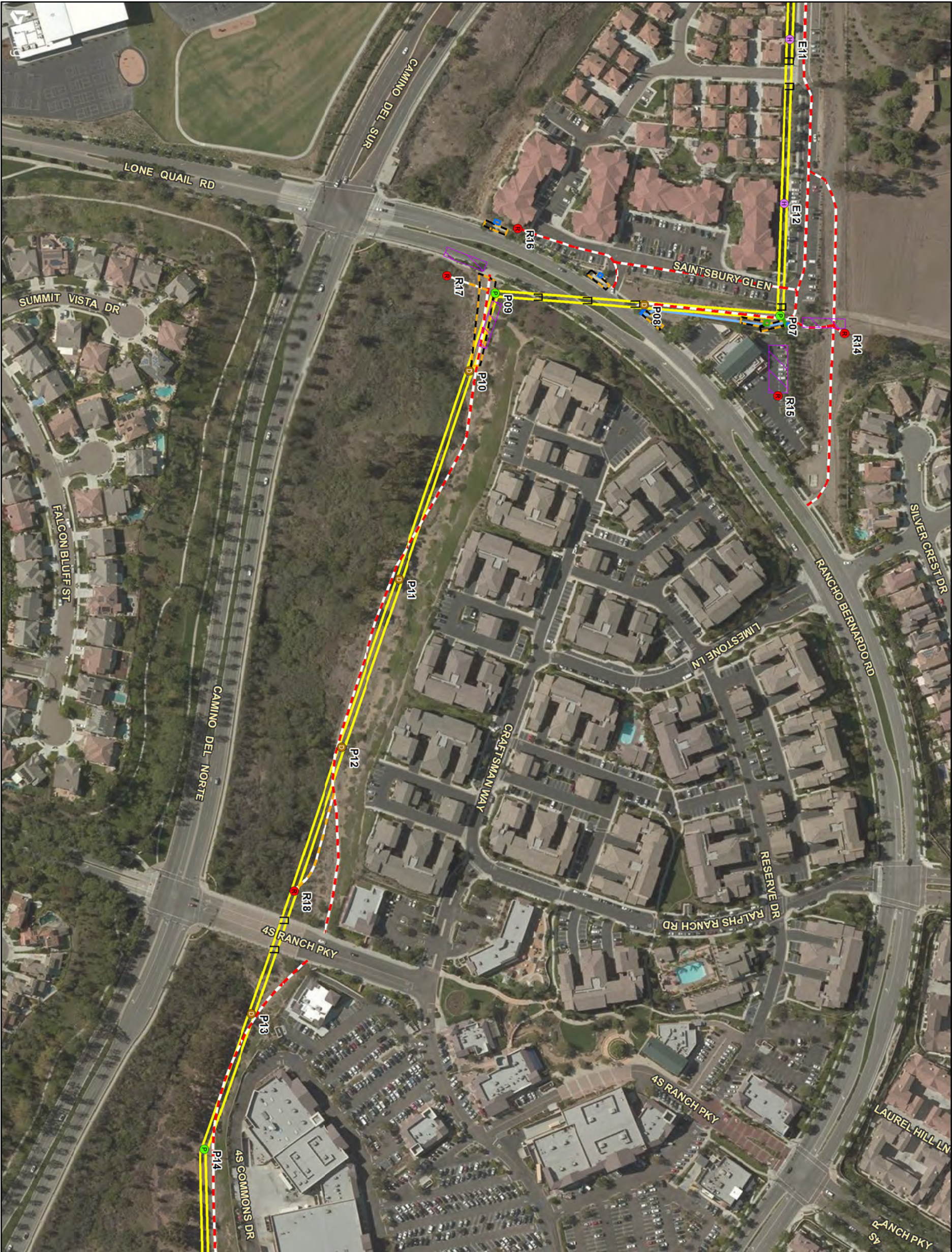


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ESA, METI, NRCAN, GEBCO, NOAA, increment p Corp., NAVI, 2014, TRC,
2016, SDG&E, 2016



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Artesian 230kV Substation
Expansion Project
Proposed Project
Detailed Route Map
Figure 2-5d

- Direct Bury Pole (New)
- Foundation Cable Pole (New)
- Overhead Work (Existing Structure)
- Overhead Work, New Underground Cable
- Pier Foundation Pole (New)
- Remove from Service (Existing Structure)
- Guard Structure
- Overhead 68kV Power Line (Reconductor)
- Overhead 68kV Power Line to be Removed
- Overhead 230kV Transmission Line Loop-in (New)
- Underground 12kV Distribution Line (New)
- Underground 12kV Distribution Line to be Removed
- Underground 69kV Power Line (New Cable in New Trench)
- Underground 69kV Power Line (New Cable in Existing Conduit)
- Existing Access
- Foot Path (Temporary)
- Overland Travel (Temporary)
- Widen Existing Road
- Future Detention Basin Limit
- Existing Distribution Feature
- Proposed Distribution Feature
- Stringing / Pulling Site
- Temporary Work / Staging Area
- 69kV Transmission Vault
- Maintenance Pad and Road
- Staging / Storage Yard
- SDG&E-Owned Parcels
- Other Project Area
- Artesian Expansion

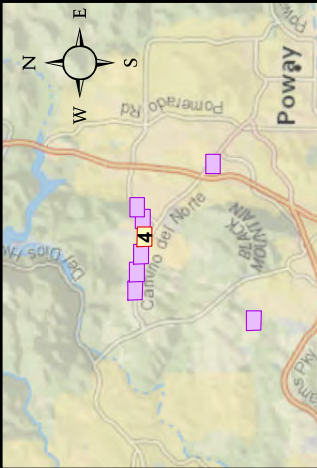
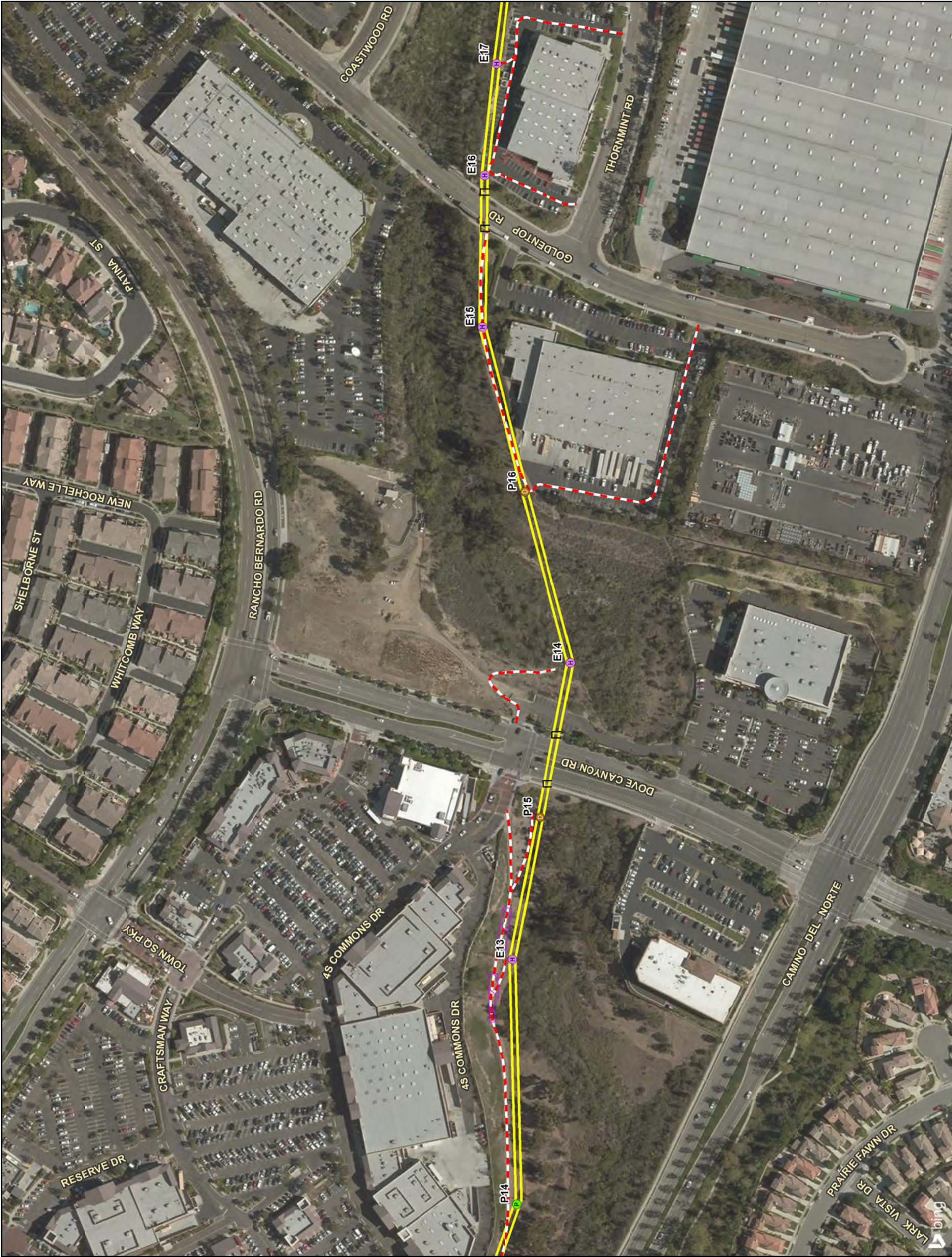
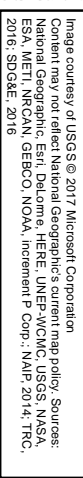
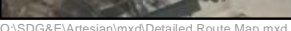


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2016; SDG&E, 2016



Page 5 of 10



Artesian 230kV Substation
Expansion Project
Proposed Project
Detailed Route Map
Figure 2-5f

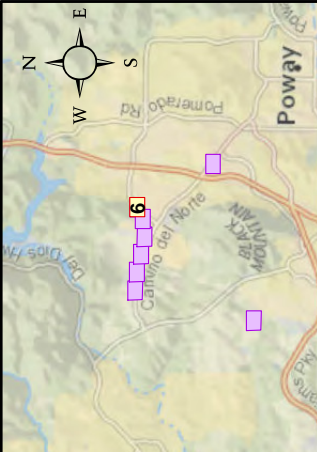
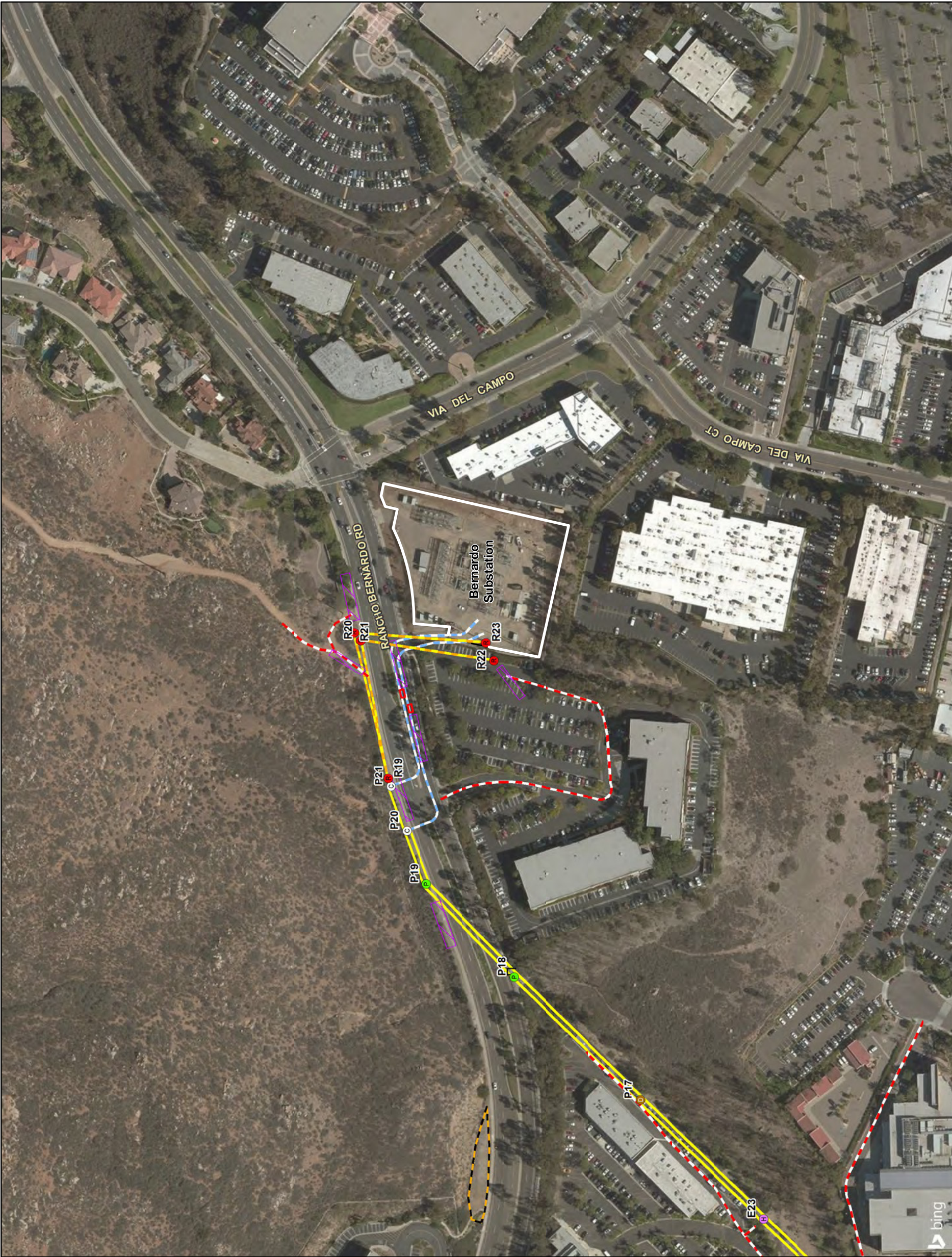
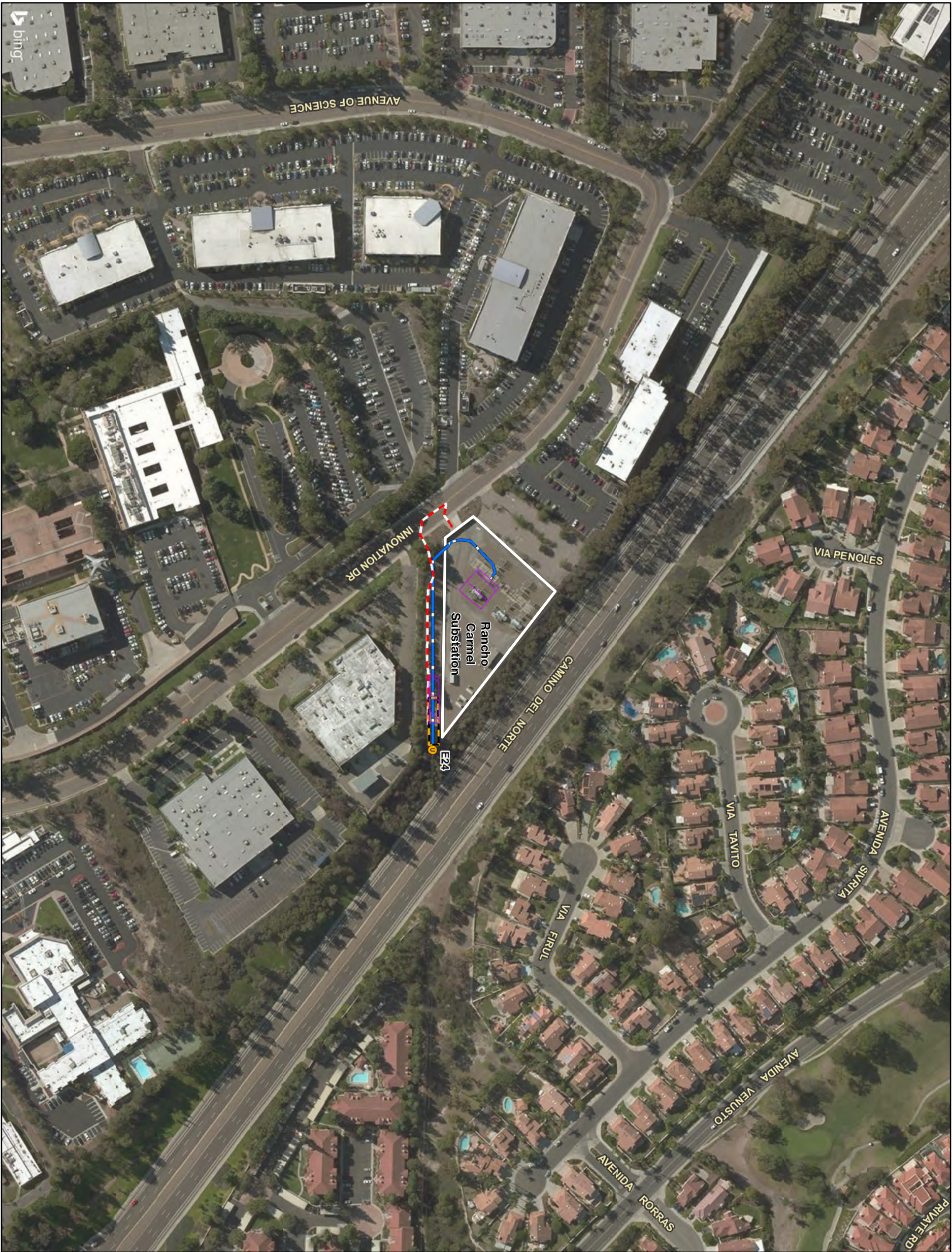


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ESA, METI, NRCAN, GEBCO, NOAA, Increment P Corp., NAIP, 2014; TRC,
2016; SDG&E, 2016





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Artesian 230kV Substation
Expansion Project
Proposed Project
Detailed Route Map
Figure 2-5g

- Direct Bury Pole (New)
- Foundation Cable Pole (New)
- Overhead Work (Existing Structure)
- Overhead Work, New Underground Cable
- Pier Foundation Pole (New)
- Remove from Service (Existing Structure)
- Guard Structure
- Overhead 69kV Power Line (Reconductor)
- Overhead 69kV Power Line to be Removed
- Overhead 230kV Transmission Line Loop-in (New)
- Underground 12kV Distribution Line (New)
- Underground 12kV Distribution Line to be Removed
- Underground 69kV Power Line (New Cable in New Trench)
- Underground 69kV Power Line (New Cable in Existing Conduit)
- Existing Access
- Foot Path (Temporary)
- Overland Travel (Temporary)
- Widen Existing Road
- Future Detention Basin Limit
- Existing Distribution Feature
- Proposed Distribution Feature
- Stringing / Pulling Site
- Temporary Work / Staging Area
- 69kV Transmission Vault
- Maintenance Pad and Road
- SDG&E-Owned Parcels
- Other Project Area
- Artesian Expansion

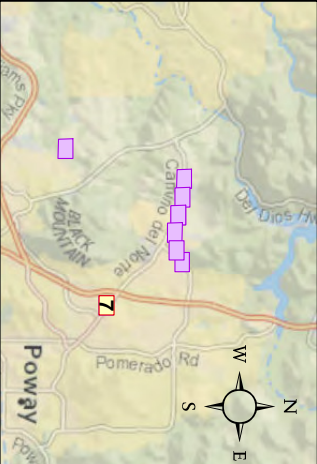


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2016, SDG&E, 2016



Artesian 230kV Substation
Expansion Project
Proposed Project
Detailed Route Map
Figure 2-5h

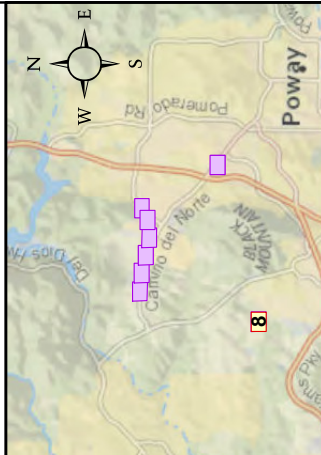
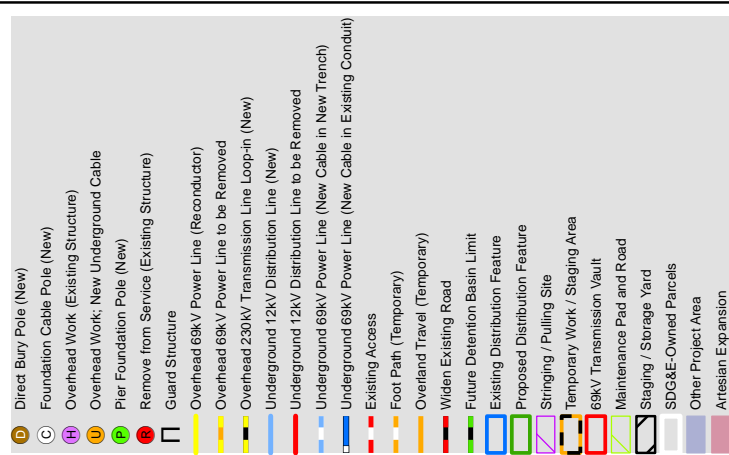


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Data sources: National Geographic, Esri, DeLorme, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp., NAIP, 2014; TRC, 2016; SDG&E, 2016



O:\SDG&E\Artesian\mxd\Detailed Route Map.mxd

Artesian 230kV Substation
Expansion Project
Proposed Project
Detailed Route Map
Figure 2-5i

- Diomed Bury Pole (New)
- Foundation Cable Pole (New)
- Overhead Work (Existing Structure)
- Overhead Work: New Underground Cable
- Pier Foundation Pole (New)
- Remove from Service (Existing Structure)
- Guard Structure
- Overhead 69kV Power Line (Reconductor)
- Overhead 69kV Power Line to be Removed
- Overhead 230kV Transmission Line Loop-in (New)
- Underground 12kV Distribution Line (New)
- Underground 12kV Distribution Line to be Removed
- Underground 69kV Power Line (New Cable in New Trench)
- Underground 69kV Power Line (New Cable in Existing Conduit)
- Existing Access
- Foot Path (Temporary)
- Overland Travel (Temporary)
- Widen Existing Road
- Future Detention Basin Limit
- Existing Distribution Feature
- Proposed Distribution Feature
- Stringing / Pulling Site
- Temporary Work / Staging Area
- 69kV Transmission Vault
- Maintenance Pad and Road
- Staging / Storage Yard
- SDG&E-Owned Parcels
- Other Project Area
- Artesian Expansion

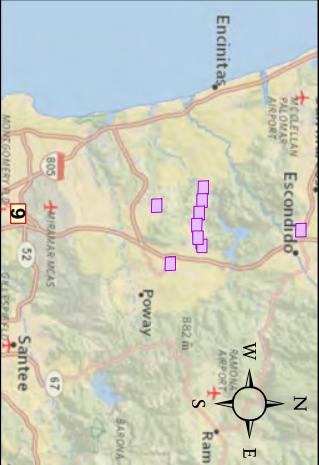


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2016, SDG&E, 2016

Artesian 230kV Substation
Expansion Project
Proposed Project
Detailed Route Map
Figure 2-5j

- Direct Bury Pole (New)
- Foundation Cable Pole (New)
- Overhead Work (Existing Structure)
- Overhead Work: New Underground Cable
- Pier Foundation Pole (New)
- Remove from Service (Existing Structure)
- Guard Structure
- Overhead 69kV Power Line (Reconductor)
- Overhead 69kV Power Line to be Removed
- Overhead 230kV Transmission Line Loop-in (New)
- Underground 12kV Distribution Line (New)
- Underground 12kV Distribution Line to be Removed
- Underground 69kV Power Line (New Cable in New Trench)
- Underground 69kV Power Line (New Cable in Existing Conduit)
- Existing Access
- Foot Path (Temporary)
- Overland Travel (Temporary)
- Widen Existing Road
- Future Detention Basin Limit
- Existing Distribution Feature
- Proposed Distribution Feature
- Stringing / Pulling Site
- Temporary Work / Staging Area
- 69kV Transmission Vault
- Maintenance Pad and Road
- Staging / Storage Yard
- SDG&E-Owned Parcels
- Other Project Area
- Artesian Expansion

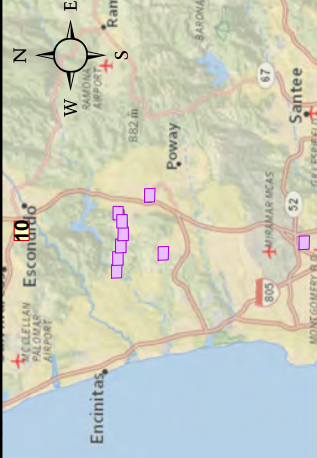


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2016; SDG&E, 2016



The Proposed Project evaluated in this IS/MND also includes the site development (i.e., physical substation footprint, grading, etc.) for a larger capacity substation that may be constructed in the future. The additional substation electrical components (e.g. 2nd 230kV transformer or connection to additional transmission or power lines) for this larger substation are not included within SDG&E's request for a PTC for the Artesian 230kV Substation Expansion Project and are not evaluated in this IS/MND.

Safety lighting would be provided for the purpose of safe nighttime access inside the substation. Lighting fixtures would be comprised of all 120 volt AC light-emitting diode (LED) lights. The size of the LED will be dependent upon the location and required wattage needed to obtain the lumens necessary to achieve approximately 0.5 foot-candles in walkway areas (i.e., a light on a 30-foot structure will have higher wattage than one closer to the ground). Lights would be directed downward and shielded as necessary to minimize glare into surrounding properties.

230/69kV Substation Yard

The proposed Artesian Substation 230/69kV configuration would include the following components:

- A 230kV yard with double 230kV busses and two bays of breaker and a half configuration. Each bay would include a 55-foot transformer deadend structure. Each 230kV main bus would consist of two approximately 40-foot tall high bus deadend structures.
- One 230/69kV, 224 MVA transformer with an oil spill containment basin, approximately 55-foot high steel deadend structure and a 10-foot static mast.
- One approximately 20-foot tall termination stand.
- Two 230kV transmission lines connecting overhead into the deadend structures.
- A spare 230kV position which would accommodate either: one 230/69kV, 224 MVA transformer or one additional 230kV transmission line.
- One additional approximately 20-foot termination structure¹⁰, and
- A noise wall approximately 35 feet tall.

New 230kV Getaways

The Proposed Project would connect the existing 230kV transmission line (TL23051) (Figure 2-3), which lies to the west of the existing Artesian Substation, to the proposed 230/69kV component of the Artesian Substation. The 230kV connections would exit the new 230/69kV substation in an overhead position directly west and connect with the existing 230kV transmission line alignment at pole structures P01 and P02 (Figure 2-5a) via two new 230kV drop-pole structures (tubular steel poles). These poles would have three conductors and would be spaced approximately 18 feet apart (horizontally and vertically). The minimum clearance from the lowest conductor to the ground is 25 feet at pedestrian-only access locations, and a minimum of 30 feet in all other locations. The new overhead 230kV transmission line connections would be approximately 125 – 150 feet in length.

¹⁰ Termination Structure: A structure located within or adjacent to a Substation that acts as the transition to a slack span (span of wire that is not under tension). Similar to "deadend"

New 69kV Getaways

The proposed 69kV getaways (four 69kV power lines) from the Artesian Substation would all be constructed via new or existing underground duct banks. In order to connect existing overhead 69kV power lines TL616 and TL6939 and new TL6974 to the Artesian Substation, three new steel cable poles and new underground duct packages would be installed north of the Artesian Substation. The three new, single circuit steel 69kV cable poles (P03, P04 and P05) (Figure 2-5a) would be installed to transition the 69kV conductor from an overhead to an underground position. Approximately 1,950 total feet (between all four lines) of new trench and duct package (**Figure 2-6**) would be installed between three (3) new cable poles and the relocated 69kV substation yard, along with three (3) new splice vaults located just beyond the substation boundary. New 69kV cable pole structures would be dull galvanized steel pole structures. The specific anticipated getaway for each 69kV power line is further described below and depicted on Figure 2-5a.

TL616: At the Artesian Substation, TL 616 would exit the Artesian Substation site north within a new duct package and would then travel west along Camino Del Sur¹¹, before crossing Camino Del Sur to connect with the existing overhead alignment (via new cable pole P03) and then continue north. The new getaway would be approximately 600 feet in length.

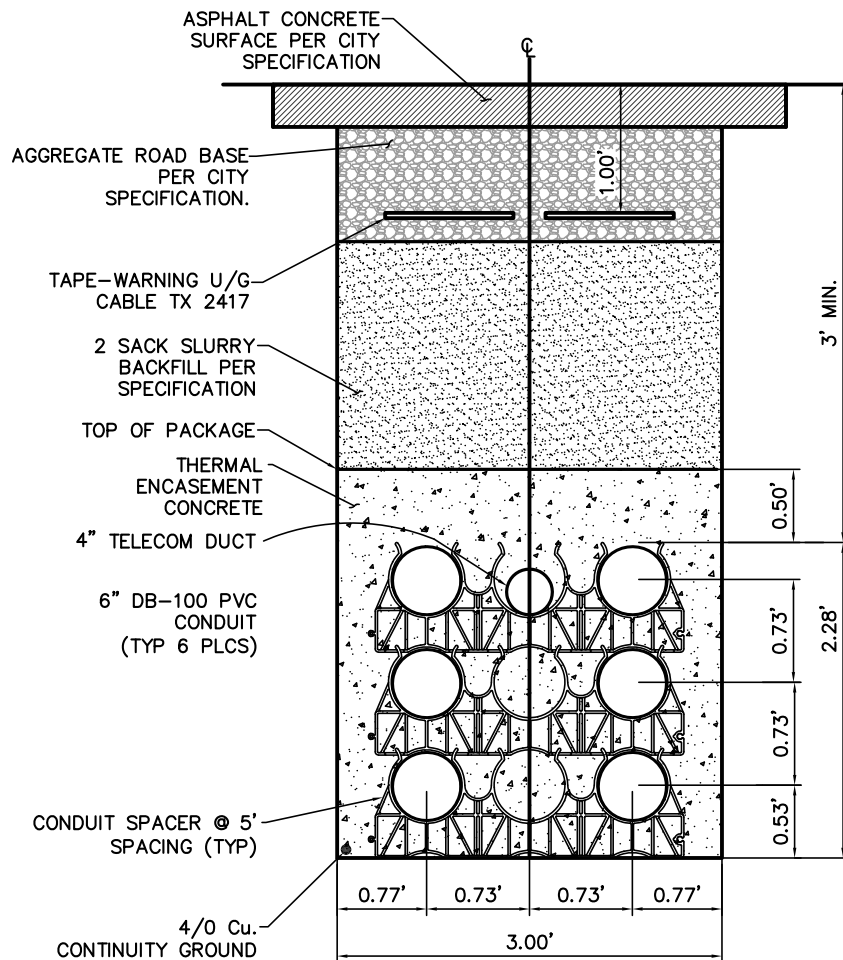
TL 6974 and TL6939: At the Artesian Substation, TLs 6974 and 6939 would exit the Artesian Substation east within a new duct package, and would then travel north along Babcock Street, and cross Camino Del Sur, before connecting with the existing overhead alignment (via new cable poles P04 and P05). TLs 6974 and 6939 would then continue east towards the Bernardo Substation via the existing overhead (reconductor) alignment (Figures 2-5a through 2-5f). The new getaways would be approximately 450 feet in length.

TL6920: TL6920 would exit the Artesian Substation west within an existing duct package, before connecting with the existing overhead alignment that continues south via existing cable pole structure E01. The existing duct package within the substation footprint would be extended to the relocated 69/12kV substation yard on the eastern parcel. New cable would be installed between pole structure E01 and the substation rack. The new getaway would be approximately 400 feet in length.

Distribution Line Getaways and Other Upgrades

Existing 69kV pole structures R05 and R07, as well as distribution-only pole structures E02, E03, and R06 currently support distribution circuit C1100 in an overhead position. Following the completion of the Artesian Substation 69kV underground getaways, these distribution lines would be relocated and/or replaced. In order to achieve the functional replacement of the removed overhead distribution lines, new underground connections would be installed, including approximately 800 total feet of new underground distribution line. One new distribution pad-mounted 4-way switch would be installed approximately 40 feet west of an existing manhole located outside and north of the Artesian Substation.

¹¹ Leaving the Artesian Substation, the proposed route will stay within the public right-of-way throughout Babcock Street and Camino Del Sur, and the land rights are covered under SDG&E's franchise agreement with the City of San Diego. However, immediately north and adjacent to Camino Del Sur, there is a narrow sliver of land (APN 678-230-19-00), approximately 45' in length as the route exits the franchise area toward the existing easement. This land is privately owned by Black Mountain Ranch, LLC, and would require the acquisition of additional land rights.



**TYPICAL 69kV DOUBLE CIRCUIT
DUCT BANK
FIGURE 1.1
NOT TO SCALE**

In addition to the removal of the existing overhead distribution, approximately 400 feet of existing underground distribution line located near structures R08 and R09 (Figure 2-5a) would be removed from service as it would no longer be required following the construction of the distribution upgrades.

The Proposed Project would also include distribution line upgrades at the Artesian Substation and along Rancho Bernardo Road. The distribution line upgrades would shift existing distribution lines from an overhead to underground position. Existing 69kV pole structures along Rancho Bernardo Road at locations P07 and P08 currently support distribution underbuild that would need to be relocated prior to the new steel pole structures being installed at locations P07 and P08. Approximately 370 feet of new underground distribution line and approximately 300 feet of new trench would be installed between location P08 (where it would connect with existing underground distribution lines) and an existing distribution meter location approximately 20 feet northeast of pole structure P07. One new pad-mounted transformer would be installed in-line with the new underground distribution line, approximately 25 feet southeast of pole structure P07 (see Figure 2-5c).

2.4.1.2 Bernardo Substation

Upgrades are required at the existing Bernardo Substation (Figure 2-5f) in order to facilitate the required 69kV reconductoring between Bernardo and Artesian substations. The construction at the Bernardo Substation would require rearrangements and trenching inside the existing substation boundary, but would not require additional grading or other site development activities. All existing structures, with the exception of two wood monopole structures that would be removed from service, would be unchanged.

At the Bernardo Substation, TLs 6974 and 6939 would connect to new cable poles, P20 and P21, before crossing Rancho Bernardo Road (at each connection point) in new trenches (605 and 533 feet in length respectively) and duct packages, traveling east along Rancho Bernardo Road, and entering the Bernardo Substation from the north and west. An approximately 600-foot segment of existing double-circuit 69kV power line located northwest of the Bernardo Substation would be relocated to an underground position (refer to Figure 2-6). The new TL6939 and TL6974 underground getaways would be 500-600 feet in length and would be constructed on the western boundary of Bernardo Substation. The alignment would head immediately north from the substation, turning in a westerly direction along Rancho Bernardo Road and connecting into the existing line on the northern side of the road. SDG&E-owned fiber optic cable currently co-located on these pole structures would either be converted to an underground position along with the 69kV power line (proposed design) or could be left in place on the wood overhead pole structures. If the fiber optic cable is left in place on the wood overhead pole structures, the pole structures would be topped¹² above the fiber optic cable and the fiber optic cable may be upgraded (reconductored), if needed. These structures would be accessed via existing SDG&E access roads and paved city streets.

¹² A “topped” structure is a structure that is partially removed, where the top portion of the structure is cut off and only the lower portion is left in place.

2.4.1.3 Rancho Carmel Substation

Upgrades are required at the existing Rancho Carmel Substation (Figure 2-5g) in order to upgrade the line rating for the existing 69kV power line between Poway and Rancho Carmel substations. The proposed construction would require rearrangements inside and outside of the existing substation boundary, but would not require additional grading or other site development activities.

An approximately 600-foot segment of underground 69kV power line getaway at the Rancho Carmel Substation would be upgraded. Existing 69kV power line TL648 currently connects from the substation to structure E24 in an underground position. This line is located immediately south of the substation and runs along the southern boundary along an existing SDG&E access road. New cable would be installed within an existing duct between pole structure E24 and the existing bay position within the substation.

In order to maintain 69kV service to the Rancho Carmel Substation from TL648 during underground cable replacement, TL648 would be temporarily connected to the existing bay position via a shoo-fly structure. A shoo-fly is a temporary section of line supported by one or more wood poles, generally in parallel with an existing facility that has been removed from service for the purpose of upgrading or rebuilding, that would be installed within the substation fence-line. The temporary shoo-fly structure would support a temporary overhead connection of TL648 from existing pole structure E24 to the substation bay position. The temporary shoo-fly structure would be removed following completion of the underground cable replacement.

2.4.2 Reconductoring Alignment

Approximately 2.2 miles of the existing double-circuit 69kV power line located between the Artesian and Bernardo substations would be reconducted. The reconducting would include the replacement of some of the existing 36 double-circuit wood monopole structures as needed, and the removal of some existing pole structures from service. The reconducted segment would support two circuits (power lines) that would be designated TL6974 (new) and TL6939 (existing). These 69kV overhead power lines would connect to the Artesian and Bernardo substations via underground 69kV getaways (see Section 2.4.1.1). Existing 69kV underground getaways for two other existing 69kV power lines (TL616C and TL6920) would also be extended to connect to the relocated Artesian 69/12kV substation yard.

Table 2-3 summarizes length and type of proposed transmission and power lines for the Proposed Project. Figure 2-5 (a through j) depicts locations of proposed power line elements, including routes and alignments, pole structure locations, and locations of pole structures to be removed.

TABLE 2-3
TRANSMISSION, DISTRIBUTION, AND POWER LINE COMPONENTS

Component Description	Approximate Length of New Line(s)	Line Type
TL23051/23072 – Artesian Substation Loop-in	125 - 150 feet (each)	Overhead
TL 616 – Artesian Substation Getaway	800 feet	Underground
TL6939– Artesian Substation Getaway	600 feet	Underground
TL6974 – Artesian Substation Getaway	555 feet	Underground
69kV Reconductor (TLs 6939 & 6974)	2.2 miles (each)	Overhead
TL6939 – Bernardo Substation Getaway	600 feet	Underground
TL6974 – Bernardo Substation Getaway	530 feet	Underground
TL 6920 – Artesian Substation Getaway	680 feet	Underground
TL 648 – Cable Replacement at Rancho Carmel Substation	600 feet	Underground
Distribution Line Circuit C1100	1,200 feet	Underground

NOTES: Table contents based upon preliminary engineering.

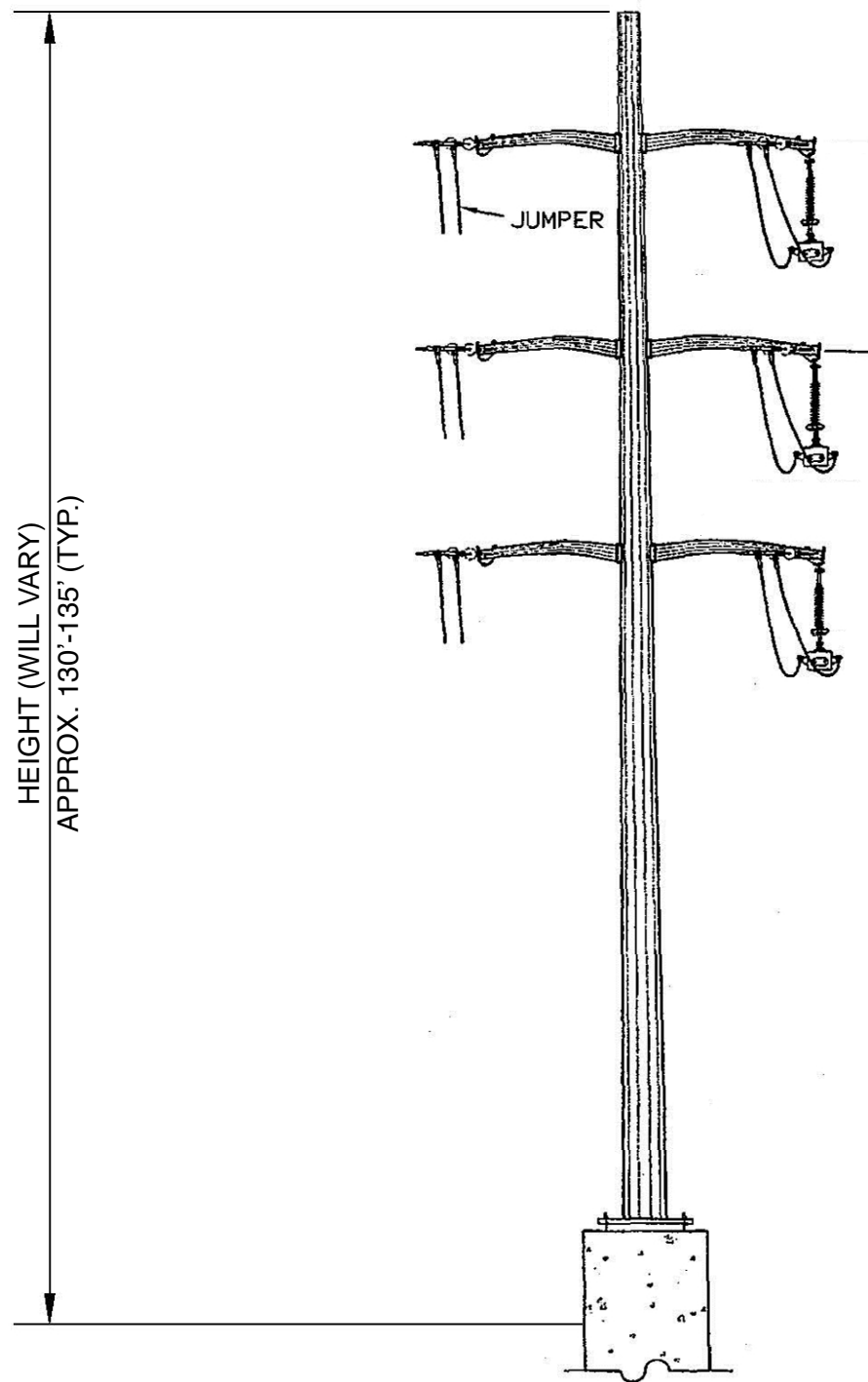
SOURCE: SDG&E 2016a, PEA Table 3-1

2.4.3 Poles/Towers

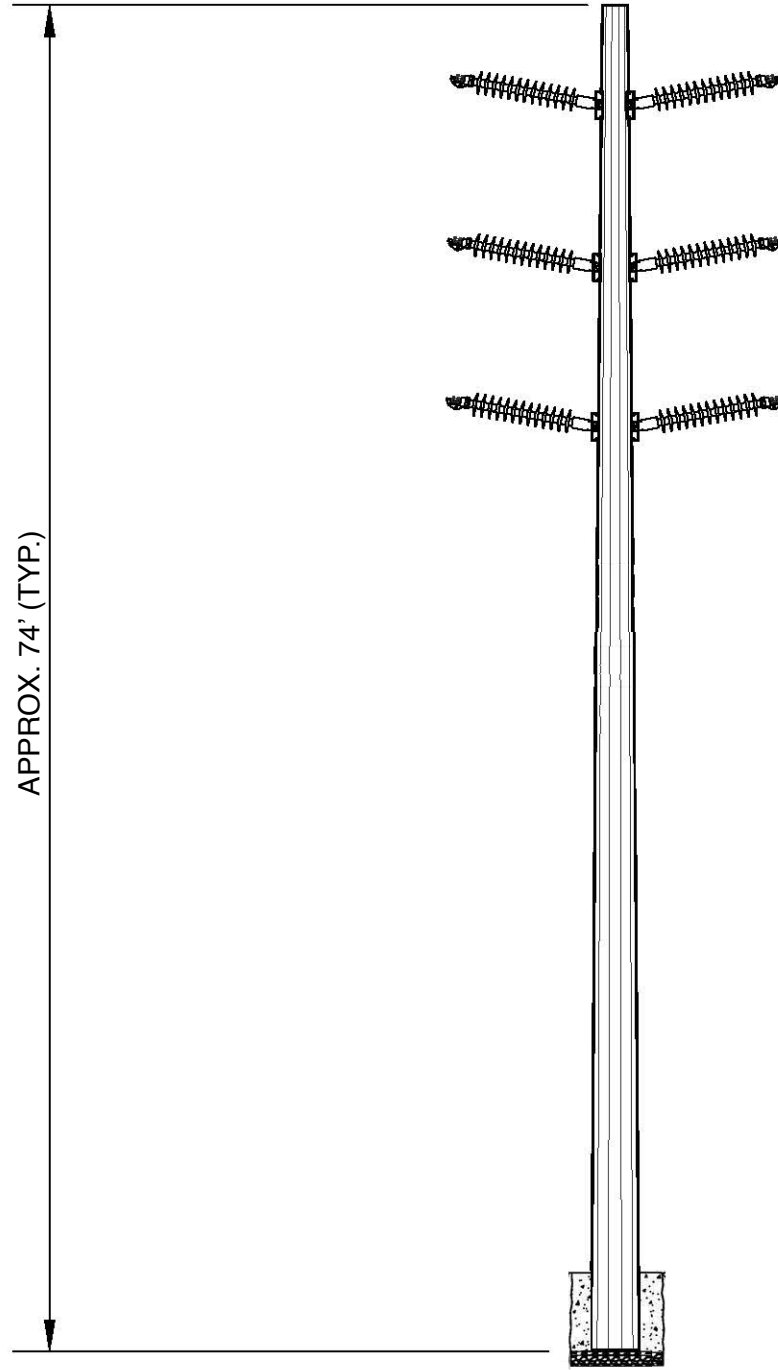
2.4.3.1 Pole and Tower Metrics

The Proposed Project would include installation of new structures as well as the modification, removal, and replacement of existing structures. **Figure 2-7** shows the typical design of new structures. **Figure 2-8** presents photographs of typical 69kV structures. Pole-for-pole replacement would occur on some, but not all, removed structures. Details of typical pole metrics are provided in Table 2-4. Details of each pole by location are provided in PEA Appendix 3-D (SDG&E, 2016). Replacement structures would be placed in line with removed structures. No specialty poles are proposed as a part of the Proposed Project. New structures would use pier foundations, direct bury or micropile, as needed (SDG&E, 2017b).

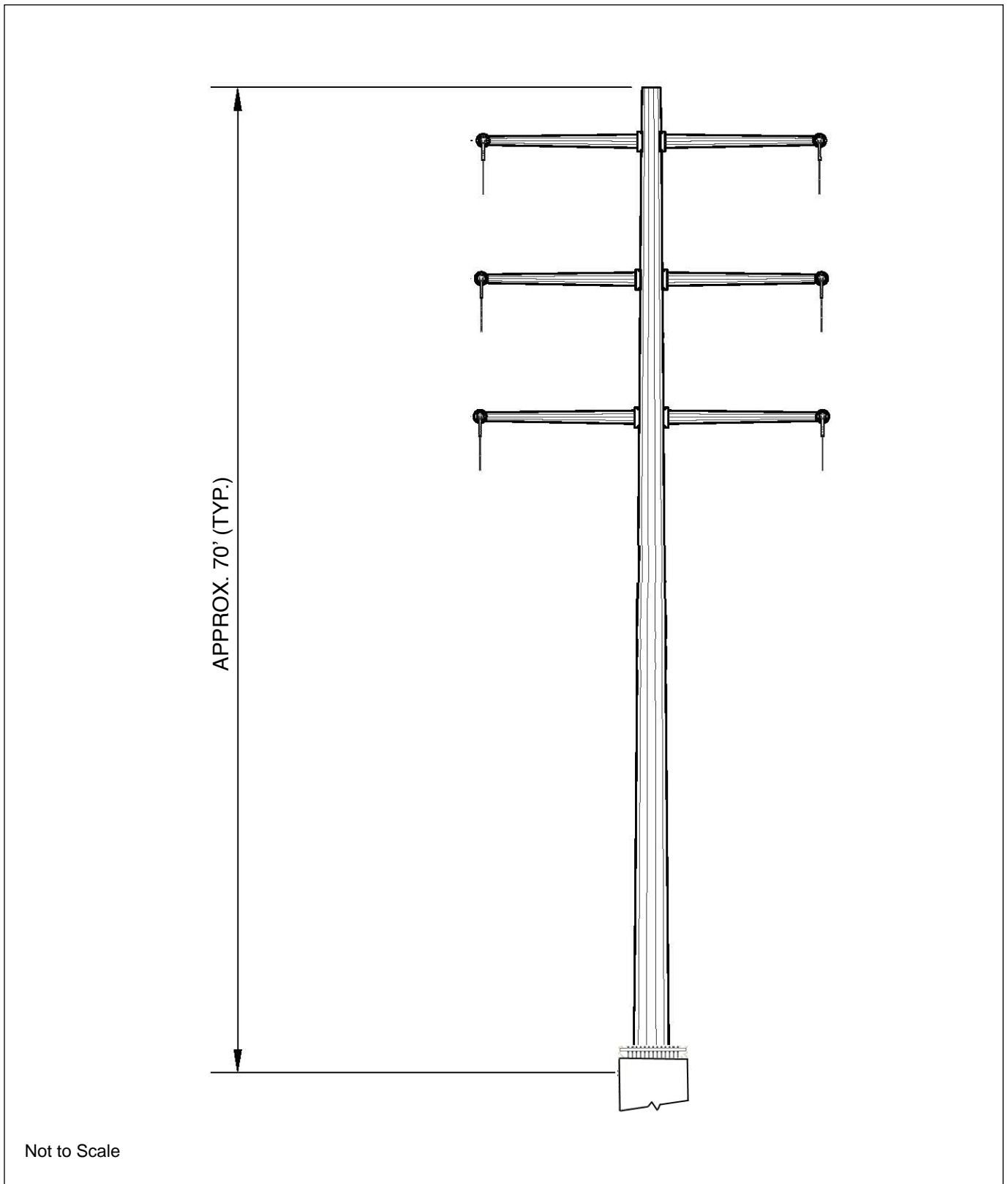
Numbers of installations, replacements, and removals, as well as typical pole dimensions are summarized below in **Table 2-4** and **Table 2-5**. Pole heights range from 25 to 130 feet. As shown in Table 2-5, the proposed 2.2-mile reconductor would result in the replacement of 14 existing 69kV wood monopoles with new 69kV steel tubular poles (nine direct bury and five concrete pier or micropile foundation), the removal of eleven existing 69kV wood monopoles from service (not replaced by new steel tubular poles), and the utilization of 20 existing wood monopoles and two wood cable poles in place. All new 69kV steel monopole structures would be made of weathering steel, which has a brown or rust-colored hue. All existing and new pole structures would utilize polymer insulators. All new 69kV tubular steel poles would have three conductors per circuit that would be spaced approximately six feet apart (horizontally and vertically). The typical span length is 300 – 400 feet, and the minimum clearance from the lowest conductor to the ground is 25 feet where only pedestrian access is present, and a minimum of 30 feet in all other locations.



Not to Scale



Not to Scale

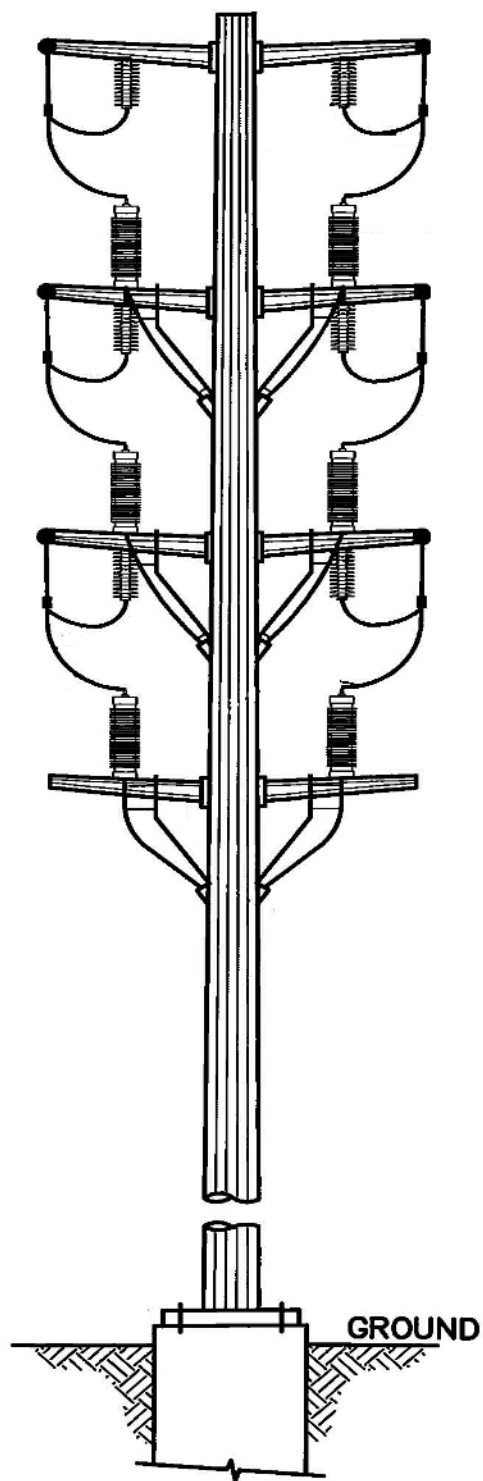


SOURCE: SDG&E, Sempra Energy Utility

CPUC Artesian Substation . 120812.02

Figure 2-7 (3 of 4)

Typical 69kV Steel Double Circuit Dead-End Foundation Pole



Not to Scale



Typical H-Frame Guard Structure



Typical 69kV Double-Circuit Dead-end Wood Monopole with Distribution Underbuild



Typical 230kV Double-Circuit Dead-end Dull Galvanized Steel Tubular Pole



Typical 69kV Double-Circuit Tangent Weathering Steel Tubular Pole



Typical 69kV Double-Circuit Dead-end Weathering Steel Tubular Pole



Typical 69kV Double-Circuit Cable Pole with Only 1 Side Installed & Distribution Underbuild



Typical 69kV Double-Circuit Tangent Wood Monopole



Typical 69kV Double-Circuit Steel Cable Pole with Only 1 Side Installed and 1 Side Pass Through

SOURCE: SDG&E, Sempra Energy Utility

CPUC Artesian Substation . 120812.02

Figure 2-8 Photographs of Typical Structures

TABLE 2-4
TYPICAL POLE METRICS

Pole Type	Maximum Height (feet)*	Typical Depth (feet)	Approximate Pole Diameter (feet)		Installation/ Replacement	Typical (Average) Work Area (square feet)		
			Pole Base	Pole Top		Removal from Service	Pole Top Only	Permanent
230 kV Tubular Steel Pole	130	40	5-6	2-3	22,500	N/A	N/A	2,600
69 kV Wood Monopole	65	9	2-3	1	N/A	1,260	1,260	N/A
69 kV Wood Cable Pole	65	9	2-3	1	N/A	1,260	1,260	N/A
69 kV Steel Tubular Pole (direct bury)	75	10	2-3	1	1,260	N/A	1,260	60
69 kV Steel Tubular Pole (foundation)	75	25	2-3	1	5,625	N/A	1,260	60
69 kV Steel Cable Pole	83	25	3-5	1.5	22,500	N/A	1,260	200
Wood Distribution-only Poles	45	7	2-3	1	N/A	1,260	1,260	N/A
Wood Communication-only Poles	27	5	2-3	1	N/A	1,260	1,260	N/A
69kV Wood Stub Poles	20-69	9	2-3	1	N/A	1,260	1,260	N/A
69kV Steel Stub Poles	25	5	2-3	1	N/A	1,260	1,260	N/A

NOTE:

* AGS (Above Ground Surface)

SOURCE: SDG&E 2016a, PEA Table 3-2

TABLE 2-5
TRANSMISSION, DISTRIBUTION, AND POWER LINE STRUCTURES

Structure/Pole Type	Installed	Utilized in place	Removed
230kV Tubular Steel Poles	2	0	0
69kV Wood Monopole	0	20	25 ¹
69kV Wood Cable Poles	0	2	3
69kV Tubular Steel Poles	14 ²	0	0
69kV Steel Cable Poles	5	0	0
Wood Distribution-Only Poles	0	2	1
Steel Distribution-Only Poles	0	0	1
Wood Communication-Only Poles	0	0	2
Wood Stub Poles	0	0	4
Steel Stub Poles	0	0	2
69kV Underground Splice Vaults	5	0	0
Distribution Switches, Intercepts, & Pads	3	0	0

NOTES: Table contents based upon preliminary engineering.

¹ Of the 25 69kV wood monopole structures to be removed, 14 would be replaced by new steel pole structures and 11 would be removed from service.

² These new steel pole structures would replace existing wood pole structures.

SOURCE: SDG&E 2016a, PEA Table 3-3

The Proposed Project would remain in compliance with the Avian Power Line Interaction Committee's (APLIC) Suggested Practices for Avian Protection on Power Lines to reduce the potential for electrocution to both avian and other wildlife species. CPUC General Order 95, which governs overhead power and transmission line design, includes mandatory phase spacing that meets or exceeds the APLIC standards.

2.5 Right-of-Way Requirements

All proposed substation related construction, including the expansion of the Artesian Substation, would be conducted on SDG&E owned property. No additional land or ROW is required for the Proposed Project. The Proposed Project would expand, replace and/or relocate existing electric transmission and power line facilities within existing utility corridors, utility ROW, utility owned property, and existing franchise position within city streets. The Proposed Project would also expand and re-build an existing substation and create one new power line circuit that would also be located within existing ROW and franchise position. SDG&E currently owns the ROW that runs along the existing 230kV and 69kV lines. The existing 69kV reconductor ROW is 20-24 feet wide and approximately 2.2 miles long. The existing 230kV ROW is 200 feet wide and extends all the way to the Sycamore Canyon Substation. SDG&E currently has valid easements and franchise agreement rights to construct the proposed new 230kV, 69kV and 12kV facilities included as part of the Proposed Project.

2.6 Construction

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

Total Project construction is expected to take up to 30 months. Substation construction would occur in ten (non-sequential) phases as presented in **Tables 2-6a** and **2-6b**.

**TABLE 2-6a
CONSTRUCTION PHASING**

Phase	Title	Detail	Approximate Duration
1	Eastern Parcel and Relocated 69kV Substation Yard	Phase One would take place on the SDG&E parcel just east of and adjacent to the existing Artesian Substation and consist of site development including excavation, grading, construction of an access driveway, security fencing, foundation structures and a new control house. The existing stormwater detention basin immediately west of the existing Artesian Substation would then be expanded along with preparation of the access route. Concurrently with detention basin expansion demobilization and landscaping would then be undertaken for the expanded substation site.	18 months
2	Construct new 230/69kV Portion of Artesian Substation	Removal of existing structures on the Artesian Substation site, below and above grade construction for placement of foundation structures, screen walls, ducts and wiring to conclude with equipment testing/energization.	12 months
3	Bernardo Substation	Modifications at the Bernardo Substation	3 months
4	Rancho Carmel Substation	Modifications at Rancho Carmel Substation.	3 months
5	230kV Structures and 230kV Connection to Artesian Substation	Installation of the new 230KV connection at Artesian	4 months
6	Underground Power Line Getaways at Artesian and Bernardo substations	Construction of three of four new underground getaways at Artesian and Bernardo	4-5 months
7	Upgrade Underground Power Line Getaway at Rancho Carmel Substation	Upgrading of existing getaways at Rancho Carmel Substation	3 months
8	Upgrade Underground Power Line Getaway at Artesian Substation	Construct final new underground getaway at Artesian	1 month
9	Distribution Line Upgrades	Phase Nine would comprise distribution line upgrades	2 months
10	Reconductor Existing 69kV Overhead Power Line between Artesian and Bernardo substations	Phase Ten would comprise pole replacement and reconductoring of the 69kV powerlines	9 months

TABLE 2-6b
CONSTRUCTION SCHEDULE

Phase	Artesian Construction Phasing Chart	2018					2019												2020												2021			
		J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M
1	Relocate Artesian 69kV Yard																																	
2	Construct New 230/69kV Portion of Artesian Substation																																	
3	Bernardo Substation Modifications																																	
4	Rancho Carmel Substation Modifications																																	
5	Artesian 230kV Structures and Connection																																	
6	Artesian and Bernardo Underground Powerline Getaways																																	
7	Upgrade Underground Powerline Getaway at Rancho Carmel																																	
8	Upgrade Underground Powerline Getaway at Artesian																																	
9	Distribution Line Upgrades																																	
10	Reconductor Existing 69kV Overhead Power Line between Artesian and Bernardo																																	

Table 2-7 provides details of all areas of Project temporary and permanent ground disturbance.

TABLE 2-7
PROJECT TEMPORARY AND PERMANENT GROUND DISTURBANCE

Project Components	Length (miles)	Temporary Impacts (acres)	Permanent Impacts (acres)
Substations			
Artesian ¹	N/A	0.47	4.70
Bernardo	N/A	2.09	0
Rancho Carmel	N/A	1.31	0
Substation Getaways			
230kV Connection at Artesian	N/A	0.13	0.17
Distribution Line (Artesian)	~0.16	0	0
69kV Underground Getaways (Artesian, Bernardo, Rancho Carmel) ⁴	~0.84	1.89	0
Pulling Sites (underground)	N/A	0.3	0
New Underground Vaults (69kV)	N/A	0	0.0
69kV Reconductoring Components			
Pole Work Areas (installation, removal, top of pole)	~2.2	4.02	0.01
Guard Structures	N/A	0.03	0
Stringing Sites (overhead)	N/A	0.74	0
Temporary Staging and Miscellaneous Work Areas	N/A	1.01	0

TABLE 2-7 (CONTINUED)
PROJECT TEMPORARY AND PERMANENT GROUND DISTURBANCE

Project Components	Length (miles)	Temporary Impacts (acres)	Permanent Impacts (acres)
Staging and Storage Yards			
Carmel Valley Road	N/A	5	0
Kearny Mesa Storage Yard	N/A	18.62	0
Northeast Annex Staging Yard/Storage Facility	N/A	3.77	0
Roads and Project Access			
Existing SDG&E Unpaved Access Roads	~2.52	3.66	0
Existing SDG&E Paved Legal Access	~1.48	N/A	N/A
Foot Paths	0.07	0.1	0
Overland Travel	0.12	0.17	0
New Substation Perimeter Roads	~0.2	N/A	0.37
Widened Substation Access Road	~0.08	N/A	0.23
Artesian Detention Basin	N/A	N/A	0.69
Distribution Underground (new installation near P7 & P8)	~0.07	0.18	0
PROJECT TOTALS	N/A	41.7	6.18

2.6.1 General Construction (For All Project Components)

2.6.1.1 Staging Areas and Storage Yards

The Proposed Project includes numerous staging yards and temporary work areas as shown on Figure 2-5 and as listed in Table 2-6. Yards include three main temporary construction staging and storage yards, resulting in a total area of approximately 26 acres. The staging yards would be used for various construction support activities, including refueling and parking areas for vehicles and construction equipment by a mobile fueling truck, pole assemblage, open storage of material and equipment, construction trailers, portable restrooms, parking, and lighting. If power is required at the staging yard sites, it would be provided by either a temporary connection to adjacent distribution line facilities, or by small, portable diesel generators. In-ground fencing would be installed at the staging yards wherever it is not already installed. Gravel or a similar covering would be used to line the ground at staging yards to avoid the creation of unsafe mud conditions and unnecessary sediment transport off site. Staging yards would include drip pans for vehicles to capture any vehicle fluid leaks. Secondary containment would be used for storage of material that requires spill control such as portable toilets and spill response kits would be available at all staging yards.

In addition to the three main staging areas and storage yards, SDG&E would also utilize 19 temporary construction staging areas located at various locations along the reconductoring alignment (see Figure 2-5). Temporary staging areas for the Proposed Project would typically be approximately 0.01 acre in size (12 feet by 50 feet), but may be as large as 6,500 square feet. Temporary construction staging areas differ from full staging yards in that they would not have power (either generators or temporary distribution connections), would not be fenced, would not

include modular office or meeting spaces, and would not include certain types of activities such as vehicle maintenance, hazardous materials storage, or water storage. Temporary construction staging areas would only be used to support specific, short-term construction activities, and would only be utilized for a fraction of the overall construction duration. These temporary construction staging areas would be accessed via existing access roads and City/County streets. SDG&E would also utilize the Artesian Substation (existing [western] parcel as well as the expanded [eastern] parcel) for temporary staging of materials and equipment during construction.

Staging Yard No. 1 (Carmel Valley Road)

It is anticipated the Carmel Valley Road Staging Yard would act as the primary staging yard during construction of the Proposed Project. The Carmel Valley Road Staging Yard is a five-acre site located on a larger parcel (approximately 25 acres) at the corner of Carmel Valley Road and Camino Del Sur. The staging yard is on a relatively flat area and has been previously grubbed and graded. Access to this staging yard would be via Camino Del Sur. SDG&E has contacted the land owner, and has received permission to include the property as a potential staging yard for the Proposed Project as part of the PTC and CEQA review processes.

Storage Yard No. 2 (Kearny Mesa Yard)

The Kearny Mesa Yard is an existing SDG&E-owned facility where space is available for the temporary storage of construction materials and equipment. The Kearny Mesa Yard is approximately 18.6 acres in size, pre-graded and grubbed, and located approximately 13 miles south of the Proposed Project site. Access to this staging yard would be via Complex Street or Overland Avenue.

Storage Yard No. 3 (Northeast Annex Staging Yard)

The Northeast Annex Staging Yard is an existing SDG&E-owned facility where space is available for the temporary storage of construction materials and equipment. The yard is approximately 3.8 acres in size, is pre-graded and grubbed, and is located approximately 7.5 miles north of the Proposed Project site within the City of Escondido. Access to this staging yard would be via Mission Road. No construction would be undertaken at this facility.

2.6.1.2 Temporary Work Areas

Work areas would be required for construction/installation of new facilities, removal of existing facilities, and storage and staging of construction equipment and materials within work areas. Following construction any work space not required for safety during operation and maintenance would be restored, as feasible, to approximate pre-construction conditions following the completion of the Proposed Project.

Stringing/Pulling Sites

It is anticipated that 22 stringing/pulling sites would be used to construct the Proposed Project. All stringing/pulling sites would be located within SDG&E ROW and/or City/County franchise property and would be accessed via existing access roads or City/County streets. Stringing sites

would be typically 20 feet by 100 feet while pulling sites would be typically 15 feet by 75 feet. Vegetation clearing could be required for some of the stringing sites.

Pole Installation Work Areas

In order to accommodate construction equipment and activities during pole installation and removal and while transferring the power line conductors, temporary construction areas would be required at each pole structure location. It is anticipated that each of the direct-bury steel 69kV poles, removal poles, and overhead work only poles would typically require an approximately 20-foot-diameter work area (approximately 314 square feet); each of the 69kV foundation steel poles would require an approximately 75 foot by 75 foot work area (approximately 5,625 square feet); and each of the 230kV foundation steel pole structures and 69kV foundation steel cable pole structures would require an approximately 150 foot by 150 foot work area (approximately 22,500 square feet).

The work areas for each type of pole foundation would generally be centered on the existing pole location. However, actual work areas would vary in shape and size and would be determined based on site conditions and access requirements in order to provide a safe and adequate work area for construction workers, and to avoid and minimize impacts to sensitive resources. An on-site SDG&E biological monitor, as appropriate, would assist construction crews in locating pole work areas per SDG&E's *Subregional Natural Community Conservation Plan* (NCCP requirements (SDG&E, 1995). The biological monitor would assist the construction workers in avoiding or minimizing sensitive natural resources, and would be responsible for educating workers on how to stay in compliance with all applicable measures and the SDG&E NCCP. There will typically be one lead monitor that serves as the point of contact and a backup lead monitor. Monitors will also be responsible for any necessary reporting.

Operational protocols as prescribed in the NCCP would be observed for all field personnel. These protocols include limitations such as vehicle speed, environmental and wildlife protection training for workers and pre-construction surveys with requirements for consultation with wildlife agencies if adverse wildlife impacts are likely (SDG&E 2016a, Appendix 5.4-B, pages 103-110). For purposes of analysis, temporary impact areas for 69kV direct-bury steel poles, removal from service poles, and overhead work only poles include the work area as previously described, and an additional potential impact area (approximate total of 1,260 square feet) to account for modifications made in the field during construction.

The positioning of construction equipment (typically line trucks, bucket trucks, and crane trucks) within work areas would involve the placement of approximately four outriggers (per vehicle) with dimensions of approximately two feet wide by three feet long (6 square feet) per outrigger for line trucks, and four feet wide by four feet long (16 square feet) per outrigger for crane trucks. The location of the outriggers would be evaluated by the onsite biological monitor prior to their placement in order to avoid and minimize impacts to sensitive resources.

Guard Structures

SDG&E would utilize 23 temporary guard structures at road crossings and other locations where the new conductor could come in contact with existing electrical and communication facilities, or

vehicular and/or pedestrian traffic in the event the line accidentally falls during stringing operations. Different types of guard structures may be used, depending on the site conditions. In some locations, such as paved areas, a boom or bucket truck may be used as a guard structure. Installation of guard structures would require the temporary use of 72 square feet of area with no permanent impacts. Where embedded wood guard structures are used, an auger would be used to excavate the holes where the wood poles would be installed and a crane or line truck would lift the poles into place. These holes would be approximately three feet wide and ten feet deep. No concrete foundations are required to set the guard poles and no grading or other site work is anticipated. The temporary guard poles would be removed following the completion of conductor stringing operations and the holes would be backfilled with excavated soil.

Underground Power Line Construction

The majority of the underground power line construction included as part of the Proposed Project would typically require temporary work spaces approximately 25 feet wide. At vault locations, temporary work spaces approximately 30 feet in width would be required for installation of the new underground cable splices. These work areas would be located outside the Artesian and Bernardo substations.

2.6.1.3 Permanent Work Areas

With the exception of the expanded Artesian Substation site, the Proposed Project would be located entirely within existing utility corridors, access roads and franchise areas that are generally already developed. The only Proposed Project components that would require a permanent work area would be new 230kV poles, which would require the creation of a permanent maintenance pad around each pole which would be maintained as a graded area with no vegetation. Permanent work areas are summarized in Table 2-6 and are shown on Figure 2-5.

2.6.1.4 Access Roads and/or Spur Roads

Foot paths (0.07 mile), overland travel (0.12 mile), and existing access roads¹³ (4.0 miles) would be utilized to access components of the Proposed Project, as shown in **Table 2-8** below and as presented in Figure 2-5. In addition, some public roads would be used and would require traffic control at guard structure locations. These roads include Camino Del Sur, Babcock Street, Coyote Bush Drive, Four Gee Road, Rancho Bernardo Road, 4S Ranch Parkway, Dove Canyon Road, Goldentop Road, and Camino San Bernardo. Most of the existing SDG&E access roads needed for the Proposed Project lie along the overhead power line alignment. These existing access roads would provide access to the existing 69kV structures between Artesian and Bernardo substations. There is an existing access road northwest of the existing Artesian Substation that allows access to various structures. The next existing access road runs along Artesian Road. This road, in concert with many small foot paths and overland paths, provides access to structures R03 through R16. An existing access road north of Camino Del Sur provides access to structures P09 through

¹³ For the purposes of this document, the term “access road” refers to typically unpaved SDG&E roads that connect to existing public streets and provide access to structures.

**TABLE 2-8
APPROXIMATE ACCESS ROAD METRICS**

Road Type	Description	Use During Construction	Length (miles)	Area
Unpaved SDG&E Access Road	Existing SDG&E owned and maintained graded dirt access roads that will be used for Project construction and operation. These roads typically provide access between public roadways and SDG&E facilities (e.g., structures or substations). These roads are regularly maintained, but may need smoothing, grading, or clearing, as-needed, during construction or operation.	Access to Project features such as powerline structures and substation.	2.52	3.66
Paved SDG&E Legal Access	Existing paved roads and other features that provide SDG&E legal access to its facilities. Like SDG&E's unpaved access roads, these roads typically provide access between public roadways and SDG&E facilities.	Access to Project features such as powerline structures and substations.	1.48	N/A
Public Roads	Publically maintained paved roads and freeways that would be used to support project vehicles to and from the Project area.	Access to and from the Project area.	N/A	N/A
Foot Paths	New, temporary foot path that requires trimming of vegetation. Foot paths are not graded, grubbed, or otherwise subject to intensive impacts.	Provides temporary foot access from an existing SDG&E unpaved access road or paved legal access directly to a Project feature (typically powerline structures). Footpaths are used when the required work is limited (i.e. pole top work instead of pole remove or replacement) and there are sensitive resources present at the structure site.	0.07	0.10
Overland Travel	New, temporary vehicle access that typical involves driving over vegetation and not grubbing and grading. Foot paths are not graded, grubbed, or otherwise subject to intensive impacts.	Provides temporary vehicle access from an existing SDG&E unpaved access road or paved legal access directly to a Project feature (typically powerline structures or temporary staging areas or stringing sites). Overland travel is typically used when an existing access road is not available and a new permanent access road is not needed and there are no sensitive resources present within or close to the overland route.	0.12	0.17
Widened Existing Substation Access Road	Existing, mostly paved main access road to the existing 69/12kV Artesian Substation that is required to be widened for construction and operation of the Project.	Road will be widened from approximately 20 feet to 30 feet wide to allow for construction and maintenance access for the Project.	0.08	0.23
New Substation Perimeter Roads	New, permanent unpaved roads along the perimeter (west and south) of the proposed expanded Artesian Substation.	New substation perimeter roads will not serve a function during construction. The function of these new roads is to allow for access to the perimeter of the substation during operation and maintenance.	0.20	0.37

SOURCE: SDG&E 2017a

E14. The remainder of the structures would be accessed via existing access roads that use parking lots of commercial buildings.

In addition to the use of existing access roads, foot paths, and overland paths, the Proposed Project would widen an existing access road west of the existing Artesian Substation, within existing SDG&E ROW, and create new substation perimeter roads on the existing SDG&E property. Project access for construction would also be provided via SDG&E access roads or by overland travel.¹⁴ To enable crews and the equipment to access the associated poles, maintenance (i.e. smoothing) of the existing access roads and/or vegetation clearing may be necessary to improve some existing access roads and to re-establish unmaintained access roads. Access road construction and maintenance would be conducted using a bulldozer and soil compactor vehicles. In some areas, public roads would be used to access transmission line pole structures. Pursuant to the NCCP (SDG&E, 1995), SDG&E is not required to withdraw mitigation credits for maintenance (i.e., re-establishing) of existing access roads. Based upon preliminary engineering, no new roads would be required for access to transmission or power line structures. Vehicles would remain within existing access roads, previously disturbed areas, and designated temporary work areas, where feasible. Minor adjustments to the access requirements may be necessary at the time of construction due to site conditions, construction requirements, and other factors.

As part of the Artesian Substation expansion, a new unpaved access road would be constructed along the outside perimeter of the west and south walls of the site. In addition, the existing paved access road on the west side of the existing substation would be widened. It is not anticipated construction of these access roads would require closure of public roadways.

2.6.1.5 Vegetation Clearance

It is anticipated that the Proposed Project would require brush removal and trimming during construction activities, in order to establish work areas for pole installation and stringing activities and re-establish foot paths/overland paths. Vegetation would be cleared using a mower and/or handtools and disposed of at appropriate facilities. SDG&E would implement NCCP Operational Protocols which include monitoring during clearing.

2.6.2 Water Supply and Use

Water would be used during construction of the Proposed Project as needed for dust control on access roads and at the Artesian Substation Expansion site, for soil compaction during grading, establishment of landscaping, dust suppression, and concrete mixing. Exposed surfaces would be watered twice-daily (SDG&E, 2017e). The Project would require 10 million gallons of water during construction and restoration (SDG&E, 2016, see Section 5.9). SDG&E anticipates that the majority of the water supply for the Proposed Project would come from Olivenhain Municipal Water District (OMWD). OMWD has potable and recycled water facilities that could serve Project construction. SDG&E will use tertiary-treated Title 22-compliant recycled water for

¹⁴ Overland travel refers to temporary vehicular access across un-improved areas. Overland travel areas are not graded or subjected to other earthwork improvement. Following construction these areas are returned to an approximate pre-construction state.

approved construction uses. Approval under the San Diego RWQCB Waiver No. 2 or SWRCB General Order for the use of recycled water would be obtained prior to construction of the Project. During construction, restroom facilities would be provided by portable units to be serviced by licensed providers.

The Applicant has received a water availability letter for the Project which confirms that OMWD has sufficient water supply to support the needs of the Project (SDG&E, 2016a). Water would be supplied for Project use primarily from a temporary connection to existing facilities in the southeast quadrant of the OMWD. In some cases water trucks would be required to truck water from these nearby facilities.

2.6.3 Wastewater and Surface Water Runoff

Construction activities would be served by portable sanitary systems that would not be connected to the local wastewater system. A licensed contractor would dispose of the waste at an off-site location and in compliance with standards established by the RWQCB.

Water use during construction activities at the Artesian Substation expansion site would generate surface water runoff. To help control this runoff, the Applicant would (1) comply with Construction General Permit (CGP) permit requirements and (2) expand an existing stormwater detention basin. Prior to construction, SDG&E would acquire coverage under the General Permit for Storm Water Discharges Associated with Construction Activity (CGP) from the SWRCB and would to adhere to National Pollutant Discharge Elimination System (NPDES) Construction General Permit (CGP) requirements. This permit, which applies to projects involving one acre or more of ground disturbance, is meant to control the discharge of pollutants from point sources.

The CGP requires the Applicant develop a Storm Water Pollution Prevention Plan (SWPPP) which would detail project information, dewatering procedures, storm water runoff prevention control procedures, monitoring and reporting procedures, and includes Best Management Practices (BMPs) to control erosion and discharge of sediments. Two SWPPPs would be implemented for the Proposed Project: one for the construction of the expanded Artesian Substation, and one for reconductoring of the transmission lines in order to ensure compliance with all relevant SDG&E and government-mandated regulatory water quality standards (SDG&E, 2017). More details are provided in Section 3.10.2. The BMPs included in the SWPPP must be monitored and revised throughout the construction process as needed. In addition, SDG&E would also implement their *BMP Manual for Water Quality Construction* (SDG&E, 2011). This manual includes BMPs that reduce impacts to soil loss and helps ensure BMP usage is consistent with applicable rules and regulations.

The existing stormwater detention basin located west of the Artesian Substation would be expanded to account for increases in stormwater runoff that may be created from the substation expansion. The existing basin area would be regraded to serve bioretention, water quality, and hydromodification needs, with additional volume of approximately 4,900 cubic yards resulting from basin grading and surrounding transitions to existing conditions. The expanded detention basin would help maintain the current drainage rate to the stormwater system serving the site.

While the detention basin would require expansion, it is not anticipated that stormwater runoff volumes would require upgrades to the capacity of the existing stormwater system serving the site from the northwest corner of the existing substation.

Dewatering is not expected to occur during construction, but if it becomes necessary at any point, pump trucks and baker tanks (large water storage tanks) would be used in accordance with all relevant local, state and federal requirements.

2.6.4 Soils and Waste

During construction activities, some waste and surplus soil would be generated due to pole-removal activities, substation construction, and general construction activities (i.e., personal waste generated by workers and personnel). This type of waste is anticipated to be relatively minimal. The largest source of solid waste is anticipated to be excess soil and excavation from structure foundations and trenching associated with the underground substation getaways.

Construction of the Proposed Project is anticipated to result in approximately 32,100 cubic yards of excess soil and excavated materials (including exported excess soil from grading and excavation) and 1,300 cubic yards of construction waste and debris (from demolition of the existing Artesian Substation and expansions parcel). The steel and other components that will be removed from the existing Artesian 69/12 kV substation will be recycled or disposed of at an appropriately permitted facility. Dewatering is not expected to be required during construction, but if it becomes necessary at any point, pump trucks and baker tanks (large water storage tanks) would be used in accordance with relevant federal, state and local requirements.

During construction, should soil that is stained, odorous, or otherwise suspect be encountered, SDG&E would sample in-place, test, profile, and transport this material to an appropriately permitted disposal facility in accordance with all Federal, State and local laws and regulations.

The Project would be required to comply with the San Diego Construction and Demolition Ordinance, and the City of San Diego Construction and Demolition Ordinance, which both require preparation of a Construction Waste Management Plan and diversion of the majority of generated waste from the landfill. Construction materials would be sorted on-site throughout construction and transported to appropriate waste management facilities. Recyclable materials, including excess soils, would be separated from non-recyclable items and stored until they could be transported to a designated recycling facility. Non-hazardous construction materials that cannot be reused or recycled would likely be disposed of at municipal county landfills. Hazardous waste and electrical waste would not be placed in a landfill, but rather would be transported to a hazardous waste handling facility (e.g., electronic-waste recycling). All contractors and workers would be educated about waste sorting, appropriate recycling storage areas, and how to reduce landfill waste.

SDG&E has identified two potential hazardous and two non-hazardous waste disposal facilities. SDG&E has identified as potential hazardous waste landfills: 1) Waste Management Kettleman Hills Facility, located approximately 260 miles north of the Proposed Project in Kettleman City, California; and 2) Clean Harbor Environmental Services in Buttonwillow, California, which is located approximately 220 miles north of the Proposed Project. For non-hazardous waste,

SDG&E has identified Republic Services, Otay Landfill in Chula Vista, California, located approximately 25 miles south of the Proposed Project site, and Soil Safe, Inc., Soil Recycler in Adelanto, California, located approximately 110 miles north of the Proposed Project site.

2.6.4.1 Soil Excavations and Cut and Fill

Although construction of virtually all Project components would require some soil disturbance, the majority of disturbance would occur at Artesian Substation. Approximately 90 percent of all grading would occur at this location. The substation would be graded 36 inches below ultimate pad grade and then backfilled per geotechnical recommendations. In addition to grading at the Artesian Substation, the other major source of soil excavation would be at pole installation locations and trenching for construction of underground getaways outside the Artesian and Bernardo substations. These areas would require vegetation clearing, grading, and excavation of 20 to 90 cubic yards of soil. Trenching and installation of the underground getaways could result in 200 to 300 cubic yards of excavated material per day.

It is anticipated that construction of the Proposed Project would result in up to a maximum of approximately 32,650 cubic yards of cut, and a maximum of 550 cubic yards of fill, as summarized in **Table 2-9**. Final civil engineering for the Proposed Project has yet to be completed, therefore final cut and fill may differ from the estimates provided above. Actual cut and fill grading amounts may vary depending upon field conditions and final detailed engineering. Soil may be re-used onsite within existing ROW where extensive grading and excavation is not required in areas of existing access roads and work pads. Excess soil from excavation may also be transported to a local recycling or appropriately permitted waste disposal facility if the soil is not re-used onsite or otherwise recycled. Excess soil would be re-used onsite wherever possible and only transported offsite as the final option.

**TABLE 2-9
PROPOSED PROJECT CUT AND FILL SUMMARY**

Project Component	Cut	Fill	Net Export
Artesian Substation (eastern and western parcels)	23,700	100	23,600
Bernardo Substation	--	--	--
Rancho Carmel Substation	--	--	--
Detention Basin Expansion	5,750	450	5,300
Stringing Sites	--	--	--
Staging Yards	--	--	--
Construction Staging Areas	--	--	--
New Transmission and Power Line Pole structures (21 new structures)	500	--	500
New Underground Power and Distribution Lines (Vaults and Trenching)	2,700	--	2,700
Totals	32,650	550	32,100

NOTES: Table contents based upon preliminary engineering. All values in cubic yards. Values rounded to the nearest 50 cubic yards.

SOURCE: SDG&E 2016a

2.6.4.2 Cleanup and Post-Construction Restoration

SDG&E would restore areas that are temporarily disturbed by the Proposed Project construction activities to similar to pre-construction conditions following the completion of construction and as consistent with firebreak¹⁵ clearance requirements. Restoration activities would occur under the direction of a SDG&E habitat restoration specialist, who would be responsible for quality assurance and post-construction monitoring of restoration sites for areas impacted by construction as determined by the NCCP (SDG&E, 1995). The role of the habitat restoration specialist is to determine the most appropriate technique to restore areas that were temporarily impacted. Section 7.2 in the NCCP details the habitat enhancement measures, techniques, and success criteria.

Temporary disturbed areas where native vegetation is impacted (which do not need to be maintained in a cleared state) would be restored, either through vegetation restoration, habitat reclamation, or a combination of the two. Habitat reclamation would involve the elimination of existing exotic vegetation (i.e., weed abatement) to facilitate the natural re-colonization of a native habitat. Habitat restoration would entail a range of techniques including but not limited to seeding, imprinting, soil and plant salvage. The specific technique, type of equipment, and number of personnel would depend on the size of the area to be restored and the condition of the habitat, including the soil. Post-construction activities would also include erosion control as well as trash and debris removal immediately following the completion of construction. Where land is rented from private land owners (such as staging yards), post-construction restoration may be completed in consultation with the landowner but would generally follow the processes described above. All disturbed areas such as access roads and staging yards would be re-graded to existing contours using a grader. Trenches within public roadways would be restored using rollers, pavers, graders, and concrete trucks.

All post-construction restoration would be undertaken in compliance with the Proposed Project's SWPPP. SDG&E's would generally re-use or recycle all old structures/poles, materials, and components following the retirement of substations, power lines, and structures/poles. Any material that cannot be re-used or recycled would be collected in steel bins, dump trucks, or metal drums (for hazardous materials) and recycled or properly disposed of off-site. SDG&E would conduct a final survey to ensure that cleanup activities are successfully completed as required. The materials to be disposed and recycled associated with construction of the Proposed Project, as well as estimated quantities, are provided in **Table 2-10**.

¹⁵ CalFire requires a firebreak clearance around the base of all overhead electric poles that have non-exempt hardware. This clearance requires the removal of all flammable vegetation at the base of the pole in a 10 foot radial circle. Additionally, all flammable vegetation above the ground up to eight feet from the ground must be removed out to 10 feet and all dead tree limbs removed out to 10 feet from the pole from the ground to the top of the pole (CalFire 2008).

**TABLE 2-10
COMMON DESTINATION OF RETIRED PROJECT COMPONENTS**

Project Structure, Material, or Component	Common End Use or Destination	Estimated Quantities
Wood power line structures/poles	Sanitary disposal	74 tons
Conductor cable	Recycled	140,000 feet
Insulators	Sanitary disposal	TBD
Scrap steel, copper and other metal	Recycled	1,300 cubic yards
Concrete	Recycled	
Soils	Re-used onsite or disposed of pursuant to applicable laws	32,100 cubic yards
Batteries	Recycled	TBD

SOURCE: SDG&E (2016a)

2.6.5 Artesian Substation

2.6.5.1 Overview

Construction of the Artesian Substation expansion (Table 2-6) would involve removal of the existing structures and regrading, followed by construction of the relocated 69/12kV substation yard, connection and energizing of the existing TL639, TL6974, TL 616 and TL 6920 69kV power lines, construction of the new 230/69kV substation yard, connection of the new 230kV lines (TL23051 and TL23072) into the new 230kV substation facility and upgrading of substation getaways.

2.6.5.2 Eastern Parcel and Relocated 69kV Substation Yard

After clearing the eastern parcel of existing buildings and miscellaneous structures (fencing, concrete steps, remnant foundations, etc.), grading would be performed per design plans to prepare the site for the construction of the relocated/expanded 69kV substation yard. This phase of the site development activities would include grading to remove and export approximately 17,300 cubic yards excess material from the site, and import approximately 85 cubic yards of suitable material. To achieve uniform support, the underlying soils would be excavated to 36 inches below ultimate pad grade, then backfilled and compacted per geotechnical recommendations. Following grading, a security fence (which would encompass both east and west parcels), 30-foot wide east access drive, and concrete wall (approximately 4.9-feet to 5.5-feet high) would be constructed. At the end of this phase, below and above grade construction would include installation of the new 69kV foundation structures, electrical structures and equipment, and the new control house.

Following Phase One site development and grading, construction of the substation expansion would commence with the following steps:

- Below grade foundation construction;
- Control, telecommunication, and security duct installation;

- Power ducts (12kV and 69kV) construction outside the substation;
- Ground grid installation;
- Above grade substation yard construction following completion of foundation work; and
- Wiring of equipment controls and protection devices.

2.6.5.3 Western Parcel and New 230kV Substation Yard

After the new 69kV substation yard is energized, the existing 69kV yard (located on the west parcel) would be dismantled and extended to accommodate the new 230kV equipment. Phase Two grading would produce approximately 6,400 cubic yards of excess material. Phase Two site development would include completion of the north and south screen wall. This phase also includes the below and above grade installation of the new 230kV foundation deadend structures and electrical equipment.

Following Phase Two site development and grading, actual construction of the 230kV substation would commence with the following:

- Below grade foundation construction would be undertaken.
- Control, telecommunication, and security ducts would be installed.
- Station light & power ducts (12kV) would be constructed.
- Ground grid would be installed.
- Above grade construction would begin once foundation work is completed. The wiring of the equipment controls and protection devices would be performed concurrently with construction.

Equipment testing would be performed following installation of equipment, relay panels, controls, batteries, telecommunication, and station light and power system.

2.6.5.4 Detention Basin Expansion

Phase Three of the substation site development would consist of the expansion of the existing detention basin that is located immediately west of the existing (western) substation parcel, and modification (widening) of an existing paved maintenance access road that is located immediately west of the southwestern corner of the existing substation. The detention basin expansion is required because the addition of the new (eastern) yard and associated new driveways would result in additional surface water runoff. The existing access road would be modified in order to create room for the detention basin expansion. The new expanded detention basin would not be paved (SDG&E, 2017c). This third phase of site development would be accomplished concurrently with Phases One and Two and is expected to produce approximately 5,300 cubic yards of export material.

2.6.5.5 Final Landscaping

Following completion of Phases One through Three of the Artesian Substation construction, landscaping would be installed along the northern and eastern boundaries of the Artesian Substation site. While SDG&E would install the landscaping during construction of the Proposed Project, Black Mountain Ranch, LLC would operate and maintain the landscaping for the life of the Artesian Substation.¹⁶

2.6.6 Bernardo Substation

Construction within the Bernardo Substation would be required in order to facilitate the construction of the new underground power line getaway positions. Approximately 150 feet of new trenching and installation of a new 6-inch duct package would be required inside the substation footprint to accommodate the undergrounding of the TL6939 and TL6974 power line getaways. The existing 1200A disconnects would be replaced with new 2000A disconnects and existing relay would be upgraded as required.

2.6.7 Rancho Carmel Substation

Construction would also be required at the existing Rancho Carmel Substation. Existing 1200A line and bus disconnects would be replaced with new 2000A disconnects and existing relaying would be upgraded, as required. The 69kV bus, bus tie breaker and its respective disconnects would be replaced with 2000A equipment. Additionally, an approximately 600-foot segment of existing underground power line cable would be replaced with new cable between an existing cable pole and the existing bay position within the existing duct package. A temporary shoo-fly of TL648 would likely be required during construction. The temporary shoo-fly would allow for the replacement of the underground cable to occur with minimal outages of the TL648 power line.

2.6.8 Transmission Line Construction (Above Ground)

2.6.8.1 Pull and Tension (Stringing) Sites

Stringing sites refer to temporary construction areas used during installation or removal of overhead conductor or other overhead suspended catenary wires. Pulling sites are temporary construction areas used for the installation or removal of underground cable. Stringing sites are typically required at locations where the conductor changes direction (i.e. angle points) or approximately every 9,000 feet where the conductor maintains a relatively consistent direction. Specific to the Proposed Project, SDG&E anticipates requiring stringing sites approximately every 900 to 1,200 feet. Approximately 14 stringing sites may be required during construction of the Proposed Project (see Figure 2-5 a through 2-5j)). Stringing activities typically include a tensioner, pulling rig, bucket trucks, and crew trucks. New and replaced conductors are typically transported to and from the stringing sites via large spools that are often carried on flatbed trucks (wire trucks).

¹⁶ SDG&E would retain ultimate responsibility for ensuring landscaping would be maintained for the operational life of the substation.

Conductor stringing operations (including reconductoring activities) would begin with the installation of travelers or “rollers” on the bottom of each of the insulators using aerial manlifts (bucket trucks). The rollers allow the conductor to be pulled through each pole structure until the entire line is ready to be pulled up to the final tension position. Following installation of the rollers, a sock line (a small cable used to pull the conductor) would be pulled onto the rollers from structure to structure using aerial manlifts traveling along the ROW. Once the sock line is in place, it would be attached to the conductor and used to pull or “string” the conductor into place on the rollers using conventional tractor-trailer pulling equipment located at pull and tension sites along the line. The conductor would be pulled through each pole structure under a controlled tension to keep it elevated and away from obstacles, thereby preventing third-party damage to the line and protecting the public. This “stringing” process would be conducted using areas referred to as “stringing sites.” Stringing sites are typically split into two types during stringing activities; “pull sites” and “reel sites.” The reel site is used to park a large spool of conductor on a wire truck while the pull site is used to position the pulling rig that pulls the conductor. Each stringing site can be used as a pull or reel site, as needed.

After the conductor is pulled into place, the sags between the poles would be adjusted to a pre-calculated level. Pursuant to General Order 95, the line would be installed with a minimum ground clearance of 30 feet (25 feet where there is pedestrian access only). The conductor would then be clipped into the end of each insulator, the rollers are removed, and vibration dampers and other accessories are installed.

During stringing of conductor over roadways and other sensitive areas, BMPs would be utilized to ensure stringing activities are completed in a safe manner. The most common BMP for stringing over roadways and similar sensitive features is the use of guard structures. Guard structures, as described in Section 2.6.1.2, would be used to install the new overhead conductor at road crossings and other locations where the new conductor could come in contact with existing electrical and communication facilities, or vehicular and/or pedestrian traffic in the event the line accidentally falls during stringing operations.

Alternatively, SDG&E may use flaggers to temporarily hold traffic for brief periods of time while the overhead line is installed at road crossings. Typically, guard structures are utilized at larger crossings such as large roadways, waterways, and utility crossings. Traffic control is typically utilized for small roadway crossings. For extremely large crossings such as freeways, both guard structures and traffic control may be used, as well as netting connecting the guard structures. SDG&E would acquire all required encroachment permits and road crossing approvals, including implementation of any special guard structure procedures or requirements as directed by each oversight agency.

2.6.8.2 Wooden Pole Installation and Removal

Construction of the Proposed Project would involve the removal or replacement of certain existing wood power line pole structures (see Table 2-5 for details) (mainly wood monopole structures). Prior to installing the support pole structure foundations (if needed), vegetation at each of the pole structure sites would be cleared and the area would be graded either flat or in a

terraced fashion, as needed. At some sites, soil may be imported as necessary to raise the elevation of the pole structure pads, and retaining walls may be needed. Material removed during the process would be spread over existing access roads and work pads as appropriate, or disposed of off-site according to all applicable laws. Holes and excavation areas would be covered during construction with wood or metal planks.

Guard structures would be utilized, as needed. For the 69kV reconductored segment of the Proposed Project, the existing hardware and insulators would be removed and replaced with new polymer insulators and hardware, as needed. For pole structures that would be removed from service or replaced (refer to Table 2-5 and Figure 2-5), the old poles and components would be dismantled by cranes, bucket truck, or by hand, and would typically be hauled away by truck. Wood poles to be removed would either be removed to full depth or cutoff approximately two feet below grade depending upon environmental constraints at specific locations. After the poles have been removed, any existing concrete foundations would be jack hammered to approximately two feet below grade, and debris would be removed. The hole would then be backfilled with soil or materials similar to the surrounding area and the site would be restored. Structural removal would typically be completed from existing work pads or other disturbed work areas located at each existing pole site or using new pole structure temporary work areas, as-needed. Existing work pads are flat, compacted areas that are kept clear of vegetation for operation and maintenance activities.

The Proposed Project design does not include any pole top removal activities. However, existing communication wires co-located on some of the 69kV structures could require the 69kV structures to be topped. A “topped” structure is a structure that is partially removed, where the top portion of the structure is cut off and only the lower portion is left in place. If the communication wires are not relocated to an underground position with the 69kV power lines, SDG&E’s proposed design is to relocate the communication lines to the underground position and therefore it is not likely that any structures would need to be topped. If 69kV structures are topped this would involve the removal of transmission equipment and hardware such as conductors, insulators, and associated hardware from the pole. The pole would then be cut approximately one foot above the telecommunications level (or other underbuild) and re-tagged as a non-transmission pole.

2.6.8.3 Construction and Maintenance Pads

After access to each new pole structure site is established, work pads would be created that would be utilized for construction, operation and maintenance. Work areas utilized solely for construction would be cleared of vegetation, with grading only undertaken where relatively flat areas are not already present. Cleared vegetation would be removed from the Proposed Project site and disposed of at an approved offsite facility. Where possible, construction activities would utilize existing flat, cleared areas such as existing access roads and previously disturbed areas. Prior to foundation construction, a graded pad would be constructed at each 230kV pole and each 69kV steel cable pole structure location. These pads are used to provide a level surface for installation of poles as well as for long term maintenance of the pole structures. Cuts and fills would be used, as needed, to produce a 2-percent sloped pad. Most of the pads would be built with the soil that is located onsite. For pole construction/replacement existing maintenance pads

and work areas¹⁷ would be utilized for construction activities. Smaller voltage pole structures, such as standard 69kV pole structure types typically do not require permanent graded pads.

Transmission line maintenance pads (permanent work space at the base of pole structures) would be cleared and graded flat, and maintained free of vegetation for the operational life of the Proposed Project. As needed, retaining walls would be installed to ensure safety and stability of the transmission line maintenance pad where geologic and topographic conditions warrant.

2.6.8.4 Concrete Pier Foundations

During substation getaway (230kV and 69kV) construction and reconductoring, certain new or replacement structures will require concrete pier foundations to be installed (see Figure 2-5). For foundation construction, a large auger would be used to excavate holes that could range from 6 feet to 9 feet in diameter. Foundation depth would typically range from approximately 20 to 40 feet deep, but could increase due to soil conditions. If unstable soil conditions are encountered hole excavations may require installation of steel casings to stabilize the sides of the excavation. The casing diameter would approximately match the diameter of the excavation. The length of the casing installed would normally be to the full depth of the excavation. The length of individual sections of casing are typically limited to 20 feet so multiple sections of casing may be used on deeper foundations.

Following excavation, a reinforcing steel cage and anchor bolt cage would be installed in each hole. The steel cages would typically be assembled at the materials storage and staging areas and transported to each of the pole structure sites. The anchor bolt cages would be assembled offsite and delivered to each pole structure site. Typical foundations would require approximately 20 to 90 cubic yards¹⁸ of excavation and a slightly larger volume of concrete placed into the holes as the foundations would extend one to two feet above the ground surface. Due to their larger diameter, cable pole foundations could require up to approximately 175 cubic yards¹⁹ of concrete. The concrete curing period is approximately one month, during which time workers would remove the concrete forms and place backfill around the foundations as needed.

It is not currently anticipated that blasting would be required to complete construction of the Proposed Project (SDG&E, 2017b). However, in some locations where significant or dense rock is present, a micropile foundation could be utilized (SDG&E, 2017a, SDG&E, 2017d). The only Project components that SDG&E anticipates could possibly require use of this technique are the 69kV underground getaways which connect into Bernardo Substation. The underground getaways comprise the underground power line alignment between the proposed new cable poles (Structures P20 and P21) and the 69kV racks located within the existing Bernardo Substation. While these getaways are located within existing paved roadways, SDG&E buried infrastructure often extends deeper than existing road beds, and as such the potential for solid rock deposits cannot be determined at this time.

¹⁷ Replacement structures are typically located within 6-8 feet of the existing structure location.

¹⁸ Assumed a typical 9-foot diameter foundation extended to depths ranging from 20 to 40 feet.

¹⁹ Assumes an 11-foot diameter foundation extended to an extra deep excavation (50 feet) due to unstable soils.

A micropile foundation consists of several small-diameter, drilled, and grouted reinforced foundations, arranged in a circular pattern. For electric transmission and power line structure support, a series of approximately 4 to 16 (or more) individual micropiles are arranged in a circular pattern to take the place of a larger conventional reinforced concrete drilled pier that would typically be approximately 4 to 10 feet diameter and 10 to 40 feet deep. One micropile typically consists of a small hole (approximately 6 to 8 inches in diameter) excavated to a depth of approximately 10 to 40 feet, depending on the properties of the soil or rock underlying the surface.

The micropiles are typically installed from a platform situated approximately six feet above the ground surface. The platforms and all equipment would be placed by truck-mounted crane and include air compressors, a grout plant or grout transfer unit, tool boxes, firefighting equipment, and other installation materials. The platform would be supported on four to six telescoping legs that can be adjusted to support the platform on slopes. The drilling process takes place from the platform, and the drill rigs are powered by generators or compressors that either rest on the platform or are supported nearby on the ground.

2.6.8.5 Steel Pole Installation

Based upon preliminary engineering and constructability review, it is anticipated that construction of transmission and power line pole structures would be conducted utilizing ground equipment such as cranes, flatbed trucks, drill rigs and excavators. The proposed alignment contains existing access and work space which would help accommodate ground-based construction equipment.

New steel poles would be delivered to the pole structure sites in two or more sections via flatbed truck and assembled on-site using a small truck-mounted crane. The poles would typically have six crossarms or post insulators (for double-circuit pole structures) that would support one circuit on each side and six conductors (three on each side). For typical tangent pole structures, the post insulators would be bolted directly to the pole. For typical deadend pole structures, the crossarms would be bolted to the pole, and the insulators would be bolted to the crossarms. The lowest conductor would be 30 feet above ground. The minimum vertical distance between conductors is four feet while the minimum horizontal distance is eight feet. After assembly, a large crane would be used to lift to set the pole sections into place. The poles would then either be directly buried, set on the anchor bolts that are embedded in the concrete foundation, or bolted to a micropile transition plate.

2.6.9 Power and Distribution Line Construction (Below Ground)

2.6.9.1 Trenching and Duct Bank Installation

The Project involves construction of new 69kV getaways (four 69kV power lines) from the Artesian and Bernardo substations. At Artesian, these will be constructed via new (TL616, TL6974 and TL6939) or upgraded existing (TL6920) underground duct banks. At Bernardo (TL6939 and TL6974) the duct banks will be new. One small segment of underground

distribution line would also be required (near structures P07 and P08), and would require similar construction as the 69kV getaways. Three new steel cable poles (P03, P04 and P05) and new underground duct packages would be installed north and east of the Artesian Substation. The three new single circuit steel 69kV cable poles would be installed to transition the 69kV conductor from an overhead to an underground position. Approximately 1,950 total feet (between all three lines) of new trench and duct package (Figure 2-6) would be installed between the new cable poles and the relocated 69kV substation yard, along with three new splice vaults.

Construction of getaways would require trenching and soil removal. Trenches would typically be dug with an excavator although in areas of existing utility congestion some areas could be hand-dug. All trenching activities would follow an engineered design containing plan and profile drawings showing the location and type of existing underground facilities (see Figure 2-6). Prior to trenching, SDG&E or its contractor would notify other utility companies (via Underground Service Alert) to locate and mark existing underground utilities along the proposed underground alignment. Prior to excavating, SDG&E would conduct exploratory excavations (i.e., potholing) to verify the locations of existing facilities and would coordinate with local jurisdictions to secure excavation and encroachment permits for trenching in city and county streets, as required. If lane closures are required, proper traffic controls would be implemented as outlined within individual encroachment permits obtained from the local municipality, as required. No full road closures are anticipated. Traffic flow would be maintained with signages and flaggers as needed.

The new duct bank would be installed using open-cut trenching techniques. No trenchless techniques (such as jack-and-bore or horizontal directional drilling) are proposed to be used during construction. Most of the duct bank would have a double-circuit vertical duct bank configuration, with occasional transitions to a horizontal configuration to clear other utilities in highly congested areas or to fan out to termination structures at cable pole transition areas. The typical trench dimensions for installation of a 69 kV vertical duct bank would be a minimum of six feet deep and three feet wide, although depth may vary depending on soil stability and the presence of existing utilities. The trench would be widened and shored where necessary to meet California Occupational Safety and Health Administration (Cal OSHA) safety requirements. Concrete saw cutting debris and slurry produced during trenching would be cleaned from the street and not allowed to reach the curb or storm drain inlet. If trench water is encountered, trenches would be dewatered using a portable pump and disposed of in accordance with acquired permits.

Trenching operations would be staged in intervals so that only a maximum of approximately 300 to 500 feet of trench would be left open at any one time, or as allowed by permit requirements. Steel plating would be placed over the open trenches to maintain vehicular and pedestrian traffic across areas that are not under active construction. Jackhammers may be used to break up sections of concrete that the saw-cutting and pavement-breaking machines cannot reach. Traffic controls would also be implemented to direct local traffic safely around work areas, as stipulated within individual encroachment permit conditions. Throughout trench excavation and installation of the duct bank and vaults, asphalt and concrete would be transported to a materials storage yard. Excavated soils not suspected to be impacted would be disposed of at an appropriate facility, per Section 2.6.4.

As each section of the trench for the underground 69kV duct banks is completed, SDG&E would install the conduits (separated by spacers) and place 2,000 pounds per square inch (psi) concrete around the conduits to form the duct bank encasement. The ducts would typically consist of 6-inch diameter polyvinyl chloride (PVC) conduits, which house the electrical cables, and 4-inch diameter PVC conduits for the telecommunications cable used for system protection and communication. The dimensions of the duct banks would be approximately three feet wide by three feet in height and located in the trench at a minimum depth of three feet from top of the encasement to the surface.

Once the PVC conduits are installed and encased, a fluidized thermal backfill or slurry concrete would be utilized to fill most of the remainder of the trench. Next, a compacted backfill or aggregate road base with an asphalt concrete cap would be installed to restore the road in compliance with local requirements. While the completed trench sections are being restored, additional trench would be opened further down the road. This process would continue until the entire duct bank is in place. Each duct bank would have a minimum of 36 inches of cover. Larger trenches would be excavated where vaults are installed.

Where the duct banks cross or run parallel to other utilities, a minimum radial clearance of 12 inches would be required. These utilities include gas lines, telephone lines, water mains, storm drains, and sewer lines. Where the duct banks cross or run parallel to other substructures that have operating temperatures that significantly exceed earth temperature, an increased radial clearance may be required. Such heat-radiating facilities may include other underground electrical circuits, primary distribution cables (especially multiple-circuit duct banks), steam lines, or heated oil lines. In addition, increased radial clearance may be required where the new duct banks cross other heat-radiating substructures at right angles.

2.6.9.2 Vault Installation

SDG&E would excavate and place five precast concrete splice vaults during the trenching operation (see Figure 2-5 for vault locations and Figure 2-6 for typical vault diagram). 69kV splice vaults are typically 16 feet long, eight feet wide and 9.5 feet deep. The final surface area (manhole cover dimension) is typically seven square feet. The vaults would be used initially to pull the cables through the conduits and later to splice cables together. During operation, the vaults would provide access to the underground cables for maintenance inspections, repairs, and replacement if needed. The vaults would be constructed of prefabricated (precast) or cast-in-place, steel-reinforced concrete. Each vault typically has two manhole covers measuring approximately 36 inches in diameter. Installation of each vault would occur over an approximately one-week period with excavation and shoring of the vault pit followed by delivery and installation of the vault, filling, grouting and compacting the backfill, and repaving the excavated area. The backfill may be slurry or concrete.

2.6.9.3 Cable Pulling Process

Approximately eight pulling sites (Figure 2-5) may be required during construction of the Proposed Project. On average, pulling sites for the Proposed Project would be located approximately every 175 feet along the Project segments that require installation or removal of underground cable. Pulling sites can vary in size, but are typically 25 feet by 150 feet in size. The location of pulling sites may be modified or additional pulling sites may be identified during construction in order to safely and efficiently string wire. After installation of the conduit and splicing vaults, SDG&E would install cables 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 transition area where the line transitions to the overhead sections. To pull the cable through the ducts, a cable reel is placed at one end of the section and a pulling rig is placed at the other end. Anticipated pulling site locations are shown on Figure 2-5.

The electric cables and the communication cable would be pulled through the individual ducts at the rate of approximately two segments between vaults per day. A splice trailer would be positioned adjacent to the vault manhole openings to facilitate cable splicing at the vaults after the cables are pulled through the ducts. Each splice would require approximately three working days to complete. The vaults must be kept dry at all times to keep the unfinished splices dry and prevent other impurities from affecting the cables. At each end of the underground segment, the cables would rise out of the ground and terminate on equipment within the cable pole or substation.

2.6.10 Construction Workforce and Equipment

2.6.10.1 Construction Personnel

It is estimated that approximately 45 construction workers per day would be required to construct the Proposed Project at its peak, with up to approximately 18 workers at the Artesian Substation at one time (during Phases One and Two). The peak of construction would occur during a combination of 1) Artesian 69/12kV Substation above ground construction; 2) Artesian 69/12kV Substation wiring and relay testing; Artesian 69kV getaway cable pulling; Bernardo 69kV getaway trenching; and 69kV reconductor – stringing. The power line construction phase would utilize various specific construction crews, depending on the activity. The power line construction work force would typically range from 5 to 20, depending upon which tasks are occurring at any given time. SDG&E would supplement its workforce as required during construction from a contractor's pool of experienced personnel.

2.6.10.2 Construction Equipment

The typical construction equipment that could be utilized and their respective uses with respect to construction phases of the Proposed Project are listed below in **Table 2-11**.

TABLE 2-11
CONSTRUCTION EQUIPMENT AND USE

Activity	Number of Personnel	Number of Workdays ¹	Equipment and Quantity	Duration of Use (Hours/Day) ²
Staging yard set up/ road refresh	5	20	1 Grader 1 Water Truck 1 Mower 1 Pickup Truck	4 3 4 Travel to site only (TO)
Phase 1: Relocate 69kV/12kV portion of Artesian Substation				
Phase 1(a) Eastern Parcel Demo 1 Month	8	20	(2-ton) Flatbed Truck Aerial Bucket Truck Manlift Excavator 2 Jackhammers 2 Forklifts 1 Large Crane	8 6 6 6 6 6
Phase 1(b) Eastern Parcel Site Prep 3 Months	14	60	2 Bulldozers 2 Road Grader/Blade Scraper 2 Rubber Tire Scrapers (834) 1 Loader 1 Backhoe 2 Water Trucks 1 Excavator Hauling Trucks (transport excavated materials)	8 8 8 8 6 6 6 8 TO
Phase 1(c): Substation Construction - Below Grade 7 Months	12	140	1 Drilling rig/truck mounted auger 1 Backhoe 1 Fork Lift/Skid Steer Loader 1 Small Mobile Crane (12-ton) 1 Trencher Winch 1 Loader 1 Water Truck 1 Handheld Compactor Hauling Truck	8/day x 10 6 2 8 6 2 8 TO
Phase 1(d): Substation Construction – Above Grade 6 Months	18	120	4 Pickup Trucks 2 Relay/ Telecom Wiring Vans 2 Aerial Bucket Truck/ Manlifts 1 Large Crane 2 Boom Trucks 2 Forklift/Skid Steer Loaders 2 Line Trucks 1 Cable Reel Trailer 1 Stringing Rig Trailer 1 SF6 gas cart (electric) 1 (100-hp) Oil Processing Truck	TO TO 6 8/day x 10 6 2 TO 8/day x 10 6/day x 10 8/ day x 10 24/day x 6
Phase 1(e): Wiring and Relay Testing 8 Months	5	160	2 Relay/ Telecom Wiring Vans Wire Truck	TO TO
Phase 1(f): Substation Cutover & Energization 2 Months	8	40	2 Line Trucks 3 Relay/ Telecom Wiring Vans 1 Aerial Bucket Truck/Manlift 1 Engineer's Pickup	2 TO TO TO

¹ Workdays are assumed to be 20 per calendar month.

² Unless otherwise specified usage assumed to be daily use for 5 days per week for the stated construction duration.

TABLE 2-11 (CONTINUED)
CONSTRUCTION EQUIPMENT AND USE

Activity	Number of Personnel	Number of Workdays ¹	Equipment and Quantity	Duration of Use (Hours/Day) ²
Phase 2: Construct New 230/69kV Portion of Artesian Substation				
Phase 2(a): Demo Old 69/12-kV Substation <i>1 Month</i>	12	20	1 (2 ton) Flatbed Truck 1 Aerial Bucket Truck/ Manlift 1 Excavator 2 jackhammers 2 Forklifts 1 Large Crane 2 Line Trucks 1 Boom Truck	4 6 8/day x 5 8/day x 5 4 8/day x 5 TO 6
Phase 2(b): Western Parcel Site Prep <i>2 Months</i>	14	40	1 Bulldozer 1 Road Grader/Blade 1 Scraper 1 Rubber Tire Scrapers (834) 1 Loader 1 Backhoe 1 Water Truck 1 Excavator Hauling Truck (transport excavated materials)	8 8 8 8 6 6 4 6 TO
Phase 2(c): Access Road and Retention Basin Construction <i>2 Months</i>	14	40	1 Bulldozer 1 Road Grader/Blade 1 Scraper 1 Rubber Tire Scrapers (834) 1 Loader 1 Backhoe 1 Water Truck 1 Excavator	8 8 8 8 6 6 4 6
Phase 2(d): Substation – Construction – Below Grade <i>3 Months</i>		60	1 Drilling rig/truck mounted auger 1 Backhoe 1 Fork Lift/Skid Steer Loader 1 Small Mobile Crane (12-ton) 1 Trencher Winch 1 Loader 1 Water Truck 1 Handheld Compactor Hauling Truck	8/day x 10 6 1 8 2 8 TO
Phase 2(e): Substation – Construction – Above Ground <i>4 Months</i>	18	80	4 Pickup Trucks 2 Relay/ Telecom Wiring Vans 2 Aerial Bucket Truck/ Manlifts 1 Large Crane 2 Boom Trucks 2 Forklift/Skid Steer Loaders 2 Line Trucks 1 Cable Reel Trailer 1 Stringing Rig Trailer 1 SF6 gas cart (electric) 1 (100-hp) Oil Processing Truck	TO TO 8 8/day x 12 8 2 TO 6/day x 15 6/day x 10 8/day x 5 24 x 4
Phase 2(f): Wiring and Relay Testing <i>6 Months</i>	5	120	2 Relay/ Telecom Wiring Vans	TO
Phase 2(g): Substation Cutover & Energization <i>1 Month</i>	8	20	3 Line Trucks 3 Relay/ Telecom Wiring Vans	2 TO

TABLE 2-11 (CONTINUED)
CONSTRUCTION EQUIPMENT AND USE

Activity	Number of Personnel	Number of Workdays¹	Equipment and Quantity	Duration of Use (Hours/Day)²
Phase 3 Modifications at Bernardo Substation				
Phase 3(a): Foundations <i>1 Month</i>	6	20	2 Crew Equipment Trucks 1 Relay Telecom/ Wiring Van	TO TO
Phase 3(b): Below Grade Construction (New duct installation) <i>1 Month</i>	4	20	Water Truck Backhoe Hauling Truck Bobcat	2 ³ 6 8 TO
Phase 3(c): Above Grade Construction (Relays and Disconnects) <i>1 Month</i>	4	20	Crew Equipment Truck Relay Telecom/ Wiring Van	TO TO
Phase 3(d): Relay Testing and Energization <i>1 Month</i>	5	20	(3) Relay, Crew, & Start Engineer	TO
Phase 4 Modifications at Rancho Carmel Substation				
Phase 4(a): Above Grade Construction (Shoo-fly, Relays and Disconnects) <i>1 Month</i>	8	20	4 Crew Equipment Trucks Relay Telecom/ Wiring Van Aerial Bucket Truck/ Manlift Line Truck	TO
Phase 4(b): Below Grade Construction (Upgrade/ Replace Cable) – Same as Phase 8(a) below <i>1 Month</i>	4	20	Puller & Tensioner Reel Trailer 2 Crew/ Equipment Trucks	5 5 TO
Phase 4(c): Relay Testing and Energization <i>1 Month</i>	5	20	(3) Relay, Crew, & Start Engineer	TO
Phase 5 Install New 230kV Connection at Artesian Substation (TL 23051 & TL 230XX)				
Phase 5(a): Construct Foundation <i>2 Months</i>	4	40	Water Truck Drilling Rig/ Truck Mounted Augur Air Compressor Boom Truck Crew Equipment Truck Concrete Truck Portable Generator 2 Dump Trucks	3. 7/day x 20 3 3 TO 2/day x 7 3 4
Phase 5(b): Pole Installation <i>1 Month</i>	4	20	Water Truck Tractor/Trailer Unit Aerial Bucket Truck/ Manlift Crew/Equipment Truck Crane	2/day. x 6 4/day. x 2 7/day. x 2 TO 5/day x 6

³ Travel Only (TO) denotes that the equipment is used to travel to site and does not have onsite usage

TABLE 2-11 (CONTINUED)
CONSTRUCTION EQUIPMENT AND USE

Activity	Number of Personnel	Number of Workdays¹	Equipment and Quantity	Duration of Use (Hours/Day)²
Phase 5 Install New 230kV Connection at Artesian Substation (TL 23051 & TL 230XX) (cont.)				
Phase 5(c): Stringing and Conductor Installation <i>1 Month</i>	5	20	2 Water Trucks Wire Truck Pulling Rig Boom Truck Aerial Bucket Truck/ Manlift Crew/Equipment Truck	4 4 6 5 5 TO
Phase 6 Construct New Underground Power Line Getaways at Artesian (TL616, TL6920, TL6939, TL6974)				
Phase 6(a): Trenching and Duct Bank Installation <i>2 Months</i>	12	40	Sawcutter Backhoe Crane 2 Crew/ Equipment Trucks Concrete truck Paver Hauling Truck Water Truck	6 6 4 TO 1 5 TO 3
Phase 6(b): Pulling and Conductor/Cable Installation <i>2 Months</i>	4	40	Puller & Tensioner Reel Trailer Crew/ Equipment Truck	5 3 TO
Phase 7 Construct New Underground Power Line Getaways at Bernardo (TL6939, TL6974)				
Phase 7(a): Underground Trench/ Conduit/Substructure <i>2 Months</i>	12	40	Sawcutter Backhoe Crane 2 Crew/ Equipment Trucks Concrete truck Paver Water Truck	6 6 3 TO 1 5 3
Phase 7(b): Cable/Conductor Pulling and Tensioning <i>1 Month</i>	4	20	Puller & Tensioner Reel Trailer 2 Crew/ Equipment Trucks	6 4 TO
Phase 8 Upgrade Getaway at Rancho Carmel				
Phase 8(a): Pulling and Conductor/Cable Installation (same as Phase 4(b) above) <i>1 Month</i>	4	20	Puller & Tensioner Reel Trailer Crew/ Equipment Truck	5 3 TO
Phase 9 Distribution Line Upgrades				
Phase 9(a): Trenching and Duct Bank Installation <i>1 Month</i>	10	20	1 Backhoe 1 Bobcat 1 Water truck Hauling truck 2 Crew/ Equipment Trucks	6 6 4 TO TO
Phase 9(b): Pulling and Conductor/ Cable Installation <i>1 Month</i>	4	20	Puller & Tensioner Reel Trailer 2 Crew/ Equipment Trucks	6 6 TO

TABLE 2-11 (CONTINUED)
CONSTRUCTION EQUIPMENT AND USE

Activity	Number of Personnel	Number of Workdays¹	Equipment and Quantity	Duration of Use (Hours/Day)²
Phase 10 Pole Replacement and Reconductor Overhead 69kV Power Lines				
Phase 10(a): Construct Pier and Micropile Foundations <i>3 Months</i>	4	60	2 Water Trucks 2 Drilling rig/ truck-mounted augur 1 Air Compressor 2 Boom Trucks 2 Pickup Trucks Concrete Truck 2 Portable Generators	4 6 3 5 TO 1 2
Phase 10(b): Direct Bury Structures and Foundation Pole Installations <i>3 Months</i>	8	60	2 Water Trucks 1 Tractor Trailer Units 1 Augur 2 Crew/Equipment Trucks 2 Aerial Bucket Truck/ Manlifts 1 Crane 2 Pickup trucks	4 3 6 5 6 5 TO
Phase 10(c): Stringing and Conductor Installation <i>2 Months</i>	5	40	2 Water Trucks 1 Wire Truck 1 Pulling Rig 2 Boom Trucks 2 Aerial Bucket Truck/ Manlifts 2 Crew/Equipment Trucks	4 6 6 6 6 TO
Phase 10(d): Remove Old Structures <i>1 Month</i>	10	20	2 Boom Trucks 2 Aerial Bucket Truck/ Manlifts 2 Crew/Equipment Trucks	8 8 TO
Demobilization/ Cleanup/ Road Refreshing				
<i>1 Month</i>	5	20	1 Grader 1 Water Truck 1 Pickup Truck	2 2 TO

SOURCE: SDG&E, 2016a

2.6.10.3 Construction Traffic

Due to the nature of transmission and power line construction, construction of the Project would require multiple work areas and construction traffic would be distributed among existing roadways and SDG&E access roads. It is not anticipated that helicopters would be used during construction of the Proposed Project. Traffic-generating construction activities related to the Proposed Project would consist of the daily arrival and departure of construction workers to each work site; trucks hauling equipment and materials to the work sites; and the hauling of excavated spoils from, and import of new fill to, certain work sites. The number of daily trips generated by Proposed Project construction would vary by work area and task type. Where excavation is

proposed, trips would also be generated for the import or export of soil. Other construction trips would also be generated from materials delivery, inspectors and foreman, as well as SDG&E construction oversight personnel. **Tables 2-12 through 2-14** present construction traffic for the Proposed Project.

TABLE 2-12
CONSTRUCTION PERSONNEL DAILY TRIPS

Proposed Project Construction Phase	Estimated No. of Workers	Estimated No. of Vehicles¹	Estimated No. of Daily Trips²
Phase 1(a): Eastern Parcel Demolition	8	8	16
Phase 1(b): Eastern Parcel Site Development	14	14	28
Phase 1(c): Eastern Parcel Below Grade Work	12	12	24
Phase 1(d): Eastern Parcel Above Grade Work	18	18	36
Phase 1(e): Wiring and Relay Testing	5	5	10
Phase 2(a): Western Parcel Demo	12	12	24
Phase 2(b): Western Parcel Site Development	14	14	28
Phase 2(c): Access Road and Retention Basin	14	14	28
Phase 2(d): Western Parcel Below Grade Work	10	10	20
Phase 2(e): Western Parcel Above Grade Work	18	18	36
Phase 2(f): Wiring and Relay Testing	5	5	10
Phase 3: Bernardo Substation Modifications	19	19	38
Phase 4: Rancho Carmel Substation Modifications	8	8	16
Phase 5: New 230kV Loop-in to Artesian	13	13	26
Phase 6(a): Artesian 69kV Getaways - Trenching	12	12	24
Phase 6(b): Artesian 69kV Getaways - Pulling	4	4	8
Phase 7(a): Bernardo 69kV Getaways - Trenching	12	12	24
Phase 7(b): Bernardo 69kV Getaways - Pulling	4	4	8
Phase 8: R. Carmel 69kV Getaway - Pulling	4	4	8
Phase 9: Distribution Line Upgrades	14	14	28
Phase 10(a): 69kV Pier Foundations	4	4	8
Phase 10(b): 69kV Pole Installations	8	8	16
Phase 10(c): 69kV Stringing	5	5	10

NOTES:

¹ Each worker was assumed to correspond to one vehicle. During actual construction, workers would likely carpool during major construction tasks.

² Trips listed are one way.

SOURCE: SDG&E, 2016a

TABLE 2-13
DAILY HAULING TRIPS FOR MAJOR CONSTRUCTION TASKS¹

Proposed Project Construction Activity¹	Estimated No. of One-way Trips	Adjusted No. of Trips³
Phase 1a: Eastern Parcel Demo	28	84
Phase 1b: Eastern Parcel Site Prep	14	42
Phase 1c: Eastern Parcel Below Grade Construction	14	42
Phase 1d: Eastern Parcel Above Grade Work	0	0
Phase 1e: Eastern Parcel Wiring and Relay Testing	0	0
Phase 2a: Western Parcel Demo	16	48
Phase 2b: Western Parcel Site Prep	6	18
Phase 2c: Access Road and Detention Basin	32	96
Phase 2d: Western Parcel Below Grade Construction	6	18
Phase 2e: Western Parcel Above Grade Work	0	0
Phase 2d: Western Parcel Wiring and Relay Testing	0	0
Phase 3: Bernardo Substation Modifications	0	0
Phase 4: Rancho Carmel Substation Modifications	0	0
Phase 5: New 230kV Loop-in to Artesian	0	0
Phase 6a: 69kV Artesian Substation Getaways (trenching)	30	90
Phase 6(b): Artesian 69kV Getaways - Pulling	0	0
Phase 7a: 69kV Bernardo Substation Getaways (trenching)	30	90
Phase 7(b): Bernardo 69kV Getaways - Pulling	0	0
Phase 8: R. Carmel 69kV Getaway - Pulling	0	0
Phase 9: Distribution Line Upgrades	0	0
Phase 10(a): Overhead Structures - Foundations	2 ²	6
Phase 10(b): 69kV Pole Installations	0	0
Phase 10(c): 69kV Stringing	0	0

NOTES:

- ¹ Due to the nature of some equipment, it is not expected that all equipment would require transportation to and from work areas; therefore, equipment delivery is not considered in these calculations. Therefore, certain tasks would not be anticipated to have daily hauling trips, such as above ground construction, stringing, pulling, testing, and wiring. These tasks show a value of zero within this table.
- ² This value is rounded up from approximately 0.5; therefore, it is not expected that a trip will be required every day during the installation of overhead structures.
- ³ Due to the size and greater effect on traffic that larger vehicles (such as hauling and cement trucks) have, a passenger car equivalent (or PCE) of 3 was applied to such trips.

SOURCE: SDG&E, 2017f

TABLE 2-14
PEAK DAILY TRAFFIC TRIPS¹

Proposed Project Construction Activity	No. of Worker Trips² (one-way)	No. of Hauling Trips (one-way)
Phase 1(d): Eastern Parcel Above Ground Construction	36	0
Phase 1(e): Wiring and Relay Testing	10	0
Phase 6(b): Artesian 69kV Getaway – Cable Pulling	8	0
Phase 7(a): Bernardo 69kV Getaway – Trenching and Conduit Installation	24	30 (90) ⁵
Phase 10(c): 69kV Stringing	10	0
<i>Subtotals</i>	88	30 (90) ⁵
Grand Total (one-way)³	178	

NOTES:

- ¹ The peak of construction was defined as approximately September 2019, where the following tasks could overlap: Phase 1(d), Phase 1(e), Phase 6(b), Phase 7(a), and Phase 10(c).
- ² Each worker was assumed to correspond to one vehicle. During actual construction, workers would likely carpool during major construction tasks.
- ³ The table shows actual truck trips.
- ⁴ The total values in this table represent the maximum amount of trips that would occur at any stage of the construction process.
- ⁵ Due to the size and greater effect on traffic associated with larger vehicles (such as hauling and cement trucks), a passenger car equivalent (or PCE) of 3 was applied to such trips.

SOURCE: SDG&E, 2016a

At the peak of construction (Table 2-14), defined as approximately September 2019, where the following tasks could overlap: Phase 1(d), Phase 1(e), Phase 6(b), Phase 7(a), and Phase 10(c), approximately 178 total daily round trips (88 one-way) worker trips to various staging yards and work sites and 180 total daily round [90 one-way²⁰] trips for hauling) could occur. Of the 178 daily one-way trips, approximately 46 trips would be directly to the Artesian Substation site, approximately 42 trips to a staging yard, and the hauling trips would occur to and from the Project excavation site.

The number of truck trips to transport excavated materials to storage yards and/or disposal facilities would vary based on the rate of the trenching, the area excavated to install the vaults, and proximity of the storage yards/disposal facilities to the ROW. However, up to approximately 20 to 30 truck trips per day would be required during trenching activities at one site (Table 2-13). Truck trips for materials transport would increase up to 30 per day for the Proposed Project (as a whole) when trenching activities occur at multiple locations.

2.6.11 Construction Schedule

Construction of the Proposed Project would take approximately 30 months to complete (Table 2-6), assuming no significant delays from unforeseen/unpredictable factors such as weather and required transmission outages. Pursuant to agency permit or direction (e.g., Caltrans Superload Permit or local agency approved traffic control plans – refer to Table 2-15), or system outage constraints and/or technical requirements (e.g., transformer filling – refer to Section 3.13, Noise),

²⁰ Numbers reflect a PCE increase of 3.

certain construction activities may be required to be conducted during non-standard work hours (e.g., nighttime or Sundays). Construction is anticipated to begin in August 2018 and run through January 2021. The Project in-service date is anticipated to be December 2020.

2.7 Operation and Maintenance

2.7.1 Artesian Substation

The Artesian Substation would be an unmanned substation. In general, routine substation operations would remain the same as those at the existing substation but would increase slightly due to the increase in substation equipment and facilities. Equipment and employees anticipated for operation and maintenance of the Proposed Project are summarized in **Table 2-15** below.

TABLE 2-15
OPERATION AND MAINTENANCE INCREASE SUMMARY¹

Operation or Maintenance Activity	Frequency and Duration	Required Equipment	Number of Workers
Minor Circuit Breaker Inspection & Maintenance (230kV)	One day per inspection; One inspection every three years	<ul style="list-style-type: none"> • 1 crew truck • 1 bucket truck • 1 pickup truck 	3-6
Major Circuit Breaker Inspection & Maintenance (230kV)	1 - 2 days per inspection; One inspection every 10 years	<ul style="list-style-type: none"> • 1 crew truck • 1 bucket truck • 1 pickup truck 	3-6
230kV Transformer Electrical Test	One day per test; One test every five years	<ul style="list-style-type: none"> • 1 crew truck • 1 assist truck • 1 pickup truck • 1 relay van • 1 bucket truck 	5-8
Tap Changer Inspection	1 - 2 days per inspection; One inspection every seven years	<ul style="list-style-type: none"> • 1 crew truck • 1 assist truck • 1 pickup truck • 1 relay van • 1 bucket truck 	5-8
69kV underground vault inspections	One day per inspection; One inspection every three years	<ul style="list-style-type: none"> • 1 crew truck • 1 traffic control truck 	2-4

NOTES:

¹ This table only includes operation and maintenance activities that would be required above what currently exists at the Proposed Project facilities.

SOURCE: SDG&E, 2016a

The Proposed Project would require a single pickup truck visiting each substation (Artesian, Bernardo, and Rancho Carmel) several times a week for switching, as well as several larger substation construction and maintenance trucks visiting each substation several times a year for equipment maintenance. Maintenance activities would include equipment testing, equipment monitoring and repair, and emergency and routine procedures for service continuity and preventive maintenance. In general, routine substation maintenance is expected to necessitate approximately six trips per year by a two- to four-person crew at the substation sites. Routine

substation operations would require one or two workers in a light utility truck to visit the substations on a weekly basis. Typically, a major maintenance inspection would take place annually, requiring approximately 10 personnel for approximately one week.

Routine maintenance for vegetation clearing would occur on an as-needed basis for purposes of safety, access, and aesthetics. Vegetation clearing activities would typically involve the presence of one to two small maintenance vehicles and one or more employees to clear or trim acres to achieve the minimum working space around the substation facilities. New landscaping at Artesian would be maintained for the life of the Project. It is not anticipated that additional full-time SDG&E staff would be required for operation or maintenance purposes at the expanded Artesian Substation.

2.7.2 Bernardo and Rancho Carmel substations

Operation and maintenance of the Bernardo and Rancho Carmel substations would continue to be operated and maintained consistent with current substation operations. Typical maintenance activities include equipment testing, equipment monitoring and repair, and emergency and routine procedures for service continuity and preventive maintenance. A major maintenance inspection would typically take place annually, lasting approximately one week.

Operation and maintenance activities at the Bernardo and Rancho Carmel substations would be the same as those currently required. It is not anticipated that increased activities or additional full-time SDG&E staff would be required for operation or maintenance purposes at these substations.

Routine vegetation clearing would continue to occur at each substation on an as-needed basis for purposes of safety, access, and aesthetics. Vegetation clearing activities would typically involve the presence of one to two small maintenance vehicles and one or more employees to clear or trim vegetation to achieve the minimum working space around the substation facilities.

2.7.3 Reconductoring Alignment and Other Infrastructure

All proposed new and relocated facilities would be located in existing SDG&E ROWs and corridors that currently contain similar SDG&E facilities, except for the new 69 kV power line getaways that would be installed underground within existing roads (franchise position). SDG&E currently operates and maintains existing facilities consistent with standard operating procedures, such as *SDG&E's Subregional NCCP Operational Protocols* (SDG&E, 1995). No change in SDG&E's operations and maintenance practices is anticipated, except at the new underground 69kV vault locations.

SDG&E would continue to regularly inspect, maintain, and repair the substations, new and reconstructed transmission line, power line, and distribution line facilities and substations following completion of Proposed Project construction. Operation and maintenance activities would not generally change and would continue to involve both routine inspections and preventive maintenance to ensure service reliability, as well as emergency construction to maintain or restore service continuity, as is currently practiced. SDG&E would continue to perform aerial and ground inspections of Proposed Project facilities and patrols aboveground

components, annually. Inspection for corrosion, equipment misalignment, loose fittings, and other common mechanical problems for transmission and power lines would be performed at least every three years (per General Order 165).

SDG&E would use helicopters in the inspection of overhead facilities annually or as otherwise required. SDG&E's Transmission²¹ department use helicopters for patrolling power lines during trouble jobs (e.g., outages/service curtailments) in areas that have no vehicle access or rough terrain. For patrolling during such jobs, the helicopter picks up the patrolman at the district yard. The size of the crew varies from four to 10 crew members, two helicopter staff, and a water truck driver to apply water for dust control at the incidental landing area. Most operations and maintenance related helicopter operations take only one day.

SDG&E would continue to maintain a clear working space area around poles pursuant to requirements found within General Order 95 and Public Resources Code (PRC) Sections 4292 and 4293. SDG&E would keep areas clear of shrubs and other obstructions for fire- prevention purposes. Typical power line operation and maintenance activities include security and other inspections, ROW and access repairs, pole brushing in accordance with fire break clearance requirements, herbicide application, emergency and non-emergency repairs and replacements, insulator washing, and tree trimming. These activities would be performed routinely or on an as-needed basis, as applicable.

The new 69kV underground power line getaways would be inspected consistent with SDG&E's existing underground inspection and maintenance program. Maintenance activities at the splice vault locations would only occur at very infrequent intervals (approximately once every three years). The line would be accessed from five new vaults during the annual underground transmission inspection program. The inspection requires traffic control to access the vault safely, opening the vault covers and performing a visual survey from above (entry into vault with energized cables is not permitted), and use of infra-red or other diagnostic instrumentation which may be available. The inspections are typically performed by a two to four person crew, and typically require one crew truck and a traffic control vehicle, as needed. The total time to inspect each vault is expected to be less than one day under normal operating conditions. The inspection of the underground transmission line would be the same for all existing underground inspection currently completed by SDG&E throughout SDG&E's service territory.

2.7.4 Water and Waste

Water use during operation would be virtually the same as that of the existing facilities. During the operation and maintenance phase (which could last between 35 and 50 years), water would be required for insulator washing and maintenance, and other maintenance and repair activities. Water used would be provided by the Olivenhain Municipal Water District (OMWD) (potable and recycled water) and the City of San Diego (potable water).

²¹ The term "Transmission" as used within this section of the PEA refers to internal SDG&E operating departments and is not intended to suggest that this department works only on electric utility lines with operational ratings at or above 200 kV.

Operation and maintenance activities would produce negligible volumes of wastes and are not expected to require hazardous materials or to generate hazardous waste. Any potential disposal would occur in accordance with applicable regulations.

2.8 Applicant Proposed Measures

SDG&E proposes to implement certain Project design features, Applicant Proposed Measures (APMs), listed in **Table 2-16**, to avoid or reduce impacts that otherwise could be caused by the Project. These are considered part of the Project in this analysis and are included as enforceable measures in Section 5.0. These Project features are also discussed in the context of the relevant environmental resource analyses presented in Chapter 3.

TABLE 2-16
APPLICANT PROPOSED MEASURES

APM Number	Description
BIO-1	If work is scheduled to occur within suitable burrowing owl habitat (as determined in the Biological Technical Report), burrowing owl surveys will be conducted prior to construction consistent with the Take Avoidance Surveys described in the 2012 Staff Report on Burrowing Owl Mitigation. If burrowing owls are identified within approximately 150 meters (492 feet) of the proposed work area, SDG&E will implement the recommendations of said staff report to avoid impacts to burrowing owl.
BIO-2	SDG&E will compensate for temporary and permanent impacts according to Table 7.4 of the SDG&E NCCP.
BIO-3	If construction occurs during the nesting or breeding season, SDG&E will perform a site survey in the area where the work is to occur. This survey will be performed to determine the presence or absence of nesting birds. If an active nest is identified, (i.e., containing eggs or young) a suitable construction buffer will be implemented to ensure that the birds are not substantially adversely affected. If the birds are federal or state-listed species, SDG&E will consult with the USFWS and CDFW as necessary. Monitoring of the nest will continue until the birds have fledged or construction is no longer occurring on site.
BIO-4	SDG&E will complete a PSR for the entire Project area prior to construction to verify the location of rare plants.
BIO-5	SDG&E will complete a PSR for the entire Project area prior to construction to verify the location of sensitive biological resources.
BIO-6	Prior to the start of construction, SDG&E will conduct training of all project personnel regarding the appropriate work practices necessary to effectively implement the Proposed Project APMs, standard operating procedures, and to comply with the applicable environmental laws and regulations.
BIO-7	A biological monitor will be present during ground-disturbing and vegetation removal activities located within environmentally sensitive areas. Immediately prior to initial ground-disturbing activities and/or vegetation removal, the biological monitor will survey the site to ensure that no sensitive species will be impacted.
BIO-8	If modifications to the pole work areas are required, SDG&E's on-site environmental monitors, as appropriate, will assist construction crews in the field to locate pole work areas that avoid and minimize impacts to sensitive environmental resources.
CUL-1	Native American monitoring may be implemented if substation, transmission, power or distribution line construction has the potential to impact identified and mapped traditional locations or places. The role of the Native American monitor shall be to represent tribal concerns and communicate with the tribal council. Appropriate representatives will be identified based on the location of the identified traditional location or place.
NV-1	For the few locations where the Proposed Project could exceed the noise ordinance limits during construction, SDG&E would meet and confer with the City and County to discuss temporarily deviating from the requirements of the Noise Code as necessary.

SOURCE: SDG&E, 2016a, SDG&E 2017a through e, SDG&E 2018

2.9 Electric and Magnetic Fields Summary

Extremely low frequency (ELF) electric and magnetic fields (EMF) include alternating current (AC) fields and other electromagnetic, non-ionizing radiation from 1 Hz to 300 Hz. Power lines, like electrical wiring and electrical equipment, produce ELF (fields) at 60 Hz (OSHA, 2016). This IS/MND does not consider EMF in the context of the CEQA analysis of potential environmental impacts because: [1] there is no agreement among scientists that EMF creates a potential health risk, and [2] there are no defined or adopted CEQA standards for defining health risk from EMF. On January 15, 1991, the CPUC initiated an investigation to consider its role in mitigating the health effects, if any, of electric and magnetic fields from utility facilities and power lines. A working group of interested parties, the California EMF Consensus Group, was created by the CPUC to advise on this issue. The California EMF Consensus Group's fact-finding process was open to the public, and its report incorporated public concerns. Its recommendations were filed with the CPUC in March 1992. Based on the work of the California EMF Consensus Group, written testimony, and evidentiary hearings, CPUC's decision (93-11-013) was issued on November 2, 1993, to address public concern about possible EMF health effects from electric utility facilities. In August 2004, the CPUC opened an Order Instituting Rulemaking to update the Commission's policies and procedures related to electric and magnetic fields emanating from regulated utility facilities. The final decision was issued in D.06-01-042. The conclusions and findings included the following:

“We find that the body of scientific evidence continues to evolve. However, it is recognized that public concern and scientific uncertainty remain regarding the potential health effects of EMF exposure. We do not find it appropriate to adopt any specific numerical standard in association with EMF until we have a firm scientific basis for adopting any particular value.”

This continues to be the position of the CPUC regarding standards for EMF exposure. The State has not determined that any risk would merit adoption of any specific limits or regulations regarding EMF levels from electric power facilities

Presently, there are no applicable federal, state, or local regulations related to EMF levels from power lines or related facilities, such as substations. However, the CPUC has implemented a decision (D.06-01-042) requiring utilities to incorporate “low-cost” or “no-cost” measures for managing EMF from power lines up to approximately four percent of total project cost. Four percent of total project budgeted cost is the benchmark in developing EMF mitigation guidelines, and mitigation measures should achieve some noticeable reductions.

Using the four percent benchmark and otherwise in accordance with “EMF Design Guidelines” filed with the CPUC in compliance with CPUC Decisions 93-11-013 and 06-01-042, SDG&E would implement low- and no-cost measures to reduce magnetic field levels for the Project. The specific measures are described in the Detailed Magnetic Field Management Plan submitted by SDG&E (Appendix B).

2.10 Required Approvals

The CPUC is the lead California agency for the Proposed Project. SDG&E must comply with the CPUC's General Order 131-D, which contains the permitting requirements for the construction of the Proposed Project.

In addition to the PTC, SDG&E would obtain approval for the Proposed Project from other Federal, State, and local agencies, as required as outlined in **Table 2-17**.

TABLE 2-17
ANTICIPATED POTENTIAL PERMIT, APPROVAL, AND CONSULTATION REQUIREMENTS

Permit/Approval/Consultation	Agency	Jurisdiction/Purpose	Permit Status
Federal Agencies			
Federal Endangered Species Act	United States Fish & Wildlife Service	Take of listed species during installation of new facilities	TBD ¹
Lighting and Aerial Marking	FAA	Construction of overhead facilities potentially requiring aerial marking	To be submitted, anticipated to be required
State Agencies²			
Permit To Construct	CPUC	Overall project approval and CEQA review	PEA submitted concurrent with PTC application
NPDES—General Construction Permit	State Water Resources Control Board	Stormwater discharges associated with construction activities disturbing more than one acre of land.	To be submitted
California Endangered Species Act	CDFW	Take of listed species during installation of new facilities	TBD ¹
Waste Discharge Waiver or General Order	RWQCB or SWRCB	Use of Recycled Water for Construction	To be submitted
Superload (Oversize) Load Permit	Caltrans	Transport of 230/69 kV transformers (oversized loads)	To be submitted
Local Agencies			
Encroachment Permit and Traffic Control Plan(s)	City of San Diego	Construction within, under, or over City roadways	To be submitted
Encroachment Permit and Traffic Control Plan(s)	County of San Diego	Construction within, under, or over County roadways	To be submitted
Grading Permit	City of San Diego	Grading at the Artesian Substation expansion Site	To be submitted

NOTES: Table contents based upon preliminary engineering and are subject to change.

¹ If required, take authority would be granted through either compliance with the SDG&E Subregional NCCP or through individual permits under Section 10 of the Federal Endangered Species Act and Section 2081 of the California Fish and Game Code. Refer to Section 3.4 for additional information.

² A solid waste disposal permit is not anticipated to be required for the Project

SOURCE: SDG&E, 2016a

2.11 References

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SECTION 3

Environmental Checklist and Discussion

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3.1 Aesthetics

	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
1. AESTHETICS—Would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.1.1 Environmental Setting

Visual or aesthetic resources are generally defined as both the natural and built features of the landscape that contribute to the public's experience and appreciation of the environment. Depending on the extent to which a project's presence would alter the perceived visual character and quality of the environment, a visual or aesthetic impact may occur.

This analysis of potential visual effects is based on review of a variety of data, including Proposed Project maps and drawings, aerial and ground level photographs of the Proposed Project site and immediate surroundings, a site visit to the Project site, and other relevant data and documents, including local planning documents. The study area for visual resources encompasses the landscapes directly affected by the proposed Project and the surrounding areas from which the Proposed Project would be visible. The visual analysis focuses on travel route views, and views from parks and recreational areas. Visual resources consist of the landforms, vegetation, rock and water features, and cultural modifications, such as the built environment, that create the visual character and sensitivity of a landscape.

The visual sensitivity of the environmental setting is reflected according to high, moderate and low visual sensitivity ranges, and is a composite measurement of the overall susceptibility of an area or viewer group to adverse visual or aesthetic impacts, given the combined factors of:

- **Visual quality:** the overall visual impression or attractiveness of an area as determined by the particular landscape characteristics, including landforms, rock forms, water features, and vegetation patterns.
- **Viewer types and volumes of use:** the types of people viewing the affected landscape including, for example, motorists traveling along Camino Del Sur, Rancho Bernardo, and other specified roadways, park and other recreational area users, as well as residents and business patrons in the City of San Diego and unincorporated San Diego County. Land uses that derive value from the quality of their settings, such as parks or scenic routes, are considered potentially sensitive to changes in visual setting conditions.

- **Viewer exposure:** landscape visibility, viewing distance, viewing angle, extent of visibility, and duration of view. For the purposes of this analysis, viewing distance is described in three general categories. Foreground refers to views observed from within 0.25 to a 0.5 mile from viewer; middle-ground refers to views from the foreground out up to three to five miles from the viewer; background extends from that middle-ground distance outward, as far as the view extends.

Existing Visual Quality of the Region

The Proposed Project is located in an area of planned communities built amid the coastal plains in northwestern San Diego County, approximately 20 miles north of San Diego Bay, 10 miles east of the coastal City of Encinitas, and approximately 6 miles south of the City of Escondido. The area in which the Proposed Project would be located consists predominantly of a rapidly developing region within the City of San Diego and in unincorporated San Diego County that includes a mix of residential subdivisions, commercial centers and low-rise office/industrial parks built among areas of public open space and partially developed, privately held land. Although much of the electrical utility grid is underground in this area, there are numerous above-ground electric utility components including poles, transmission infrastructure and overhead conductors supporting existing power lines. The Proposed Project would be mainly situated between two major regional interstate highway corridors that include Interstate 5 (I-5), located approximately 7.5 miles to the west, and I-15, less than one mile to the east. By design, the local roadways in this part of San Diego generally follow curved patterns, along the natural topography of the adjacent hillsides.

The Proposed Project site is located within the larger landscape of California's Peninsular Range which extends over 900 miles from southern California to the southern tip of Mexico's Baja Californian Peninsula as part of the North American Coast Ranges along the Pacific Coast. As rainfall is very limited in the region, native vegetation is typically sparse, consisting of low growing chaparral and coastal sage scrub on the mesas (flat-topped hills). In a few locations near the Proposed Project, riparian vegetation is present along ravines and in canyon drainages. Open areas of exposed rock and light-colored soil are common elements of this landscape. Scenic landscape features in this area include distant views of the Laguna Mountains and isolated peaks such as the 1,556 foot high Black Mountain, located approximately three miles south of the Proposed Project site.

Scenic Roadways

There are no roadways within one mile of the Project site that are designated scenic and eligible for state scenic designation by the California Department of Transportation (Caltrans). The nearest Eligible State Scenic Highway is I-5, approximately seven miles west of the Proposed Project site (Caltrans, 2017). Del Dios Highway, located approximately 1.4 miles north of the Artesian Substation, is designated as a Scenic Highway by the San Diego County General Plan (SDCGP, 2014b). Camino Del Norte, Camino San Bernardo, and Rancho Bernardo Road are San Diego County-designated Scenic Highway Corridors within the San Dieguito Community Plan Area (County of San Diego, 2014a).

Scenic Vistas

A scenic vista is generally considered to be a location from which the public can experience unique and exemplary high-quality views, which are typically from elevated vantage points that offer panoramic views of great breadth and depth. There are no officially designated scenic vistas in the study area. There are scenic views from informal recreational trails in the Santa Fe Valley Open Space Preserve, located north of the Artesian Substation site. Rancho San Bernardo Road across from the Bernardo Substation offers non-designated scenic vistas including rock outcroppings on the hillside at the Ralph's Ranch Agricultural Open Space Preserve area directly north of the Bernardo Substation.

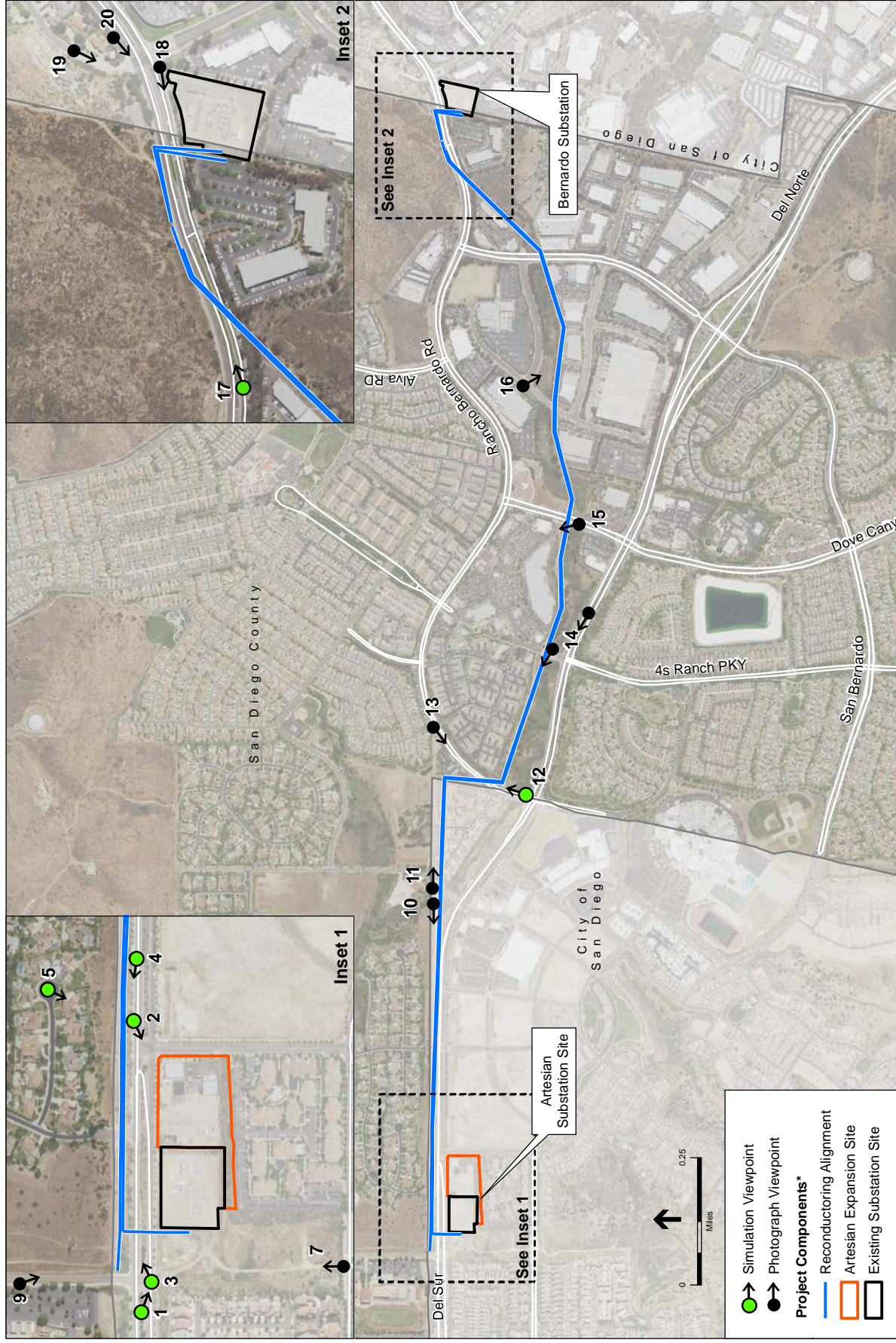
Scenic Character

Figure 3.1-1, *Photograph Viewpoint Locations Map*, delineates the locations of Project components and photograph viewpoints (VP). **Figures 3.1-2a** through **3.1-2k**, *Representative Photographs*, present a set of 20 photographs that show representative visual conditions and public views within the study area.

Table 3.1-1, *Summary of Project Components, Primary Viewers, Representative Photographs, and Visual Simulations* presents the four primary components of the Proposed Project in terms of their relative size, potentially affected viewers, and representative photographic views. The Proposed Project's appearance is portrayed in a set of before-and-after views, as seen from key public viewpoints listed under "Visual Simulation" within Table 3.1-1. Note that Proposed Project components are discussed in geographic order in this section, which differs slightly from the order that components are discussed in the Project Description. This is intended to aid the reader in visualizing the way in which the components are connected, one to another and within the geographic context.

TABLE 3.1-1
SUMMARY OF PROJECT COMPONENTS, PRIMARY VIEWERS,
REPRESENTATIVE PHOTOGRAPHS, AND VISUAL SIMULATIONS

Proposed Project Component	Potentially Affected Viewers	View point (VP)	Visual Simulation
Artesian Substation (including 230kV tie-in)	Motorists, Residents, and Recreational Users	1, 2, 6, and 9 (Figures 3.1-2a, -2c, and -2e)	VP 1 – Figure 3.1-3 VP 2 – Figure 3.1-4
Reconductoring Alignment	Motorists, Residents, and Recreational Users	3, 4, 5, 7, 8, and 10 through 18 (Figures 3.1-2b through -2i)	VP 3 – Figure 3.1-5 VP 4 – Figure 3.1-6 VP 5 – Figure 3.1-7 VP 12 – Figure 3.1-8 VP 17 – Figure 3.1-9
Bernardo Substation	Motorists, Limited Residents	19 and 20 (Figure 3.1-j)	none
Rancho Carmel Substation	Motorists	21 and 22 (Figure 3.1-k)	none



* Not all project components shown on this map.
See Figure 2-5 for full list of project components.

SOURCE: SanGIS, 2016; SDG&E; Sempra Energy Utility; Environmental Vision, 2016

CPUC Artesian Substation . 120812.02
Figure 3.1-1
Photographic Viewpoints



1. Camino del Sur at Maranatha Drive looking southeast *



2. Camino del Sur at Babcock Street looking southwest *

*Simulation Viewpoint

SOURCE: Environmental Vision, 2016

CPUC Artesian Substation . 120812.02

Figure 3.1-2a
Representative Photographs VP 1 & 2



3. Camino del Sur at Marantha Drive looking northeast *



4. Camino del Sur at Babcock Street looking northwest *

*Simulation Viewpoint

SOURCE: Environmental Vision, 2016

CPUC Artesian Substation . 120812.02

Figure 3.1-2b
Representative Photographs VP 3 & 4



5. White Alder Court looking south *



6. Babcock Street south of Camino del Sur looking northwest

*Simulation Viewpoint

SOURCE: Environmental Vision, 2016

CPUC Artesian Substation . 120812.02

Figure 3.1-2c
Representative Photographs VP 5 & 6



7. Paseo del Sur looking north



8. Via Montenero looking east



9. Maranatha Drive at Maranatha School entrance looking southeast



10. Four Gee Road near Tallus Glen looking west



11. Four Gee Road at Tallus Glen looking east



12. Rancho Bernardo Road at Camino del Norte looking north *

*Simulation Viewpoint



13. Rancho Bernardo Road near Silver Crest Lane looking southwest



14. 4S Ranch Parkway near Camino del Norte looking northwest



15. Dove Canyon Road looking northwest



16. Goldentop Road at Coastwood Road looking southeast



17. Rancho Bernardo Road near Camino San Bernardo looking northeast *



18. Rancho Bernardo Road at Via del Campo looking west

*Simulation Viewpoint



19. Via del Campo looking south towards Bernardo Substation



20. Rancho Bernardo Road at Via del Campo looking southwest



21. Innovation Drive looking east



22. Camino del Norte looking southeast toward Rancho Carmel Substation

Artesian Substation

The Artesian Substation is located on an approximately two acre industrial site within an urbanized area in the City of San Diego. The site is bounded by Camino Del Sur to the north, an approximately four acre undeveloped, SDG&E-owned parcel to the east (the Artesian Substation Expansion site) which is proposed for development as part of the Project, a residential apartment complex to the south, and a stormwater detention basin and existing SDG&E transmission corridor to the west.

Figure 3.1-2a (VP 1) depicts a motorist's view toward the walled substation perimeter from eastbound Camino Del Sur at the Maranatha Drive intersection. Traffic signals and street lights at the intersection, along with a wood utility structure supporting distribution lines and two wood poles connecting the substation with the existing 69kV power line, are noticeable foreground elements. Numerous overhead conductors associated with an existing utility corridor that include the 230kV transmission line currently bypassing the substation can be seen crossing the intersection. A portion of the existing concrete perimeter wall, partially screened by landscaping, can be seen enclosing the facility, which is located on a slightly elevated terrace. All but the uppermost portion of transformers and other components within the substation yard are screened by the wall. Figure 3.1-2a (VP 2), looking southwest from Camino Del Sur at the intersection of Babcock Street, is an existing foreground view toward the substation expansion site, currently occupied by portable buildings and a parking lot and surrounded by wood fencing and partially screened by semi-mature perimeter landscaping.

Figure 3.1-2c (VP 6) is an elevated view of the Camino Del Sur/Babcock Street intersection, looking north toward the expansion site. The expansion site is partially obscured by intervening landscaping along Babcock Street. Wood poles and conductors of the existing 69kV power line along Camino Del Sur are partially visible against the distant mountains.

Figure 3.1-2e (VP 9) is a view from the Maranatha School campus entrance along Maranatha Drive, approximately 600 feet northwest of the substation. Multiple utility structures and conductors, including a wood H-frame structure and several wood poles, dominate the skyline above the Camino Del Sur intersection. Landscaping along Camino Del Sur seen in the foreground partially obstructs views of the substation, which is partially visible on the left.

Reconductoring Alignment

The existing 69kV power line that would be reconducted under the Proposed Project extends approximately 2.2 miles between Artesian and Bernardo Substations. The area in the vicinity of the alignment is characterized by a mix of land uses that includes areas of open space, as well as single and multi-unit residential, office, and commercial development. Initially following Camino Del Sur eastward from near Maranatha Drive for approximately 0.5 mile, the line subsequently diverges from the roadway and crosses Rancho Bernardo Road near the Camino Del Sur/Camino Del Norte intersection. The line then follows a riparian open space for approximately 1.25 miles, roughly paralleling Camino Del Norte eastward for approximately 0.5 mile, before veering in a northeasterly direction where it rejoins Rancho Bernardo Road and connects to Bernardo Substation.

Figure 3.1-2b (VP-3), from the Camino Del Sur/Maranatha Drive intersection looking northeast, shows the existing view toward the 69kV power line north of the substation, seen by eastbound motorists near where the line crosses the roadway and connects to the substation. The view includes wood utility poles, along with overhead conductors of the existing 69kV power line and distribution underbuild. An adjacent 69kV power line circuit (TL616), not currently connected to the substation, merges with the one connected to the substation. The poles are partially screened by landscaping along the roadway median and along the north side of the road. Figure 3.1-2b (VP 4) is a view along Camino Del Sur looking northwest, showing wood poles and conductors of the existing 69kV power line, as seen by westbound motorists approaching the Babcock Street intersection. Foreground elements include a light standard and traffic signal and, a steep sided berm supported by a concrete-block retaining wall, partially covered in native chaparral vegetation.

Figure 3.1-2c (VP 5) illustrates a view toward the existing 69kV power line from within a gated subdivision northeast of the substation. A portion of a concrete perimeter wall and vegetation planted outside the wall screens the lower portion of a wood pole supporting the power line. Overhead conductors and the uppermost portion of a second wood utility pole situated are visible against the skyline.

Figure 3.1-2d (VP 7) is a view looking north along the ravine to the west of Artesian Substation from Paseo Del Sur. Steel lattice towers and wood H-frame structures supporting a 230kV transmission line TL 23051 and a 138kV power line (TL 13825) extend north and south of the substation can be seen lining the ravine in the foreground and continuing beyond Camino Del Sur to a ridgetop approximately 1.25 miles away. Although a part of the substation perimeter wall, along with transformer banks within the facility can be seen from this elevated view, vegetation lining the ravine in the foreground largely constrains views toward the substation. Figure 3.1-2d (VP 8) depicts a view looking east toward the utility corridor seen in VP 7, from the terminus of Via Montenero. A concrete block perimeter wall and semi-mature trees partially obstruct views beyond a residential subdivision. The tops of a wood H-frame structure and several wood poles, including the cable pole connecting Artesian Substation with the 69kV line, along with overhead conductors, constitute noticeable elements against the backdrop.

Figure 3.1-2e (VP 10) is a view from Four Gee Road looking west from near Camino Del Sur, showing the existing 69kV power line alongside a gravel path. This image shows several wood poles and conductor, dominating the skyline. **Figure 3.1-2f** (VP 11) shows the 69kV line passing along the periphery of a residential development and adjacent to a portion of the Santa Fe Valley Open Space Preserve that extends north and west of this location. An informal recreational trail is visible on the left behind an equestrian crossing sign. While open views across the landscape are partially available to the north, views to the south and east are largely constrained by structures that include wood poles and conductors of the existing power line and closely spaced multi-story residential buildings. Figure 3.1-2f (VP 12) is a view looking north along Rancho Bernardo Road that shows tops of multi-armed wood poles and overhead conductors (including 69kV power lines and distribution underbuild) as prominent elements against the skyline.

In a view from Rancho Bernardo Road looking southwest (**Figure 3.1-2g** (VP 13), intervening landscaping somewhat constrains views toward the 69kV power line and distribution underbuild. In a view looking west from 4S Ranch Parkway, **Figure 3.1-2g** (VP 14) shows the power line near the residences bordering the vegetated ravine.

Figure 3.1-2h (VP 15) illustrates the view from Dove Canyon Road, a multi-lane thoroughfare near the north entrance to a commercial center. Vegetation lining the ravine is visible on the left, along with roadway landscaping, which partially screens views of commercial and residential buildings and the relatively barren hills in the distance. Prominent built elements in the foreground include a wood utility pole and multiple overhead conductors of the 69kV power line, several light standards, traffic signals, and roadside and building signage. The view shown in **Figure 3.1-2h** (VP 6) includes two wood poles of the existing line, overhead conductors, and industrial/commercial buildings beyond the ravine.

Figure 3.1-2i (VP 17) looks northeast along Rancho Bernardo Road towards the Bernardo Substation and shows overhead conductors emerging from a stand of tall trees lining the roadway and connecting with wood utility poles on the opposite side. Overhead conductors re-cross the road opposite the facility in the distance. **Figure 3.1-2i** (VP 18) is a view of the power line looking southwest along Rancho Bernardo Road near where it crosses the roadway to connect to the Bernardo Substation. Prominently visible in the foreground are two corner poles with multiple guy wires that re-orient the alignment as it crosses the roadway adjacent to the substation. Also visible is a wood pole and overhead conductors of an adjacent power line that connects to the substation.

Bernardo Substation

Bernardo Substation is located on an approximately two acre site, on Rancho Bernardo Road in the City of San Diego. Land to the north is generally open space with some residential development, while industrial uses are located to the east, south, and west. **Figure 3.1-2j** (VP 19) is an elevated view toward the substation, partially obscured by surrounding vegetation, taken from Via Del Campo with views toward Black Mountain, visible beyond the substation in the distance. **Figure 3.1-2j** (VP 20) looks southwest along Rancho Bernardo Road and shows several converging power lines crossing the roadway and entering the substation. Included in this view are overhead conductors and two adjacent terminal cable poles of the existing 69kV power line.

Rancho Carmel Substation

The Proposed Project includes minor modifications to the Rancho Carmel Substation, which is located in the City of San Diego on an approximately one acre site. Surrounding land uses include industrial to the south and west and residential to the north and east. **Figure 3.1-2k** (VP 21), taken near the substation entrance along Innovation Drive, shows the top of a pole above the substation perimeter fencing against the sky. VP 22 shows overhead conductors connected to the pole seen in VP 21, which is mostly obscured by perimeter landscaping along the embankment separating the substation from the roadway below.

Viewer Types and Exposures

Viewer exposure conditions were determined and a site visit conducted by ESA in November 2016. Variables considered include the viewing distance, angle of view, the extent to which views are screened or open, and duration of view. Viewing angle and extent of visibility considers the relative location of the Project component to the viewer and whether visibility conditions are enclosed or panoramic, or limited by intervening vegetation, structures, or terrain. Duration of view pertains to the amount of time the Project facilities would typically be seen from a sensitive viewpoint. In general, duration of view would be less in instances where Project components would be seen for short or intermittent periods (such as from major travel routes and recreation destination roads) and greater in instances where Project components would be seen regularly and repeatedly (such as from public use areas). The potentially affected viewer groups within the study area primarily include motorists and recreational users.

Motorists, the largest viewer group, comprise drivers traveling on public roadways, including Camino Del Sur and Rancho Bernardo Road. Motorists include both local travelers who may be familiar with the visual setting, and regional travelers who use routes on a less regular basis. Existing views are typically brief in duration due to travel speed and generally last less than one minute. During commute periods motorist views may be longer, depending on traffic conditions.

The other primary viewer group includes recreational users of the parks and open space facilities that are located along the proposed reconductoring alignment or in the vicinity of the Artesian, Bernardo, or Rancho Carmel substations. Facilities directly adjacent to the Proposed Project would generally have the most affected viewers and include the Santa Fe Valley Open Space Preserve directly north of the Artesian Substation and the Artesian Creek riparian area south of Rancho Bernardo Road.

3.1.2 Regulatory Setting

Federal

No federal regulations are applicable to the Proposed Project regarding visual resources.

State

California Department of Transportation Scenic Highway Program

In 1963, the California legislature created the Scenic Highway Program to protect scenic highway corridors from changes that would diminish the aesthetic value of lands adjacent to the highways. The state regulations and guidelines governing the Scenic Highway Program are found in the Streets and Highways Code, Section 260 et seq. A highway may be designated as “scenic” depending on how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the travelers’ enjoyment of the view. The Scenic Highway System includes highways that are either eligible for designation or have been designated as such. The nearest Eligible State Scenic Highway is I-5, approximately seven miles west of the Proposed Project site (Caltrans, 2017).

Local

The CPUC has exclusive jurisdiction over the siting, design, and construction of the Project, therefore the Project is not subject to local discretionary regulations. Details below that relate to local regulations are provided for informational purposes.

County of San Diego

San Diego County General Plan

The following goals and policies from the Conservation and Open Space Element of the San Diego General Plan pertain to visual resources (County of San Diego, 2011):

Goal COS-11: Preservation of Scenic Resources. Preservation of scenic resources, including vistas of important natural and unique features, where visual impacts of development are minimized.

Policy COS-11.1: Protection of Scenic Resources. Require the protection of scenic highways, corridors, regionally significant scenic vistas, and natural features, including prominent ridgelines, dominant landforms, reservoirs, and scenic landscapes.

Goal COS-12: Preservation of Ridgelines and Hillsides. Ridgelines and steep hillsides that are preserved for their character and scenic value.

San Dieguito Community Plan

The proposed reconductoring of TL6939 and TL6974 from Rancho Bernardo Road near Camino Del Norte to the San Diego city limits at the Rancho Bernardo Substation is within the San Dieguito Community Plan area. The plan includes the goal to: “Create a network of scenic corridors within which scenic, historical, and recreational resources are protected and enhanced.” The plan designates Camino Del Norte, Rancho Bernardo Road, and Camino San Bernardo as Scenic Highway Corridors (County of San Diego, 2014a).

4S Ranch Specific Plan

The proposed 69kV reconductoring from Rancho Bernardo near Camino Del Norte to the San Diego city limits at the Rancho Bernardo Substation is within the 4S Ranch Specific Plan area. The plan contains, and restates goals of the San Dieguito Community Plan regarding scenic highways (County of San Diego, 1998).

City of San Diego

San Diego General Plan

The purpose stated in the Urban Design Element of the City of San Diego’s General Plan is: “to guide physical development toward a desired scale and character that is consistent with the social, economic, and aesthetic values of the City” (City of San Diego, 2008).

Black Mountain Ranch Subarea Plan

The Artesian Substation site and part of the proposed 69kV reconductoring alignment along the western portion of Camino Del Sur are located within the Black Mountain Ranch Subarea Plan.

The plan includes design elements for built features such as fencing and lighting, e.g., lighting should be directed downward and the light source should be shielded (City of San Diego, 2009).

3.1.3 Applicant Proposed Measures

No Applicant Proposed Measures (APMs) have been identified by SDG&E to reduce impacts to aesthetics.

3.1.4 Environmental Impacts

Visual Impact Assessment Methodology

The visual analysis is based on review of information provided by SDG&E, including project maps, drawings, aerial and ground level photography of the study area, local planning documents, and computer-generated visual simulations. Field observations were conducted in November 2016 to document existing visual conditions and to document potentially affected sensitive viewing locations. The methodology utilized in this analysis is adapted from an approach to visual impact assessment developed by the U.S. Department of Transportation/ Federal Highway Administration (DOT, 2015).

An adverse visual impact may occur when: (1) an action perceptibly changes the existing physical features of the landscape that are characteristic of the region or locale; (2) an action introduces new features to the physical landscape that are perceptibly uncharacteristic of the region or locale, or become visually dominant in the viewshed; or (3) an action blocks or totally obscures aesthetic features of the landscape. The degree of visual impact depends on the noticeability of the adverse change. The noticeability of a visual impact is a function of a project's features, context, and viewing conditions (angle of view, distance, and primary viewing directions). The key factors in determining the degree of visual change are visual contrast, project dominance, and visual screening. The interaction of visual change with the components of visual sensitivity (visual quality, viewer types and volumes, and viewer exposure; see Section 3.1.1, *Environmental Setting*) is discussed below under "Overall Adverse Visual Impact."

Visual Contrast

Visual contrast is a measure of the degree of change in line, form, color, and texture that a project would create, when compared to the existing landscape. Visual contrast ranges from none to strong, and may be characterized as:

- **None** –The element contrast is not visible or perceived;
- **Weak** –The element contrast can be seen but does not attract attention;
- **Moderate** –The element contrast begins to attract attention and begins to dominate the characteristic landscape; and
- **Strong** – The element contrast demands the viewer's attention and cannot be overlooked.

Project Visual Dominance

Project visual dominance is a measure of the apparent size of a project component relative to other visible landscape features in the viewshed, or seen area. The visual dominance of a component is affected by its relative location in the viewshed and the distance between the viewer and the project component.

Visual Screening

View blockage or impairment is a measure of the degree to which a project would obstruct or block views to aesthetic features due to its position and/or scale. Blockage of aesthetic landscape features or views can cause adverse visual impacts, particularly in instances where scenic or view orientations are important to the use, value, or function of the land use.

Overall Adverse Visual Impact

Overall adverse visual impact reflects the composite visual changes to both the directly affected landscape and from sensitive viewing locations. The visual impact levels referenced in this analysis indicate the relative degree of overall change to the visual environment that the Proposed Project would create, considering visual sensitivity, visual contrast, view blockage, and project visual dominance.

In general, the determination of impact significance is based on combined factors of Visual Sensitivity and the degree of Visual Change that the Project would cause. **Table 3.1-2, *Guidelines for Determining Adverse Visual Impact Significance***, shows how the inter-relationship of these two overall factors determines whether adverse visual impacts are significant, and following the table are descriptions of the various impact classifications for aesthetics.

**TABLE 3.1-2
GUIDELINES FOR DETERMINING ADVERSE VISUAL IMPACT SIGNIFICANCE**

Overall Visual Sensitivity	Overall Visual Change				
	Low	Low to Moderate	Moderate	Moderate to High	High
Low	No Impact	No Impact	Less than Significant	Less than Significant	Less than Significant
Low to Moderate	No Impact	Less than Significant	Less than Significant	Less than Significant	Less than Significant
Moderate	Less than Significant	Less than Significant	Less than Significant	Potentially Significant	Potentially Significant
Moderate to High	Less than Significant	Less than Significant	Potentially Significant	Potentially Significant	Significant
High	Less than Significant	Potentially Significant	Potentially Significant	Significant	Significant

DEFINITIONS

- **No Impact.** Effects may or may not be perceptible but are considered minor in the context of existing landscape characteristics and view opportunity.
- **Less than Significant.** Impacts are perceived as negative but do not exceed environmental thresholds.
- **Potentially Significant.** Impacts are perceived as negative and may exceed environmental thresholds depending on project- and site-specific circumstances.
- **Significant Impacts.** Impacts with feasible mitigation may be reduced to less-than-significant levels or avoided altogether. Without mitigation or avoidance measures, significant impacts would exceed environmental thresholds.

SOURCE: ESA, modified from U.S. Department of Transportation/ Federal Highway Administration (DOT, 2015).

Visual Simulations

The impact analysis describes change to existing visual resources and assesses viewer response to that change. Central to this assessment is an evaluation of representative views from which the Proposed Project would be visible to the public. To document the visual change that would occur, visual simulations presented before and after images showing the Project from key observation points (KOPs). The simulated images portray the location, scale, and appearance of the Project as it would be seen from publicly accessible KOPs within the study area. The KOP locations were selected to represent views seen by the largest number of viewers, primarily within residential or public recreation areas and along public roadways.

The visual impact assessment is based on evaluation of the changes to the existing visual resources that would result from construction and operation of the Project. These changes were assessed, in part, by evaluating the visual simulations and comparing them to the existing visual environment. As shown in **Figures 3.1-3** through **3.1-9**, the visual simulations are illustrated as an existing view with a simulation below that portrays the Project from the corresponding KOP. The set of illustrations are representative of the visual change that would be associated with the Project.

**a) Whether the Project would have a substantial adverse effect on a scenic vista:
*LESS THAN SIGNIFICANT IMPACT.***

There are no officially designated scenic vistas in the study area. There are scenic views from informal recreational trails in the Santa Fe Valley Open Space Preserve, located north of the Artesian Substation site. **Figure 3.1-2d** (VP 7) is a view looking north along the ravine to the west of Artesian Substation from Paseo Del Sur. Some of the informal trails in the open space preserve are shown on the hillsides in the distance. As shown in the photo, electrical infrastructure is part of the current viewshed from these hillside trails, including steel lattice towers and steel poles supporting a 230kV transmission line (TL 23051) and a 138kV power line (TL 13825). With the exception of the conductors connecting TL 23051 to the Artesian Substation, as detailed in Project Description Section 2.4, this existing infrastructure would not be altered by the Proposed Project and would therefore remain part of the view following construction of the Project.

Figures 3.1-5 and **3.1-6** provide visual simulations of how the Proposed Project would affect views from hillside trails in the open space preserve. These two figures show the segment along Camino Del Sur where the existing overhead 69kV line and distribution underbuild would be removed and placed underground. These two figures show the removal of six wood poles and installation of three new steel cable poles. Although the new steel poles are taller and larger in diameter than the wood poles that have been removed, a comparison of the existing view and simulation demonstrates that the elimination of existing poles, power line conductors, and distribution underbuild would have a beneficial effect on scenic views from hillside trails in the Santa Fe Valley Open Space Preserve. Given the presence and similarity of existing electrical infrastructure and the distance between viewers and the new poles, the new infrastructure contrast would be weak; it would be visible but would not demand attention or dominate the characteristic landscape. Therefore, the Proposed Project would result in an incremental visual change within the viewshed and would not substantially alter the intrinsic character or composition of the existing view. Overall visual change would be low-moderate and the impact would be less than significant.



Existing view from Camino del Sur at Maranatha Drive looking southeast (VP 1)



Visual simulation of proposed project



Existing view from Camino del Sur at Babcock Street looking southwest (VP 2)



Visual simulation of proposed project



Existing view from Camino del Sur at Maranatha Drive looking northeast (VP 3)



Visual simulation of proposed project



Existing view from Camino del Sur near Babcock Street looking northwest (VP 4)



Visual simulation of proposed project



Existing view from White Alder Court looking south (VP 5)



Visual simulation of proposed project



Existing view from Rancho Bernardo Road at Camino del Norte looking north (VP 12)



Visual simulation of proposed project



Existing view from Rancho Bernardo Road near Camino San Bernardo looking northeast (VP 17)



Visual simulation of proposed project

b) Whether the Project would substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway: *NO IMPACT.*

The Proposed Project would not be visible from any State Designated or Eligible Scenic Highway. The nearest Eligible State Scenic Highway is I-5, approximately seven miles west of the Proposed Project site. Part of the reconductoring alignment (TL6974 and TL6939) would cross Rancho Bernardo Road in two locations and Camino San Bernardo in one location, both of which are San Diego County-designated Scenic Highway Corridors. In addition, temporary staging areas would be located adjacent to Rancho Bernardo Road in the vicinity of the power line crossings. However, there are no rock outcroppings or historic buildings located within the reconductoring alignment at these crossings and these staging areas would be restored to pre-Project conditions following the completion of construction. Rock outcroppings are present on the Ralph's Ranch agricultural open space area near the Bernardo Substation. A temporary staging area for reconductoring materials along Rancho Bernardo Road would be utilized at this location, but would be similarly restored following the completion of construction. Minor vegetation clearing could be required for some of the stringing sites (reconductoring) but would not include removal of any mature trees that currently contribute to scenic resources. Stringing sites would be located within existing SDG&E maintenance rights-of-way and/or along existing City/County franchise positions (within existing roads). Vegetation clearing is a regular activity associated with maintenance of transmission corridors, so any impacts would be negligible, falling within the expected range of normal for these sites. The Proposed Project would not substantially damage scenic resources within a state scenic highway and no impact would occur.

c) Whether the Project would substantially degrade the existing visual character or quality of the site and its surroundings: *LESS THAN SIGNIFICANT IMPACT.*

Construction and Maintenance

Construction-related visual impacts would result from the temporary presence of equipment, materials, and work crews at the Artesian, Bernardo and Rancho Carmel substations, along the reconductoring alignment, along access roads, and at staging yards and temporary staging areas. Construction impacts to visual quality would be limited to the 30 month construction period. Impacts along the reconductoring alignment would be limited as construction work would be conducted in a sequential fashion with only one (typically 300-400 feet long) section being worked on at any one time. Although staging areas may also be temporarily visually impacted by the presence of large equipment and materials, all staging areas and other work sites would be restored to their pre-project condition following construction with the implementation of *Subregional Natural Community Conservation Plan* (NCCP) Operational Protocols and best management practices as stated in Chapter 2.6 of the Project Description and outlined further in Section 3.9 *Hydrology*. Construction of the Proposed Project would not substantially degrade the existing visual industrial character of the three substation sites or reconductoring alignment and the impact would be less than significant.

Maintenance of the Proposed Project would occur as needed, would be limited in duration, and would include activities such as repairing conductors, washing or replacing insulators, repairing

or replacing other hardware components, replacing poles, tree trimming, brush and weed control, and access road maintenance. Regular operation and maintenance activities of the overhead facilities would be performed from existing access roads, within SDG&E right-of-way (ROW), or within the existing footprint of the substations. Maintenance would be similar to SDG&E activities that currently occur along the existing reconductoring alignment between Artesian and Bernardo Substations. As maintenance would be limited in duration and similar to existing maintenance work, there would not be any degradation to the visual character of the study area and the impact would be less than significant.

Operation

Artesian Substation 230kV Expansion

The existing approximately 2-acre Artesian Substation site would be expanded to encompass an additional 2.65 acres immediately east of the present location, and the substation would be rebuilt into a combined 230/69/12 kV facility. Along with installation of upgraded transformer and circuit breaker structures, the expansion would extend the existing concrete perimeter security wall currently enclosing the site to encompass the enlarged facility, in addition to enlarging the existing storm water retention basin located outside the wall. New landscaping would be installed outside the new perimeter wall along the south side of Camino Del Sur (northern boundary of the substation) as well as along the western side of Babcock Street (eastern boundary of the substation). Proposed modifications in the immediate vicinity of the substation include removal of 11 existing wood utility poles, installation of two new tubular steel transmission structures, and installation of three new steel cable poles west and north of the facility. Construction of new underground getaways north and east of the facility would eliminate overhead conductors of 69kV power lines currently paralleling and crossing Camino Del Sur immediately north of the substation.

Figure 3.1-3, *Existing View and Visual Simulation from Camino Del Sur*, shows a representative view of the existing Artesian Substation site and a visual simulation of the proposed expansion. The simulation shows that, under the Project, two approximately 70-foot-tall 69kV wood poles would be removed and the conductors relocated to new underground getaways. New 130- and 135-foot-tall 230kV tubular steel poles (TSPs) would be installed to the west of the substation and one of these new poles is visible on the right in the foreground, and overhead conductor can be seen connecting to the new structures within the substation. New approximately 60-foot-tall 230kV substation components, including a 50 foot tall microwave tower, as described in Section 2.4.1.1 of the Project Description, can be seen above the perimeter wall in the center of the view; relocated 69kV components in the expanded substation are visible beyond the existing street trees in the distance.

The visual simulation in **Figure 3.1-4**, *Existing View and Visual Simulation from Camino Del Sur at Babcock Street*, shows a new approximately 35-foot-tall concrete perimeter wall and the upper portions of new substation elements visible against the sky. The height of the new wall is comparable to the height of existing temporary buildings currently situated at the site, seen in the existing view. New substation components, including 25- and 65-foot-tall structures, can be seen beyond the wall in the foreground. A new 230kV TSP, seen in the background on the right, is

partially screened by existing street trees. Mature trees in the roadway median, partly visible on the left and right side of the simulation, block much of new substation structures when viewed from locations east of the intersection. New landscaping planted outside the new perimeter wall along both Camino Del Sur and Babcock Street partially screens the substation site. While the new structures are taller than the structures being removed, the new poles and substation components are similar in both form and color to the existing substation structures. Existing street trees and new landscaping would provide additional screening when these plantings mature.

Given the location and industrial use and zoning, the overall visual sensitivity of the expanded Artesian Substation site is considered low to moderate, and the level of proposed visual change would be moderate. As per Table 3.1-2, *Guidelines for Determining Adverse Visual Impact Significance*, no substantial use change is proposed as part of the project that would degrade the existing visual character or quality of the site; therefore, impacts would be less than significant.

Reconductoring Alignment

The proposed reconductoring includes the removal of 14 wood poles and replacement with steel poles of comparable heights, removal of nine existing wood poles, and continued use of 22 existing wood poles. Proposed modifications to the alignment would include installation of two new steel cable poles adjacent to the Bernardo Substation, where similar to the Artesian Substation, underground getaways would replace overhead 69kV conductors currently connected to the substation. The majority of the new poles (10 out of 14) would be similar in height, form, and color to the existing poles. Self-weathering TSPs would have a matte brown finish, similar to the color of existing wood poles, while the steel cable poles would be gray with a dulled, galvanized finish. All of the new 69kV TSPs would have three conductors per circuit and would be spaced approximately six feet apart (horizontally and vertically).

Figure 3.1-5, *Existing View and Visual Simulation from Camino Del Sur at Marantha Drive*, shows the removal of six wood poles ranging in height from approximately 58 to 70 feet tall along with overhead 69kV conductors and distribution underbuild located along Camino Del Sur across from the substation. A new 77-foot-tall steel cable pole (P03) can be seen in the immediate foreground. The new cable pole is in approximately the same location of one of the wood poles seen in the existing view. Two new 79-foot-tall steel cable poles (P04 and P05) are also visible in the distance, partially obscured by roadway landscaping. Most of the overhead conductors seen in the existing view would be relocated underground as part of the Project.

A comparison of the existing view and simulation demonstrates that the elimination of existing poles, power line conductors, and distribution underbuild would result in fewer visible utility structures seen by motorists along the stretch of roadway east of Marantha Drive. The new steel cable poles, while similar in form, are somewhat taller and larger in diameter than the wood poles that have been removed. However, the dull, non-reflective finish of the new structures would lessen their visibility when seen against the sky under typical viewing conditions, compared with the darker appearance of the existing wood poles that would be removed. Although some impacts may be perceived as beneficial due to the undergrounding of some existing overhead structures, the new slightly-larger steel poles that will be placed as part of the reconductoring, overall

impacts to visual character would be less than significant per Table 3.1-2, *Guidelines for Determining Adverse Visual Impact Significance*.

Figure 3.1-6, Existing View and Visual Simulation from Camino Del Sur near Babcock Street, shows two of the new 77-foot-tall steel cable poles (P04 and P05) depicted in Figure 3.1-5 in the foreground, east of the intersection. The new structures are approximately 100 feet apart. Intervening landscaping partially obscures a third new cable pole (P03) which is approximately 950 feet to the west (seen in the foreground of the Figure 3.1-5 simulation). The visual simulation also shows removal of four wood poles ranging in height from approximately 58 to 70 feet tall and overhead conductors that are currently seen along the right side of Camino Del Sur.

The resulting visual contrast at these locations on Camino Del Sur would be low to moderate since the new steel poles would be taller than the existing wood poles, and would be noticeable against the sky. Motorists are typically focused on the road so the new poles would be seen only briefly; viewing duration would be longer for motorists stopped at the two intersections. While the new poles are taller than the existing wood poles, their non-reflective gray finish lessens the potential visual contrast of the poles against the sky backdrop at this location. Additionally, given the presence of numerous existing utility structures immediately north and south of the Camino Del Sur and Marantha Drive intersection, including steel lattice towers that are similar in height and color to the new cable poles, the visual change would be minor. The Proposed Project also would reduce the number of visible poles and conductor along this stretch of Camino Del Sur adjacent to the Artesian Substation site. With a moderate visual sensitivity level along this segment of Camino Del Sur, and a low to moderate level of visual change associated with this portion of the Project, impacts to the visual character of the area would be less than significant per Table 3.1-2, *Guidelines for Determining Adverse Visual Impact Significance*.

Figure 3.1-7, Existing View and Visual Simulation from White Alder Court, shows the removal of two approximately 60- to 70-foot-tall wood poles and the installation of two new 79-foot-tall cable poles (P04 and P05) and overhead conductors. The visual contrast at this residential street would be moderate since the new steel poles would be substantially taller than the existing wood poles, and would be noticeable against the sky as being in different locations as the wood poles. Viewing duration would be longer for motorists as this street is a cul-de-sac, which would reduce driving speed. While the new poles are taller than the existing wood poles, their non-reflective gray finish somewhat lessens the potential visual contrast of the poles against the sky. As the visual sensitivity in this residential area would be moderate, and the level of visual change would be moderate, impacts to the visual character of the area would be less than significant per Table 3.1-2.

Figure 3.1-8, Existing View and Visual Simulation from Rancho Bernardo Road at Camino Del Norte, shows the replacement of three wood poles ranging in height from 67 to 73 feet tall with three 66- to 75-foot tall TSPs (P07, P08, and P09). Two guy poles (25 and 43 feet tall) also would be removed, as well as the distribution underbuild on the three wood poles. The closest pole on the right is approximately two feet taller than the existing pole being replaced. However, because the replacement pole will be set back from the street an additional 30 feet compared to the existing pole, and due to its simpler form, the visual change would be only slightly noticeable to

roadway travelers. The design of the new poles eliminates the need for stub guy structures and distribution underbuild seen in the existing view, resulting in an incremental improvement to the overall visual quality of the site. The resulting visual contrast on Rancho Bernardo Road would be low considering that the new TSPs would be only slightly taller than the existing wood poles. Viewing duration by motorists would generally be short due to traveling speed; this would be somewhat longer at the intersection with Camino Del Norte where motorists reduce speed and stop. With a moderate visual sensitivity level along this segment of Rancho Bernardo Road, and a low level of visual change associated with this portion of the Project, impacts to the visual character of the area would be less than significant.

Figure 3.1-9, *Existing View and Visual Simulation from Rancho Bernardo Road*, shows the replacement of two wood poles (55 and 64 feet tall) where the alignment crosses Rancho Bernardo Road with two 60- to 75-foot-tall TSPs (P18 and P19). Two 79-foot-tall steel cable poles (P20 and P21) also would be installed on the north side of Rancho Bernardo Road. Connecting to the Bernardo Substation via underground getaways, the cable poles would replace three additional wood poles, ranging in height from 65 to 74 feet tall, and overhead conductors, at the far end of the alignment near the substation. The resulting visual change at this location on Rancho Bernardo Road would be moderate. The new TSPs are noticeably taller than the existing poles being replaced, although similar in form and color. The two new steel cable poles are also taller than the three wood poles they would replace, and would be noticeable against the sky. The overall visibility of the modified power line would be somewhat reduced at this location due to the elimination of overhead conductors along approximately 425 feet of roadway, as well as the elimination of the overhead crossing of Rancho Bernardo Road where the existing conductor enters the Bernardo Substation. With a moderate visual sensitivity and a moderate level of visual change associated with this portion of the Project, impacts to the visual character of the area would be less than significant per Table 3.1-2.

Bernardo Substation

The Proposed Project would also include modifications involving rearrangement of some facilities and trenching activities at the Bernardo Substation, but would not require grading or other site development activities. Two wood poles (R23 and R24) would be removed from service at Bernardo Substation, but other existing structures would remain unchanged. The impact to visual character would be less than significant.

Rancho Carmel Substation

Upgrades proposed at the Rancho Carmel Substation include rearrangements inside and outside the substation boundary. An approximately 600-foot-long segment of an existing underground 69kV power line getaway would be upgraded as part of the Proposed Project. This power line is located immediately south of the substation and runs along an existing SDG&E access road. Existing 69kV power line TL648 currently connects from the substation to structure E24 in an underground position. This segment of 69kV power line would be upgraded with new cable installed between pole structure E24 and the existing bay position within the substation. A temporary shoo-fly structure would be utilized within the existing fence line during underground line replacement which could present some temporary visual impacts, however this structure would be removed following line replacement so these impacts would not be substantial or

permanent. The Proposed Project work would not require additional grading or site development and no impact to visual character at the Rancho Carmel Substation would occur.

d) Whether the Project would create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area: *LESS THAN SIGNIFICANT IMPACT.*

Nighttime construction may be required as a result of a condition of an agency permit (e.g., Caltrans Permit) or local traffic control direction from the City of San Diego. Should this be required, some construction lighting may be required that could adversely impact nighttime views in the vicinity of the construction sites. Additionally, some nighttime lighting may be required to be used during emergency situations that could occur on site. However, visual impacts associated with light and glare would only occur on a temporary basis through the phased sequence of the construction schedule and would not be significant.

Temporary security lighting may be installed at temporary construction staging and storage yards. This lighting would be directed on-site and away from any off-site locations and would be removed once construction was completed.

The Proposed Project would include new permanent nighttime safety lighting at the expanded Artesian Substation. Safety lighting would be provided for the purpose of safe nighttime access inside the substation. Lighting fixtures would comprise approximately 0.5 foot-lights in walkway areas, high pressure sodium lights for gate entry areas, and metal halide used for all other yard lights. Different light types would be used for the wall/control shelters and deadend structures, if necessary. One hundred-watt yellow outdoor floodlights, mounted inside the substation near the entry gates, would safely illuminate all substation yard light switches and would be left on during nighttime hours. Lights would be directed downward and shielded to minimize glare into surrounding properties.

Neither the existing, nor the proposed transmission and power line facilities require any permanent lighting. New structures would use dulled galvanized steel or weathering steel designed to minimize the potential for glare. Potential glare from overhead conductors would be minimized through the use of non-specular conductors, similar to what currently exists within the study area.

Therefore, impacts regarding new substantial sources of light or glare would be less than significant.

3.1.5 References

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3.2 Agriculture and Forestry Resources

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
2. AGRICULTURE AND FORESTRY RESOURCES				
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.				
Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined in Public Resources Code section 4526) or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.2.1 Environmental Setting

Regional Setting

The Proposed Project would be constructed, operated, and maintained primarily within existing SDG&E Rights of Way (ROW) (SDG&E, 2016). The current land uses within the Project site do not support agricultural use, and none of the land within the Project footprint is dedicated to the conservation or protection of private land for agricultural or open space uses. None of this land is zoned for timberland production and none of the land is used to grow trees for the commercial production of timber or other forest products.

Local Setting

A review of the most recent California Department of Conservation, Division of Land Resource Protection maps indicated that the Proposed Project would cross and/or run adjacent to land

designated as Farmland of Local Importance (DOC, 2014¹) (see **Figure 3.2-1, California Department of Conservation Important Farmland**). Details of this and other farmland designations are provided in Section 3.2.2.

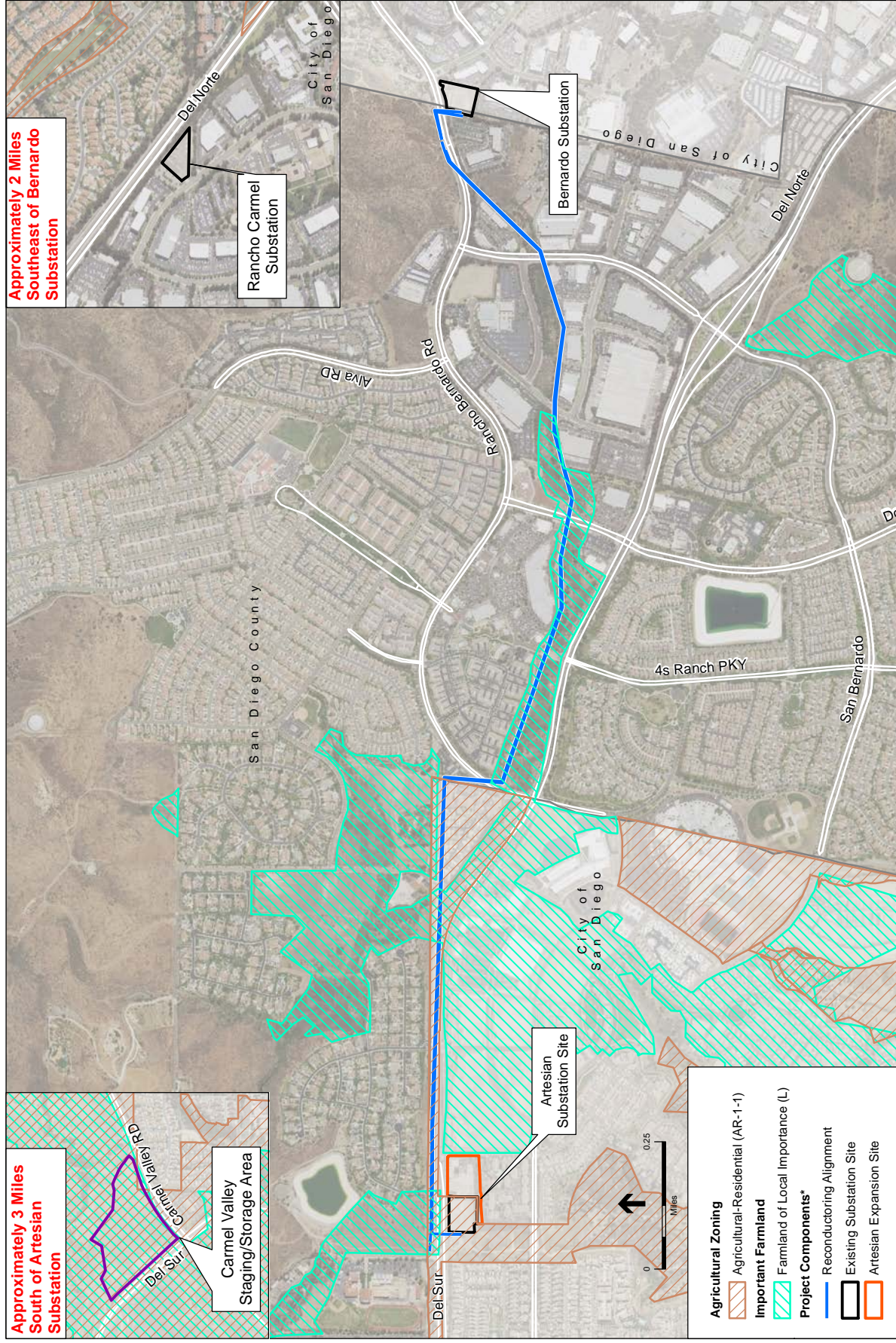
There are no areas that would be crossed by or adjacent to the Proposed Project that are designated as Prime Farmland. The nearest land with a designation of Prime Farmland is located approximately 3.6 miles to the northwest in unincorporated San Diego County (DOC, 2014). There are no areas that would be crossed by or adjacent to the Proposed Project designated as Farmland of Statewide Importance. The closest such area is located approximately one mile to the west of the Proposed Artesian Substation Expansion site (DOC, 2014). There are no areas that would be crossed by or adjacent to the Proposed Project designated as Unique Farmland. The closest area with this designation is a 21-acre site located approximately 0.5 mile to the north of the Project site; another 44-acre site is located approximately 0.75 mile to the northwest of the Artesian Substation (DOC, 2014).

The Proposed Project would cross land designated as Farmland of Local Importance² by the DOC. This includes the following areas as shown on the DOC's most recent Important Farmland Maps:

- The Carmel Valley Road Staging Yards (25 acres) which are located at the corner of Carmel Valley Road and Camino del Sur, approximately three miles southwest of the Artesian Substation Site. The remaining staging yards have the following Farmland Designations:
 - Kearny Mesa Staging Yard (18 acres): Urban and Built-up Land
 - Northeast Annex Staging Yard (3.8 acres): Urban and Built-up Land
- An area adjacent to the northern side of Camino Del Sur Road, overlain by the existing reconductoring alignment and associated proposed access roads, directly north of the existing Artesian Substation.
- A section along the southern side of Camino Del Sur stretching from the easternmost side of the Artesian Substation expansion site at Babcock Road to Proposed Project Pole 08 along the reconductoring alignment.
- Several areas crossed by the reconductoring alignment have a zoning designation associated with an agricultural use in the City of San Diego. As shown on Figure 3.2-1, this includes the entire area beginning from the westernmost point of the reconductoring alignment, including the Artesian Substation and Artesian Substation Expansion site, extending east to Saintsbury Glen within the City of San Diego. This area is zoned Agriculture- Residential (AR-1-1) (refer to Section 3.10, Land Use and Planning, for more detail). This area is part of Black Mountain Ranch planned development, and is currently under various stages of construction.

¹ California Department of Conservation (DOC), 2014. San Diego County Important Farmland Data. Available online at <http://www.conservation.ca.gov/dlrp/fmmp/Pages/SanDiego.aspx>. Accessed on February 6, 2017.

² *Farmland of Local Importance*: Land of importance to the local agricultural economy as determined by the county. This land is either currently producing crops or has the capability of production, but does not meet the criteria of the preceding categories.



* Not all project components shown on this map. See Figure 2-5 for full list of project components.

SOURCE: SanGIS, 2016; SDG&E; Semptra Energy Utility; FMMP, 2014

No areas found within any Specific Plan Area within unincorporated San Diego County, including that of Santa Fe Valley or 4S Ranch, are zoned for agriculture, forest, or timberland, as explained in more detail in *Section 3.11, Land Use and Planning*. There are no existing agricultural operations crossed by the Proposed Project. The Proposed Project does not cross any areas zoned or used for timberland production or forest use in the County of San Diego or the City of San Diego.

The Proposed Project is not within and would not cross any property currently subject to a Williamson Act contract³ (see Section 3.2.2 for details). The closest property under an active Williamson Act contract is the Duntley Agricultural Preserve Number 57 located 3.2 miles to the west of the existing Artesian Substation (SanGIS, 2017a).

3.2.2 Regulatory Setting

Federal

No federal plans or policies concerning agriculture and forestry resources apply to the Proposed Project.

State

California Farmland Mapping and Monitoring Program

The California Department of Conservation, Division of Land Resource Protection (CDC) maps important farmlands throughout California through the Farmland Mapping and Monitoring Program (FMMP). Farmland is classified as Prime Farmland, Farmland of Statewide Importance, Unique Farmland and Farmland of Local Importance based on soil conditions (i.e., their suitability for agriculture) and current land use.

California Land Conservation Act of 1965 (Williamson Act)

The California Land Conservation Act of 1965, also known as the Williamson Act, is the state's primary program aimed at conserving private land for agricultural and open space uses. The Williamson Act provides a mechanism through which private landowners can contract with counties and cities to voluntarily restrict their land to agricultural and compatible open-space uses. In return, Williamson Act contracts offer tax incentives by ensuring that land is assessed for its agricultural productivity rather than its highest and best (i.e., most remunerative) use.

³ Approximately from the turning point of the reconductoring alignment (see Figure 3.2-1) at Rancho Bernardo Road to slightly beyond Dove Canyon Road, 0.75 mile of the reconductoring alignment is located within land under an expired Williamson Act Contract. This 2,840-acre area was previously known as Ralph's Agricultural Preserve Number 60 (SanGIS, 2017a). SanGIS, 2017a. Agricultural Preserves, Shapefiles. Available online at <http://www.sangis.org/download/index.html>. Accessed on January 27, 2017. While the County of San Diego still includes this Williamson Act Contract in its GIS data, County Planning records indicate that the owner of the Preserve served a written notice of nonrenewal on September 29, 1981, which resulted in the termination of the contract as of January 1, 1991 (County of San Diego, 1981. County of San Diego, 1981. Ralph's Agricultural Preserve Number 60- Notice of Nonrenewal. Correspondence with San Diego County Planning & Development Services Staff. Email Conversation with Michael Johnson. January 2, 2017. The 4S Ranch housing development was later built on this parcel and currently surrounds the alignment.

Contracts typically restrict land use for a period of 10 years; however, some jurisdictions exercise the option to extend the term for up to 20 years. Contracts are automatically renewed unless the landowner or County serves notice of non-renewal (in which case the contract ends at the close of the current renewal period). Additionally, the landowner can petition for cancellation of a contract. The California Department of Conservation prepares countywide maps of lands enrolled in Williamson Act contracts (DOC, 2017b⁴).

California Public Resources Code

Section 12220(g) of the California Public Resources Code defines forest land as “land that can support 10 percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits.” Timberland is land (other than land owned by the federal government and land designated by the California Board of Forestry and Fire Protection as experimental forest land) that is available for and capable of growing trees of any commercial species used to produce lumber and other forest products.

California Government Code

Chapter 6.7 of the Government Code (§§51100-51155⁵) regulates timberlands within the state. “Timberland production zone” is defined in Section 51104(g) as an area that has been zoned pursuant to Government Code Section 51112 or 51113 and is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses. In this context, “compatible uses” include any use that “does not significantly detract from the use of the property for, or inhibit, growing and harvesting timber” (Government Code §51104(h)). Watershed management, grazing, and the erection, construction, alteration, or maintenance of electric transmission facilities are examples of compatible uses. The general plans of cities and counties may use the term “timberland preserve zone,” which Government Code Section 51104(g) defines as equivalent to “timberland production zone.” Chapter 7 of the Government Code (§51238 et seq.) defines compatible uses for Agricultural Preserves, or land under a Williamson Act contract.⁶

California Public Utilities Commission General Order No. 131-D

The CPUC has sole and exclusive jurisdiction over the siting and design of the Proposed Project because it authorizes the construction, operation, and maintenance of investor-owned public utility facilities. Although such projects are exempt from local land use and zoning regulations and discretionary permitting (i.e., they would not require discretionary approval from a local decision-making body such as a planning commission, county board of supervisors or city council), General

⁴ DOC, 2017b. California Land Conservation Act of 1965, Overview. Available online at <http://www.conservation.ca.gov/dlrp/lca>. Accessed on February 7, 2017.

⁵ State of California, 2017a. California Government Code §§51100-51155. Available online at http://leginfo.ca.gov/faces/codes_displaySection.xhtml?lawCode=GOV§ionNum=51113. Accessed on February 7, 2017.

⁶ State of California, 2017b. Provisions Relating to the California Land Conservation Act of 1965 (The Williamson Act). Chapter 7, Agricultural Land. Section 51238. Available online at <http://www.boe.ca.gov/lawguides/property/current/ptlg/gov/51238.html>. Accessed January 27, 2017.

Order No. 131-D, Section XIV.B requires that in locating a project “the public utility shall consult with local agencies regarding land use matters.” The public utility would be required to obtain any required non-discretionary local permit (California Public Utilities Commission, 1995).

Local

The CPUC has exclusive jurisdiction over the siting, design, and construction of the Project, therefore the Project is not subject to local discretionary regulations. Details below that relate to local regulations are provided for informational purposes.

County of San Diego

Within the area of the Project footprint within unincorporated San Diego County there are no areas designated as agricultural by the County or any areas designated as timberland or forest land (County of San Diego, 2016).⁷

City of San Diego

General Plan

The City of San Diego General Plan Conservation Element contains Section L, Agricultural Resources, identifying goals relevant to agriculture.

The following are relevant goals included in the Conservation Element (City of San Diego, 2008)⁸:

1. Retention of productive agricultural lands.
2. Greater use of sustainable agricultural practices.
3. Reduction in land use conflicts between agriculture and other land uses.
4. Retention of the rural agricultural character of river valleys.
5. Expansion of urban agricultural uses.

Several policies supporting these goals are included, but none of those policies are directly applicable to the Proposed Project.

Zoning

The County of San Diego Zoning Ordinance, referenced above, applies to all jurisdictions within the boundary of the County of San Diego. More specifically, the City of San Diego has an adopted zoning program for implementation of the development of land to ensure that land uses are properly located and that adequate development controls are provided for each development. Chapter 13: Zones, of the Municipal Code identifies two zones with an agricultural use. §131.0301 Purpose of

⁷ County of San Diego, 2016. County of San Diego, Planning & Development Services Zoning Ordinance Summary. Available online at <http://www.sandiegocounty.gov/pds/zoning/formfields/PDS-444.pdf>. Accessed January 26, 2017.

⁸ City of San Diego, 2008. City of San Diego General Plan, Conservation Element, Section L, Agricultural Resources. Available online at <https://www.sandiego.gov/sites/default/files/legacy/planning/genplan/pdf/2012/ce120100.pdf>. Accessed January 26, 2017.

Agricultural Zones states that the purpose of the agricultural zones is to provide for areas that are rural in character or areas where agricultural uses are currently desirable. The agricultural zones are intended to accommodate a wide range of agriculture and agriculture-related uses as well as single dwelling units (City of San Diego, 2016).⁹ The two zones with an agricultural use include AG (Agricultural-General) and AR (Agricultural-Residential).

The existing Artesian Substation and a portion of the reconductoring alignment are located within areas zoned as Agricultural-Residential (AR-1-1) (see Figure 3.2-1). The purpose of the AR zones is to accommodate a wide range of agricultural uses while also permitting the development of single dwelling unit homes at a very low density. Zoning maps for the City of San Diego indicate there are areas designated as AR-1-1 zones overlain by and within close proximity to the Proposed Project, as well as on the proposed Carmel Valley Road staging yard. The first area lies directly west of the Artesian Substation and extends south into Black Mountain Ranch. Another area extends along the northern border of Camino Del Sur from the Artesian Substation to Lone Quail Road (approximately 0.6 mile) and has an area of approximately 22.5 acres.

The Rancho Carmel Substation has three AR-1-1 areas within its vicinity; however, none of these support agricultural uses. See Section 3.10, Land Use and Planning, for more information about the AR-1-1 Zoning Designation.

3.2.3 Applicant Proposed Measures

No Applicant Proposed Measures (APMs) have been identified to address potential impacts to agriculture or forestry resources.

3.2.4 Environmental Impacts and Mitigation Measures

According to Appendix G of the CEQA Guidelines, a project would result in significant effects on the environment related to agriculture and forestry resources if it would:

- a) **Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use: *NO IMPACT.***

None of the Proposed Project components would be located on protected Farmland, i.e., Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Figure 3.2-1). Furthermore, construction work areas or activities, including stringing or laydown activities, would not be located on any of these categories of lands. Therefore, no protected Farmland would be affected by the Project and no impacts would occur.

⁹ City of San Diego, 2016a. San Diego Municipal Code, Article 1, Division 3: Agricultural Base Zones. Available online at <http://docs.sandiego.gov/municode/MuniCodeChapter13/Ch13Art01Division03.pdf>. Accessed on January 26, 2017.

**b) Conflict with existing zoning for agricultural use, or a Williamson Act contract:
NO IMPACT.**

With the exception of the Artesian Substation and reconductoring alignment, all of the Proposed Project components would be located within areas with General Plan land use designations of C34 (General Commercial-Residential), C35 (General Commercial-Limited Residential), M54 (General Impact Residential), S80 (Open Space), and S88 (Specific Plan) and IL (Industrial-Light) (San Diego Geographic Information System Source (SanGIS), 2017)¹⁰. See *Section 3.10, Land Use and Planning*, for further discussion on existing zoning and land use designations in the study area.

On the western side of the Proposed Project site, within the City of San Diego, the Artesian Substation Expansion site and a portion of the reconductoring alignment are located within land zoned as Agricultural Residential (AR-1-1). As noted under Section 3.2.1, several Project components would also be located within/near land designated as Farmland of Local Importance. The Proposed Project, however, would not conflict with existing zoning for agricultural uses as the Project would be constructed upon land within this designation that is already developed and does not have an existing agricultural use.

Therefore, the Proposed Project would not conflict with existing zoning for agricultural use, and would not remove any land from Williamson Act contracts. No impacts would occur.

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined in Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g): NO IMPACT.

There are no timberland or forest land designations found within the study area (County of San Diego, 2016). Therefore, the Project could not conflict with existing zoning for or cause rezoning of forest land or timberland. No impact would occur.

**d) Result in the loss of forestland or conversion of forestland to non-forest use:
NO IMPACT.**

As described in the Environmental Setting above, none of the Proposed Project components would be located in an areas used for or zoned as forest land. There would be no impact under this criterion.

e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use: NO IMPACT.

The Proposed Project would be located in a primarily residential, developed area. Expansion of the Artesian Substation would be undertaken within land with an Agricultural zoning designation; however, this area is cleared and graded and does not support agriculture. Construction of other

¹⁰ SanGIS, 2017. San Diego Unincorporated Zoning Designations. Available online at <http://www.sangis.org/download/index.html>. Accessed January 26, 2017.

Project components would be undertaken within land with an Agricultural zoning designation in the City of San Diego, but these areas are not used for agricultural land and are primarily developed. No impact would occur under this criterion.

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3.3 Air Quality

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
3. AIR QUALITY —				
Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.				
Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.3.1 Environmental Setting

Air quality is a function of both the rate and location of pollutant emissions under the influence of meteorological conditions and topographic features that influence pollutant movement and dispersal. Atmospheric conditions such as wind speed, wind direction, atmospheric stability, and air temperature gradients interact with the physical features of the landscape to determine the movement and dispersal of air pollutants, which affects air quality.

Regional Topography, Meteorology, and Climate

The Proposed Project is located in the San Diego Air Basin (Air Basin). This area is considered the study area for the purposes of this analysis. The boundaries of the Air Basin are contiguous with the political boundaries of San Diego County, and encompasses approximately 4,260 square miles. The Air Basin is divided by the Laguna Mountain Range that generally runs parallel to the coast approximately 45 miles inland and separates the coastal area from the desert area. The Laguna Mountains have peaks reaching over 6,000 feet. The coastal region, where the Proposed Project site is located, is made up of coastal terraces that rise from the ocean into wide mesas¹ that transition into the Laguna foothills farther to the east. From the foothills, the topography gradually rises to the rugged Laguna Mountain range.

The climate of the Air Basin is dominated by a semi-permanent high pressure cell located over the Pacific Ocean. This cell influences the direction of prevailing winds (westerly to northwesterly) and

¹ A mesa is a flat-topped mountain or hill. It is a wide, flat, elevated landform with steep sides.

maintains clear skies for much of the year. The combination of topography and climate influence air quality in the Air Basin and are constraints to efforts to reduce air pollution in the region. During the summer months, a warm air mass frequently descends over the cool, moist marine layer produced by the interaction between the ocean's surface and the lowest layer of the atmosphere. This warm upper layer forms a cap over the cool marine layer and inhibits pollutants in the marine layer from dispersing away from the surface. In addition, light winds during the summer further limit ventilation. The Air Basin experiences more days of sunlight than many other urban areas in the nation, and sunlight triggers the photochemical reactions that produce ozone (O₃), a criteria pollutant (County of San Diego, 2011).

The study area typically has average maximum and minimum winter (i.e., January) temperatures of 66 degrees Fahrenheit (°F) and 38 °F, respectively, while average summer (i.e., July) maximum and minimum temperatures are 88 °F and 59 °F, respectively. Rainfall averages approximately 16 inches per year (Weatherbase, 2017).

Criteria Air Pollutants

The U.S. Environmental Protection Agency (USEPA) has identified criteria air pollutants that are a threat to public health and welfare. These pollutants are called “criteria” air pollutants because standards have been established for each of them to meet specific public health and welfare criteria (see Section 3.3.2, *Regulatory Setting*). The following criteria pollutants are a concern in the study area.

Ozone

Ozone (O₃) is a respiratory irritant and an oxidant that increases susceptibility to respiratory infections and that can cause substantial damage to vegetation and other materials. Ozone is not emitted directly into the atmosphere, but is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving reactive organic gases (ROG) and oxides of nitrogen (NO_x), including nitrogen dioxide (NO₂). ROG and NO_x are known as precursor compounds for ozone. Significant ozone production generally requires ozone precursors to be present in a stable atmosphere with strong sunlight for approximately three hours.

Ozone is a regional air pollutant because it is not emitted directly by sources, but is formed downwind of sources of ROG and NO_x under the influence of wind and sunlight. Ozone concentrations tend to be higher in the late spring, summer, and fall, when the long sunny days combine with regional subsidence inversions to create conditions conducive to the formation and accumulation of secondary photochemical compounds, like ozone.

Particulate Matter

Respirable particulate matter (PM₁₀) and fine particulate matter (PM_{2.5}) represent fractions of particulate matter that can be inhaled into air passages and the lungs and can cause adverse health effects. Particulate matter in the atmosphere results from many kinds of dust- and fume-producing industrial and agricultural operations, fuel combustion, and atmospheric photochemical reactions. Some sources of particulate matter, such as demolition and construction activities, are more local in

nature, while others, such as vehicular traffic, have a more regional effect. Very small particles of certain substances (e.g., sulfates and nitrates) can cause lung damage directly, or can contain absorbed gases (e.g., chlorides or ammonium) that may be injurious to health. Particulates can also damage materials and reduce visibility.

Other Criteria Pollutants

Carbon monoxide (CO) is a non-reactive pollutant that is a product of incomplete combustion and is mostly associated with motor vehicle traffic. High CO concentrations develop primarily during winter when periods of light winds combine with the formation of ground level temperature inversions (typically from the evening through early morning). These conditions result in reduced dispersion of vehicle emissions. Motor vehicles also exhibit increased CO emission rates at low air temperatures. When inhaled at high concentrations, CO combines with hemoglobin in the blood and reduces the oxygen-carrying capacity of the blood. This results in reduced oxygen reaching the brain, heart, and other body tissues. This condition is especially critical for people with cardiovascular diseases, chronic lung disease, or anemia.

Sulfur dioxide (SO₂) is produced through combustion of sulfur or sulfur-containing fuels such as coal. SO₂ is also a precursor to the formation of atmospheric sulfate and particulate matter (PM₁₀ and PM_{2.5}) and contributes to potential atmospheric sulfuric acid formation that could precipitate downwind as acid rain. Lead has a range of adverse neurotoxin health effects, and was formerly released into the atmosphere primarily via leaded gasoline. The phase-out of leaded gasoline has resulted in decreasing levels of atmospheric lead.

Toxic Air Contaminants

Toxic Air Contaminants (TACs) are airborne substances that are capable of causing short-term (acute) and/or long-term (chronic or carcinogenic, i.e., cancer-causing) adverse human health effects (i.e., injury or illness). TACs include both organic and inorganic chemical substances. They may be emitted from a variety of common sources including gasoline stations, automobiles, dry cleaners, industrial operations, and painting operations. The current California list of TACs includes nearly 200 compounds, including Diesel Particulate Matter (DPM) emissions from diesel-fueled engines (CARB, 2011).

Valley Fever

Valley Fever (formally known as Coccidioidomycosis) is an infectious disease caused by the fungus *Coccidioides immitis*. Valley Fever is also known as San Joaquin Valley Fever, Desert Fever, or Cocci. Infection is caused by inhalation of *Coccidioides immitis* and *Coccidioides posadasii* spores that have become airborne when dry, dusty soil or dirt is disturbed by natural processes such as wind or earthquakes, or by human induced ground disturbing activities such as construction and farming.

The California Department of Public Health received reports of 16,108 incident cases of valley fever from 2009 through 2012 (CDPH, 2014). Coccidioidomycosis is highly endemic in the San Joaquin Valley and remains an important public health problem in California but is not as

prevalent in San Diego County as in other areas of the state. There is currently no vaccine; efforts to develop a vaccine are ongoing (CDPH, 2014).

Existing Air Quality

The San Diego Air Pollution Control District (SDAPCD) is the local air district responsible for air quality within the Air Basin. The SDAPCD maintains a regional monitoring network that measures the ambient concentrations of criteria pollutants in the Air Basin. Ambient air quality measurements from air monitoring stations maintained by SDAPCD help to determine the level of air quality in the local area. The closest air quality monitoring station to the Proposed Project site is the Escondido-E Valley Parkway station, approximately 10 miles to the north-northeast of Artesian Substation. **Table 3.3-1** shows a 5-year (2011 through 2015) summary of ozone, NO₂, PM₁₀, and PM_{2.5} data monitored at the Escondido station. The data are compared to the California Ambient Air Quality Standards (CAAQS) and National Ambient Air Quality Standards (NAAQS).

**TABLE 3.3-1
AIR QUALITY DATA SUMMARY (2011-2015) FOR THE STUDY AREA**

Pollutant	Standard	Monitoring Data by Year				
		2011	2012	2013	2014	2015
Ozone, O₃						
Highest 1-Hour Average, ppm		0.098	0.084	0.084	0.099	0.079
Days over State Standard	0.09	1	0	0	1	0
Highest 8-Hour Average, ppm		0.089	0.073	0.074	0.079	0.071
Days over State/National Standards	0.070	2	1	4	7	2
Nitrogen Dioxide, NO₂						
Highest 1-Hour Average, ppm		0.062	0.062	0.061	0.063	0.048
Days over National Standard	0.100	0	0	0	0	0
Annual Average, ppm		*	13	13	11	*
Exceed State Standard?	0.030	*	No	No	No	*
Respirable Particulate Matter, PM₁₀						
Maximum 24-Hour Average (µg/m ³)		40.0	33.0	82.0	44.0	31.0
Estimated Days over State Standard	50	0	0	6.0	0	*
State Annual Average (µg/m ³)		18.8	18.1	23.1	21.5	*
Exceed State Standard?	20	No	No	Yes	Yes	*
Fine Particulate Matter, PM_{2.5}						
Highest 24-Hour Average, µg/m ³		27.4	70.7	56.3	77.5	29.4
Estimated days over National Standard	35	0	3.1	1.1	1.0	*
Annual Average, µg/m ³		10.4	10.5	11.0	9.9	*
Exceed State/National Standards?	12	No	No	No	No	*

NOTES: ppm = parts per million; µg/m³ = micrograms per cubic meter; * insufficient data

^a On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm. An area will meet the standard if the fourth-highest maximum daily 8-hour ozone concentration per year, averaged over 3 years, is equal to or less than 0.070 ppm. USEPA will issue final designations by October 1, 2017. Nonattainment areas will have until 2020 to late 2037 to meet the health standard, with attainment dates varying based on the ozone level in the area.

SOURCE: CARB, 2017.

Between 2011 and 2015, as shown in Table 3.3-1, the State 1-hour ozone standard was exceeded twice (once in 2011 and once in 2014), and the national 8-hour ozone standard was exceeded one to seven times per year during the 5-year period. The 24-hour State PM₁₀ standard was estimated to have been exceeded six times in 2014 during the 4-year period with adequate data and the annual average PM₁₀ concentrations for 2013 and 2014 exceeded the State standard. The national 24-hour PM_{2.5} standard was estimated to have been exceeded three times in 2012, once in 2013, and once in 2014 during the 4-year period with adequate data. The national average PM_{2.5} concentrations did not exceed the State or national standard during any of the 4 years with sufficient data. The recorded NO₂ concentrations during the study period did not exceed the State 1-hour or national annual average standards.

Attainment Status

The Air Basin is classified as a non-attainment area for the State 1-hour and 8-hour ozone standards as well as the federal 8-hour ozone standard. The Air Basin is also a non-attainment area relative to the State PM_{2.5} and PM₁₀ standards. For all other criteria pollutants, San Diego County is classified as either unclassified or as attainment with respect to State and federal standards (SDAPCD, 2017). Refer to **Table 3.3-2** for the current attainment status of the study area.

**TABLE 3.3-2
STUDY AREA ATTAINMENT STATUS**

Pollutant	Federal	State
Ozone (one-hour standard)	--- ¹	Nonattainment
Ozone (eight-hour standard)	Nonattainment	Nonattainment
Carbon Monoxide (CO)	Attainment	Attainment
Nitrogen Dioxides (NO ₂)	Attainment	Attainment
Inhalable Particulates (PM ₁₀) (24-hour)	Attainment	Nonattainment
Inhalable Particulates (PM ₁₀) (annual mean)	Unclassifiable ²	Nonattainment
Fine Particulates (PM _{2.5}) (annual mean)	Attainment	Nonattainment

¹ The federal 1-hour standard of 12 ppm was in effect from 1979 through June 15, 2005. The revoked standard is referenced here because it was employed for such a long period and because this benchmark is addressed in State Implementation Plans.

² At the time of designation, if the available data does not support a designation of attainment or nonattainment, the area is designated as unclassifiable.

SOURCE: SDAPCD, 2017.

Sensitive Receptors

Some receptors are considered more sensitive than others to air pollutants. The reasons for greater than average sensitivity include age, pre-existing health problems, proximity to emissions sources and/or duration of exposure to air pollutants. Schools, hospitals, and convalescent homes are considered to be relatively sensitive to poor air quality because children, elderly people, and the infirm are more susceptible to respiratory distress and other air quality-related health problems than the general public. Residential areas are considered sensitive to poor air quality because people usually stay at home for extended periods of time, with greater associated exposure to ambient air quality. Recreational uses are also considered sensitive due to the greater exposure to

ambient air quality conditions because vigorous exercise associated with recreation places a high demand on the human respiratory system.

In the vicinity of the Artesian Substation, the nearest residential sensitive receptors are approximately 80 feet south of the property line. Other residential areas are approximately 300 feet from the north and west sides of the substation site, with currently vacant office/commercial land uses to the east. The Maranatha Christian School property is approximately 400 feet northwest of the Artesian Substation Expansion site.

In the vicinity of the Bernardo Substation land uses are commercial and residential. The closest sensitive receptors to the Bernardo Substation are single-family residences located approximately 260 feet north-east of the substation, across Rancho Bernardo Road.

Land uses surrounding the Rancho Carmel Substation consist of commercial and residential land uses. The closest sensitive receptors to the Rancho Carmel Substation are single-family residences located approximately 260 feet east of the substation.

With respect to the reconductoring alignment, many residences are located within close proximity to this component, with the closest approximately within 50 feet to the existing SDG&E ROW. Other sensitive receptors are also located in close proximity to several poles that are either new or would be replaced as part of the Project. The Maranatha Christian School property is approximately 50 feet to the west of Pole No. R04, the Del Norte High School is located 1,300 feet to the south of Pole No. P09, and Kinderhouse Montessori School is 900 feet to the southeast of Bernardo Substation. Houses of worship include the Maranatha Chapel located 400 feet north of existing Pole No. E21 and the City Church of San Diego located 1,200 feet south of existing Pole No. E23. The Kids' Care Club day care center is located within 400 feet of Pole No. R18.

3.3.2 Regulatory Setting

Air quality within the Air Basin is addressed through the efforts of various federal, State, and local government agencies. These agencies work jointly, as well as individually, to improve air quality through legislation, regulations, planning, policy-making, education, and a variety of programs. The air pollutants of concern and agencies primarily responsible for improving the air quality within the Air Basin and the pertinent regulations are discussed below.

Criteria Air Pollutants

Regulation of air pollution is achieved through both CAAQS and NAAQS as well as emission limits for individual sources of air pollutants. As required by the federal Clean Air Act (CAA), the USEPA has identified criteria pollutants and has established NAAQS to protect public health and welfare. NAAQS have been established for ozone, CO, NO₂, Sulfur dioxide (SO₂), PM₁₀, PM_{2.5}, and lead. These pollutants are called “criteria” air pollutants because standards have been established for each of them to meet specific public health and welfare criteria.

To protect human health and the environment, the USEPA has set “primary” and “secondary” maximum ambient thresholds for all six criteria pollutants. Primary thresholds were set to protect human health, particularly sensitive receptors such as children, the elderly, and individuals suffering from chronic lung conditions such as asthma and emphysema. Secondary standards were set to protect the natural environment and prevent further deterioration of animals, crops, vegetation, and buildings.

The NAAQS are defined as the maximum acceptable concentration that may be reached, but not exceeded more than once per year. California has adopted more stringent ambient air quality standards (i.e., CAAQS) for most of the criteria air pollutants. **Table 3.3-3** presents both sets of ambient air quality standards (i.e., national and State) and provides the attainment status for each. California has also established State ambient air quality standards for sulfates, hydrogen sulfide, and vinyl chloride; however, air emissions of these pollutants are not expected under the Proposed Project and are not further discussed in this IS/MND.

**TABLE 3.3-3
NATIONAL AND STATE AMBIENT AIR QUALITY STANDARDS**

Criteria Pollutant	Averaging Time	State Standard	Federal Primary Standard
Ozone	8 Hour	0.070 ppm	0.070 ppm*
	1 Hour	0.09 ppm	---
Carbon Monoxide	8 Hour	9.0 ppm	9 ppm
	1 Hour	20 ppm	35 ppm
Nitrogen Dioxide	Annual Average	0.030 ppm	0.053 ppm
	1 Hour	0.18 ppm	0.100 ppm
Sulfur Dioxide	Annual Average	---	0.030 ppm
	24 Hour	0.04 ppm	0.14 ppm
	1 Hour	0.25 ppm	0.075 ppm
Respirable Particulate Matter (PM ₁₀)	Annual Arithmetic Mean	20 mg/m ³	---
	24 Hour	50 mg/m ³	150 mg/m ³
Fine Particulate Matter (PM _{2.5}) ^h	Annual Arithmetic Mean	12 mg/m ³	12.0 mg/m ³
	24 Hour	---	35 mg/m ³
Lead	3-Month Rolling Average	---	0.15 mg/m ³
Hydrogen Sulfide	1 Hour	0.03 ppm/42 µg/m ³	---
Sulfates	24 Hour	25 mg/m ³	---
Vinyl Chloride	24 Hour	0.01 ppm/26 µg/m ³	---

NOTES:

ppm = parts per million; µg/m³ = micrograms per cubic meter; mg/m³ = milligrams per cubic meter; --- = no applicable standard

* On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm. An area will meet the standard if the fourth-highest maximum daily 8-hour ozone concentration per year, averaged over three years, is equal to or less than 0.070 ppm. USEPA will make recommendations on attainment designations by October 1, 2016, and issue final designations October 1, 2017. Nonattainment areas will have until 2020 to late 2037 to meet the health standard, with attainment dates varying based on the ozone level in the area.

SOURCE: CARB, 2016

Federal

The USEPA is responsible for implementing programs established under the federal CAA, such as establishing and reviewing the NAAQS and judging the adequacy of State Implementation Plans (SIPs), but has delegated the authority to implement many of the federal programs to the states while retaining an oversight role to ensure that the programs continue to be implemented.

State

The California Air Resources Board (CARB) is responsible for establishing and reviewing the State standards, compiling the California SIP and securing approval of that plan from USEPA, conducting research and planning, and identifying toxic air contaminants. CARB also regulates mobile sources of emissions in California, such as construction equipment, trucks, and automobiles, and oversees the activities of California's air quality districts, which are organized at the county or regional level. County or regional air quality management districts are primarily responsible for regulating stationary sources at industrial and commercial facilities within their geographic areas and for preparing the air quality plans that are required under the federal CAA and California CAA.

California's Diesel Risk Reduction Plan / Diesel Fuel Regulations

As part of California's Diesel Risk Reduction Plan, CARB has passed numerous regulations to reduce diesel emissions from vehicles and equipment that are already in use. Combining these retrofit regulations with new engine standards for diesel fueled vehicles and equipment, CARB intends to reduce DPM emissions by 85 percent from year 2000 levels by 2020. California Diesel Fuel Regulations (13 Cal. Code Regs. §§2281-2285; 17 Cal. Code Regs. §93114) provide standards for diesel motor vehicle fuel and non-vehicular diesel fuel.

CARB has also adopted a regulation for in-use off-road diesel vehicles that is designed to reduce emissions from diesel-powered construction and mining vehicles by imposing idling limitations on owners, operators, renters, or lessees of off-road diesel vehicles. The regulation requires an operator of applicable off-road vehicles (self-propelled diesel-fueled vehicles 25 horsepower and up that were not designed to be driven on-road) to limit idling to no more than 5 minutes.

Local

Although the CPUC has exclusive jurisdiction over the siting, design, and construction of the Project, and, therefore the Project is not subject to local discretionary regulations, for the purposes of CEQA the CPUC is using the following air standards to provide significance thresholds.

San Diego Air Pollution Control District

The Proposed Project is located in the San Diego Air Basin, which includes all of San Diego County. The SDAPCD is the local air district with jurisdiction within this region. SDAPCD programs include the adoption and enforcement of regulations and policies, as well as implementation of education and public outreach programs. SDAPCD is responsible for attaining

and/or maintaining air quality in the Air Basin within federal and state air quality standards. Specifically, SDAPCD has the responsibility to monitor ambient air pollutant levels throughout the Air Basin and to develop and implement strategies to attain the applicable federal and State standards.

Regional Air Quality Strategy for San Diego County

The Regional Air Quality Strategy (RAQS) was adopted by the SDAPCD Board on June 30, 1992, to address state ozone standards. The RAQS details the measures and regulations that focus on managing and reducing O₃ precursors, such as NO_x and ROG_s. It is periodically updated as new measures are identified that are technologically feasible, improve air quality, and/or protect public health. The most recent update is the *2016 Revision of the RAQS* (SDAPCD, 2016). The measures identified in the RAQS are designed to reduce O₃ precursor emissions from stationary sources, such as industrial operations and manufacturing facilities. The individual measures in the RAQS are then developed into proposed rules that are reviewed by the public and considered for adoption by the Board. Construction, operation and maintenance of the Proposed Project would not include stationary emissions sources; therefore, the RAQS is not applicable.

Particulate Matter Air Quality Management Plan

The California CAA does not require local districts to establish an air quality management plan for State PM₁₀ nonattainment, but the SDAPCD has prepared a report entitled “Measures to Reduce Particulate Matter in San Diego County.” The SDAPCD is considering rulemaking for category-specific particulate matter control measures for emissions from residential wood combustion and from fugitive dust generated at construction sites and from unpaved roads.

SDAPCD Regulation IV – Prohibitions, Rule 50 – Visible Emissions

This rule prohibits any activity that will create air contaminant emissions darker than 20 percent opacity for more than an aggregate of 3 minutes in any consecutive 60-minute time period.

SDAPCD Regulation IV – Prohibitions, Rule 51 – Nuisance

This rule prohibits any activity that will discharge air contaminants that cause or have a tendency to cause injury, detriment, nuisance, or annoyance to people and the public or damage to any business or property.

SDAPCD Regulation IV – Prohibitions, Rule 55 – Fugitive Dust Control

This regulation prohibits any activity that will discharge visible dust emissions into the atmosphere beyond the property line for more than 3 minutes during any 60 minute period. This regulation also prohibits visible roadway dust due to track-out or carry-out.

3.3.3 Applicant Proposed Measures

There are no Applicant Proposed Measures (APMs) that pertain to air pollutant emissions.

3.3.4 Environmental Impacts and Mitigation Measures

a) Whether the Project would conflict with or obstruct implementation of the applicable air quality plan: *NO IMPACT*.

Construction, operation and maintenance of the Proposed Project would not conflict with or obstruct implementation of an applicable air quality plan. The only air quality plan applicable to the study area is the RAQS. The measures identified in the RAQS are designed to reduce O₃ precursor emissions from stationary sources, such as industrial operations and manufacturing facilities. Operation and maintenance of the Proposed Project would not include stationary emissions sources; therefore, the RAQS is not applicable. There would be no impact under this criterion.

b) Whether the Project would violate any air quality standard or contribute substantially to an existing or projected air quality violation: *LESS THAN SIGNIFICANT IMPACT*.

Construction

Construction of the Proposed Project would generate emissions of criteria air pollutants over a construction period of approximately 30 months. Exhaust emissions would result from construction equipment and machinery as well as from vehicular traffic generated by construction activities and travel to and from staging yards² for equipment and materials access and storage. The types of equipment and vehicles used would include line trucks, concrete trucks, haul trucks, pickup trucks, on-site generators, air compressors, bore/drill rigs, bulldozers, backhoes, loaders, cabling equipment, and cranes. Fugitive dust emissions would result from earthwork activities and entrained particulates that become airborne from vehicles traveling on paved and unpaved surfaces. Emission levels for the various construction activities would vary with the type of equipment, duration of use, operation schedules, and size of the construction labor force.

As part of the CPUC's Permit to Construct application process, SDG&E provided construction-related air pollutant emissions calculations and estimates for the construction activities that would be associated with the Proposed Project (see Appendix C, *Air Quality and Greenhouse Gas Emissions Calculations*). The Proposed Project emissions were estimated by SDG&E using the California Emissions Estimator Model (CalEEMod) version 2013.2.2. This version of CalEEMod calculates the construction equipment exhaust emissions based on CARB's OFFROAD2011 model equipment emission and load factors. To estimate peak daily Proposed Project construction emissions, SDG&E identified the types of construction activities that could overlap in schedule, i.e., occur simultaneously, and contribute to the combined total estimated peak daily emissions (SDG&E, 2016). Based on SDG&E's emissions estimates, concurrent activities for each Proposed

² The Project includes use of an existing SDG&E-owned facility where space is available for the temporary storage of construction materials and equipment, the Northeast Annex Staging Yard, located within the City of Escondido. This site is already developed, no construction would be undertaken here and the yard would not be further modified as part of the Project, therefore setting details for this facility and the City of Escondido are not included in this section, however emissions associated with use of this facility are included in the analysis.

Project construction phase by year that would emit the greatest amount of daily emissions would be as follows:

- **Year 2018:** Phase 1(b), Eastern Parcel site preparation to relocate the 69/12 kV portion of Artesian Substation; Phase 3(a), foundation installation; and Phase 3(b) below-grade construction (new duct installation) associated with the minor modifications at Bernardo Substation.
- **Year 2019:** Phase 1(d), above-grade substation construction; Phase 1(e), wiring and relay testing, to relocate the 69/12 kV portion of Artesian Substation; Phase 6(b), pulling and conductor/cable installation associated with construction of new underground power line getaways at Artesian Substation; Phase 7(a), underground trenching for conduit substructure for the new underground power line getaways at Bernardo Substation; and Phase 10(c), stringing and conductor installation associated with pole replacement and reconductoring of the overhead 69 kV power lines.
- **Year 2020:** Phase 2(b), Western Parcel site preparation; Phase 2(c), access road and retention basin construction for the new 230/69 kV portion of Artesian Substation, would produce peak emissions for all pollutants with exception for NO_x; and Phase 2(e), aboveground substation construction for the 230/69 kV portion of Artesian Substation, and Phase 5(c), stringing and conductor installation to connect the 230 kV transmission to the Artesian Substation, would produce peak emissions for NO_x.

SDG&E's emission calculations were independently reviewed by the CPUC's consultant, Environmental Science Associates (ESA), and were found to be technically adequate with the following exceptions. SDG&E's emissions estimates included two scenarios: one with default emission factors for average composite equipment fleets for the given year, while the other assumed all off-road equipment engines would have USEPA Tier 2 ratings and exposed surfaces would be watered to control fugitive dust. In its PEA, SDG&E indicates that it modeled equipment with Tier 2 engine standards to be conservative (SDG&E, 2016).³ However, review of the emission profiles indicates that use of Tier 2 equipment does not necessarily result in a conservative analysis compared to the average equipment fleet default assumptions used by the CalEEMod model. For example, the Tier 2 scenario tends to result in lower emissions of ROG, SO_x, PM₁₀, and PM_{2.5} for each of the modeled calendar years and results in lower emissions of NO_x and CO for year 2019 compared to the default average equipment fleet scenario. Therefore, ESA revised the emissions summary presented in the PEA to draw from both scenarios, identifying the higher emissions for the given modeled year, regardless of scenario. In addition, the project description included in the PEA did not include any air quality-related commitments (also referred to as "Applicant Proposed Measures"), so ESA revised the emissions summary for the Proposed Project to identify PM₁₀ and PM_{2.5} construction emissions estimated with no dust control assumptions. For additional details see the Air Quality and GHG Emissions Supplement in Appendix C.

³ The USEPA sets emissions standards for off-road (construction) equipment ranging from Tier 0 through Tier 4. Tier 0 emission standards are the least stringent standards and Tier 4 emissions standards are the most stringent standards.

In addition, as shown in Table 2-14, *Maximum Daily Traffic Trips*, during the peak of construction activities Phase 7(a) would result in 30 one-way heavy truck haul trips per day associated with underground trenching work for the substation getaways. These trips are not accounted for in SDG&E's emissions estimates, so ESA estimated the emissions that would be associated with those trips using CARB EMFAC2014 (v1.0.7) emission rates for heavy duty trucks, and incorporated them into the overall emission estimates for additional details see the Air Quality and GHG Emissions Supplement in Appendix C).

Table 3.3-4, *Maximum Daily Construction Emissions Summary*, presents the estimated peak daily construction emissions that would be associated with the Proposed Project. These emissions would be dispersed throughout the study area at the various Proposed Project component sites where activities would occur concurrently. For information on the types and amounts of construction equipment that would be used to construct the Proposed Project, refer to Table 2-11, *Construction Equipment and Use*, in Section 2. As discussed above, the construction emissions presented in Table 3.3-4 were estimated based on the assumption that the Proposed Project would include no emission controls for equipment exhaust or fugitive dust.

The CPUC typically uses local air district thresholds for evaluating air quality impacts under CEQA. The SDAPCD has not established air pollution emissions criteria for determining the significance of an impact; however, the City of San Diego has adopted CEQA significance thresholds based on SDAPCD Regulation II, Rule 20.2, Air Quality Impact Assessment Trigger Levels. The SDAPCD applies the trigger levels for air quality permitting of stationary sources of emissions. The SDAPCD did not establish these general air quality thresholds specifically for CEQA purposes or to assess mobile source or construction emissions, but it considers any project estimated to result in emissions that would exceed the trigger levels to potentially cause or contribute to a violation of an ambient air quality standard. Therefore, the CPUC has determined that use of the City's significance thresholds are appropriate for a conservative evaluation as to whether construction or operation emissions associated with the Proposed Project could cause a violation of an air quality standard or contribute to an exceedance of an ambient air quality standard.

As disclosed in Table 3.3-4, maximum daily construction emissions would not exceed any thresholds of significance. Therefore, exhaust emissions that would be generated during construction of the Proposed Project would not be expected to result in a violation or contribute to a violation of an air quality standard. The associated impact would be less than significant.

Operation and Maintenance

In general, routine operations and maintenance that would be associated with the Proposed Project would remain the same as currently exist, but could result in a few additional worker vehicle trips on some days during routine operation and maintenance activities. These additional worker trips would result in emissions that would be substantially less than the City of San Diego's significance thresholds. Therefore, operation and maintenance of the Proposed Project would not result in a violation or contribute to a violation of an air quality standard and the impact would be less than significant under this criterion.

TABLE 3.3-4
MAXIMUM DAILY CONSTRUCTION EMISSIONS SUMMARY

Year/Source	Emissions (pounds per day)					
2018	ROG	NO_x	CO	SO_x	PM₁₀	PM_{2.5}
Construction Equipment	7.86	87.93	59.84	0.09	4.14	3.81
Construction Truck Trips	0.54	6.40	6.64	0.02	0.09	0.08
Worker Trips	0.14	0.18	1.64	0.00	0.00	0.00
Fugitive Dust	0.00	0.00	0.00	0.00	16.66	7.26
Total	8.55	94.50	68.11	0.11	20.89	11.16
2019	ROG	NO_x	CO	SO_x	PM₁₀	PM_{2.5}
Construction Equipment	7.87	106.12	75.28	0.13	3.28	3.03
Construction Truck Trips	0.25	8.06	0.93	0.02	0.19	0.10
Worker Trips	0.20	0.27	2.48	0.01	0.01	0.00
Fugitive Dust	0.00	0.00	0.00	0.00	0.72	0.19
Total	8.31	114.44	78.68	0.16	4.19	3.33
2020	ROG	NO_x	CO	SO_x	PM₁₀	PM_{2.5}
Construction Equipment	7.39	87.06	59.10	0.10	3.68	3.39
Construction Truck Trips	0.56	0.00	6.98	0.02	0.10	0.09
Worker Trips	0.14	0.13	1.52	0.01	0.00	0.00
Fugitive Dust	0.00	0.00	0.00	0.00	18.90	7.52
Total	8.08	87.19	67.59	0.12	22.68	11.00
2021	ROG	NO_x	CO	SO_x	PM₁₀	PM_{2.5}
Construction Equipment	0.31	3.85	2.91	0.00	0.13	0.12
Construction Truck Trips	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.02	0.03	0.24	0.00	0.00	0.00
Fugitive Dust	0.00	0.00	0.00	0.00	0.51	0.07
Total	0.33	3.88	3.15	0.01	0.65	0.19
Maximum Daily Emissions	8.31	114.44	78.68	0.16	4.19	3.33
Threshold*	137	250	550	250	100	55
Significant?	NO	NO	NO	NO	NO	NO

* Significance thresholds are based on City of San Diego, 2011; however, the City does not have a significance threshold for PM_{2.5}; therefore, the South Coast Air Quality Management District's threshold of 55 pounds per day is used to assess PM_{2.5} emissions in this analysis.

SOURCES: SDG&E, 2016; ESA, 2017a; see Appendix B.

c) Whether the Project would 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): *LESS THAN SIGNIFICANT IMPACT.*

As summarized in Table 3.3-2, San Diego County is designated as non-attainment for the State 1-hour ozone standard, federal and State 8-hour ozone standard, the State PM₁₀ standards, and the State PM_{2.5} standard. As described below, the Proposed Project would not cause a cumulatively considerable net increase of any of these pollutants.

The City of San Diego's thresholds of significance for air pollutants, which are used in this IS/MND, were developed based on the City's consideration of when the emission levels for which a project's individual emissions would be considered to be cumulatively considerable. If individual project emissions would exceed the identified significance thresholds, a significant cumulative air quality impact would occur and the project's contribution to the cumulative impact would be considered cumulatively considerable. If project emissions would not exceed the significance thresholds, the project's incremental contribution to any potential cumulative impact would not be cumulatively considerable. As discussed under criterion b) above, the Proposed Project would result in maximum daily emissions of criteria pollutants from construction, operation and maintenance of the Proposed Project would be less than the significance thresholds. Therefore, Proposed Project construction, operation and maintenance-related emissions would not be cumulatively considerable, and the cumulative impact would be less than significant.

d) Whether the Project would expose sensitive receptors to substantial pollutant concentrations: *LESS THAN SIGNIFICANT IMPACT WITH MITIGATION INCORPORATED.*

Diesel particulate matter (DPM) was identified as a TAC by CARB in 1998. Construction of the Proposed Project would result in temporary and short-term generation of DPM emissions from the use of off-road diesel equipment and from construction material deliveries and debris hauling using on-road heavy-duty trucks. Long-term sources of DPM emissions that would be associated with the Proposed Project would be negligible and limited to a few vehicle trips per month related to inspection and maintenance activities.

The dose to which receptors are exposed is the primary factor affecting health risk from TACs. Dose is a function of the concentration of a substance or substances in the environment and the duration of exposure to the substance. According to the Office of Environmental Health Hazard Assessment (OEHHA), health risk assessments, which determine the exposure of sensitive receptors to TAC emissions, should be based on 9, 30, and/or 70-year exposure periods when assessing TACs (such as DPM) that have only cancer or chronic non-cancer health effects. However, such health risk assessments should be limited to the duration of the emission-producing activities associated with the project, unless the activities occur for less than six months. Activities that would last more than two months, but less than six months, are recommended to be evaluated as if they would last for six months. The OEHHA does not recommend assessing cancer risk for projects lasting less than two months at the maximum exposed individual resident (MEIR) (OEHHA, 2015).

Construction of the Artesian Substation would result in the longest TAC exposure period, lasting for approximately 28 months. Work at Rancho Carmel and Bernardo substations would last up to two months at each facility. Artesian Substation is located in a residential neighborhood with residences to the west, north, and south, with closest residential receptors approximately 150 feet south of the site. The Maranatha Christian School is approximately 400 feet northwest of the site. Construction activities associated with the reconductoring alignment would proceed at a linear pace and would not expose any one receptor along the corridors for longer than two to three weeks, which would be substantially less than the 2-month minimum recommended by OEHHA for assessing cancer risk. A health risk assessment (HRA) for construction activities at Artesian Substation was conducted by ESA using OEHHA's dose-response methodology to estimate the numeric health risk impact associated with inhaled TACs. Refer to Appendix B for the HRA, which includes a detailed description of the methodology used to evaluate the health risks from on-site construction activities.

The emissions estimates used in the HRA represent the annual DPM exhaust emissions that would occur for each phase of substation construction, including Phases 1, 2, 5, and 6 (see Table 2-11, *Construction Equipment and Use*, for descriptions of how construction activities under the Proposed Project would be phased). SDG&E's exhaust emissions estimates included two scenarios: one with default emission factors for average composite equipment fleets for the years analyzed, while the other assumed all off-road equipment engines would have USEPA Tier 2 emissions ratings. Since SDG&E has not made a formal commitment to use equipment with engines that meet Tier 2 rating standards, the HRA used SDG&E's PM₁₀ exhaust emissions that incorporate default equipment emission factors to represent the DPM emissions. Based on the total emissions that would be generated at the substation site over a period of 28 months (i.e., 1,031 pounds), it is estimated that an average of 1.4 pounds DPM per day would be generated during the construction period. These emissions were then converted to maximum emissions concentrations, which were used to estimate health risks. Risk characterization combines the maximum annual average ground-level DPM concentration from the exposure assessment and the cancer potency factor and the chronic reference exposure level (REL) to estimate the potential inhalation cancer risk from exposure to Proposed Project DPM emissions. The lifetime exposure under OEHHA guidelines takes into account early life (infant and children) exposure.

Table 3.3-5 identifies the maximum increase in carcinogenic risk for sensitive receptors in the vicinity of Artesian Substation due to construction activities. The calculated cancer risk assumes sensitive receptors (residential uses and school) do not have mechanical filtration and exposure would occur with windows open. For carcinogenic exposures, the cancer risk from DPM emissions for construction of the Proposed Project is estimated to result in a maximum incremental increase in carcinogenic risk of approximately 40.6 in one million for residents and 1.7 and 0.3 in one million for students and staff at Maranatha Christian School, respectively. The maximum cancer risk that would occur at the residential land uses directly south of the site would substantially exceed the maximum individual cancer risk threshold of 10 in one million. This represents a significant impact relative to exposure of sensitive receptors to substantial pollutant concentrations.

**TABLE 3.3-5
MAXIMUM INCREASE IN CARCINOGENIC RISK FOR OFF-SITE SENSITIVE RECEPTORS**

Sensitive Receptor	Maximum Cancer Risk (# in one million)	
	Proposed Project	Proposed Project with Mitigation
Residential	40.6	6.1
Students	1.7	0.3
Staff	0.3	0.1
Maximum Individual Cancer Risk Threshold	10	10
Exceeds Threshold?	Yes	No

See Appendix B for the Health Risk Assessment (ESA, 2017b)

However, implementation of **Mitigation Measure AIR-1**, which would require all diesel-powered construction equipment to be equipped with engines that meet Tier 4 emissions standards and/or have diesel particulate filters that would reduce DPM emissions by at least 85 percent, would decrease the maximum incremental carcinogenic risk to 6.1 in one million for residents and from 0.3 to 0.1 for students and staff, respectively. The impact to sensitive receptors in the vicinity of Artesian Substation would be mitigated to a less than significant level.

- Mitigation Measure AIR-1: Use of Tier-4 Engines** SDG&E (and/or its construction contractor(s)) shall ensure that at least 81 percent of all diesel-powered equipment use (tracked as horse-power hours) during construction activities at Artesian Substation (defined as construction Phases 1, 2, 5, and 6) is from equipment that meet USEPA-certified Tier 4 standards, the highest USEPA-certified tiered emission standards, or are otherwise equipped with Level 3 diesel particulate filters (DPFs). If DPF retrofits are not used as part of the construction fleet, a minimum of 78 percent of the equipment use hours shall be from equipment that are certified Tier 4. An initial listing that identifies each off-road unit's certified tier specification and/or diesel particulate filter status to be operated at the Artesian Substation shall be submitted to the CPUC for review and approval prior to commencement of construction activities at the Artesian Substation site. Construction activities at the Artesian Substation site shall not commence until the equipment listing has been approved by the CPUC.

As SDG&E requires new or replacement construction equipment at the Artesian Substation site, SDG&E shall submit verification of the certified engine tier or Level 3 DPF retrofit prior to use on the Project. Prior to the commencement of construction, SDG&E and CPUC shall develop a diesel-powered equipment use hours tracking tool and procedure. The tracking tool shall be utilized by SDG&E (and/or its construction contractor(s)) to keep track of the daily equipment use hours of all diesel-powered equipment. If all diesel-powered equipment is either certified Tier 4 or is retrofitted with a Level 3 DPF, the tracking tool would not be required. The tracking tool shall be maintained by SDG&E and tracking updates shall be submitted to the CPUC on a weekly basis to track the Project's compliance. The updated tracking tool shall be submitted to the CPUC no later than the Wednesday of the following week.

Significance after Mitigation: Less than Significant.

e) Whether the Project would create objectionable odors affecting a substantial number of people: *LESS THAN SIGNIFICANT IMPACT.*

Operation and maintenance of the Proposed Project would not create odorous emissions. However, Proposed Project construction would include sources, such as diesel equipment, which could result in the creation of objectionable odors. Since the construction activities would be temporary and spatially dispersed, these activities would not affect a substantial number of people. Therefore, impacts from odors generated by construction of the Proposed Project would be less than significant.

3.3.5 References

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3.4 Biological Resources

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
4. BIOLOGICAL RESOURCES— Would the Project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.4.1 Environmental Setting

Overview

This section describes the existing environment for wildlife, botanical, and wetland resources within and adjacent to the Proposed Project site, as well as adjacent habitats that could reasonably be affected by Project construction, operation and maintenance activities (the study area).

The setting information presented herein was compiled from available scientific literature and database searches, general biological reconnaissance and focused species surveys and the PEA Biological Technical Report (SDG&E 2016a). Additionally, a field reconnaissance survey of the Project site was performed by Environmental Science Associates (ESA) on November 17, 2016, to verify field conditions.

Regional Setting

The Proposed Project site is located in the in the western portion of San Diego County, partly in the City of San Diego and partly in unincorporated areas of the County. San Diego County is a

biologically diverse region that supports rare and declining native habitats, numerous federally and state-listed plant and animal species, and federally designated critical habitat for listed species. Topography in the vicinity of the Proposed Project site varies slightly between flat terrain and gentle slopes. The elevation of the Proposed Project site ranges from approximately 490 feet above mean sea level (amsl) at the western portion of the site near Artesian Substation, gradually increasing along the alignment to 680 feet amsl at the eastern end of the site near Bernardo Substation. The elevation of other Proposed Project components varies from approximately 425 feet amsl at the Carmel Valley Road and Kearny Mesa Staging Yards to approximately 820 feet amsl at the Rancho Carmel Substation.

The Proposed Project would be located within developed residential and commercial areas and all construction would be located within existing right-of-way (ROW), franchise position (city/county roadways), and SDG&E fee-owned property.

Vegetation Communities

Twelve distinct vegetation communities or land cover types occur within the study area (SDG&E, 2016). Vegetation communities and the plants that typically occur within those communities are described according to Sawyer, Keeler-Wolf and Evens (2009). The study area is dominated by Urban/Developed areas, with Annual Brome Grassland, Disturbed Areas, and Landscape/Ornamental communities are also prevalent. Native upland and wetland habitats are also present. Upland habitats consist primarily of California Sagebrush-California Buckwheat Scrub communities, while wetland habitat is dominated by Arroyo Willow-Mulefat Woodland. Detailed vegetation descriptions, as well as maps depicting the different vegetation communities in relation to the Proposed Project site, are presented in **Figures 3.4-1a through 3.4-1j**.

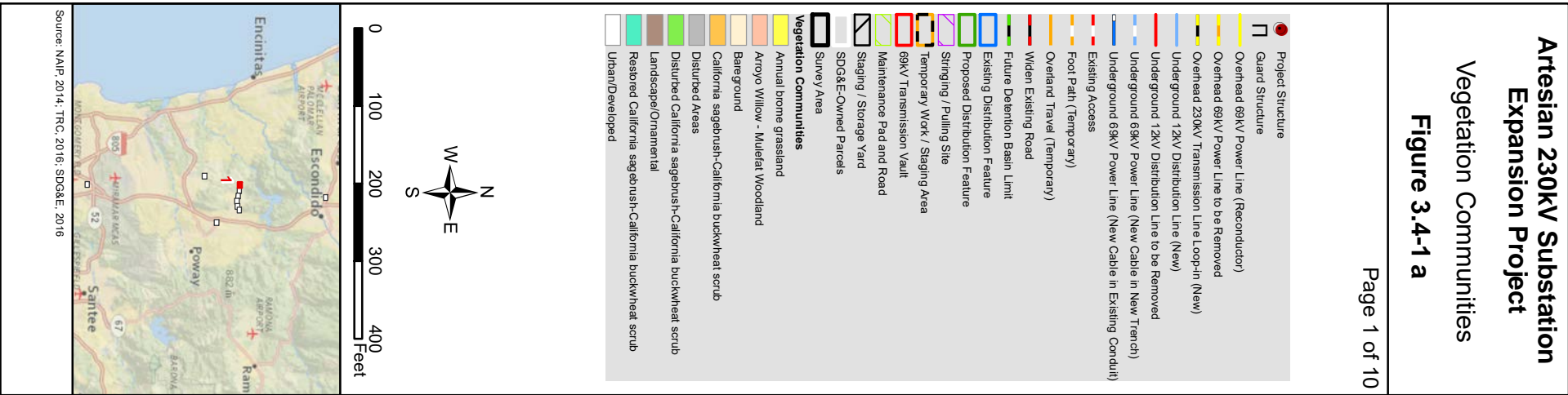
Upland Communities

California sagebrush-California buckwheat scrub (*Artemisia californica*-*Eriogonum fasciculatum* Shrubland Alliance)

In the study area, California sagebrush-California buckwheat scrub is dominated equally by California sagebrush (*Artemisia californica*) and California buckwheat (*Eriogonum fasciculatum*) in the shrub canopy. Within a few areas the shrub canopy is dominated by California buckwheat and Menzies' goldenbush (*Isocoma menziesii* var. *menziesii*). Most shrubs are less than 7 feet in height. The canopy is two-tiered and intermittent to continuous with some shrubs such as laurel sumac (*Malosma laurina*) and lemonade berry (*Rhus integrifolia*), which can reach up to five meters (49 feet) in height. The herbaceous layer is seasonally present in the spring. This community can be found on steep slopes that are typically south-facing and is comprised of loose, unconsolidated soils that are colluvially-derived (Sawyer, Keeler-Wolf and Evens 2009). Dominant plant species observed within the study area included California sagebrush, California buckwheat, Menzies' goldenbush, toyon (*Heteromeles arbutifolia*), laurel sumac, and black sage (*Salvia mellifera*). At some locations this community is the result of native plant restoration.



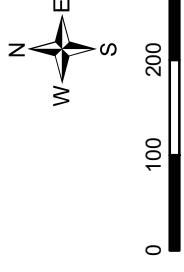
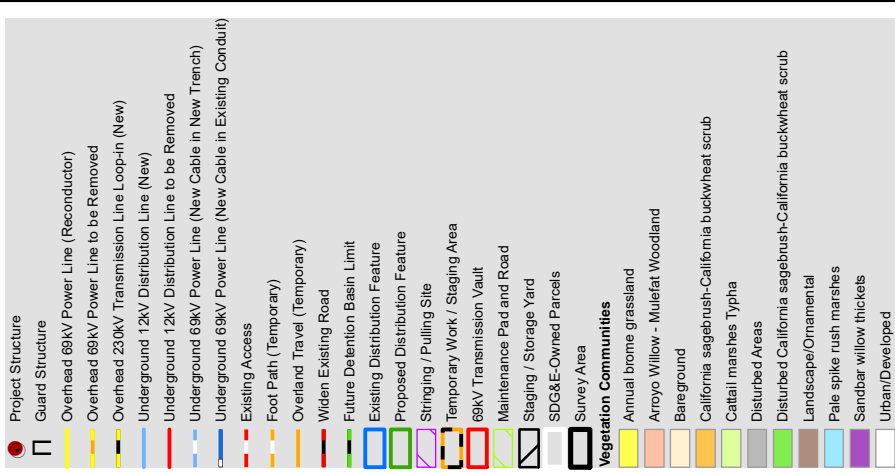
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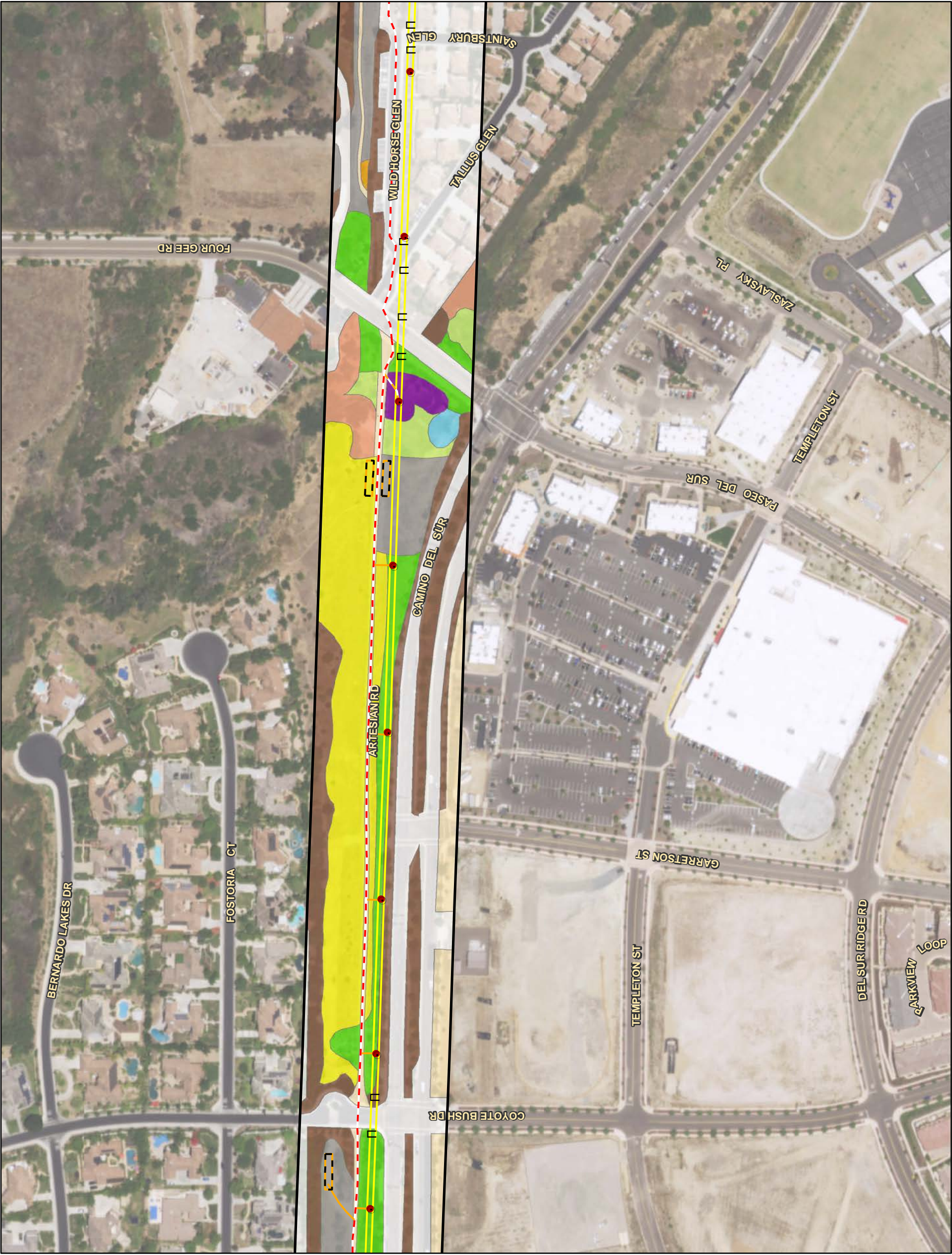
Artesian 230kV Substation
Expansion Project

Vegetation Communities

Figure 3.4-1 b

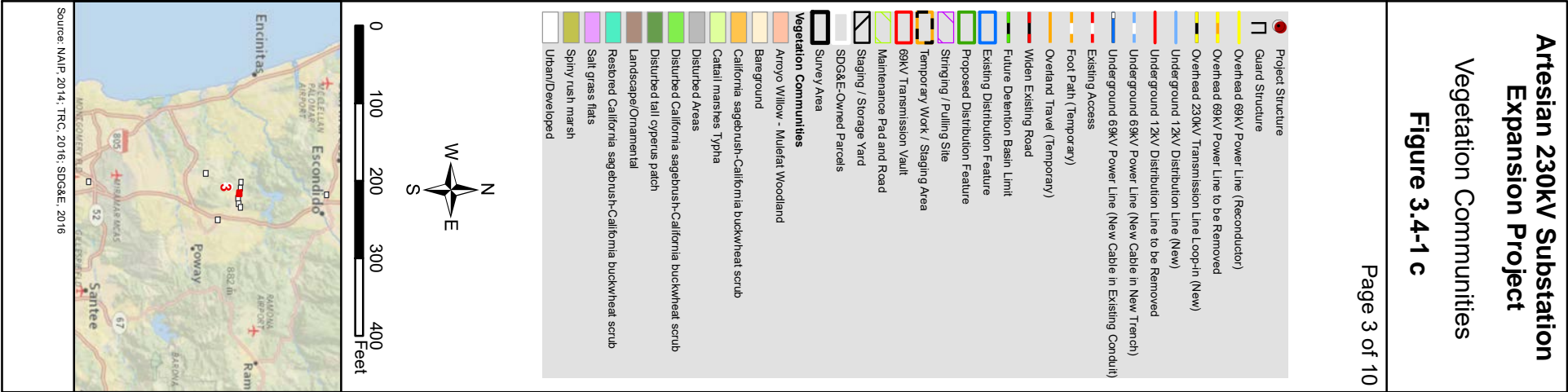


Source: NMAP, 2014; TRC, 2016; SDG&E, 2016





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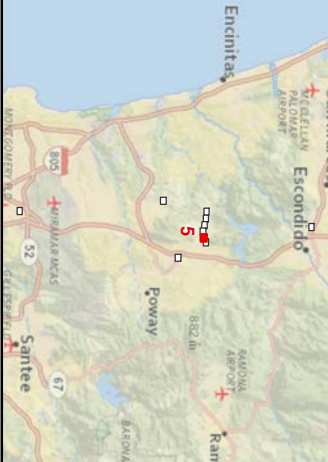
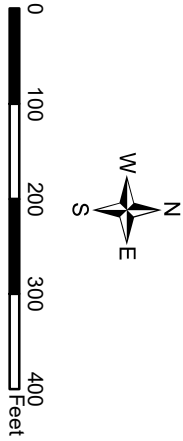




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Artesian 230kV Substation
Expansion Project
Vegetation Communities
Figure 3.4-1 e

- Project Structure
- Guard Structure
- Overhead 69kV Power Line (Reconductor)
- Overhead 69kV Power Line to be Removed
- Overhead 230kV Transmission Line Loop-in (New)
- Overhead 12kV Distribution Line (New)
- Underground 12kV Distribution Line to be Removed
- Underground 69kV Power Line (New Cable in New Trench)
- Underground 69kV Power Line (New Cable in Existing Conduit)
- Existing Access
- Foot Path (Temporary)
- Overland Travel (Temporary)
- Widen Existing Road
- Future Detention Basin Limit
- Existing Distribution Feature
- Proposed Distribution Feature
- Stringing / Pulling Site
- Temporary Work / Staging Area
- 69kV Transmission Vault
- Maintenance Pad and Road
- Staging / Storage Yard
- SDG&E-Owned Parcels
- Survey Area
- Vegetation Communities
- Arroyo Willow - Mulletat Woodland
- California sagebrush-California buckwheat scrub
- Cattail marshes Typha
- Disturbed Areas
- Disturbed California sagebrush-California buckwheat scrub
- Landscape Ornamental
- Restored California sagebrush-California buckwheat scrub
- Urban/Developed

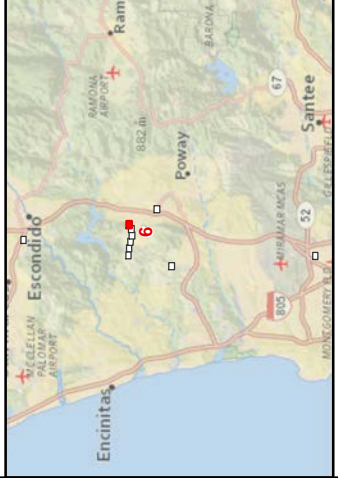
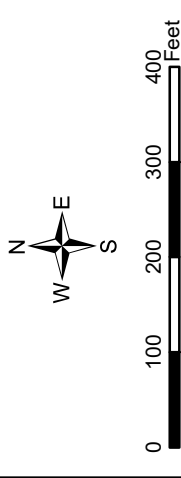
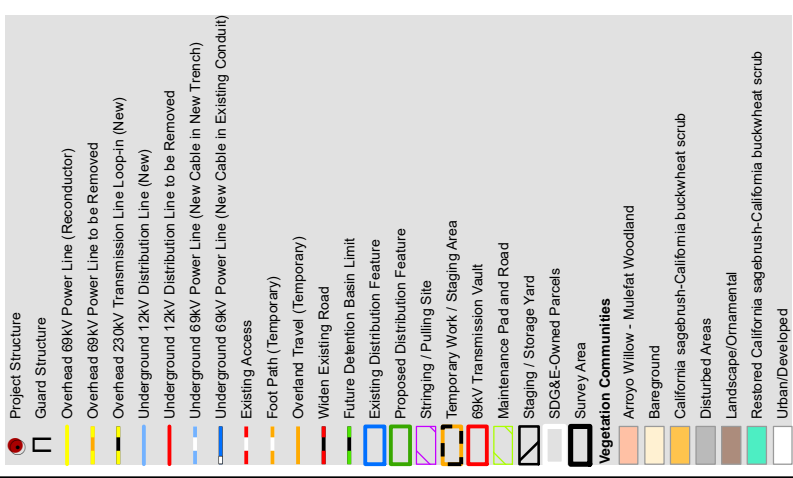


Source: NAIIP, 2014; TRC, 2016; SDG&E, 2016

Artesian 230kV Substation
Expansion Project

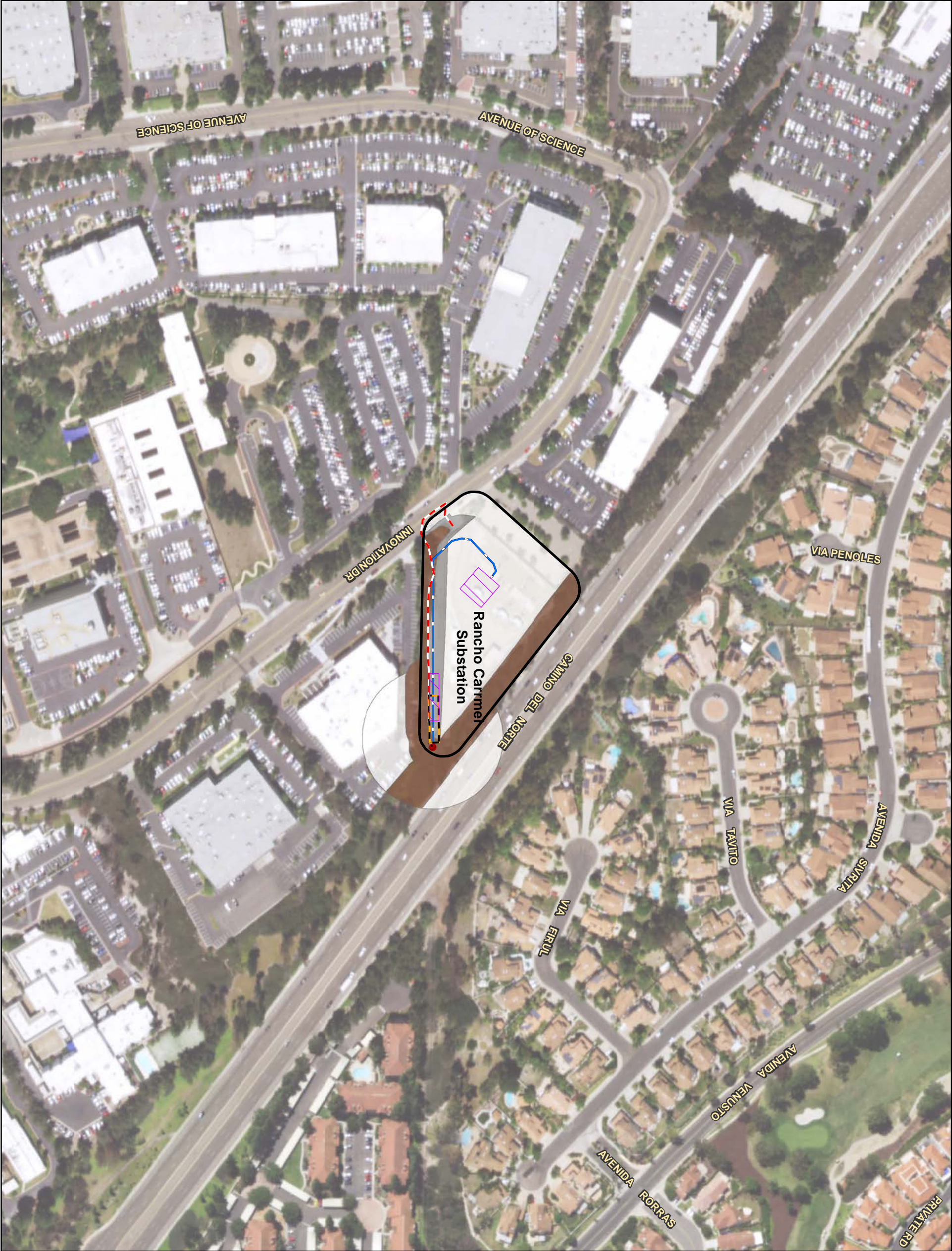
Vegetation Communities

Figure 3.4-1 f

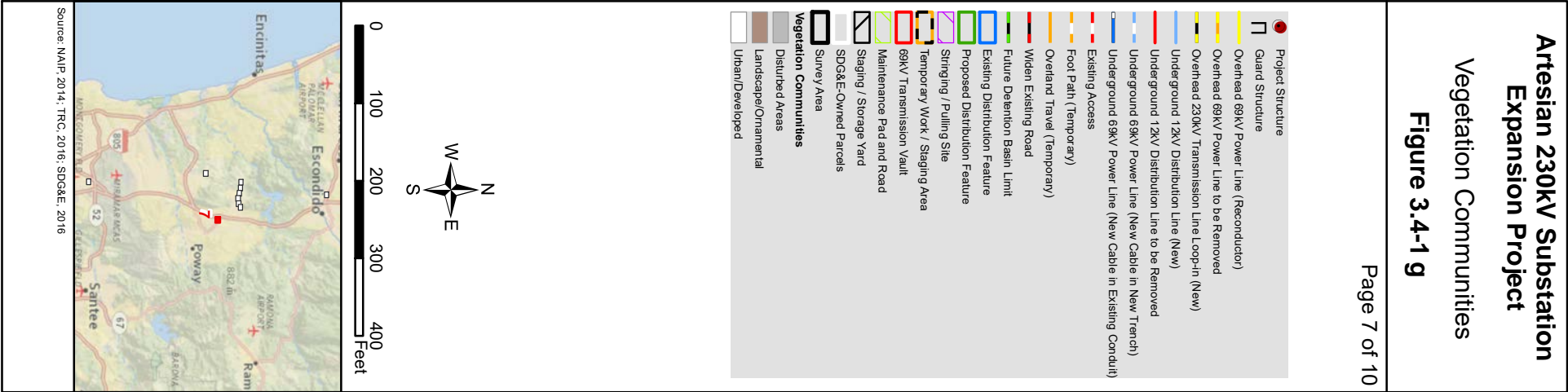


Source: NADP, 2014; TRC, 2016; SDG&E, 2016





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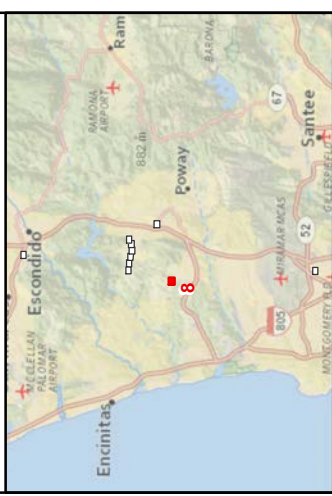
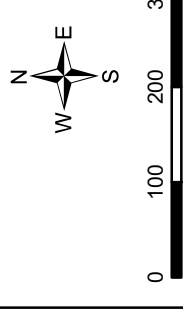
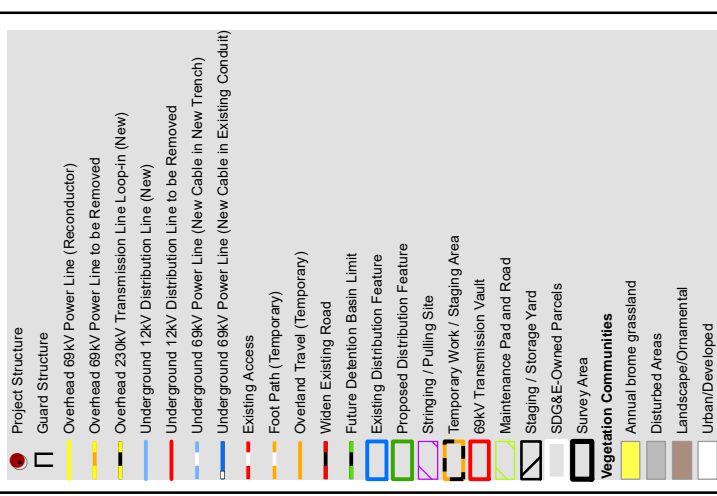


Artesian 230kV Substation Expansion Project

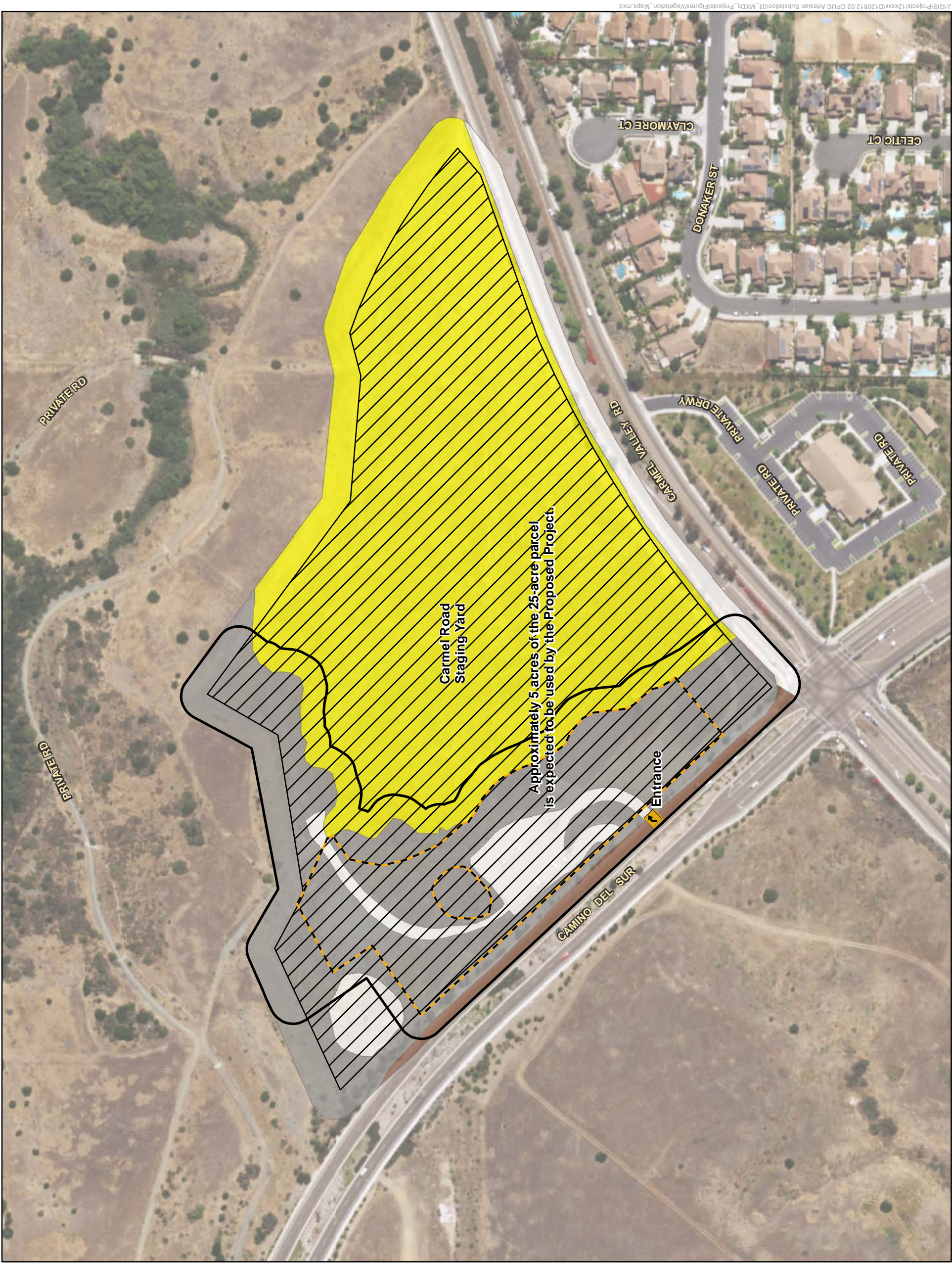
Vegetation Communities

Figure 3.4-1 h

Page 8 of 10



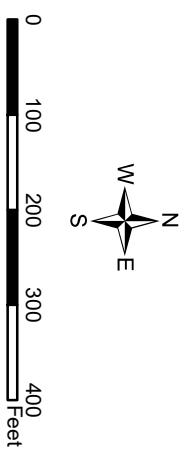
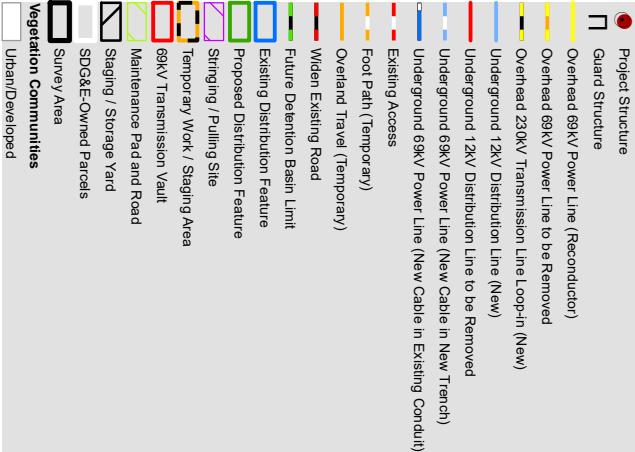
Source: NAIP, 2014; TRC, 2016; SDG&E, 2016



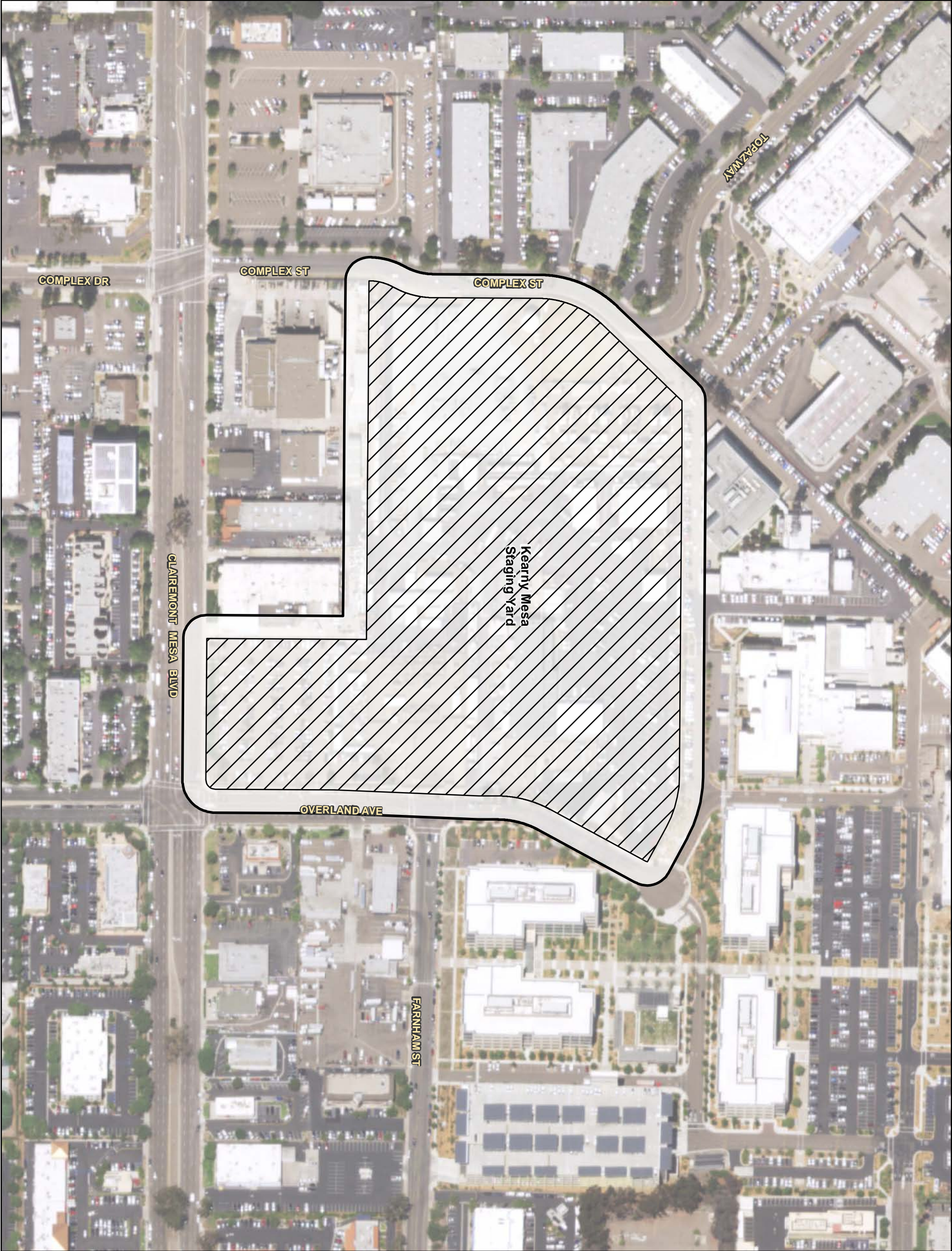
Artesian 230kV Substation
Expansion Project

Vegetation Communities

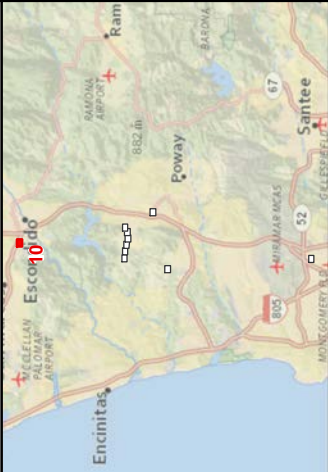
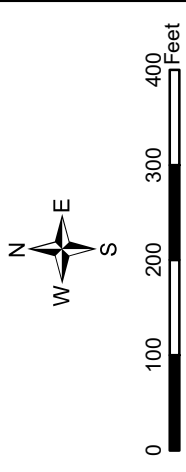
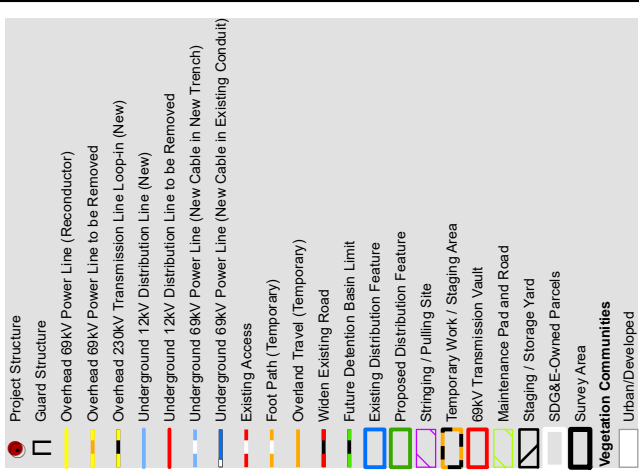
Figure 3.4-1 i



Source: NAIIP, 2014; TRC, 2016; SDG&E, 2016



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Source: NMAP, 2014; TRC, 2016; SDG&E, 2016



**TABLE 3.4-1
VEGETATION COMMUNITIES WITHIN THE STUDY AREA**

Vegetation Community	Approximate Area (acres)
Upland Communities	
<i>Disturbed Habitats</i>	
Bare Ground	3.7
Disturbed Areas	16.2
Landscape/Ornamental	21.8
Urban/Developed	85.3
<i>Scrub and Chaparral</i>	
*California Sagebrush-California Buckwheat Scrub	8.0
*Disturbed California Sagebrush-California Buckwheat Scrub	5.1
*Restored California Sagebrush-California Buckwheat Scrub	6.4
*Restored/Disturbed California Sagebrush-California Buckwheat Scrub	0.5
<i>Grassland</i>	
Annual Brome Grassland	23.0
Upland Vegetation Totals	169.9
Wetland Communities	
<i>Bog and Marsh</i>	
*Cattail Marshes	1.7
*Pale Spike Rush Marshes	0.1
*Spiny Rush Marsh	1.8
*Disturbed Tall Cyperus Patch	0.2
<i>Riparian and Bottomland Habitat</i>	
*Arroyo Willow - Mulefat Woodland	9.5
*Sandbar Willow Thickets	0.3
*Salt Grass Flats	0.1
Wetland Vegetation Totals	13.7
Total	183.5

NOTES:

- * An asterisk designates a sensitive natural community, defined as follows:
- Vegetation communities identified as sensitive in the California Natural Diversity Database (CNDDB)
 - Communities listed in the Natural Communities List with a rarity rank of S1 (critically imperiled), S2 (imperiled), or S3 (vulnerable)
 - Tier I or Tier II vegetation communities, as defined by the City of San Diego Biology Guidelines (City of San Diego, 2012)

SOURCE: Biological Technical Report (Chambers, 2015, cited in SDG&E 2016a).

In some areas, California sagebrush-California buckwheat scrub is disturbed and fragmented by a non-native annual grassland herbaceous layer which composes 25 percent or more of the total vegetative cover. Dominant plant species observed within this habitat in the study area included California sagebrush, California buckwheat, toyon, laurel sumac, black sage, ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), wild oat (*Avena* sp.), and red brome (*Bromus madritensis* ssp. *rubens*). This community is found in natural areas within the study area. Some restoration areas of California sagebrush-California buckwheat scrub are also fragmented

in this way. Natural, Restored and Disturbed California sagebrush-California buckwheat scrub are shown on Figure 3.4-1.

Annual brome grassland (*Bromus* [*diandrus*, *hordeaceus*] – *Brachypodium distachyon* Semi-Natural Herbaceous Stands)

Annual brome grassland is dominated by various brome grasses such as ripgut brome, soft chess, red brome, and false brome (*Brachypodium sylvaticum*). Emergent trees and shrubs may be present at low cover. Herbs are less than 2.5 feet tall within an intermittent to continuous herb layer. This community can be found in all topographic settings in foothills, waste places, rangelands, and openings in woodlands. Dominant plant species observed within this community in the study area included several different non-native brome grass species, false brome, wild oat, black mustard (*Brassica nigra*), fennel (*Foeniculum vulgare*), doveweed (*Croton setigerus*), and shortpod mustard (*Hirschfeldia incana*).

Disturbed Areas

Disturbed Areas are dominated by pioneering herbaceous species that readily colonize disturbed soils, such as tocalote (*Centaurea melitensis*), wild oat, black mustard, prickly sow-thistle (*Sonchus asper*), and wild lettuce (*Lactuca serriola*) (Gray and Bramlet, 1992). Areas characterized by disturbed habitat have no or negligible ecological value and, within the study area, are primarily dominated by various combinations of ripgut brome, red brome, prickly Russian thistle (*Salsola australis*), Australian saltbush (*Atriplex semibaccata*), slender wild oat (*Avena fatua*), tocalote, redstem stork's bill (*Erodium cicutarium*), lamb's quarters (*Chenopodium album*), and hairy crabgrass (*Digitaria sanguinalis*). Scattered individuals or remnants of native coastal sage scrub species may also occur including California buckwheat, California sagebrush, and deerweed (*Acmispon glaber*). Some disturbed areas are nearly devoid of vegetation as a result of clearing or grading.

Landscape/Ornamental

This vegetation community consists of areas dominated by non-native species planted for landscaping and generally occurs in residential neighborhoods, commercial properties, or along roadsides. This habitat can be found throughout the study area along commercial/residential development and within natural habitats, particularly near water features. Landscape/ornamental-associated species observed during the survey include eucalyptus (*Eucalyptus* sp.), oaks (*Quercus* spp.), western sycamore, and rosemary (*Rosmarinus officinalis*).

Bare Ground

Bare ground includes areas with exposed soils, rocky substrate, access roads, and disturbed areas devoid of plant cover. Areas within the study area considered bare ground are existing access roads or previously graded areas.

Urban/Developed

Developed areas typically include paved roads, structures, and associated infrastructure.

Wetland Communities

Arroyo Willow - Mulefat Woodland (*Salix lasiolepis*-*Baccharis salicifolia* Woodland Alliance)

Arroyo willow-mulefat woodland is a wetland-associated vegetation alliance dominated by a primary canopy of tall arroyo willow (*Salix lasiolepis*) species that creates an intermittent to open canopy with a shrub layer dominated by mulefat (*Baccharis salicifolia* ssp. *salicifolia*) and sandbar willow (*S. exigua*). The vegetation community may be seasonally flooded or saturated with fresh water along flood-plain, low-gradient depositions along rivers or streams. Within the study area, black willow (*S. gooddingii*), red willow (*S. laevigata*), and western sycamore (*Platanus racemosa*) were also present periodically throughout the area along with tamarisk (*Tamarix* spp.).

Cattail marshes (*Typha* [*angustifolia*, *domingensis*, *latifolia*] Herbaceous Alliance)

Cattail marshes are dominated by narrowleaf cattail (*Typha angustifolia*), southern cattail (*T. domingensis*), and broadleaf cattail (*T. latifolia*) or codominant with other marsh species, such as rushes (*Juncus* sp.) and sedges (*Schoenoplectus* sp.). Sparse cover of emergent tree species such as willows (*Salix* sp.) may be present. The herb layer is typically under 6.7 feet in height, and the canopy varies between intermittent to continuous. This vegetation community is found in semi-permanent flooded freshwater or brackish marshes at elevations between 0 and 1,150 feet. Dominant plant species observed within this community in the study area included broad-leaf cattail, American tule (*Schoenoplectus americanus*), and saltmarsh fleabane (*Pluchea odorata*).

Pale spike rush marshes (*Eleocharis macrostachya* Herbaceous Alliance)

Pale spike rush marshes are dominant in an open to continuous herbaceous layer less than 3.3 feet high. This community can be found within lakeshores, streambeds, swales, vernal pools, pastures, ditches, and natural and artificial ponds. Soils are alluvial and often highly organic; they are flooded part of the growing season with alkaline, brackish, or fresh water. Within the study area the dominant spike rush species is slender creeping spike-rush (*Eleocharis montevidensis*).

Sandbar willow thickets (*Salix exigua* Shrubland Alliance)

Within the study area, sandbar willow thickets are dominated by sandbar willows in the shrub canopy with baccharis (*Baccharis* spp.) and marsh evening primrose (*Oenothera elata* ssp. *hirsutissima*) interspersed. Emergent trees of many different species may be present at low cover, including arroyo willow and black willow.

Salt grass flats (*Distichlis spicata* Herbaceous Alliance)

Salt grass is dominant or codominant in a continuous herbaceous layer less than 3.3 feet high. This community can be found in coastal salt marshes and inland habitats including playas, swales, and terraces that are intermittently flooded. Within the study area, salt grass flats comprise a monotypic herbaceous layer of salt grass.

Spiny rush marshes (*Juncus acutus* Herbaceous Alliance)

This community is not described in Sawyer, Keeler-Wolf and Evens 2009. Within the study area, spiny rush marshes are dominated by southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*) or

codominant with other herbaceous marsh species such as San Diego marsh elder (*Iva hayesiana*) and shrub species such as arrowweed (*Pluchea sericea*). This vegetation community is found along stream banks and freshwater marshes. Tamarisk occasionally occurs throughout this vegetation community in low quantities

Tall cyperus patch (*Cyperus eragrostis* Herbaceous Alliance)

This community is not described in Sawyer, Keeler-Wolf and Evens 2009. In the study area, this community features a patch of tall cyperus in a disturbed area. This species can be found within lakeshores, streambeds, swales, pastures, ditches, and natural and artificial ponds. Tall cyperus are dominant with an open herbaceous layer less than 3.3 feet high, with generally sparse vegetation. Soils are flooded part of the growing season. Other species observed in this community included Mexican strangletop (*Leptochloa fusca* ssp. *uninervia*) and ragweed (*Ambrosia* sp.).

Sensitive Natural Communities

The California Department of Fish and Wildlife (CDFW) provides an inventory of vegetation communities that are considered sensitive by state and federal resource agencies, academic institutions, and various conservation groups in the CNDDDB. Determination of the sensitivity level of the vegetation communities is based on the Nature Conservancy Heritage Program Status Ranks, which ranks vegetation communities on a global and statewide basis according to the number and size of remaining occurrences and recognized threats. State-recognized special-status vegetation communities that occur in the study area include coastal sage scrub and willow riparian forest.

The following eight sensitive natural communities occur within the study area and may be impacted by the Project:

- California Sagebrush-California Buckwheat Scrub
- Cattail Marshes
- Pale Spike Rush Marshes
- Arroyo Willow – Mulefat Woodland
- Sandbar Willow Thickets
- Salt Grass Flats
- Spiny Rush Marshes
- Tall Cyperus Patch

Special-Status Species

Special status species include those listed as threatened or endangered under the Federal Endangered Species Act (FESA) or the California Endangered Species Act (CESA); animals listed as “fully protected” under the California Fish and Game Code; animals designated as “Species of Special Concern” by the California Department of Fish and Wildlife (CDFW; formerly California Department of Fish and Game (CDFG); and plants listed as rare or endangered by California Native Plant Society (CNPS).

CEQA Guidelines Section 15380 provides that a plant or animal species may be treated as “Rare or Endangered” even if not listed on one of the official lists if, for example, it is likely to become endangered in the foreseeable future. As species of plants and animals become restricted in range

and limited in population numbers, species may become listed or candidates for listing as Endangered or Threatened and become recognized under CEQA as a significant resource. Examples of such species are vernal pool fairy shrimp and burrowing owl; the former is listed by the federal government and the latter is considered a California species of special concern.

Species Surveys

General plant and wildlife surveys and vegetation mapping were conducted by Chambers Group biologists in 2015 (SDG&E, 2016a). Focused biological surveys were subsequently conducted by Chambers Group for special-status plant species, quino checkerspot butterfly (QCB), burrowing owl (BUOW), least Bell's vireo (LBVI), and coastal California gnatcatcher (CAGN) (Chambers Group 2016a-d). Earlier surveys were conducted by RECON and Pangea Biological in 2014 (SDG&E 2016a).

Potential for Occurrence

ESA, on behalf of the CPUC, compiled a list of special-status species reported or expected to occur within the study area based on SDG&E's biological studies (SDG&E, 2016a), and search results from CNDDDB (CDFW, 2017), CNPS's Online Inventory of Rare and Endangered Plants (CNPS, 2017), and the USFWS Trust Resource List (USFWS, 2017). The list is presented in **Table 3.4-2**. Special status species occurrences within a five-mile radius of the Proposed Project site are shown in **Figure 3.4-2 (a through c)**.

A total of 33 special-status wildlife species are known to occur in the study area (Table 3.4-2). Of these special status wildlife species, 12 were identified as present during the surveys, and 21 have potential to occur within the study area based on the proximity of recent historical records and/or the presence of suitable habitat. These 12 species (10 avian and one mammal species) present are:

- Burrowing owl (*Athene cunicularia*; BCC, SSC)
- Least Bell's vireo (*Vireo bellii pusillus*; FE, SE)
- Coastal California gnatcatcher (*Polioptila californica californica*; FT, SSC)
- Northern harrier (*Circus cyaneus*; SSC)
- White-tailed kite (*Elanus leucurus*; FP)
- Cooper's hawk (*Accipiter cooperii*; WL)
- Loggerhead shrike (*Lanius ludovicianus*; BCC, SSC)
- Yellow warbler (*Setophaga petechia*; BCC, SSC)
- Yellow-breasted chat (*Icteria virens*; SSC)
- Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*; WL)
- Grasshopper sparrow (*Ammodramus savannarum*; SSC)
- San Diego black-tailed jackrabbit (*Lepus californicus bennettii*; SSC)

TABLE 3.4-2
SPECIAL-STATUS WILDLIFE SPECIES WITH POTENTIAL TO OCCUR IN THE STUDY AREA

Common Name (<i>Scientific name</i>)	Status ^a Federal/ State/Local	Habitat Association	Likelihood of Occurrence in Study Area
Invertebrates			
FEDERAL OR STATE THREATENED AND ENDANGERED SPECIES			
San Diego fairy shrimp (<i>Branchinecta sandiegonensis</i>)	FE, Designated Critical Habitat/- covered	Occurs only in high-quality vernal pools. Lives as a filter feeder, consumes algae, bacteria, and various detritus in water.	Low. Although there are five CNDDDB and 39 USFWS historical occurrences documented within five miles of the Proposed Project site, the study area lacks suitable habitat (i.e. vernal pools or basins) to support this species.
Quino checkerspot butterfly (<i>Euphydryas editha quino</i>)	FE/-SDG&E	Occurs in openings in coastal sage scrub, open chaparral, juniper woodland, native grasslands and forland habitats at elevations below 4,600 feet below mean sea level in clay or granitic soils. Requires nectar sources and the presence of larval host plants (primarily <i>Plantago erecta</i>) to breed.	Low. The SDG&E Low-Effect QCB HCP for this species covers 3.6 acres within the study area near Bernardo Substation. However, this species was not detected in flight season surveys for QCB conducted in 2016, though <i>Plantago erecta</i> host plants are present. There are 12 USFWS historical occurrences within five miles of the Proposed Project site; 11 occurrences from 1927-1933, and one from 1982 near Lake Hodges.
Amphibians			
FEDERAL OR STATE THREATENED AND ENDANGERED SPECIES			
arroyo toad (<i>Anaxyrus californicus</i>)	FE/SSC/covered	Found in washes, streams, and arroyos. Preferred habitats include sandy banks within riparian woodlands such as willow, cottonwood, sycamore, mule fat, and/or coast live oak. Breeds in shallow, sandy or gravelly riverine pools with low silt content, and normally disperses onto adjacent uplands after breeding.	Low. There are no USFWS or CNDDDB occurrences documented within five miles of the study area; the closest USFWS occurrence was documented to the east of Lake Hodges within the San Pasqual Valley, approximately six miles from the study area. USFWS critical habitat is located within 4 miles of the Proposed Project site. There is low quality habitat present along drainages within the study area.
OTHER SPECIAL-STATUS SPECIES			
Western spadefoot (<i>Spea hammondi</i>)	-/SSC/-	Found in grasslands, floodplains, washes, and playas. Diet consists of invertebrates, beetles, moths, earthworms, crickets, flies, and ants. Occurs in areas with sparse vegetation and/or short grasses in sandy or gravelly soils; primarily in washes, river floodplains, alluvial fans, playas, alkali flats, among grasslands, chaparral, or pine-oak woodlands; breeds in ephemeral rain pools with no predators	Moderate. There are two CNDDDB historical occurrences documented within five miles of the Proposed Project site. The study area contains moderately suitable habitat to support this species.

TABLE 3.4-2 (CONTINUED)
SPECIAL-STATUS WILDLIFE SPECIES WITH POTENTIAL TO OCCUR IN THE STUDY AREA

Common Name (Scientific name)	Status ^a Federal/State/Local	Habitat Association	Likelihood of Occurrence in Study Area
Reptiles			
OTHER SPECIAL-STATUS SPECIES			
Western pond turtle (<i>Actinemys marmorata</i>)	-/SSC/covered	Inhabits permanent or nearly permanent bodies of water in ponds, marshes, rivers, and streams that typically have a rocky or muddy bottom and extensive aquatic vegetation along water body margins. Requires basking sites such as partially submerged logs, vegetation mats, or open mud banks for thermoregulation.	Low There is one CNDDDB historical occurrences documented within five miles of the Proposed Project site. The study area lacks suitable habitat to support this species.
coast horned lizard (<i>Phrynosoma blainvillii</i>)	-/SSC/-	Occurs in a variety of habitats, such as coastal sage scrub, chaparral, various woodlands, and annual grasslands. Diet consists almost exclusively of ants.	Moderate. There are 18 CNDDDB historical occurrences documented for this species within five miles of the Proposed Project site and the study area contains suitable habitat to support this species.
orange-throated whiptail (<i>Aspisdoscelis hyperythra beldingi</i>)	-/SSC/covered	Occurs in coastal sage scrub and chaparral habitats with sandy washes, rocky outcrops, and adequate shading. Diet consists mainly of insects and spiders.	Moderate. There are 16 CNDDDB historical occurrences documented within five miles of the Proposed Project site and the study area contains suitable habitat to support this species.
Coronado Island skink (<i>Plestiodon skiltonianus interparietalis</i>)	-/SSC/-	Occurs in early successional stages of habitats such as coastal sage scrub, chaparral, open woodland, and conifer forests. Forages through leaf litter small invertebrates.	Low. There are three CNDDDB historical occurrences documented within five miles of the Proposed Project site and the study area contains a limited amount of suitable habitat to support this species.
coast patch-nosed snake (<i>Salvadora hexalepis virgulata</i>)	-/SSC/-	Occurs in California from the northern Carrizo Plains in San Luis Obispo County, south through the coastal zone, south and west of the deserts, and into coastal northern Baja California. This species inhabits semi-arid brushy areas and chaparral in canyons, rocky hillsides, and plains from 0 to 7,000 feet in elevation.	Low. There is one CNDDDB historical occurrence documented within five miles of the Proposed Project site and the study area contains a limited amount of suitable habitat to support this species.
red diamond rattlesnake (<i>Crotalus ruber</i>)	-/SSC/-	Found in several habitat types, such as coastal sage scrub, grassland, woodland associated large rocks or boulders. Diet consists mainly of squirrels for adults and lizards for juveniles.	Moderate. There are four CNDDDB historical occurrences documented within five miles of the Proposed Project site and the study area contains good quality suitable habitat to support this species.
Birds			
FEDERAL OR STATE THREATENED AND ENDANGERED SPECIES			
southwestern willow flycatcher (<i>Empidonax traillii extimus</i>)	FE/SE/covered	Breeds in a variety of riparian habitats with multi-tiered canopies and surface water, and/or saturated soils along streams. Habitat types may include a variety of willow, cottonwood, coast live oak, alder, and tamarisk woodlands.	Low. the study area. There are one CNDDDB and two USFWS historical occurrences documented within five miles of the Proposed Project site. The study area contains a limited amount of suitable habitat for foraging, and does not contain suitable nesting habitat to support this species. It has not been observed in focused surveys conducted in the study area.

TABLE 3.4-2 (CONTINUED)
SPECIAL-STATUS WILDLIFE SPECIES WITH POTENTIAL TO OCCUR IN THE STUDY AREA

Common Name (<i>Scientific name</i>)	Status ^a Federal/State/Local	Habitat Association	Likelihood of Occurrence in Study Area
Birds (cont.)			
FEDERAL OR STATE THREATENED AND ENDANGERED SPECIES (cont.)			
least Bell's vireo (<i>Vireo bellii pusillus</i>)	FE/SE/covered	Occurs in early-successional habitats along rivers with low, dense vegetation. Diet consists of insects and spiders. Requires densely vegetated riparian habitat along streams and rivers for nesting.	Present. This species was detected singing within the study area, just northeast of Proposed Project site location P14, during focused plant surveys in 2014 (see Figure 2.5). One male LBVI was detected within the study area on June 12, 2016 during a focused survey. This individual was singing and foraging between Proposed Project site locations E18 and P18, and did not display nesting behavior. This species has moderate potential to nest in densely vegetated riparian habitat in the study area.
coastal California gnatcatcher (<i>Poliophtila californica californica</i>)	FT/SSC/covered	An obligate, permanent resident of coastal sage scrub below 2,500 feet in elevation in Southern California. Found in low, coastal sage scrub in arid washes, on mesas and slopes. Not all areas classified as coastal sage scrub are occupied.	Present. A total of nine individuals were detected in suitable habitat within and adjacent to the study area near both western and eastern ends of the Proposed Project site during focused plant and wildlife surveys in 2014 and 2015. In addition, there are 54 CNDDDB and 500 USFWS historical occurrences documented of this species within five miles of the Proposed Project site. The study area contains a moderate amount of suitable nesting habitat to support this species.
OTHER SPECIAL-STATUS SPECIES			
northern harrier (<i>Circus cyaneus</i>)	-/SSC/covered	Inhabits wetland habitats including marshy meadows, boglands, pasturelands, wet grasslands, tundra, open riparian woodlands, and freshwater and brackish marshes. It also occurs on dry uplands, including upland prairies, mesic grasslands, drained marshlands, croplands, and cold desert shrub-steppe, especially where these occur next to water bodies.	Present. This species was detected approximately 0.2-mile north of the study area, north of Proposed Project site locations R03 and P03, and 0.3 mile north of the study area, north of Proposed Project site locations E5 and E6, during coastal California gnatcatcher focused surveys in 2015 (see Figure 2.5). This species was also detected within or adjacent to the study area during burrowing owl surveys in winter 2014/2015.
white-tailed kite (<i>Elanus leucurus</i>)	-/FP/-	Inhabits low elevation grasslands, agricultural fields, wetlands, oak woodlands, savannahs, chaparral, and riparian habitats adjacent to open lands. It breeds primarily in open areas with scattered trees, usually near water.	Present. This species was detected in the Carmel Valley Road study area during wintering BUOW surveys in 2015/2016. A moderate amount of suitable nesting habitat is present in the study area.

TABLE 3.4-2 (CONTINUED)
SPECIAL-STATUS WILDLIFE SPECIES WITH POTENTIAL TO OCCUR IN THE STUDY AREA

Common Name (Scientific name)	Status ^a Federal/State/Local	Habitat Association	Likelihood of Occurrence in Study Area
Birds (cont.)			
OTHER SPECIAL-STATUS SPECIES (cont.)			
Cooper's hawk (<i>Accipiter cooperii</i>)	-/WL/covered	Occurs in open woodlands, mature forests, woodland edges, and river groves. Known to breed in suburban and urban areas with tree structure similar to native habitats.	Present. This species was detected within the study area south of Proposed Project site location E12 during coastal California gnatcatcher and least Bell's vireo surveys in 2015 (see Figure 2.5). This species was also detected approximately 0.18 mile outside the study area during focused plant surveys in 2014. This species has a low potential to nest within the study area.
burrowing owl (<i>Athene cunicularia</i>)	BCC/SSC/-	Occurs in open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Nests in burrows constructed by burrowing mammals, especially the California ground squirrel.	Present. One BUOW observed during the wintering BUOW surveys of 2015/2016 foraging. Breeding season (2016) BUOW surveys were conducted within the Carmel Valley Road Staging Yard. No BUOW were observed during these surveys.
loggerhead shrike (<i>Lanius ludovicianus</i>)	BCC/SSC/-	Occurs in semi-open habitats, oak savannas, open chaparral, desert washes, juniper woodlands, Joshua tree woodlands with scattered trees, large shrubs, utility poles, and other structures that serve as lookout posts while searching for prey. Prefer to nest in dense, thorny shrubs and trees, brush piles, and tumbleweeds.	Present. This species was detected adjacent to the study area during burrowing owl surveys in 2014. This species has a low potential to nest within the study area due to a limited amount of nesting substrate.
yellow warbler (<i>Setophaga petechia</i>)	BCC/SCC/-	Breeding habitats include wet areas, such as riparian woodlands, orchards, gardens, swamp edges, and willow thickets. Most breeding habitats generally contain medium to high-density tree and shrub species with ample early successional understories.	Present. This species was detected within the study area, between Proposed Project site locations E12 and E13 (see Figure 2.5), during focused least Bell's vireo surveys in 2015. A moderate amount of suitable nesting habitat is present within the study area.
yellow-breasted chat (<i>Icteria virens</i>)	-/SSC/-	Habitats include swamplands, riparian willow thickets and other dense riparian brush, often near watercourses. Gleans vegetation for spiders, insects, and berries.	Present. This species was detected singing during focused plant surveys conducted in 2014. There is one CNDDDB historical occurrence within five miles of the study area and suitable habitat is present.
southern California rufous-crowned sparrow (<i>Aimophila ruficeps canescens</i>)	-/WL/covered	Occurs in coastal sage scrub, chaparral, and rocky brush-laden hillsides. Diet consists primarily of small grass and forb seeds, occasionally will also consume insects.	Present. This species was detected within the study area, north of Proposed Project site Location P20 (see Figure 2.5), during coastal California gnatcatcher surveys conducted in 2015. There is suitable foraging and nesting habitat in scrub in the eastern section of study area. There are 17 CNDDDB historical occurrences documented within five miles of the study area.

TABLE 3.4-2 (CONTINUED)
SPECIAL-STATUS WILDLIFE SPECIES WITH POTENTIAL TO OCCUR IN THE STUDY AREA

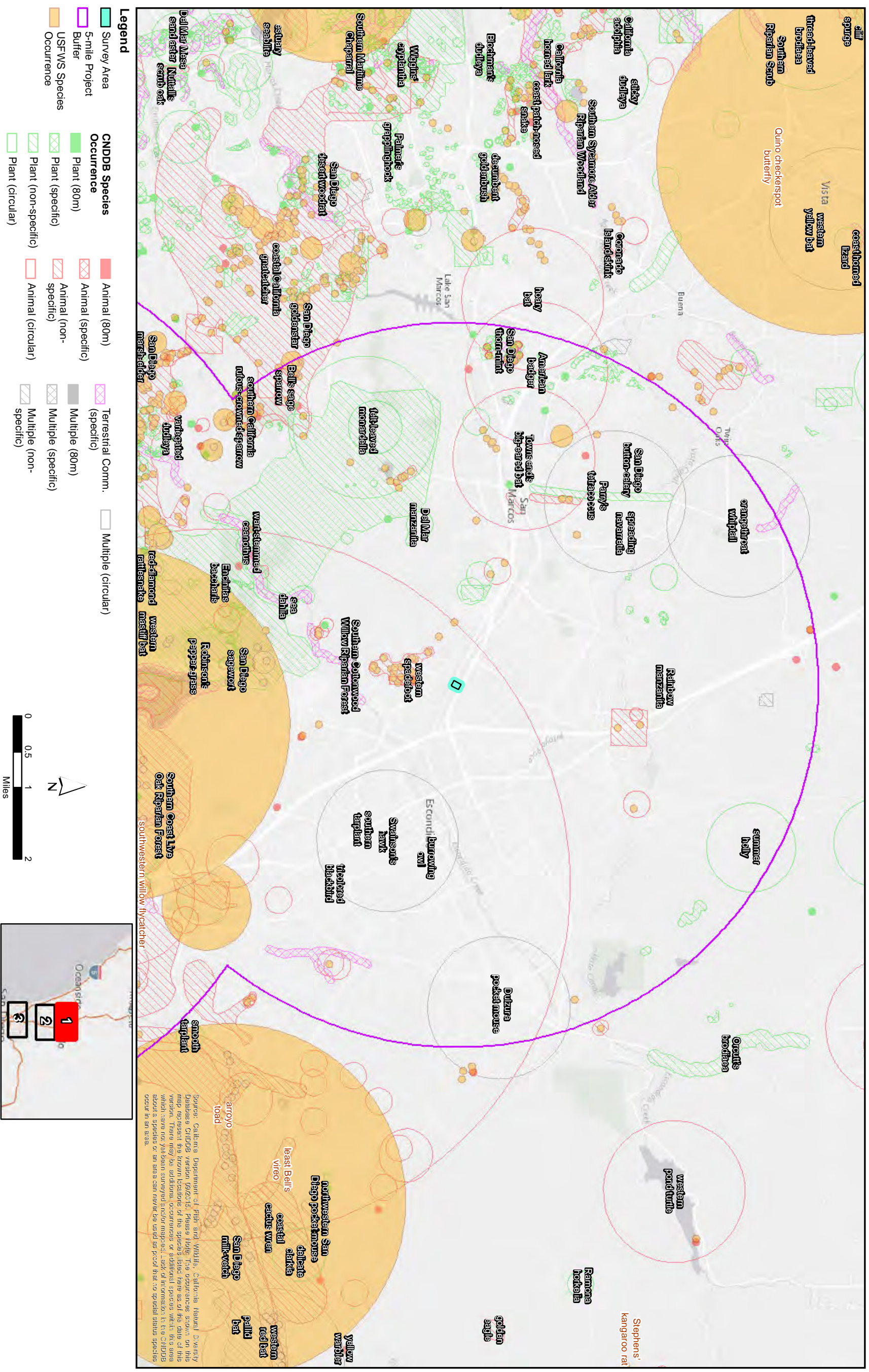
Common Name (Scientific name)	Status ^a Federal/State/Local	Habitat Association	Likelihood of Occurrence in Study Area
Birds (cont.)			
OTHER SPECIAL-STATUS SPECIES (cont.)			
grasshopper sparrow (<i>Ammodramus savannarum</i>)	-/SSC/-	Inhabits grasslands and marshes. Breeds in open grass fields and prairies.	Present. This species was detected in the Carmel Valley Road study area during wintering BUOW surveys in 2015/2016 and during breeding season BUOW surveys in spring 2016. This species has moderate potential to nest within the study area.
Tricolored blackbird (<i>Agelaius tricolor</i>)	BCC/SC/-	Forms large breeding colonies in emergent wetlands with tall, dense cattails or tules, and in thickets of willow, blackberry, wild rose, or tall, dense forbs. Requires open, accessible water, protective nesting vegetation, and suitable foraging habitat with insect prey, seeds, and cultivated oats.	Low. There are two CNDDDB historical occurrences documented within five miles of the Proposed Project site from over 80 years ago. The study area lacks suitable habitat to support this species.
Mammals			
OTHER SPECIAL-STATUS SPECIES			
western mastiff bat (<i>Eumops perotis</i>)	-/SSC/WBWG: High	Occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, and chaparral. They roost in crevices in cliff faces, high buildings, trees, and tunnels.	Low. There are three CNDDDB historical occurrences within five miles of the Proposed Project site. The study area contains low quality roosting habitat to support this species.
Townsend's big-eared bat (<i>Corynorhinus townsendii</i>)	-/SSC/WBWG: High	Found in all habitats, except alpine. Elusive and rare throughout their range. Diet primarily consists of moths.	Low. There is one CNDDDB historical occurrence within five miles of the Proposed Project site. The study area contains low quality roosting habitat to support this species.
pocketed free-tailed bat (<i>Nyctinomops femorosaccus</i>)	-/SSC/WBWG: Med-High	Occurs in pinyon-juniper habitats and a wide variety of desert habitats, such as alkali desert scrub, desert succulent scrub, and desert washes. Forages over open water for moths, flies, lacewings, and other insects.	Low. There are two CNDDDB historical occurrences documented within five miles of the Proposed Project site. The study area contains low quality roosting habitat to support this species.
big free-tailed bat (<i>Nyctinomops macrotis</i>)	-/SSC/WBWG: Med-High	Colonial rooster that prefers rugged cliff faces, slopes, and outcrops. Roosts are rarely found in human structures. May be found in various woodland, desert, and scrub associations.	Low. There is one CNDDDB historical occurrence within five miles of the Proposed Project site. The study area contains low quality roosting habitat to support this species.
western yellow bat (<i>Lasiurus xanthinus</i>)	-/SSC/WBWG: High	An obligate foliage roosting species that prefers dry, thorny vegetation and palms. Known to occur in a number of palm oases, and may use ornamental palms in landscaping.	Low. There is one CNDDDB historical occurrence within five miles of the Proposed Project site. The study area contains low quality roosting habitat to support this species.

TABLE 3.4-2 (CONTINUED)
SPECIAL-STATUS WILDLIFE SPECIES WITH POTENTIAL TO OCCUR IN THE STUDY AREA

Common Name (Scientific name)	Status ^a Federal/State/Local	Habitat Association	Likelihood of Occurrence in Study Area
Mammals (cont.)			
OTHER SPECIAL-STATUS SPECIES (cont.)			
Mexican long-tongued bat (<i>Choeronycteris mexicana</i>)	-/SSC/WBWG: High	Occurs in a variety of habitats such as, desert and montane riparian, chaparral, and woodlands. Feeds primarily on nectar, may also consume fruit juices and pollen.	Low. CNDDDB lists one historical occurrence within five miles of the Proposed Project site. The study area contains low quality roosting habitat to support this species.
northwestern San Diego pocket mouse (<i>Chaetodipus fallax fallax</i>)	-/SSC/-	Occurs in chaparral, sage scrubs, and grasslands with rocks and coarse gravel. Primarily granivorous, however will also consume green vegetation and insects.	Low. There are two CNDDDB historical occurrences within five miles of the Proposed Project site. The study area contains a moderate amount of habitat to support this species.
Dulzura pocket mouse (<i>Chaetodipus californicus femoralis</i>)	-/SSC/-	Occurs in chaparral, sage scrubs, and grasslands with rocks and coarse gravel. Primarily granivorous, however will also consume green vegetation and insects.	Low. There are two CNDDDB historical occurrences within five miles of the Proposed Project site. The study area contains limited suitable habitat to support this species.
San Diego desert woodrat (<i>Neotoma lepida intermedia</i>)	-/SSC/-	Occurs in coastal scrub of Southern California from San Diego county to San Luis Obispo county. Moderate to dense canopies are preferred; particularly abundant in rock outcrops and rocky cliffs and slopes.	Low. There six CNDDDB historical occurrences within five miles of the Proposed Project site between 1993 and 2000. The eastern end of the study area contains limited suitable habitat to support this species. However, this species was not observed in the study area during any of the biological surveys on the Project site.
San Diego black-tailed jackrabbit (<i>Lepus californicus bennettii</i>)	-/SSC/-	Found in intermediate canopy stages of shrub habitats and open shrub/herbaceous and tree/herbaceous edges in coastal sage scrub habitats in Southern California.	Present. This species was detected within the study area during focused plant surveys in 2014. There are four CNDDDB historical occurrences documented within five miles of the Proposed Project site and the study area contains suitable habitat to support this species.

SOURCE: CNDDDB 2017, SDG&E, 2016a

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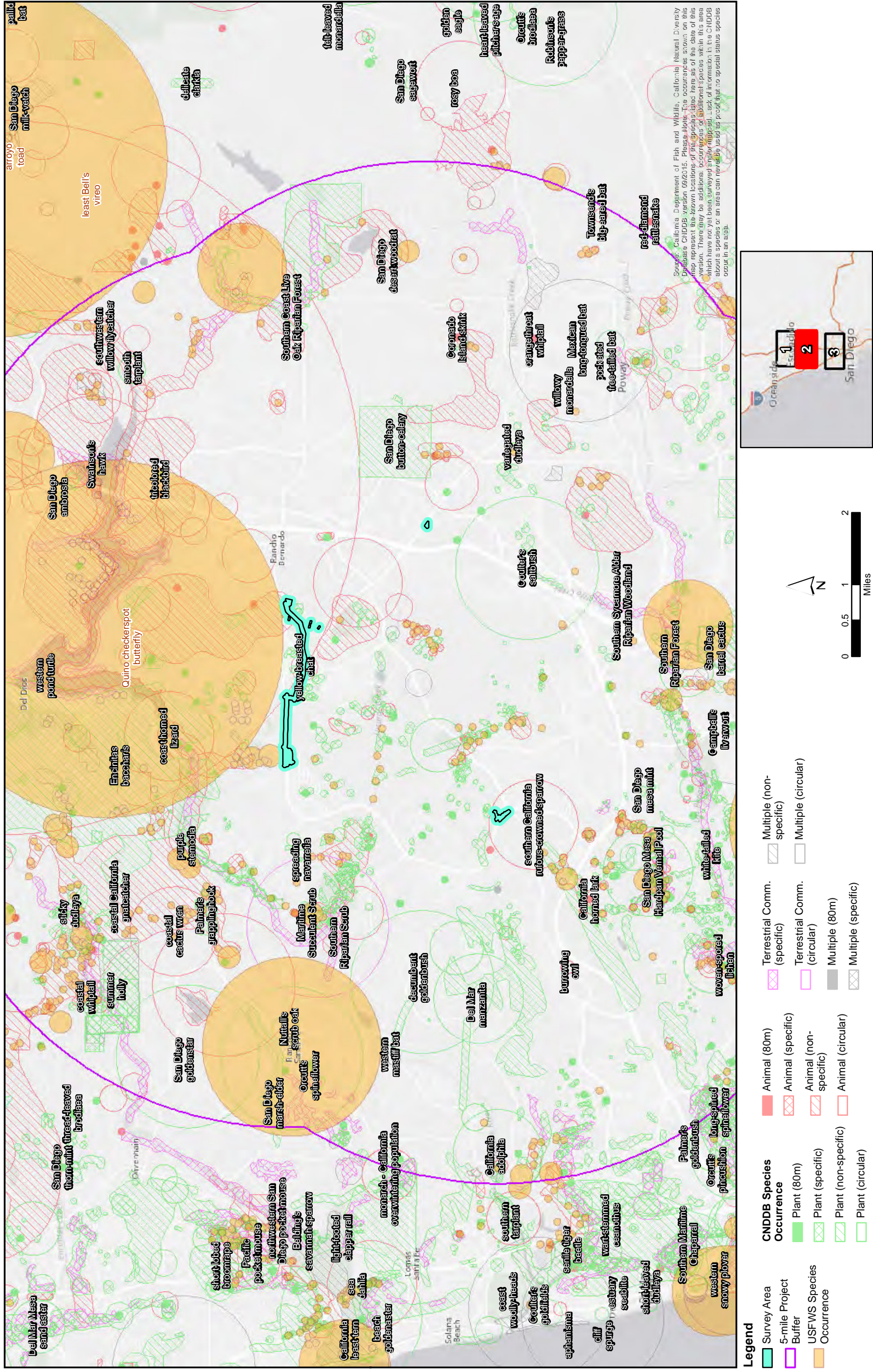


Figure 3.4-2b
CNDDb & USFWS Documented
Species Occurrences Map

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Three species (San Diego fairy shrimp [*Branchinecta sandiegonensis*], western pond turtle [*Actinemys marmorata*], and tricolored blackbird [*Agelaius tricolor*]) are unlikely to occur within the study area, because they are associated with vernal pools (permanent or nearly permanent bodies of water with vegetated banks and basking sites) or emergent wetlands with open water for foraging, neither of which occur within the study area. The quino checkerspot butterfly (QCB) was not found in focused surveys (Chambers Group 2016a). Thus, it is unlikely to occur in the study area, despite the presence of its primary host plant *Plantago erecta* and HCP habitat in the vicinity of Bernardo Substation.

Birds

All special-status avian species identified as present in the study area were observed foraging, but not nesting (SDG&E, 2016a). The burrowing owl and coastal California gnatcatcher were observed foraging within the study area, but no nests were observed, though suitable nesting habitat is present for both species (Chambers Group 2015, Chambers Group 2016d). The least Bell's vireo was also observed foraging within the study area (Chambers Group 2016c). The loggerhead shrike (*Lanius ludovicianus*; BCC, SSC) was observed foraging within the study area; it is considered to have a low potential to nest within the study area due to limited suitable nesting habitat. The northern harrier (*Circus cyaneus*), Cooper's hawk (*Accipiter cooperii*), yellow warbler (*Setophaga petechia*), yellow-breasted chat (*Icteria virens*), grasshopper sparrow (*Ammodramus savannarum*) and white-tailed kite (*Elanus leucurus*) were detected foraging and have a moderate potential to nest within the study area. The southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*) was observed foraging and has a high potential to nest within the study area.

Mammals

One mammal species, San Diego black-tailed jackrabbit, has moderate potential to occur within the Carmel Valley Road staging yard. This species was detected within the study area during focused plant surveys conducted for the Proposed Project in 2014 (SDG&E 2016a). There are four CNDDDB historical occurrences documented within five miles of the Proposed Project and the study area contains a moderate amount of suitable habitat to support this species. No other special status mammal species have potential to occur on the Project site.

Special-Status Plants

Of the 37 special status plant species with potential to occur in the study area (**Table 3.4-3**), eight species are present based on the results of the focused surveys (SDG&E, 2016a). These species are listed in **Table 3.4-4** below.

CRPR Rank 1B or 2 species observed in the study area include: decumbent goldenbush (*Isocoma menziesii* var. *decumbens*), Nuttall's scrub oak (*Quercus dumosa*), San Diego barrel cactus (*Ferocactus viridescens*), Tecate cypress (*Hesperocyparis forbesii*; CRPR 1B.1, NCCP-covered), and San Diego marsh-elder (*Iva hayesiana*). CRPR 1B species are considered endangered throughout their range, and CRPR 2B species are considered endangered in California but are more common elsewhere.

TABLE 3.4.3
POTENTIAL FOR SPECIAL-STATUS PLANT SPECIES TO OCCUR IN THE STUDY AREA

Common Name (Scientific Name)	Status^a Federal/State/ CRPR/Local	Blooming Period	Habitat Association	Potential to Occur in Study Area
San Diego thorn-mint (<i>Acanthomintha ilicifolia</i>)	FE/--/List 1B.1/covered	April-June	Annual herb. Occurs in vernal pools, clay, openings, chaparral, valley and foothill grassland, and coastal sage scrub habitats. Can be found at elevations between 33 and 3,150 feet.	Low. Marginally suitable habitat occurs within the study area. This species was not observed during focused surveys.
California adolphia (<i>Adolphia californica</i>)	--/--/List 2B.1/ covered	Dec-April	Shrub. Occurs in chaparral and coastal sage scrub habitats. Can be found at elevation below 1312 feet.	Moderate. Suitable habitat occurs within the study area and is within the elevation range of the species. Historical records show this species has occurred within the study area. However, this species was not observed during the focused surveys.
San Diego ambrosia (<i>Ambrosia pumila</i>)	FE/--/ List 1B.1/ covered	April- October	Perennial rhizomatous herb. Occurs in disturbed areas, chaparral, coastal scrub, valley and foothill grassland, and vernal pool habitats. Can be found at elevations less than 1,360 feet.	Moderate. Suitable habitat occurs within the study area and is within the elevation range of the species. Historical records show this species has occurred within the study area. However, this species was not observed during the focused surveys.
Del Mar manzanita (<i>Arctostaphylos glandulosa</i> ssp. <i>crassifolia</i>)	FE/--/List 1B.1/-	December -February	Perennial shrub. Occurs in coastal chaparral habitat. Can be found at elevations below 328 feet.	Low. No suitable habitat occurs within the study area. This species was not observed during the focused surveys.
Coulter's saltbush (<i>Atriplex coulteri</i>)	--/--/List 1B.2/-	March- October	Perennial herb. This species often grows in alkaline or clay soils, coastal dunes, coastal scrub, and coastal bluff scrub. Can be found at elevations less than 1,500 feet.	Moderate. Suitable habitat occurs within the study area and is within the elevation range of the species. However, this species was not observed during the focused surveys.
south coast saltscale (<i>Atriplex pacifica</i>)	--/--/List 1B.2/-	March- October	Annual herb. Occurs in coastal bluff scrub, dunes, and playa habitats. Can be found at elevations less than 460 feet.	Moderate. Suitable habitat occurs within the study area and is within the elevation range of the species. However, this species was not observed during the focused surveys.
Encinitas baccharis (<i>Baccharis vanessae</i>)	FT/CE/List 1B.1/covered	August- November	Perennial deciduous shrub. Occurs in chaparral (maritime) and cismontane woodland habitats. Can be found at elevations between 200 and 2,360 feet.	Moderate. Suitable habitat occurs on the Proposed Project site and the site is within the elevation range of the species. However, this species was not observed during the focused surveys.
San Diego goldenstar (<i>Bloomeria clevelandii</i>)	--/--/List 1B.1/covered	April-May	Perennial bulbiferous herb. Occurs in chaparral, valley and foothill grassland, coastal scrub, and vernal pool habitats. Can be found at elevations between 164 and 1,525 feet.	Moderate. Suitable habitat occurs on the Proposed Project site and is within the elevation range of the species. However, this species was not observed during the focused surveys.

TABLE 3.4.3 (CONTINUED)
POTENTIAL FOR SPECIAL-STATUS PLANT SPECIES TO OCCUR IN THE STUDY AREA

Common Name (Scientific Name)	Status ^a Federal/State/ CRPR/Local	Blooming Period	Habitat Association	Potential to Occur in Study Area
thread-leaved brodiaea (<i>Brodiaea filifolia</i>)	FT/CE List 1B.1/-	March-June	Perennial bulbiferous herb. This species is found in shallow seasonal pools and depressions of water, usually swales in grassland habitat or vernal pools, typically at elevations between 82 and 2,789 feet.	Low. Marginal habitat occurs on the Proposed Project site and is within the elevation range of species. However, this species was not observed during the focused surveys.
Orcutt's brodiaea (<i>Brodiaea orcuttii</i>)	--/--/List 1B.1	May-July	Annual herb. Occurs in grassland near streams and vernal pools. Can be found at elevations between 98 and 5,560 feet.	Low. Marginal habitat occurs on the Proposed Project site and is within the elevation range of species. However, this species was not observed during the focused surveys.
wart-stemmed ceanothus (<i>Ceanothus verrucosus</i>)	--/--/List 2B.2/covered	January-April	Evergreen shrub. Occurs on rocky slopes in chaparral habitats at elevations below 1,148 feet.	Low. Marginal habitat occurs on the Proposed Project site and is within the elevation range of species. However, this species was not observed during the focused surveys.
southern tarplant (<i>Centromadia parryi</i> subsp. <i>australis</i>)	--/--/List 1B.1/-	Jun-Oct	Annual herb. Occurs in salt marshes, grasslands, vernal pools, and coastal scrub. Can be found at elevations below 656 feet.	Moderate. Suitable habitat occurs on the Proposed Project site and is within the elevation range of the species. However, this species was not observed during the focused surveys.
smooth tarplant (<i>Centromadia pungens</i>)	FT/SR/List 1B.2	Jun-Oct	Annual herb. Occurs in salt marshes, grasslands, vernal pools, and coastal scrub. Can be found at elevations below 656 feet.	Moderate. Suitable habitat occurs on the Proposed Project site and is within the elevation range of the species. However, this species was not observed during the focused surveys.
Orcutt's spineflower (<i>Chorizanthe orcuttiana</i>)	FE/CE/List 1B.1	March-May	Annual herb. Occurs in sandy, open areas within coastal scrub habitats. Can be found at elevations between 196 and 656 feet.	Low. Marginal habitat occurs on the Proposed Project site and is within the elevation range of species. However, this species was not observed during the focused surveys.

TABLE 3.4.3 (CONTINUED)
POTENTIAL FOR SPECIAL-STATUS PLANT SPECIES TO OCCUR IN THE STUDY AREA

Common Name (Scientific Name)	Status^a Federal/State/ CRPR/Local	Blooming Period	Habitat Association	Potential to Occur in Study Area
long-spined spineflower (<i>Chorizanthe polygonoides</i> var. <i>longispina</i>)	--/--/List 1B.2	April-July	Annual herb. Occurs in clay soils of chaparral, coastal scrub, meadows and seeps, valley and foothill grassland, and vernal pools. Can be found at elevations between 100 and 5,020 feet.	Moderate. Suitable habitat occurs on the Proposed Project site and is within the elevation range of species. However, this species was not observed during the focused surveys.
summer holly (<i>Comarostaphylis diversifolia</i> ssp. <i>diversifolia</i>)	--/--/List 1B.2	April-June	Evergreen shrub. This shrub occurs in chaparral habitats at elevations between 328 and 1,804 feet.	Absent. No suitable habitat occurs within the study area and this species was not observed during the focused surveys.
delicate clarkia (<i>Clarkia delicata</i>)	--/--/List 1B.2	April-June	Annual herb. This herb occurs in chaparral and oak woodland habitats at elevations below 3,281 feet.	Low. Marginal habitat occurs on the Proposed Project site and is within the elevation range of species. However, this species was not observed during the focused surveys.
Del Mar Mesa sand aster (<i>Corethrogyne filaginifolia</i> var. <i>linifolia</i>)	--/--/List 1B.1	May - September	Perennial herb. This species is found in openings of coastal chaparral and coastal sage scrub habitats at elevations between 49 and 492 feet.	Low. Occurrence potential for this species within the study area is low. Marginal habitat occurs on the Proposed Project site and is within the elevation range of species. However, this species was not observed during the focused surveys.
variegated dudleya (<i>Dudleya variegata</i>)	--/--/List 1B.2/covered	April-June	Perennial herb. This species is found in heavy clay soils within chaparral, cismontane woodland, coastal scrub, valley and foothill grassland, and vernal pool habitats at elevations between 10 and 1,900 feet	Moderate. Suitable habitat occurs within the study area and is within the elevation range of the species. Historical records show this species has occurred within the study area. However, this species was not observed during the focused surveys.
sticky dudleya (<i>Dudleya viscidia</i>)	--/--/List 1B.2	May-June	Perennial herb. This succulent occurs on bluffs and rocky cliffs within chaparral and coastal sage scrub habitats at elevations below 1,476 feet.	Low. Marginal habitat occurs on the Proposed Project site and is within the elevation range of species. However, this species was not observed during the focused surveys.

TABLE 3.4.3 (CONTINUED)
POTENTIAL FOR SPECIAL-STATUS PLANT SPECIES TO OCCUR IN THE STUDY AREA

Common Name (Scientific Name)	Status ^a Federal/State/ CRPR/Local	Blooming Period	Habitat Association	Potential to Occur in Study Area
Palmer's Goldenbush (<i>Ericameria palmeri</i> var. <i>palmeri</i>)	--/--/List 1B.1	September – November	Perennial shrub. This shrub occurs in coastal sage scrub and chaparral habitats below 8,202 feet.	High. Suitable habitat occurs within the study area and is within the elevation range of the species. Historical records show this species has occurred within the study area. However, this species was not observed during the focused surveys.
San Diego button-celery (<i>Eryngium aristulatum</i> var. <i>parishii</i>)	FE/CE/List 1B.1/ Covered	April-June	Annual/perennial herb. This species can be found mesic soils of coastal scrub, valley and foothill grassland, and vernal pools. San Diego button-celery can be found at elevations between 65 and 2,034 feet.	Low. Marginal habitat occurs on the Proposed Project site and is within the elevation range of species. However, this species was not observed during focused surveys.
San Diego barrel cactus (<i>Ferocactus viridescens</i>)	--/--/List 2B.1/covered	May-June	Stem succulent. This barrel cactus species grows in sandy and rocky areas within chaparral, coastal sage scrub, vernal pools, and valley grassland habitats at elevations between 10 and 1,476 feet.	Present. This species was observed within the study area during focused surveys.
Campbell's liverwort (<i>Geothallus tuberosus</i>)	--/--/List 1B.1	n/a	Liverwort. This bryophyte occurs in mesic soils of coastal scrub and vernal pool habitats.	Moderate. Suitable habitat occurs within the study area. Historical records show this species has occurred within the study area. However, this species was not observed during the focused surveys.
Tecate cypress (<i>Hesperocyparis forbesii</i>)	--/--/List 1B.2/ covered	n/a	Perennial tree. This evergreen cypress is typically found growing on hillsides and canyons in mountain chaparral habitat elevations between 1,476 and 4,921 feet.	Present. This species was observed within the study area, approximately 35 feet east of pole R18.
decumbent goldenbush (<i>Isocoma menziesii</i> var. <i>decumbens</i>)	--/--/List 1B.2	April-November	Perennial shrub. This variety of goldenbush favors hillsides and arroyos in sandy soils in coastal scrub, grassland, and disturbed habitat	Present. This species was observed within the study area and in immediately adjacent areas.
San Diego marsh-elder (<i>Iva hayesiana</i>)	--/--/List 2B.2	April-October	Perennial herb. This rhizomatous subshrub is associated with streambeds, depressions, and alkaline sinks. San Diego marsh-elder can be found at elevations from 33 – 1,640 feet.	Present. This species was observed within the study area and in immediately adjacent areas.

TABLE 3.4.3 (CONTINUED)
POTENTIAL FOR SPECIAL-STATUS PLANT SPECIES TO OCCUR IN THE STUDY AREA

Common Name (Scientific Name)	Status ^a Federal/State/ CRPR/Local	Blooming Period	Habitat Association	Potential to Occur in Study Area
Southwestern spiny rush (<i>Juncus acutus</i> ssp. <i>leopoldii</i>)	--/4.2	May-June	Perennial herb (rhizomatous). This grass-like perennial is associated with moist habitats including salt marshes, alkaline seeps, meadows, and wetland/riparian habitats at elevations below 984 feet.	Present. This species was observed within the study area and in immediately adjacent areas.
sea dahlia (<i>Leptosyne maritima</i>)	--/2B.2	March-May	Perennial herb. This species is found growing on sea bluffs in coastal sage scrub habitat at elevations below 66 feet.	Absent. No suitable habitat occurs within the study area and is not within the elevation range of the species. This species was not observed during the focused surveys.
felt leaved monardella (<i>Monardella hypoleuca</i> ssp. <i>lanata</i>)	--/CRPR List 1B.2	May-October	Perennial herb. Occurs on rocky, granitic slopes or hilltops in chaparral habitats at elevations between 984 and 4,921 feet.	Moderate. Patches of suitable habitat occurs within the study area and is within the elevation range of the species. Historical records show this species has occurred within the study area. However, this species was not observed during the focused surveys.
willowy monardella (<i>Monardella viminea</i>)	FE/CE/List 1B.1/covered	January-April	Perennial herb. Occurs on rocky washes with cobbles and 2 degrees alluvial bench at elevations below 1,312 feet.	Moderate. Suitable habitat occurs on Proposed Project site and is within the elevation range of the species.
spreading navarretia (<i>Navarretia fossalis</i>)	FT/--/List 1B.1/covered	April-June	Annual herb. This species is found growing in chenopod scrub, marsh/swamp, playa, and vernal pool habitats at elevations between 98 and 2,040 feet.	Moderate. Suitable habitat occurs on the Proposed Project site and is within the elevation range of species. However, this species was not observed during the focused surveys.
San Diego mesa mint (<i>Pogogyne abramsii</i>)	FE/CE/List 1B.1	March-June	Annual herb. Coastal terrace vernal pools within coastal sage scrub, chaparral, riparian, and freshwater wetland habitats at elevation ranging from 328 and 656 feet.	Low. Marginal habitat occurs on the Proposed Project site and is within the elevation range of species. However, this species was not observed during the focused surveys.
Nuttall's scrub oak (<i>Quercus dumosa</i>)	--/--/ List 1B.1	February-August	Perennial evergreen shrub. This species is found growing in sandy, clay loam, closed-cone coniferous forest, chaparral, and coastal scrub habitats at elevations between 49 and 1,300 feet.	Present. This species was observed within the study area.

TABLE 3.4.3 (CONTINUED)
POTENTIAL FOR SPECIAL-STATUS PLANT SPECIES TO OCCUR IN THE STUDY AREA

Common Name (Scientific Name)	Status^a Federal/State/ CRPR/Local	Blooming Period	Habitat Association	Potential to Occur in Study Area
Engelmann oak (<i>Quercus engelmannii</i>)	--/--/List 4.2	March-June	Perennial evergreen tree. This species favors foothills and slopes within chaparral, woodland, and valley grassland habitats at elevations below 4,265 feet.	Present. This species was observed within the study area and in immediately adjacent areas.
Ashy spike moss (<i>Selaginella cinerascens</i>)	--/--/List 4.1	N/A	Rhizomatous fern. This pteridophyte prefers sunny spots or under shrubs within chaparral and coastal sage scrub habitats at elevations under 1,804 feet.	Present. This species was observed within the study area and in immediately adjacent areas.
purple stemodia (<i>Stemodia durantifolia</i>)	--/--/CRPR List 2B.1	Year round	Perennial herb. This species can be found in Sonoran desert scrub, often on mesic, sandy soils at elevations between 591 and 984 feet.	Low. Marginal suitable habitat occurs within the study area and is within the elevation range of the species. Historical records show this species has occurred within the study area. However, this species was not observed during the focused surveys.

NOTES:

^a Status:**Federal**

FE = Endangered under the FESA
 FT = Threatened under the FESA

State

SE = Endangered under the CESA
 SR = Rare under the Native Plant Protection Act (NPPA)
 ST = Threatened under CESA
 FP = California Fully Protected
 SSC = Species of Special Concern

California Rare Plant Rank (CRPR)

1A = Plants presumed extinct in California
 1B = Plants, rare, threatened, or endangered in California and elsewhere
 2 = Plants rare, threatened, or endangered in California, but more common elsewhere
 3 = Plants for which more information is needed to determine status
 4 = Plants of limited distribution – a watch list
 0.1 = Seriously threatened in California
 0.2 = Fairly threatened in California

Local

covered = covered species under the City/County MSCP
 NEP = City of San Diego Narrow Endemic Plant

SOURCES: CNPS 2017, CNDDb 2017, SDG&E 2016a

**TABLE 3.4-4
SPECIAL-STATUS PLANT SPECIES OBSERVED WITHIN THE STUDY AREA**

Species Name	Listing Status ¹	Total Observed
Ashy spike-moss	--/--/4.1	>500
Decumbent goldenbush	--/--/1B.2	24
Nuttall's scrub oak	--/--/1B.1	12
Engelmann oak	--/--/4.2	30
San Diego barrel cactus	--/--/2B.1	1
San Diego marsh-elder	--/--/2B.2	>500
Southwestern spiny rush	--/--/4.2	>500
Tecate cypress	--/--/CRPR List 1B.2	1

¹ Federal/state/CNPS CRPR status

SOURCE: SDG&E, 2016a [Appendix A, Biological Technical Report]

Three additional CRPR 4 species were also detected in the study area: southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*), Engelmann oak (*Quercus engelmannii*), and ashy spike-moss (*Selaginella cinerascens*). CRPR 4 species are on a watch list of species with a limited distribution throughout California.

Of the remaining special status plant species that were not observed within the study area, two were considered absent because required habitat elements are not present within the study area. The remaining species were anticipated to have high, moderate or low potential to occur due to appropriate habitats and historical records but were not identified during the 2014 and 2015 focused plant surveys. These 21 species include annual herbs that bloom for a limited period each year: San Diego thornmint, south coast saltscale, Orcutt's brodiaea, long-spined spineflower, San Diego button-celery, spreading navarretia, southern tarplant, smooth tarplant, Orcutt's spineflower, delicate clarkia, California adolphia, and San Diego mesa mint. Additionally, they include a bryophyte, Campbell's liverwort, perennial bulbs such as San Diego goldenstar and thread-leaved brodiaea, or perennial herbs that are observable year-round including, San Diego ambrosia, Coulter's saltbush, Del Mar sand aster, variegated dudleya, sticky dudleya, felt-leaved monardella, willowy monardella, Palmer's goldenbush, wart-stemmed ceanothus, Encinitas baccharis and purple stemodia. (SDG&E 2016a).

Critical Habitat

The locations of USFWS critical habitat areas for listed species were evaluated using GIS data relative to the study area. As shown in **Figure 3.4-3**, no USFWS critical habitat has been designated within the study area.

USFWS critical habitat for San Diego ambrosia has been mapped within two miles of Artesian Substation, and according to the CNDDb, the closest historical occurrence of San Diego ambrosia is approximately 1.6 miles from the Bernardo Substation. San Diego ambrosia was not observed within the study area during 2014 and 2015. USFWS critical habitat for thread-leaved



SOURCE: Chambers Group

CPUC Artesian Substation . 120812.02

Figure 3.4-3
USFWS Designated Critical Habitat

brodiaea has been mapped approximately one mile west of Artesian Substation and according to the CNDDDB, the closest historical occurrence is approximately five miles from Artesian Substation. Thread-leaved brodiaea was not observed within the study area in 2014 and 2015.

Critical habitat for CAGN is mapped in several areas ranging from 2.6 miles to five miles from the study area. Critical habitat for the arroyo toad is mapped within approximately four miles of the study area. Critical habitat for San Diego fairy shrimp is located five miles to the southwest, south of Deer Canyon. The study area does not contain suitable vernal pool habitat to support San Diego fairy shrimp.

Jurisdictional Wetlands and Waters

An aquatic constraints mapping effort was performed in 2014 to gather field data at potential wetland and non-wetland water resource areas under state or federal jurisdiction (SDG&E, 2016a). Field verification and additional surveys to determine if work areas could be located away from aquatic resources were conducted in 2015 (SDG&E, 2016a).

Three aquatic features under the jurisdiction of USACE, RWQCB, and CDFW are located within the study area. Aquatic Feature (AF)-1 is an isolated wetland comprised of arroyo willow – mule fat woodland habitat that occurs to the southwest of the Artesian Substation and pole locations E01 and P01. An historic National Wetland Inventory (NWI) freshwater emergent wetland existed prior to development in the area. The historic wetland area is part of the headwaters of an unnamed tributary, which connects to the unnamed tributary of AF-2, and into the San Dieguito River which flows ultimately into the Pacific Ocean. This wetland area now appears to be fed by an existing culvert that receives water from the residential area to the east, and is located within an existing restoration area.

AF-2 is an unnamed tributary near pole location E09 to pole location E23, spanning approximately 1.5 miles. The unnamed tributary flows west and north for approximately 3.6 miles to the confluence with the San Dieguito River, immediately downstream of the Lake Hodges Reservoir. The San Dieguito River continues westward approximately 11 miles to the San Dieguito Lagoon and the Pacific Ocean near Del Mar, San Diego County. The NWI layers show this area to be comprised of freshwater emergent marsh and freshwater forested/shrub wetland areas. The riparian/wetland vegetation within this aquatic feature includes arroyo willow – mule fat woodland, sandbar willow thickets, cattail marshes, spiny rush marsh, pale spike rush marsh, and salt grass flats.

AF-3 is an isolated riparian feature located along the northern boundary of Four Gee Road Staging Yard. The unnamed tributary is located approximately 590 feet from the southern boundary of the Four Gee Road Staging Yard. Cattail marshes and planted arroyo willow – mule fat woodland are located at the northeast corner and the along a portion of the northwestern boundary, respectively. No hydrological connectivity to any downstream jurisdictional water feature is associated with the unnamed tributary. The source of water for the cattails is likely associated with runoff and percolation from the surrounding residential units in the area.

Non-jurisdictional features are also located within the study area and include brow ditches to the south of Artesian Substation and a water detention basin to the west of the substation, which would be expanded as part of the Project. Based on an analysis of historical aerial images and topographic maps, no historical aquatic resource existed in the brow ditch or water detention basin areas. Brow ditches are man-made features which were constructed within uplands to address storm water surface flows and are therefore exempt from USACE, RWQCB, and CDFW jurisdiction.

Wildlife Movement and Corridors

Wildlife corridors provide linkages (wildlife travel corridors) between otherwise fragmented patches of habitat caused by changes in vegetation communities, rugged terrain, and human disturbances. These linkages may be drainages, canyons, or ridgelines that provide access to foraging areas, water, breeding sites, and dispersal areas. These corridors provide cover and shelter during travel. Disturbance to wildlife corridors from human disturbance and development can cause harm to migrating species, cause species to exceed their population thresholds, and/or prevent healthy gene flow between populations.

Terrestrial wildlife species migrate through both upland and drainage areas, depending on the species. Species that need protective cover from predators (e.g., mammals, reptiles, and smaller avian species) tend to migrate along natural drainages and riparian corridors that have a high vegetative cover, such as the unnamed tributary to the San Dieguito River that the alignment runs along. These areas also serve as an important source of food resources (e.g., insects and seeds) for these species. Predator species, such as bobcat (*Lynx rufus*) or mountain lion (*Puma concolor*), which occur in the region, require larger portions of intact habitat, including interconnected upland and riparian systems for migration. Ralph's Ranch north of Bernardo Substation may provide such habitat for large mammals, as well as valuable habitat for reptiles, amphibians, migratory birds and QCB.

The Proposed Project would be located within an area that includes an approximately 1.5-mile stretch of a local wildlife movement corridor, the unnamed tributary to the San Dieguito River, shown on Figures 3.4.1-c to f. The unnamed tributary drains west and north for approximately 3.6 river miles to the confluence with the San Dieguito River, immediately downstream of the Lake Hodges Reservoir. Riparian habitat present along this corridor provides foraging habitat, protection, and water resources for wildlife and connects open space habitat areas. Riparian systems harbor a high abundance of diversity in southern California. The unnamed tributary serves as a critical wildlife corridor for insect, amphibian, reptile, amphibian, mammal, and avian species through an increasingly developed region with limited open space.

3.4.2 Regulatory Setting

Federal

Federal Endangered Species Act

The Federal Endangered Species Act (FESA) (7 U.S.C. §136, 16 U.S.C. §1531 et seq.) protects fish and wildlife that are listed as endangered or threatened by the USFWS or the National Marine Fisheries Service (collectively referred to as the Services). The FESA prohibits unauthorized “take” of endangered and threatened species, with take defined as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct.” Harm has been defined to include significant habitat modification or degradation. For plants, this statute governs removing, possessing, maliciously damaging, or destroying any listed plant on federal land and removing, cutting, digging-up, damaging, or destroying any listed plant on non-federal land in knowing violation of the law. Effects on critical habitat are considered by the Services when determining the degree to which a proposed action may adversely affect listed species.

Under Section 7 of the FESA, federal agencies are required to consult with the Services if their actions, including permit approvals or funding, may adversely affect a threatened or endangered species, including plants, or its designated critical habitat. Through consultation and the issuance of a Biological Opinion, the Services may issue an incidental take statement allowing take of the species that is incidental to an otherwise authorized activity, provided the action would not jeopardize the continued existence of the species.

Under Section 10 of the FESA, an incidental take permit may be issued to a non-federal entity if take is incidental to an otherwise lawful activity, the incidental take permit application meets all issuance criteria, and a Habitat Conservation Plan is developed for the activity.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. §§703–711) protects all migratory birds, including active nests and eggs, and prohibits killing, possessing, or trading in migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. Birds protected under the MBTA include all native waterfowl, shorebirds, hawks, eagles, owls, doves, and other common birds such as ravens, crows, sparrows, finches, swallows, and others. Enforcement of the provisions of the MBTA is the joint responsibility of USFWS and CDFW.

Clean Water Act of 1972

The U.S. Army Corps of Engineers (USACE) administers Section 404 of the Clean Water Act of 1972 (33 U.S.C. §1251 et seq.), as amended (CWA). Section 404 regulates activities in wetlands and “other waters of the United States.” Wetlands are a subset of “waters of the United States” that are defined in the Code of Federal Regulations as waters used for interstate or foreign commerce, including all waters that are subject to the ebb and flow of the tide; interstate waters including wetlands; all other waters—such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural

ponds—which could affect interstate or foreign commerce; water impoundments; tributaries of waters; territorial seas; and adjacent wetlands.

State

California Environmental Quality Act

The California Environmental Quality Act is the regulatory framework by which California public agencies identify and mitigate significant environmental impacts. In addition to threatened and endangered species, a species not listed under the federal or state endangered species act may be considered rare if the species exists in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens. A species also may be considered rare if it is likely to become “threatened” as that term is used in the Federal Endangered Species Act (CEQA Guidelines §15380).

California Endangered Species Act

CESA (Fish and Game Code §2050 et seq.) generally parallels the main provisions of FESA. CDFW administers the listing of endangered and threatened species under CESA through Title 14, CCR Sections 670.2 and 670.5, and regulates these species under Fish and Game Code Section 2050 et seq. CDFW may allow take of such species through its issuance of permits pursuant to Fish and Game Code Section 2081, except for species designated “Fully Protected”. Unlike its federal counterpart, CESA adopts a narrower definition of “take,” and CESA’s protections apply to candidate species that have been petitioned for listing. Under CESA, “take” is defined as to “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill”. State lead agencies are required to consult with CDFW to ensure that any action undertaken would not jeopardize the continued existence of any endangered or threatened species or result in destruction or adverse modification of essential habitat.

Native Plants Protection Act

The Native Plant Protection Act (Fish and Game Code §1913) is intended to preserve, protect, and enhance endangered or rare native plants in California. Vascular plants identified as rare or endangered by the CDFW and the California Native Plant Society (CNPS), but which may have no designated status or protection under federal or state endangered species legislation, are defined according to a California Rare Plant Rank as follows:

- **Rank 1A:** Plants presumed extinct
- **Rank 1B:** Plants rare, threatened, or endangered in California and elsewhere
- **Rank 2:** Plants rare, threatened, or endangered in California, but more numerous elsewhere
- **Rank 3:** Plants about which more information is needed (a review list)
- **Rank 4:** Plants of limited distribution (a watch list)

Consistent with CEQA Guidelines §15380, plants designated with a CRPR of 1A, 1B, or 2 are considered to meet the criteria of endangered, rare, or threatened, and so are analyzed as “special-status species” in this document. Also pursuant to CEQA Guidelines §15380, CRPR 3 and 4

species deemed Locally Unusual and Significant (LU&S) may be analyzed under CEQA if there is sufficient information to assess potential impacts.

The Native Plant Protection Act exempts utility companies such as SDG&E from the requirement to obtain a “take” permit when only CESA-listed plants, and not habitat for CESA-listed wildlife species, would be affected by a project. Section 1913(b) states that “...the removal of endangered or rare native plants from a canal, lateral ditch, building site, or road, or other right-of-way by the owner of the land or his agent, or the performance by a public agency or a publicly or privately owned utility of its obligation to provide service to the public, shall not be restricted...because of the presence of rare or endangered plants, except as provided in subdivision (c).” Subdivision (c) requires the utility to provide CDFW ten days’ notice to salvage affected plants prior to construction.

Protection of Birds and Birds’ Nests

Under Fish and Game Code Section 3503, it is unlawful to take, possess, or needlessly destroy the nests or eggs of any bird, except as otherwise provided. Section 3503.5 makes it unlawful to take, possess or destroy birds of prey in the orders Falconiformes (e.g., bald eagle, golden eagle, Swainson’s hawk, American kestrel, peregrine falcon, prairie falcon) and Strigiformes (e.g., burrowing owl, short-eared owl), or to take, possess or destroy the nests or eggs of these birds. Disturbance that causes nest abandonment and/or reproductive failure is prohibited under the Fish and Game Code. This statute does not provide for the issuance of an incidental take permit. Under California Fish and Game Code Section 3513, it is unlawful to take or possess any migratory non-game bird except as provided by rules and regulations adopted under the federal Migratory Bird Treaty Act.

Species of Special Concern

Species of Special Concern is a category conferred by CDFW on animal species that meet the state definition of threatened or endangered, but have not been formally listed (e.g., federally or state-listed species), or are considered at risk of qualifying for threatened or endangered status in the future based on known threats. The designation is considered an administrative classification only, but CEQA lead agencies frequently consider these “special-status” for the purposes of their analyses and therefore any species that can be shown to meet the definition of “rare” or “endangered” under Section 15380 of the CEQA Guidelines has been evaluated within the discussion below.

Fully Protected Species

California Fish and Game Code Sections 3511, 4700, 5050, and 5515 apply “fully protected” status to 37 birds, mammals, reptiles, amphibians, and fish. CDFW may only authorize incidental “take” of Fully Protected species if the species is covered under an approved Natural Community Conservation Plan (NCCP). (Fish and Game Code Section §2835). Fully protected species with potential to occur in the study area are shown in Table 3.4-2.

California Special-status Natural Communities

CDFW maintains a list of vegetation communities that are of limited distribution, either statewide or in a county or region. Communities of special concern are assigned a state rank, based on their degree of imperilment (as measured by rarity, threats, and ecological trends). These communities do not necessarily contain special-status species or their habitat. Most wetlands and riparian plant communities are considered special-status natural communities. As noted in Section 3.4.1, *Environmental Setting*, the study area includes wetlands and riparian plant communities.

California Fish and Game Code Wetlands Regulations

CDFW regulates activities that would interfere with the natural flow of, or substantially alter, the channel, bed, or bank of a lake, river, or stream. The regulatory definition of a stream is a body of water that flows at least periodically or intermittently through a bed or channel having banks, and supports wildlife, fish, or other aquatic life. These activities are regulated under Fish and Game Code Section 1600 et seq. Requirements to protect the integrity of biological resources and water quality are often conditions of Streambed Alteration Agreements. As noted in Section 3.4.1, *Environmental Setting*, the study area includes streams that may support wildlife, fish, or other aquatic life.

State and Regional Water Quality Control Boards

Responsibility for the protection of state waters resides with the State Water Resources Control Board (SWRCB) and nine Regional Water Quality Control Boards (RWQCBs), including the San Diego Region RWQCB. Waters of the state are defined as “any surface water or groundwater, including saline waters, within the boundaries of the state” (Water Code § 13050(e)). All waters of the United States that are within the borders of California also are “waters of the state.” The Federal government, through the USACE, may have concurrent jurisdiction over such waters, but California still retains authority to regulate discharges. Any person discharging, or proposing to discharge, waste within any region that could affect “waters of the state” first must file a report of waste discharge with the appropriate RWQCB (Water Code §13260).

Local

The California Public Utilities Commission (CPUC) has sole and exclusive state jurisdiction over the siting and design of the Project. Pursuant to CPUC General Order No. 131-D, Section XIV.B, “Local jurisdictions acting pursuant to local authority are preempted from regulating electric power line projects, distribution lines, substations, or electric facilities constructed by public utilities subject to the CPUC’s jurisdiction. However, in locating such projects, the public utilities shall consult with local agencies regarding land use matters.” Consequently, public utilities are directed to consider local regulations and consult with local agencies, but the counties and cities’ regulations are not applicable as the counties and cities do not have jurisdiction over the Project. Relevant local policies and ordinances for the jurisdictions that would be crossed by the Project are summarized below for informational purposes only.

Existing SDG&E Plans

The following Natural Community Conservation Plans (NCCPs) and Habitat Conservation Plans (HCPs) were developed by SDG&E and approved by USFWS and CDFW to minimize potential impacts of SDG&E projects to sensitive biological resources. Requirements and obligations of the plans summarized below are independently enforceable and would apply to the Project.

SDG&E Subregional NCCP

In December 1995, the USFWS and CDFW approved the SDG&E Subregional NCCP (SDG&E, 2016b), which was developed for the purpose of addressing potential impacts to species and habitat associated with SDG&E's ongoing installation, use, maintenance, and repair of its gas and electric systems. Also included in the NCCP are guidelines pertaining to the typical expansion of SDG&E's systems throughout much of its existing service territory. As a part of the SDG&E Subregional NCCP, SDG&E has been issued an incidental take permit (Permit PRT-809637) by the USFWS and CDFW for 110 covered species. The SDG&E Subregional NCCP was developed by following the multiple species and habitat conservation planning approach.

The SDG&E Subregional NCCP includes avoidance and minimization measures and operational protocols that apply to construction as well as to operations and maintenance activities. In approving the NCCP, the USFWS and CDFW determined that implementation of the avoidance and minimization measures and operational protocols would avoid potential impacts and provide appropriate mitigation where such impacts are unavoidable. The agencies also determined that the NCCP ensured the protection and conservation of federal and state listed species and covered species.

The Proposed Project would be located within the area where SDG&E's utility operations are governed by the NCCP. SDG&E has indicated that it may seek incidental take coverage for temporary and permanent impacts to natural habitat resulting from construction of the Proposed Project through the NCCP, and may rely on the mitigation bank associated with the NCCP to fulfill the mitigation requirements for those impacts (SDG&E 2016a). Alternatively, SDG&E may consult with USFWS and CDFW for compliance with the FESA and CESA for construction of the Proposed Project. Any Proposed Project-specific ITP would require mitigation consistent with the mitigation requirements in the NCCP, or as specified through consultation with USFWS and CDFW. For operation and maintenance of the Proposed Project, SDG&E would use the NCCP to comply with the FESA and CESA (SDG&E 2016a).

San Diego Gas & Electric Company's Low-Effect Habitat Conservation Plan for the Quino Checkerspot Butterfly

The QCB received federal protection under the FESA in 1997 (USFWS 2002). QCB is covered under the USFWS-approved SDG&E Low-Effect QCB HCP, which emphasizes protection of habitat through impact avoidance and use of operational protocols designed to avoid or minimize impacts to the QCB (SDG&E, 2007). Lands outside the HCP-mapped area are considered unsuitable for QCB under the HCP, and no additional surveys or mitigation are required for activities covered under the Low-Effect HCP occurring outside the mapped area. The HCP addresses potential impact to the QCB from the use, maintenance, and repair of existing gas and

electric facilities and allows for typical expansions to those systems. In addition to maintenance of existing access roads, SDG&E activities covered by the HCP include, without limitation, all current and future actions arising out of, or in any way connected with, the siting, design, installation, construction, use, maintenance, operation, repair, and removal of facilities within SDG&E's service territory. Pole and tower replacement is one example of these covered activities.

The Low-Effect HCP for QCB establishes mitigation ratios for both temporary and permanent impacts to QCB suitable occupied and unoccupied habitat as a result of SDG&E activities occurring within the HCP mapped area (SDG&E, 2016a). Approximately 3.6 acres of QCB HCP-mapped areas is present in the study area along Rancho Bernardo Road on the north side of the road, from approximately 200 feet west of pole location 19, to just east of pole location 21.

3.4.3 Applicant Proposed Measures

SDG&E has committed to implementing the following Applicant Proposed Measures (APMs) to avoid or reduce potential impacts to biological resources from the Proposed Project:

APM BIO-1: If work is scheduled to occur within suitable burrowing owl habitat (as determined in the Biological Technical Report), burrowing owl surveys will be conducted prior to construction consistent with the Take Avoidance Surveys described in the 2012 Staff Report on Burrowing Owl Mitigation. If burrowing owls are identified within approximately 150 meters (492 feet) of the proposed work area, SDG&E will implement the recommendations of said staff report to avoid impacts to burrowing owl.

APM BIO-2: SDG&E will compensate for temporary and permanent impacts according to Table 7.4 of the SDG&E NCCP.

APM BIO-3: If construction occurs during the nesting or breeding season, SDG&E will perform a site survey in the area where the work is to occur. This survey will be performed to determine the presence or absence of nesting birds. If an active nest is identified, (i.e., containing eggs or young) a suitable construction buffer will be implemented to ensure that the birds are not substantially adversely affected. If the birds are federal or state-listed species, SDG&E will consult with the USFWS and CDFW as necessary. Monitoring of the nest will continue until the birds have fledged or construction is no longer occurring on site.

APM BIO-4: SDG&E will complete a PSR for the entire Project area prior to construction to verify the location of rare plants.

APM BIO-5: SDG&E will complete a PSR for the entire Project area prior to construction to verify the location of sensitive biological resources.

APM BIO-6: Prior to the start of construction, SDG&E will conduct training of all project personnel regarding the appropriate work practices necessary to effectively implement the Proposed Project APMs, standard operating procedures, and to comply with the applicable environmental laws and regulations.

APM BIO-7: A biological monitor will be present during ground-disturbing and vegetation removal activities located within environmentally sensitive areas. Immediately prior to initial ground-disturbing activities and/or vegetation removal, the biological monitor will survey the site to ensure that no sensitive species will be impacted.

APM BIO-8: If modifications to the pole work areas are required to conduct the work, SDG&E's on-site environmental monitors, as appropriate, will assist construction crews in the field to locate pole work areas that avoid and minimize impacts to sensitive environmental resources.

3.4.4 Significance Criteria

According to Appendix G of the CEQA Guidelines, a project would result in significant biological resources effects on the environment if it would:

- a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS (including Lists 1A, 1B, and 2 plant species of the CNPS Inventory);
- b) Have a substantial adverse impact on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the CDFW or USFWS;
- 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; or
- f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Communities Conservation Plan, other approved local, regional, or state habitat conservation plan.

3.4.5 Environmental Impacts and Mitigation Measures

- a) **Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service: *LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.***

Special-Status Plants

Eight special-status plant species are known to occur in the study area and may be impacted during Project construction. These species are: San Diego marsh-elder, southwestern spiny rush, Engelmann oak, decumbent goldenbush, Nuttall's scrub oak, San Diego barrel cactus, Tecate cypress, and ashy spike-moss (see Table 3.4-3). Of these eight species, four species (decumbent goldenbush, Nuttall's scrub oak, San Diego barrel cactus and ashy spike-moss) occur adjacent to the areas of proposed construction and may be impacted as a result of the Project, either directly through plant destruction or indirectly from runoff and sedimentation, erosion, and fugitive dust, and unauthorized access outside of the disturbance area during construction. The fifth species, Tecate cypress, is considered an ornamental species in areas where it does not naturally occur,

such as around the Artesian Substation, and in areas of the reconductoring alignment. Impacts on this species therefore would be less than significant.

The remaining three species were observed within or close to the Project site and may be directly impacted by construction of the Project.

- San Diego marsh elder – CRPR List 2B.1 and non-NCCP Covered Species. San Diego marsh-elder historically occurs approximately 1.21 miles from the Proposed Project site. This species was observed in continuous stands within the culvert and along irrigation lines around the Artesian Substation and lining AF-2 and E14 from structures P10 – P16. This species is not naturally occurring at Artesian Substation and is considered ornamental at this location.
- southwestern spiny rush – a CRPR 4.2 and non-NCCP Covered Species. There are no historical occurrences of southwestern spiny rush within five miles of the Project site. This species was found in patches and continuous stands in the wet areas from structures R17 – E19.
- Engelmann oak – a CRPR 4.2 and non-NCCP Covered Species. Although, there are no historical records of Engelmann oak within five miles of the Project site, a total of 30 Engelmann oak trees were observed north of structures R10 – R12, P6, E5, E6, E7 and adjacent to structure R13. The trees appear to have been planted as part of landscaping or restoration efforts.

In summary, seven special status plants could be impacted by the Proposed Project: Southwestern spiny rush, Engelmann oak, ashy spike moss, decumbent goldenbush, Nuttall's scrub oak, and San Diego barrel cactus. However, impacts to these species would be avoided or mitigated to the maximum extent feasible through implementation of APMs and **Mitigation Measures BIO-1** and **BIO-2** discussed below during construction, reducing impacts to these species to a less than significant level.

Implementation of APMs BIO-2, BIO-4, BIO-6 and BIO-7 would result in the avoidance or reduction of potential impacts to any special-status plants that could be affected by the Project. APM BIO-2 would ensure compensation would be made by SDG&E for temporary and permanent impacts to federal or state-listed species habitat at a ratio of one to one, or as required by the USFWS and/or CDFW, if the NCCP is not used for mitigation for the Proposed Project. APM BIO-4 requires SDG&E to conduct special-status plant surveys for additional study areas prior to construction. APM BIO-6 would implement training of all Project personnel regarding the appropriate work practices necessary to avoid impacts to special status species. APMs BIO-7 and BIO-8 require a biological monitor to be present during ground-disturbing and vegetation removal activities located within environmentally sensitive areas, and the biological monitor would survey the site immediately prior to initial ground-disturbing activities and vegetation removal to ensure that no sensitive species would be impacted.

Implementation of these APMs would reduce potential impacts to special-status plants; however, this would not address potential impacts in areas that have not been surveyed for rare plants or provide adequate specifications for plant restoration. The implementation of Mitigation Measures BIO-1 and BIO 2, which require surveys for special-status plants and the

implementation of a Restoration and Mitigation Plan, would reduce the potential impacts to a less than significant level.

Mitigation Measure BIO-1: Plant Surveys. Consistent with the new 5-Year LE-HCP and the existing SDG&E Subregional NCCP, SDG&E will complete a PSR for the entire Project area prior to construction to verify the location of rare plants. Based on the PSR findings, to the extent feasible, the final project design shall avoid and minimize impacts on known special-status plant populations within and adjacent to the construction footprints, with complete avoidance of any non-covered federal or State-listed plant species. SDG&E and/or its contractors shall design facilities to avoid sensitive plant populations whenever possible, shall install exclusion fencing around sensitive plant populations with as large a buffer as possible to minimize the potential for direct and indirect impacts. Any special status plants that cannot be avoided will be mitigated under the terms of the PSR. Mitigation shall include relocation of plants and implementation of a Restoration and Mitigation Plan (see MM BIO-2).

Mitigation Measure BIO-2: Plant Salvage and Replanting. Where avoidance of non-listed plant species is not feasible even with the implementation of minimization efforts described under MM BIO-1, SDG&E and/or its contractors shall compensate for any loss through plant salvage and replanting, as follows:

- A qualified ecologist shall develop a Restoration and Mitigation Plan according to CDFW guidelines and in coordination with CDFW. At a minimum, the plan shall include collection of complete plants or reproductive structures (as appropriate) from affected plants, a full description of microhabitat conditions necessary for each affected species, seed germination requirements, proposed restoration techniques for temporarily disturbed occurrences, an assessment of potential transplant and enhancement sites, a description of performance criteria, and a monitoring program to follow the progress of transplanted individuals

Significance after Mitigation: Less than Significant.

Special-Status Wildlife

Invertebrates

Construction activities could potentially impact one sensitive invertebrate species: QCB. Habitat for this species is present within several portions of the study area. This species is covered under a Low-Effect HCP (see Section 3.4.2 for details) created by SDG&E and USFWS (SDG&E 2007). The QCB HCP mapped area includes approximately 3.6 acres at the eastern end of the study area. Proposed Project features P20, P21, R19, R20, and R21, and portions of Stringing Sites 15, 18, and 19, would be located within the HCP-mapped area. Within this mapped area, the Proposed Project would result in a total of 21,105 square feet (0.5 acre) of impacts to suitable QCB habitat which consists of 21,052 square feet of temporary impacts and 53 square feet of permanent impacts (SDG&E 2016a). Mapped areas in relation to the study area are contained within Rancho Bernardo Road and along the north side of the road, from approximately 200 feet west of pole location 19, to just east of pole location 21.

Focused surveys for QCB were conducted during the 2016 flight season, per APM BIO-5. No QCB were detected within the study area. The primary host plant for this species was present in the QCB

HCP habitat and QCB could occur in this area. In addition to direct habitat loss described above, indirect impacts could affect potential QCB habitat as a result of the generation of fugitive dust, which can cause habitat degradation by covering leaf surfaces and restricting photosynthesis. In addition, soil disturbance as a result of construction could support the inadvertent¹ introduction and establishment of exotic species within or adjacent to QCB habitat. Exotic species could adversely affect this species by reducing host plant growth, dispersal, and recruitment.

To reduce impacts to QCB habitat, APM BIO-7 would be implemented in addition to restoration activities described in Section 2.6.4.2 to restore habitat post-construction. Additionally, the Low-Effect HCP establishes mitigation ratios for both temporary and permanent impacts to QCB suitable occupied and unoccupied habitat as a result of SDG&E activities occurring within the HCP-mapped area. Implementation of Mitigation Measure BIO-3 would reduce remaining potentially significant impacts to suitable QCB habitat to a less than significant level.

Mitigation Measure BIO-3: QCB compensation. Where avoidance of suitable habitat for QCB is not feasible, SDG&E shall compensate for the loss through habitat-based compensatory mitigation per the SDG&E Low-Effect Habitat Conservation Plan for the Quino Checkerspot Butterfly.

Significance after Mitigation: Less than Significant.

Reptiles and Amphibians

Proposed Project construction may result in impacts to one sensitive amphibian species that has a moderate potential to occur within the utility corridor: western spadefoot toad, which is a California Species of Special Concern. The Proposed Project has been designed to avoid suitable habitat for this species. Therefore, direct impacts to western spadefoot or its habitat are not anticipated. Due to the presence of suitable habitat adjacent to Proposed Project access roads, temporary indirect impacts such as disruption of breeding behavior due to vehicle traffic and installation of temporary work areas may occur.

Project construction may also result in impacts to three reptile species of special concern that have a moderate potential to occur in the study area: coast horned lizard, orange-throated whiptail, and red diamond rattlesnake. Direct impacts to these species may include individual mortality due to Proposed Project traffic or entrapment, and loss of potential foraging and breeding habitat due to the installation of new poles. Temporary indirect impacts such as disruption of foraging behavior due to noise and disturbance at work areas for installation of new poles and stringing sites may also occur.

To reduce potential indirect impacts to special-status amphibian and reptile species, SDG&E would implement standard procedures and protocols as described in the SDG&E NCCP Operational Protocols (see Appendix 5.4-B: SDG&E Subregional Operational Protocols [SDG&E, 2016a]). These protocols include restricting vehicles to existing roads when feasible, defining disturbance areas, providing biological monitoring to assist crews in avoiding and minimizing impacts at sites

¹ Exotic species are opportunistic and often occupy disturbed and bare soils such as those created in utility line corridors during construction.

with the potential for indirect impacts, avoiding burrows, requiring the inspection of all trenches and excavations twice daily for wildlife entrapment, and requiring excavations to be sloped on one end to provide an escape route, and designing construction activities to avoid or minimize new disturbance. Additionally, implementation of APM BIO-6, APM BIO-7 and APM BIO-8 would aid in reducing potential indirect impacts through training of project personnel and onsite biological monitoring during ground-disturbing and vegetation removal activities. SDG&E's NCCP Operational Protocols and APM implementation would ensure that any potential impacts to special-status amphibian and reptile species would be reduced to a less than significant level.

Nesting Birds

Proposed construction activities may cause impacts to several special status and nesting avian species that have either been observed on site or have potential to breed or forage within the reconductoring alignment (see Table 3.4-2). Direct impacts could occur from nest abandonment or loss as a result of noise, disturbance or loss of nesting habitat. Wooden poles (which may support cavity nesters and raptors, depending on the design of cross-arms) may provide nesting and perching habitat, and tree and shrub vegetation providing nesting habitat and cover may be removed for stringing sites and temporary work areas for installation of new poles. Temporary indirect impacts could also occur as a result of increased noise and disturbance from construction equipment, personnel and vehicles and from fugitive dust and temporary displacement from foraging areas.

Species that could be affected by construction include CAGN and LBVI, which could be indirectly affected by loss of foraging habitat, noise and visual disturbance. The Project would not impact nesting habitat for these species. Northern harrier, white-tailed kite, grasshopper sparrow, Cooper's hawk, yellow warbler, yellow-breasted chat, and southern California rufous-crowned sparrow could be impacted by the removal of nesting and foraging habitat and also via temporary noise and visual disturbance and temporary loss of foraging and nesting habitat for staging yards and temporary work areas.

SDG&E would implement APM BIO-1, APM BIO-3, APM BIO-5, and APM BIO-7, as well as standard procedures and protocols as described in the SDG&E NCCP Operational Protocols. These protocols include restricting vehicles to existing roads when feasible, minimizing impacts by defining disturbance areas, providing biological monitoring to assist crews in avoiding and minimizing impacts at sites with the potential for direct impacts, and designing construction activities to avoid or minimize new disturbance. APM BIO-5 includes completion of surveys within all Project areas to detect the presence, if any, of sensitive avian species and APM BIO-3 requires nesting bird surveys construction during nesting season. Implementation of APMs and SDG&E's NCCP Operational Protocols would ensure that any potential direct and indirect impacts (both permanent and temporary) to special-status and nesting avian species would be reduced to a less than significant level.

Utility lines and other Proposed Project-related structures provide potential perching opportunities for raptor species, which can increase the potential for predation of wildlife, including sensitive bird and mammal species, by raptors. However, as the Proposed Project

generally involves the replacement of existing facilities, the extent of predation on sensitive and common wildlife species is not anticipated to differ substantially from existing levels.

Concerns regarding potential electrocution of wildlife species from power lines are primarily focused on avian species protected under the MBTA. Electrocution of avian species can occur from wing contact with two conductors or other energized equipment. Electrocution of avian species poses a greater potential hazard to larger birds, such as raptors, because their body sizes and wing spans are large enough to bridge the distance between the conductor wires and complete the electrical circuit. In addition to SDG&E's current construction standard, which includes increased phase spacing and cover-ups to reduce avian mortality from electrocution, the Proposed Project would comply with the Avian Power Line Interaction Committee's (APLIC) Suggested Practices for Avian Protection on Power Lines (APLIC 2012) to reduce the potential for electrocution to both avian and other wildlife species. General Order 95, which governs overhead power and transmission line design, includes mandatory phase spacing that meets or exceeds the APLIC standards. Power line structures would be constructed in compliance with SDG&E standards for avian protection. These measures minimize the potential for wildlife electrocution and ensure that associated impacts are less than significant.

Mammals

Proposed construction activities, including removing and installing utility poles and clearing vegetation during creation of work areas and stringing sites, may cause both direct and indirect impacts to one sensitive mammal species, black-tailed jackrabbit. This species was detected within the reconductoring alignment and could also occur within the Carmel Valley Road staging yard. Direct impacts to this species may include loss of shelter, foraging and burrowing habitat as a result of pole installation activities, or possible mortality of individuals. Indirect impacts may result from construction fugitive dust, visual disturbance, noise and ground vibration, which can temporarily cause the species to avoid areas near such activities. Implementation of APM BIO-6 and APM BIO-7 and SDG&E's NCCP Operational Protocols would ensure that any potential direct and indirect impacts to this species would be reduced to a less than significant level.

Operations and maintenance activities for the Proposed Project would be similar to existing conditions. Throughout the operation and maintenance of the Proposed Project, SDG&E would continue to implement the SDG&E Subregional NCCP Operational Protocols. These protocols include, but are not limited to, minimizing disturbance, minimizing impacts by defining the disturbance areas, restricting vehicles to existing roads when feasible, monitoring during clearing and grading activities, and minimizing erosion. With implementation of these NCCP Operational Protocols, impacts from operation and maintenance activities would be less than significant.

**b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service:
*LESS THAN SIGNIFICANT IMPACT.***

There are several vegetation communities that would be directly impacted by the Proposed Project (see **Table 3.4-5** below). Direct impacts to sensitive natural communities include vegetation loss. Permanent loss would occur from siting of Project components, while temporary

loss would occur during construction, although cleared areas would be restored post-construction (see Section 2.6.4.2). Indirect impacts could include inadvertent introduction of competitive exotic species and effects from fugitive dust, which can be deposited on plant leaves, reducing photosynthesis.

**TABLE 3.4-5
IMPACTS TO SENSITIVE VEGETATION COMMUNITIES**

Vegetation Communities	Approximate Impacts (acres)		
	Permanent	Temporary	Total
California Sagebrush-California Buckwheat Scrub	0.003	0.75	0.75
Disturbed California Sagebrush-California Buckwheat Scrub	0.17	0.60	0.77
Restored California Sagebrush-California Buckwheat Scrub	0.92	0.32	1.2
Restored/Disturbed California Sagebrush-California Buckwheat Scrub	0.0004	0.03	0.03
Cattail Marshes	0	0	0
Pale Spike Rush Marshes	0	0	0
Spiny Rush Marsh	0	0.04	0.04
Tall Cyperus	0	0	0
Arroyo Willow - Mulefat Woodland	0	0.002	0.002
Sandbar Willow Thickets	0	0.02	0.02
Salt Grass Flats			
Total	1.1	1.8	2.9

SOURCE: SDG&E 2016

The Proposed Project has been designed to avoid, when possible, sensitive vegetation communities. Avoidance design features include the placement of poles outside of drainage areas; use of existing access roads to the greatest extent possible; and placement of staging areas, laydown areas, and guard structures outside of sensitive habitats and supervision of some construction activities by a biological monitor to limit impacts on biological resources. Additionally, SDG&E would incorporate the protocols in the Subregional NCCP, which include, but are not limited to, designing the Proposed Project to avoid or minimize new disturbance and erosion, minimizing impacts by defining the disturbance areas, flagging habitats for avoidance during construction, and restricting vehicles to existing roads when feasible.

Where avoidance of sensitive vegetation communities is not possible, or where sensitive vegetation communities exist adjacent to Proposed Project work areas, SDG&E would implement APM BIO-2 to compensate for impacts to sensitive vegetation communities through the NCCP, or at a 1:1 ratio. Implementation of the NCCP Operational Protocols² and compensatory mitigation as required by SDG&E's NCCP, or -in the event the NCCP is not utilized- through

² As previously noted, SDG&E implements the NCCP Operational Protocols whether or not the NCCP is utilized for take coverage under the FESA and CESA.

coordination with CDFW and USFWS (APM BIO-2) for these vegetation communities would ensure that these impacts are reduced to a less than significant level.

Operations and maintenance activities for the Proposed Project would be similar to existing conditions. Throughout the operation and maintenance of the Proposed Project, SDG&E would continue to implement the SDG&E Subregional NCCP Operational Protocols, as described previously. With implementation of these NCCP Operational Protocols, impacts on sensitive natural communities from operation and maintenance activities would be less than significant.

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: *LESS THAN SIGNIFICANT IMPACT.*

No waters under the jurisdiction of USACE, RWQCB, and CDFW occur within or adjacent to any of the three Project substations. As a result, impacts to jurisdictional waters during the Artesian Substation expansion, work on the Bernardo and Rancho Carmel substations, widening and construction of the access road, or expansion of the detention basin, would not occur. With respect to wetland resources that could be impacted as a result of reconductoring, the Project design was modified to avoid impacts to aquatic resources under the jurisdiction of the USACE, CDFW, and RWQCB. If modifications to pole work areas are required, under APM BIO-8, work areas would be sited to avoid direct impacts to sensitive resources including wetlands and other waters of the U.S. and State. Avoidance measures include placing poles outside of jurisdictional areas, limiting access for overhead work in wetland/riparian areas to foot paths only, locating staging and stringing sites outside of jurisdictional areas, and shifting work spaces to avoid sensitive wetland/riparian areas. As a result of these design changes, no permanent and/or temporary impacts to wetland waters or non-wetland waters of the U.S. and/or waters of the State would occur as a result of the Project.

Indirect impacts to aquatic resources may occur as a result of fugitive dust, toxics, and runoff from machinery and equipment used for construction and grading of the Proposed Project. These potential indirect impacts would be avoided during construction by implementing measures outlined in the Project's Storm Water Pollution Prevention Plan (SWPPP) (see Section 3.10.2 for details). Additionally, Project design and implementation of APM BIO-7 and APM BIO-8 to minimize impacts to environmentally sensitive areas, and the NCCP Operational Protocols, would ensure that impacts to wetlands under the jurisdiction of the USACE, CDFW, and RWQCB would be less than significant.

Operations and maintenance activities for the Proposed Project would be similar to existing conditions. Throughout the operation and maintenance of the Proposed Project, SDG&E would continue to implement the SDG&E Subregional NCCP Operational Protocols, as described previously. With implementation of these NCCP Operational Protocols, impacts from operation and maintenance activities on wetlands and waters would be less than significant.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites: *LESS THAN SIGNIFICANT IMPACT.*

Construction activities at the three Project substations and staging yards would not substantially impact wildlife movement or use of a wildlife corridor. These locations are in developed and/or disturbed areas located within areas of urban development. They do not function as a wildlife movement corridor and are not part of any established movement corridor in the region.

With respect to the reconductoring alignment, Project construction would occur within an existing right-of-way along a 1.5-mile stretch of an unnamed tributary to the San Dieguito River. This channel functions as an important local wildlife movement corridor, though the 4-lane Bernardo Road presents a barrier between the channel and Ralph's Ranch habitat area near Bernardo Substation.

While wildlife in the vicinity of the alignment would be temporarily displaced from active work areas during the construction phase of the Project, following Project construction, wildlife would be able to move through the area as under pre-Project conditions. The Proposed Project would not substantially restrict general wildlife movement due to the temporary and intermittent nature of construction activities in the existing right-of-way. Restraining activity and pole replacement will occur at existing pole sites. As such, the Project would not create barriers to wildlife movement. In addition, no extension of the existing tie line is proposed; therefore, there would be no additional permanent effect on adjacent wildlife movement corridors for terrestrial species.

Construction vehicles have the potential to result in accidental injury to or mortality of on-site wildlife during construction; however, mobile wildlife would likely temporarily leave an area where construction activity is occurring. Worker environmental training (APM BIO-6) and biological monitoring during construction (APM BIO-7) would reduce the likelihood of impacts to wildlife movement from construction vehicles, and would reduce impacts of the Proposed Project on wildlife movement to a less than significant level.

Operations and maintenance activities for the Proposed Project would be similar to existing conditions. Throughout the operation and maintenance of the Proposed Project, SDG&E would continue to implement the SDG&E Subregional NCCP Operational Protocols, as described previously. With implementation of these NCCP Operational Protocols, impacts from operation and maintenance activities on wildlife movement and corridors would be less than significant.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance: *NO IMPACT.*

Construction and operation and maintenance of the Proposed Project would not conflict with any local environmental policies or ordinances to protect biological resources. The Proposed Project is located within the City of San Diego, and in unincorporated portions of San Diego County. The Project would adhere to the County of San Diego General Plan Conservation and Open Space (COS) policies which involve minimizing, managing, protecting, and restoring established preserves, native species, and biologically sensitive areas. Additionally, the Project would not

impact the City of San Diego's General Plan policies in the Open Space and Landform Preservation Section of the General Plan that provide long-term management of natural landforms and open space and serves to implement the MSCP. These General Plan policies would be followed through Project implementation of APMs and the SDG&E Subregional NCCP Operational Protocols. Therefore, the Proposed Project would not conflict with any local policies or plans protecting biological resources and there would be no impact under this criterion.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan: *NO IMPACT.*

SDG&E's existing NCCP and the Low-Effect HCP for QCB supersede the County of San Diego MSCP and approved Subarea Plans (i.e., City and County), and therefore are the only conservation plans that directly apply to the Proposed Project. The Proposed Project would not conflict with the provisions of either of these conservation plans. SDG&E would follow the Operational Protocols identified in the NCCP for construction and operations and maintenance of the Proposed Project. Additionally, SDG&E would follow the Low-Effect HCP for QCB for construction and operations and maintenance of the Proposed Project.

Although local plans are not directly applicable, the Proposed Project would not present a conflict with local HCPs and NCCPs, which include the City of San Diego MSCP Subarea Plan. Impacts within the mapped MHPA of the County of San Diego's Subarea Plan of the MSCP are temporary in nature and consistent with the policies outlined in those plans. In addition, the Proposed Project would not conflict with the monitoring, management, or maintenance of either the City or County of San Diego Subarea Plans of the MSCP, and specifically the MHPA. Therefore, the Proposed Project would not conflict with any local policies or plans protecting biological resources and there would be no impact under this criterion.

3.4.6 References

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3.5 Cultural Resources

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
5. CULTURAL RESOURCES—Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.5.1 Environmental Setting

Cultural resources include architectural resources, archaeological resources, tribal cultural resources, and organisms, fossil tracks and trackways, and plant fossils. This section provides an assessment of potential impacts on cultural and paleontological resources as a result of the Proposed Project.

The cultural resources study area for the Proposed Project comprises the entire Project footprint including all Project components, access roads, staging yard, the met station location, and pole replacement sites.

Prehistoric Period

The chronology of coastal southern California is typically divided into three general time periods: the Early Holocene (11,000 to 8,000 before present [B.P.]), the Middle Holocene (8,000 to 4,000 B.P.), and the Late Holocene (4,000 B.P. to A.D. 1769). Within this general timeframe, the archaeology of southern California is generally described in terms of cultural “complexes.” A complex is a specific archaeological manifestation of a general mode of life, characterized archaeologically by technology, particular artifacts, economic systems, trade, burial practices, and other aspects of culture.

Early Holocene (11,000 to 8,000 B.P.)

While it is not certain when humans first came to California, their presence in southern California by about 11,000 B.P. has been well documented. At Daisy Cave, on San Miguel Island (located in the Pacific Ocean off the coast of Los Angeles, cultural remains have been radiocarbon dated to between 11,100 and 10,950 years B.P. (Byrd and Raab, 2007). On the mainland, radiocarbon evidence confirms occupation of the Orange County and San Diego County coasts by about 9,000 B.P., primarily in lagoon and river valley locations (Gallegos, 2002). During the Early Holocene, the climate of southern California became warmer and more arid and the human

population, residing mainly in coastal or inland desert areas, began exploiting a wider range of plant and animal resources (Horne and McDougall, 2003).

The primary Early Holocene cultural complex in coastal southern California was the San Dieguito Complex. The people of the San Dieguito Complex (about 10,000–8,000 B.P.) inhabited the chaparral zones of southwestern California, exploiting the plant and animal resources of these ecological zones (Moratto, 1984; Warren, 1967). Leaf-shaped and large-stemmed projectile points are typical of San Dieguito Complex material culture.

Middle Holocene (8,000 to 4,000 B.P.)

During the Middle Holocene, there is evidence for the processing of acorns for food and for the increased importance of hunting (Horne and McDougall, 2003). The processing of plant foods, particularly acorns, increased, a wider variety of animals were hunted, and trade with neighboring regions intensified (Horne and McDougall, 2003). Major technological changes appeared as well, particularly with the advent of the bow and arrow, which largely replaced the use of the dart and atlatl, or spear thrower.

The Middle Holocene La Jolla Complex (about 8,000–4,000 B.P.) is essentially a continuation of the San Dieguito Complex. La Jolla groups lived in chaparral zones or along the coast, often migrating between the two. Coastal settlement focused around the bays and estuaries of coastal Orange and San Diego counties. La Jolla peoples produced large, coarse stone tools, but also produced well-made projectile points, and milling slabs. The La Jolla Complex represents a period of population growth and increasing social complexity, and it was also during this time period that the first evidence of the grinding of seeds for flour, as indicated by the abundance of millings in the archaeological record, appears (Horne and McDougall, 2003).

Late Holocene (4,000 B.P. to A.D. 1769)

During the Late Holocene, native populations of southern California were becoming less mobile and populations began to gather in small sedentary villages with satellite resource-gathering camps. Evidence indicates that the overexploitation of larger, high-ranked food resources may have led to a shift in subsistence. This shift focused on acquiring greater amounts of smaller resources, such as shellfish and small-seeded plants (Byrd and Raab, 2007). In coastal southern California, conditions became dryer and many lagoons had been transformed into saltwater marshes. Because of this, populations abandoned mesas, flat elevated landforms, and ridge tops to settle nearer to permanent freshwater resources (Gallegos, 2002). Although the intensity of trade had already been increasing, it reached its zenith during this time period, with asphaltum (tar), seashells and steatite being traded from southern California to the Great Basin.

Ethnographic Period

The greater San Diego area was inhabited by a group of people known generally as the Kumeyaay. The Kumeyaay are one of many local Native groups collectively referred to as the Diegueño, specifically representing populations occupying an area that encompassed roughly southern present-day San Diego County, southern Imperial County, and northern Baja California (Kroeber, 1925).

The Kumeyaay language belonged to the Yuman language family, Hokan stock (Luomala, 1978). Subsistence strategy for the Kumeyaay involved small-game hunting and resource gathering, with a noted reliance upon marine resources near San Diego Bay and along the Pacific Coast. Inland Kumeyaay populations relied primarily upon the exploitation of small game animals including insects, fish, birds, dove, rabbits, and squirrels, as well as abundantly available vegetal resources such as many varieties of seeds, principally the acorn, cacti, and herbaceous plants. Studies indicate that the Kumeyaay divided their seasonal subsistence between the mountain and the desert ecological zones. With the seasons, the Kumeyaay moved in small bands from one productive area to another to ensure a near constant food supply (Luomala, 1978).

In 1769, the Mission San Diego de Alcalá was founded and Kumeyaay were missionized and eventually moved onto reservations (Luomala, 1978). Today, Kumeyaay tribal members within the United States are divided into twelve federally recognized bands: Barona, Campo, Ewiiapaayp, Inaja-Cosmit, Jamul, La Posta, Manzanita, Mesa Grande, San Pasqual, Santa Ysabel, Sycuan, and Viejas. An additional San Diego County band, the Kwaaymii Laguna Band of Indians, is not federally recognized (NCSL, 2017). Several more Kumeyaay communities are present in Mexico.

Historic Period

The first European presence near present day San Diego came in 1542, when Juan Rodriguez Cabrillo led an expedition along the coast. Europeans did not return until 1769, when the expedition of Gaspar de Portola traveled overland from San Diego to San Francisco. In the late 18th century, the Spanish began establishing missions in California and forcibly relocating and converting native peoples (Horne and McDougall, 2003). The nearest mission to the Proposed Project site was Mission San Diego de Alcalá, founded in 1769 by Father Junipero Serra.

Disease and hard labor took a toll on the native populations; by 1900, the Native Californian population had declined by as much as 95 percent (Chartkoff and Chartkoff, 1984). In addition, native economies were disrupted, trade routes were interrupted, and native ways of life were significantly altered.

In 1821, Mexico, which included much of present-day California, became independent from Spain, and during the 1820s and 1830s the California missions were secularized. Mission property was supposed to have been held in trust for the Native Californians, but instead was handed over to civil administrators and then into private ownership. After secularization, many former Mission Indians were forced to leave the Missions and seek employment as laborers, ranch hands, or domestic servants (Horne and McDougall, 2003).

In 1848, gold was discovered in California, leading to a huge influx of people from other parts of North America. In 1850, California became part of the United States of America. The opening of the Butterfield Overland Stage route in 1858 and later the California Southern Railroad line in 1882 greatly increased the number of people coming to southern California.

City of San Diego

In 1768, Spain organized an expedition to settle California in response to encroaching Russian colonization from the north. The expedition consisted of both sea and overland contingents. After an arduous journey by sea, the first contingent sailed into San Diego Bay on April 29, 1768, and was followed by another contingent shortly thereafter. On May 14, Captain Fernando Rivera y Moncada led the advance party of the overland expedition to the shores of San Diego Bay. Moncada set up his headquarters in what is now the Old Town area of San Diego (Mills, 1967).

San Diego was officially founded on July 16, 1768 on a hill with a commanding view of Mission Valley, above Moncada's newly established headquarters. Father Junipero Serra, the Father President of the nascent mission system, dedicated the first mission and presidio in California on the site. Both were named San Diego. The presidio took the form of a square with ramparts constructed of adobe and was armed with brass cannon and housed officers, troops, and supplies. The mission formed a smaller rectangle surrounding an open parade ground and the commandant's house.

In 1774, the mission was moved to its present site about five miles up Mission Valley, where there was a large Indian village called *Nipaguay* (Mills, 1967). Ground was broken during the fall of 1774, but on November 4, four hundred Indians from the El Capitan area attacked and burned it down. Mission San Diego was rededicated in 1777 and soon grew to include vineyards, and orchards, as well as herds of cattle, horses, and sheep.

In 1821, Mexico declared its independence from Spain and on April 20, 1822, the Mexican flag was raised over the presidio. During the 1820s what is now Old Town came into existence and by 1829 San Diego was described as being a collection of thirty houses, mostly occupied by retired soldiers and their extensive families (Mills, 1967). The town in general was prospering at that time as a result of the developing hide trade with annual port revenues of \$34,000 (Mills, 1967). San Diego became the depot for the hide trade. Ships from Boston brought guns, powder, hardware, toilet articles, woolens, cotton goods, boots, shoes and other manufactured items to trade for the valuable hides. With the influx of American traders taking part in the hide trade, Mexican officials grew apprehensive over the increasing influence from the United States.

In 1846, American troops under Major John C. Fremont assisted in the establishment of the Bear Flag Republic in northern California. By January 1847, Mexico capitulated and ceded California to the new republic. The following year the Treaty of Guadalupe Hidalgo established California as a possession of the United States.

On April 15, 1867, Alonzo Erastus Horton arrived in San Diego. Soon after his arrival, Horton bought one thousand acres of what is now downtown San Diego for 26 cents an acre (Mills, 1967). He laid out a townsite, advertised his property widely, and erected buildings and a new wharf. As a result, the center of San Diego shifted from the "Old Town" originally established by the Spaniards to "New Town," established by Horton. In 1870, gold was discovered in the mountains east of San Diego resulting in a gold rush that further boosted the growing economy of the "New Town" site. San Diego continued to grow in the 1880s with the arrival of a railroad line from Los Angeles.

With the onset of World War I, San Diego became a military hub. Camp Kearny was established on the north side of Mission Valley to train soldiers who would serve in France. In 1921, the Naval Training Station was constructed and the Eleventh Naval District was created in 1922, with San Diego as its headquarters. The aircraft industry came to San Diego on the heels of Charles Lindbergh's transatlantic flight in the Spirit of St. Louis, which was constructed by the Ryan Aeronautical Company of San Diego (Mills, 1967). With the outbreak of World War II, the military establishments and the aircraft industry brought a huge influx of workers from all over the country.

Methodology and Known Resources

The following discussion regarding the identification of known cultural and paleontological resources within the study area is based on the following documents: *Archaeological Survey Report Artesian 230 kV Substation Expansion Project, San Diego County, California*, prepared by Chambers Group, Inc. (Levanetz and Tutschulte, 2015); *Supplemental Survey for Camino Del Sur Yard 2 in SDG&E's Proposed Sycamore to Peñasquitos Transmission Line Project, San Diego County, California*, prepared by ASM Affiliates (Williams, 2015); and *Paleontological Records Search – Transmission Line 6961 Sycamore to Bernardo*, prepared by the San Diego Natural History Museum (SDNHM) (El Adli, 2012). Additional information regarding the ages of the substations was provided by SDG&E (SDG&E 2016, 2017, Ruston, *personal communication*, 2017) and included the following dates of construction for each substation:

- Artesian Substation: built in 2002
- Bernardo Substation: built in 1970–1971
- Rancho Carmel Substation: built in 1987–1988

None of these built resources will have reached 50 years of age at the time of Proposed Project construction and are not considered further.

Records Searches

Records searches for the Proposed Project were conducted at the California Historical Resources Information System (CHRIS) South Coastal Information Center (SCIC) housed at San Diego State University (Levanetz and Tutschulte, 2015). The records searches included a review of all recorded cultural resources and previous investigations within a 0.5-mile radius of the Proposed Project site, as well as the National Register of Historic Places (National Register), the Historic Property Data File, the California Register of Historical Resources (California Register), the California Historical Landmarks, the California Inventory of Historic Resources, the California Points of Historical Interest and historic maps.

The records searches indicated that five previous cultural resources surveys had been conducted in the 0.5-mile records search radius. The records search also indicated that 68 cultural resources have been previously recorded within the 0.5-mile records search radius. Of these 68 resources, three (CA-SDI-5097, -12663, and -12747) overlap portions of the Proposed Project and five (CA-SDI-5098, -11487, -11508, -11744, and -13309) are located within or adjacent to (i.e., within 100 feet

of) various components of the Proposed Project site. Of these eight resources, seven are prehistoric archaeological sites (CA-SDI-5097, -5098, -11487, -11508, -11744, -12663, and -12747), and one is a historic-period archaeological site (CA-SDI-13309). Two of the sites (CA-SDI-11487 and -11508) have been previously recommended eligible for listing in the California Register, four (CA-SDI-5097, -12663, -12747 and -13309) have been previously recommended ineligible for listing in the California Register, and two (CA-SDI-5098 and -11744) have not been previously evaluated. A detailed description of each site is provided under Resource Descriptions, below.

Cultural Resources Testing and Surveys

In April 2015, subsurface testing was conducted at two of the previously recorded archaeological sites (CA-SDI-5097 and -12663) (Levanetz and Tutschulte, 2015). The mapped locations of these sites overlap portions of the Proposed Project site where extensive ground disturbance would occur. Surface components were lacking at both sites. Testing was aimed at identifying the presence of subsurface archaeological deposits at each of the sites. The subsurface testing included the excavation of 24 shovel test pits (STPs) and six shovel scrapes. The STPs were placed systematically at approximately 20 to 30-meter intervals within the previously defined site boundaries. The STPs measured approximately 35 centimeters (cm) in diameter, and were excavated in 20-cm levels until reaching sterile soil or bedrock, with a minimum depth of 40 cm and a maximum depth of 80 cm. The shovel scrapes measured two meters by two meters and extended to a depth of 10 cm. One STP was placed in the center of each of the surface scrape locations. All soils from the STP and shovel scrape excavations were screened using 1/4-inch hardware mesh. The testing did not result in identification of any subsurface cultural materials at either CA-SDI-5097 or CA-SDI-12663.

Cultural resources surveys of the study area were conducted on June 5 and June 17, 2015 (Levanetz and Tutschulte, 2015). The study area was subject to a systematic survey with transects spaced at 15-meter (approximately 50 feet) intervals. The mapped locations of the previously-recorded cultural resources within the study area were revisited, inspected, and photographed to document their current condition. Due to the large degree of residential and commercial development within the study area, much of the ground surface was paved over or obscured by landscaping. However, portions of the study area with visible ground surface were intensively inspected for the presence of cultural resources. The largest area of visible ground surface was located within the proposed location of Carmel Valley Staging Yard (see Figure 2-5) which had 25–75 percent ground surface visibility. However, much of the staging yard appears to have been subject to heavy disturbance as indicated by the flat graded nature of the parcel, the presence of several water features for drainage, several push piles, and a concrete dump. No cultural materials were observed during the survey and despite efforts to relocate the eight previously recorded sites, none were successfully relocated.

In addition, a cursory surface inspection was undertaken as part of a site visit by SDG&E and ESA archaeologists on November 17, 2016. The study area was largely developed with paved and landscaped surfaces, and no surface manifestation of the previously recorded archaeological sites was detected.

Resource Descriptions

The following paragraphs provide details regarding the eight previously recorded archaeological sites located within and adjacent to the Proposed Project site, and describe the eligibility status of each (Table 3.5-1).

TABLE 3.5-1
RESOURCES WITHIN AND ADJACENT TO THE PROPOSED PROJECT SITE

Permanent Trinomial (CA-SDI-)	Site Description	Date Recorded	California Register Eligibility	Distance from Proposed Project site ¹
5097	Prehistoric archaeological site: lithic scatter	1974	Recommended not eligible	Within
5098	Prehistoric archaeological: lithic scatter	1974	Not evaluated	45 feet
11487	Prehistoric archaeological site: midden deposits and bedrock milling features	1989	Recommended eligible	30 feet
11508	Prehistoric archaeological site: midden deposits	1989	Recommended eligible	85 feet
11744	Prehistoric archaeological site: lithic scatter	1990	Not evaluated	40 feet
12663	Prehistoric archaeological site: Lithic scatter	1974	Recommended not eligible	Within
12747	Prehistoric archaeological site: lithic and groundstone scatter	1992	Recommended not eligible	Within
13309	Historic-period archaeological site: refuse scatter	1993	Recommended not eligible	50 feet

SOURCE: SDG&E, 2016

CA-SDI-5097: This resource is a prehistoric archaeological site originally documented in 1974 as consisting of numerous lithic flakes, hammerstones, cores, scrapers and blades located in two separate loci. Since its original documentation, the site and its surrounding area has been completely developed into residential neighborhoods and multi-lane streets. The mapped location of the site overlaps a portion of the Proposed Project site that would be subject to extensive ground disturbing activities and was therefore subject to testing to determine if subsurface deposits associated with the site exist, but no subsurface deposits were identified. Resource CA-SDI-5097 has been recommended ineligible for the California Register as a result of the subsurface testing carried out as part of the preparation of the PEA (Levanetz and Tutschulte, 2015).

CA-SDI-5098: This resource is a prehistoric archaeological site originally documented in 1974 and updated in 1980 as consisting of six felsite flakes and one scraper of unknown material. The 1980 update noted that the site had been impacted by grading, and since its original documentation the site and surrounding area were subject to residential development. The mapped location of the site is approximately 45 feet from a portion of the Proposed Project site that would be used as an access

¹ Precise locations of resources in relation to any specific Project component are not provided in order to ensure confidentiality and protection of known finds.

road. The resource does not appear to have been previously evaluated for inclusion in either the National Register or California Register (Levanetz and Tutschulte, 2015).

CA-SDI-11487: This resource is a prehistoric archaeological site originally recorded in 1989 as a midden deposit and a bedrock milling feature. In 1995 the site was subject to subsurface testing and the midden deposit was found to extend to a depth of 60 cm and over 475 surface artifacts including ceramics, lithic debitage, and tools were recovered. The mapped location of the site is within a ravine at a lower elevation and 30 feet away from a portion of the Proposed Project site where limited ground disturbing activities associated with pole replacement would be carried out; however, the area has been heavily disturbed by grading and landscaping (Levanetz and Tutschulte, 2015). The site has been previously recommended eligible for listing in the California Register (Levanetz and Tutschulte, 2015).

CA-SDI-11508: This resource is a prehistoric archaeological site originally recorded in 1989 as a midden deposit with associated surface artifacts. In 1995 the site was subject to subsurface testing and the midden was found to extend to a depth of 70 cm and over 900 surface artifacts including lithic debitage, groundstone, and tools were collected. The mapped location of the site is located within 85 feet of a portion of the Proposed Project site where reconductoring and pole replacement would be carried out; however, the site has likely been destroyed by commercial development (Levanetz and Tutschulte, 2015). The site has been previously recommended eligible for listing in the California Register (Levanetz and Tutschulte, 2015).

CA-SDI-011744: This resource is a prehistoric archaeological site recorded in 1990 as a lithic scatter containing over 20 flakes, as well as one core, one biface, and one scraper (Ritz and Collette, 1990). The site is mapped within approximately 40 feet of the Carmel Valley staging yard in an area that appears to be heavily disturbed by agricultural activities and is bisected by a dirt road. The site does not appear to have been previously evaluated for inclusion in either the National Register or California Register.

CA-SDI-12663: This resource is a prehistoric archaeological site consisting of a lithic scatter containing one core tool, and three flakes. Since the site's original documentation it appears to have been paved over as part of road construction (Levanetz and Tutschulte, 2015). The mapped location of the site is located immediately adjacent to a portion of the Proposed Project site that would be subject to extensive ground disturbing activities and was therefore subject to testing to determine if subsurface deposits associated with the site exist, but no subsurface deposits were identified. The site has been recommended ineligible for the California Register based on the subsurface testing conducted as part of the preparation of the PEA (Levanetz and Tutschulte, 2015).

CA-SDI-12747: This resource is a prehistoric archaeological site originally recorded in 1992. In 1995 the site was subject to subsurface testing and was found to consist of a light density lithic scatter containing one hand stone, one milling slab, three cores, 15 pieces of debitage, five choppers, three scrapers, and a utilized flake found at a depth of 10 cm. The mapped location of the site overlaps a portion of the Proposed Project site where pole replacement and removal, as well as overhead work would be carried out; however, it appears the majority of this site has been

destroyed by road construction and landscaping (Levanetz and Tutschulte, 2015). The site has been previously recommended ineligible for listing in the California Register (Levanetz and Tutschulte, 2015).

CA-SDI-13309: This resource is a historic-period archaeological site consisting of a refuse scatter associated with the location of barn, which was no longer present when the site was documented. In 1995 the site was subject to subsurface testing and was found to contain household and kitchen refuse, personal items, and munitions. The mapped location of the site is within 50 feet of portions of the Proposed Project site where pole installation would be carried out; however, portions of the site appear to have been destroyed by residential development and landscaping. The site has been previously recommended ineligible for listing in the California Register (Levanetz and Tutschulte, 2015).

Paleontological Resources

The SDNHM conducted a paleontological database search for the preparation of the PEA on March 12, 2012 (El Adli, 2012). The database search included a review of relevant published geologic maps and reports, unpublished paleontological reports and unpublished museum collection locality data. The database search indicates that the Friars Formation and the Mission Valley Formation underlie the Proposed Project site. The Friars Formation dates to the Middle Eocene (45–46 million years ago) and consists of sandstones and siltstones. This formation has a high paleontological sensitivity due to its rich vertebrate terrestrial mammal fossil assemblage, which includes primates and artiodactyls, as well as marine microfossils and fossil leaves. The Mission Valley Formation dates to the Late Eocene (43 million years ago) and has a high paleontological sensitivity due to its abundant and generally well-preserved marine microfossils and fossil land mammals. The database search indicates that one fossil locality (4328) has been documented within a 0.25-mile radius of the Proposed Project site within the Friars Formation, but none have been identified within the Proposed Project site. No paleontological resources surveys were conducted as part of the preparation of the PEA.

3.5.2 Regulatory Setting

Federal/State

California Register of Historical Resources

The State implements the National Historic Preservation Act (NHPA) of 1966, as amended, through its statewide comprehensive cultural resources surveys and preservation programs. The Office of Historic Preservation (OHP), as an office of the California Department of Parks and Recreation, implements the policies of the NHPA on a statewide level. The OHP also maintains the Historic Resources Inventory. The State Historic Preservation Officer (SHPO) is an appointed official who implements historic preservation programs within the State's jurisdictions.

The California Register is “an authoritative listing and guide to be used by State and local agencies, private groups, and citizens in identifying the existing historical resources of the State and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial

adverse change” (Pub. Res. Code §5024.1[a]). The criteria for eligibility for the California Register are based upon National Register criteria (Pub. Res. Code §5024.1[b]). Certain resources are determined by the statute to be automatically included in the California Register, including California properties formally determined eligible for, or listed in, the National Register.

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

1. Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage;
2. Is associated with the lives of persons important in our past;
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
4. Has yielded, or may be likely to yield, information important in prehistory or history.

A resource eligible for the California Register must meet one of the criteria of significance described above, and retain enough of its historic character or appearance (integrity) to be recognizable as a historical resource and to convey the reason for its significance. It is possible that a historic resource may not retain sufficient integrity to meet the criteria for listing in the National Register, but it may still be eligible for listing in the California Register.

Additionally, the California Register consists of resources that are listed automatically and those that must be nominated through an application and public hearing process. The California Register automatically includes the following:

- California properties listed on the National Register and those formally determined eligible for the National Register;
- California Registered Historical Landmarks from No. 770 onward; and,
- Those California Points of Historical Interest that have been evaluated by the OHP and have been recommended to the State Historical Commission for inclusion on the California Register.

Other resources that may be nominated to the California Register include:

- Historical resources with a significance rating of Category 3 through 5 (those properties identified as eligible for listing in the National Register, the California Register, and/or a local jurisdiction register);
- Individual historical resources;
- Historical resources contributing to historic districts; and,
- Historical resources designated or listed as local landmarks, or designated under any local ordinance, such as an historic preservation overlay zone.

California Environmental Quality Act

Under CEQA (Pub. Res. Code §21084.1), a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. An archaeological resource may qualify as an “historical resource” under CEQA. The CEQA Guidelines (14 Cal, Code Regs §15064.5) recognize that an historical resource includes: (1) a resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register; (2) a resource included in a local register of historical resources, as defined in Public Resources Code Section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of Public Resources Code Section 5024.1(g); and (3) any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California by the lead agency, provided the lead agency’s determination is supported by substantial evidence in light of the whole record. The fact that a resource does not meet the three criteria outlined above does not preclude the lead agency from determining that the resource may be an historical resource as defined in Sections 5020.1(j) or 5024.1.

If a lead agency determines that an archaeological site is a historical resource, the provisions of Section 21084.1 of CEQA and Section 15064.5 of the CEQA Guidelines apply. If a project may cause a substantial adverse change (defined as physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired) in the significance of an historical resource, the lead agency must identify potentially feasible measures to mitigate these effects (CEQA Guidelines §§15064.5(b)(1), 15064.5(b)(4)).

If an archaeological site does not meet the criteria for a historical resource contained in the CEQA Guidelines, then the site may be treated in accordance with the provisions of Section 21083, which is a unique archaeological resource. As defined in Section 21083.2 of CEQA a “unique” archaeological resource is an archaeological artifact, object, or site, about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information;
- Has a special and particular quality such as being the oldest of its type or the best available example of its type; or,
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

If an archaeological site meets the criteria for a unique archaeological resource as defined in Section 21083.2, then the site is to be treated in accordance with the provisions of Section 21083.2, which state that if the lead agency determines that a project would have a significant effect on unique archaeological resources, the lead agency may require reasonable efforts be made to permit

any or all of these resources to be preserved in place (Section 21083.1(a)). If preservation in place is not feasible, mitigation measures shall be required.

The CEQA Guidelines note that if an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment (CEQA Guidelines §15064.5(c)(4)).

California Health and Safety Code Section 7050.5

California Health and Safety Code Section 7050.5 requires that in the event human remains are discovered, the County Coroner be contacted to determine the nature of the remains. In the event the remains are determined to be Native American in origin, the Coroner is required to contact the NAHC within 24 hours to relinquish jurisdiction.

California Public Resources Code Section 5097.98

California Public Resources Code Section 5097.98, as amended by Assembly Bill 2641, provides procedures in the event human remains of Native American origin are discovered during project implementation. Section 5097.98 requires that no further disturbances occur in the immediate vicinity of the discovery, that the discovery is adequately protected according to generally accepted cultural and archaeological standards, and that further activities take into account the possibility of multiple burials. Section 5097.98 further requires the NAHC, upon notification by a County Coroner, designate and notify a Most Likely Descendant (MLD) regarding the discovery of Native American human remains. Once the MLD has been granted access to the site by the landowner and inspected the discovery, the MLD then has 48 hours to provide recommendations to the landowner for the treatment of the human remains and any associated grave goods.

In the event that no descendant is identified, or the descendant fails to make a recommendation for disposition, or if the land owner rejects the recommendation of the descendant, the landowner may, with appropriate dignity, reinter the remains and burial items on the property in a location that will not be subject to further disturbance.

Local

The Project is not subject to local discretionary cultural and land-use regulations because the CPUC has exclusive jurisdiction over the siting, design, and construction of the project. However, consistent with its obligations under CPUC GO 131-D and as described in the Land Use and Planning section, *Section 3.10.2, Regulatory Setting*, SDG&E has consulted with San Diego County and with the City of San Diego regarding cultural resources. In furtherance of that consultation, relevant local plans, ordinances, and policies are summarized below.

San Diego County

San Diego County regulations and policies pertaining to cultural resources can be found in the Conservation and Open Space Element of the *County of San Diego General Plan*. The Board of Supervisors adopted the current version of the *County of San Diego General Plan* on August 3, 2011.

The Conservation and Open Space Element includes three goals that deal with Cultural/Historic and Paleontological Resources.

Goal 1 is the protection and preservation of the County's important archaeological resources for their cultural importance to local communities, as well as for their research and educational potential. The County has developed the following six policies to help ensure the protection of the County's resources.

- Preserve important archaeological resources from loss or destruction and require development to include appropriate mitigation to protect the quality and integrity of these resources.
- Require development to avoid archaeological resources whenever possible. If complete avoidance is not possible, require development to fully mitigate impacts to archaeological resources.
- Require the appropriate treatment and preservation of archaeological collections in a cultural appropriate manner.
- Require consultation with affected communities, including local tribes to determine the appropriate treatment of cultural resources.
- Require human remains be treated with the utmost dignity and respect and that the disposition and handling of human remains will be done in consultation with the MLD and under the requirement of Federal, State and County Regulations.
- Coordinate with public agencies, tribes, and institutions in order to build and maintain a central database that includes a notation whether collections from each site are being curated, and if so, where, along with the nature and location of cultural resources throughout the County of San Diego.

Goal 2 is the protection, conservation, use, and enjoyment of the County's important historic resources. The County has developed the following two policies to help ensure the protection of the County's resources.

- Encourage the preservation and/or adaptive reuse of historic sites, structures, and landscapes as a means of protecting important historic resources as part of the discretionary application process, and encourage the preservation of historic structures identified during the ministerial application process.
- Encourage and promote the development of educational and interpretive programs that focus on the rich multicultural heritage of the County of San Diego.

Goal 3 is that paleontological resources and unique geologic features should be conserved for educational and/or scientific purposes. The County has developed the following two policies to help ensure the protection of the County's resources.

- Require the salvage and preservation of unique paleontological resources when exposed to the elements during excavation or grading activities or other development processes.
- Require development to minimize impacts to unique geological features from human related destruction, damage, or loss.

City of San Diego

City of San Diego regulations and policies pertaining to cultural resources can be found in the Historic Preservation Element of the *City of San Diego General Plan*.

The City of San Diego Municipal Code Chapters 11, 12 and 14 establish a Historical Resources Board and regulations for historical resources. These regulations are intended to protect, preserve, and where damaged, restore the historical resources of San Diego. The regulations require that designated historical resources, important archaeological sites, and traditional cultural properties be preserved unless deviation findings can be made as part of a discretionary permit. Along with the Municipal Code, the General Plan has policies in place to protect cultural resources. The City has developed the following policies geared toward the preservation, protection and consideration of cultural resources to help ensure the protection of the City's resources:

- Strengthen historic preservation planning.
- Fully integrate the consideration of historical and cultural resources in the larger land use planning process.
- Foster government-to-government relationships with the Kumeyaay/Diegueno tribes of San Diego.
- Actively pursue a program to identify, document and evaluate the historical and cultural resources in the City of San Diego.
- Designate and preserve significant historical and cultural resources for current and future generations.

Paleontological Resources

Federal/State

Paleontological resources are also afforded protection by CEQA. Appendix G (Part V) of the *CEQA Guidelines* provides guidance relative to significant impacts on paleontological resources, stating that a project will normally result in a significant impact on the environment if a project would "Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature." Public Resources Code Section 5097.5 specifies that any unauthorized removal of paleontological remains is a misdemeanor. Further, the California Penal Code Section 622.5 sets the penalties for the damage or removal of paleontological resources.

Professional Standards

The Society for Vertebrate Paleontology (SVP) has established standard guidelines for acceptable professional practices in the conduct of paleontological resource assessments and surveys, monitoring and mitigation, data and fossil recovery, sampling procedures, and specimen preparation, identification, analysis, and curation. Most practicing professional paleontologists in the nation adhere closely to the SVP's assessment, mitigation, and monitoring requirements as specifically provided in its standard guidelines. Most California State regulatory agencies accept the SVP standard guidelines as a measure of professional practice.

3.5.3 Applicant Proposed Measures

Applicant Proposed Measures (APMs) identified in this section include existing regulations and/or requirements or standard practices that SDG&E has proposed to minimize, avoid, or reduce potential impacts on cultural and paleontological resources.

APM CUL-1: Native American monitoring may be implemented if substation, transmission, power or distribution line construction has the potential to impact identified and mapped traditional locations or places. The role of the Native American monitor shall be to represent tribal concerns and communicate with the tribal council. Appropriate representatives will be identified based on the location of the identified traditional location or place.

3.5.4 Environmental Impacts and Mitigation Measures

a) Whether the Project would cause a substantial adverse change in the significance of a historical resource as defined in §15064.5: *LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.*

A significant impact would occur if the Project would cause a substantial adverse change to a historical resource, herein referring to historic-era architectural resources or the built environment, including buildings, structures, and objects, as well as archaeological sites listed or eligible for listing in the CRHR and/or NRHP. A substantial adverse change includes the physical demolition, destruction, relocation, or alteration of the resource.

Records searches indicate that eight archaeological resources (CA-SDI-5097, -5098, -11487, -11508, -11744, -12663, -12747, and -13309) have been previously recorded within and immediately adjacent to (i.e., within 100 feet of) the Proposed Project site. Attempts to relocate the eight resources through surface survey were unsuccessful. No surface evidence of any of the eight resources was identified by surveyors (SDG&E, 2016). The mapped locations of resources CA-SDI-5097 and -12663 were subject to testing because they overlap with areas proposed for significant Proposed Project-related ground disturbance. No subsurface deposits were identified at either of these sites.

Four of the eight resources (CA-SDI-5097, -12663, -12747 and -13309) have been recommended ineligible for listing in the California Register and are therefore not considered historical resources as defined by CEQA. These include the three resources, the mapped locations of which, overlap the Proposed Project site (CA-SDI-5097, -12663, and -12747), as well as CA-SDI-13309 which is located 50 feet from the nearest Proposed Project component.

Two of the eight resources (CA-SDI-11487 and -11508) have been recommended eligible for listing in the California Register, and although no surface components were identified during survey at either site, if intact subsurface components of these sites were to exist, such components may qualify as historical resources as defined by CEQA. These resources are mapped 30 feet and 85 feet, respectively, from the nearest Proposed Project component and would not be directly or indirectly impacted by the Proposed Project. This is due to the fact that the sites are not located within or in close enough proximity to areas where Proposed Project ground disturbance could impact potential subsurface components associated with the sites.

The remaining two resources (CA-SDI-5098 and -11744) have not been previously evaluated for their eligibility for listing in the California Register. Although no surface components were identified during survey at either site, if intact subsurface components of these sites were to exist, such components may qualify as historical resources as defined by CEQA. These resources are mapped 45 feet and 40 feet, respectively, from the nearest Proposed Project components and would not be directly or indirectly impacted by the Proposed Project. This is due to the fact that the sites are not located within or in close enough proximity to areas where Proposed Project ground disturbance could impact potential subsurface components associated with the sites.

The maximum depth of ground disturbance associated with the Proposed Project would be from 40-50 feet deep (40 feet for the installation of the 69kV and 230kV tubular steel poles and up to 50 feet for cable pole foundations). Therefore, there exists the possibility that Project construction may inadvertently impact previously unknown archaeological resources that may qualify as historical resources as defined by CEQA. This would be a significant impact. In addition to the implementation of APM CUL-1, implementation of **Mitigation Measures CUL-1 through CUL-5** would reduce potential impacts to known eligible resources (including CA-SDI-11487 and -11508 and unevaluated resources CA-SDI -5098 and -11487, and would also reduce impacts to unknown archaeological resources, to a less than significant level.

Mitigation Measure CUL-1: Retention of Qualified Archaeologist. Prior to the start of any ground disturbing activity, a qualified archaeologist, defined as an archaeologist meeting the Secretary of the Interior's Standards for professional archaeology (U.S. Department of the Interior, 2008) shall be retained by SDG&E to carry out all mitigation measures related to archaeological resources.

Mitigation Measure CUL-2: Pre-Construction Cultural Resources Sensitivity Training. Prior to the start of any ground-disturbing activity, the qualified archaeologist shall prepare cultural resources sensitivity training materials for use during Project-wide Environmental Awareness Training (or equivalent). The cultural resources sensitivity training shall be conducted by a qualified environmental trainer (often the Lead Environmental Inspector [LEI] or equivalent position) working under the supervision of the qualified archaeologist. The qualified archaeologist shall determine and ensure the suitability of the qualified environmental trainer. The cultural resources sensitivity training shall be conducted for all construction personnel. Construction personnel will be informed of the types of archaeological resources that may be encountered, and of the proper procedures to be enacted in the event of an inadvertent discovery of archaeological resources or human remains. SDG&E shall ensure that construction personnel are made available for and attend the training and retain documentation demonstrating attendance.

Mitigation Measure CUL-3: Restrictions on Work Outside of Designated Work Areas. Approved work areas will be established and construction crews shall be instructed to stay within the approved work areas and shall not conduct any Project-related work out side of the defined areas.

Mitigation Measure CUL-4: Archaeological Monitoring. An archaeological monitor working under the supervision of the qualified archaeologist shall monitor all ground disturbing activities that occur within 100 feet of resources CA-SDI-11487, -11508, -5098, and -11744. Monitors shall have the authority to redirect work within 100 feet in

the event of a discovery and provisions of MM CUL-5 shall be implemented. If ground disturbing activities are occurring simultaneously in areas located more than 500 feet apart, additional monitors shall be retained to adequately observe ground disturbing activities. The qualified archaeologist, in consultation with the CPUC and SDG&E, shall have the discretion to modify the monitoring requirements based on in-field observations of subsurface conditions. The archaeological monitor shall keep daily logs detailing the types of activities and soils observed, and any discoveries. After monitoring has been completed, the qualified archaeologist shall prepare a monitoring report that details the results of monitoring. The report shall be submitted to CPUC and SDG&E. A copy of the final report will be filed at the South Coast Information Center.

Mitigation Measure CUL-5: Unanticipated Discoveries. In the event of the unanticipated discovery of archaeological materials all work shall immediately cease in the area (within approximately 100 feet) of the discovery until it can be evaluated by the qualified archaeologist. Construction shall not resume until the qualified archaeologist has conferred with CPUC and notified SDG&E's Cultural Resource Specialist and Environmental Project Manager regarding the significance of the resource. If it is determined that the discovered archaeological resource constitutes a historical resource or a unique archaeological resource under CEQA, avoidance and preservation in place is the preferred manner of mitigation. Preservation in place may be accomplished by, but is not limited to, avoidance, incorporating the resource into open space, capping, or deeding the site into a permanent conservation easement. In the event that preservation in place is demonstrated to be infeasible and data recovery through excavation is the only feasible mitigation available, a Cultural Resources Treatment Plan shall be prepared and implemented by the qualified archaeologist in consultation with CPUC and SDG&E that provides for the adequate recovery of the scientifically consequential information contained in the archaeological resource. The qualified archaeologist and CPUC will consult with appropriate Native American representatives in determining treatment for prehistoric or Native American resources to ensure cultural values ascribed to the resource, beyond that which is scientifically important, are considered.

Significance after Mitigation: Less than Significant.

b) Whether the Project would cause a substantial adverse change in the significance of a unique archaeological resource pursuant to §15064.5: *LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.*

As noted above, the records search identified eight archaeological resources within or adjacent to the Proposed Project site. None of the previously recorded archaeological resources were relocated as a result of the cultural resources surveys or the subsurface testing and none have been identified as unique archaeological resources. There does however exist the possibility that Project construction and ground disturbance may impact previously unknown archaeological resources that may qualify as unique archaeological resources pursuant to CEQA. This would be a significant impact. In addition to implementation of APM CUL-1, implementation of **Mitigation Measures CUL-1 through CUL-5** would reduce potential impacts to archaeological resources that may qualify as unique archaeological resources to a less than significant level.

Significance after Mitigation: Less than Significant.

c) Whether the Project would directly or indirectly destroy a unique paleontological resource or site or unique geologic feature: *LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.*

The paleontological database search conducted by the SDNHM indicates that the Proposed Project site is underlain by the Friars Formation and the Mission Valley Formation, both of which are highly sensitive for the presence of paleontological resources. One fossil locality has been documented within a 0.25-mile of the Proposed Project site, but none have been documented within the site itself. The maximum depth of ground disturbance associated with the Proposed Project would be from 40-50 feet deep. Given the sensitive nature of the underlying formations and the depth of ground disturbance, there exists the possibility that the Proposed Project may impact fossiliferous deposits that qualify as paleontological resources or unique geologic features pursuant to CEQA. This would be a significant impact. Implementation of **Mitigation Measures CUL-6 through CUL-9** would reduce potential impacts to paleontological resources and unique geologic features to less than significant.

Mitigation Measure CUL-6: Retention of Qualified Paleontologist. Prior to the start of any ground-disturbing activity, a qualified paleontologist meeting the Society for Vertebrate Paleontology's professional standards (SVP, 2010) shall be retained by SDG&E to carry out all mitigation measures related to paleontological resources.

Mitigation Measure CUL-7: Paleontological Sensitivity Training. Prior to start of any ground-disturbing activity, the qualified paleontologist shall prepare paleontological resource sensitivity training materials for use during Project-wide Environmental Awareness Program training (or equivalent). The cultural resource sensitivity training shall be conducted by a qualified environmental trainer (often the Lead Environmental Inspector [LEI] or equivalent position) working under the supervision of the qualified paleontologist. The qualified paleontologist shall determine and ensure the suitability of the qualified environmental trainer. The paleontological resources sensitivity training shall be conducted for all construction personnel. Construction personnel will be informed of the types of paleontological resources that may be encountered, and of the proper procedures to be enacted in the event of an inadvertent discovery of paleontological resources. SDG&E shall ensure that construction personnel are made available for and attend the training and retain documentation demonstrating attendance.

Mitigation Measure CUL-8: Paleontological Monitoring. A paleontological monitor working under the supervision of the qualified paleontologist shall monitor all ground-disturbing that involve the original cutting of previously undisturbed sediments associated with the Friars and/or Mission Valley Formations, as well activities associated with the installation of the 69kV and 230kV tubular steel poles and cable pole foundations. The paleontological monitor shall keep daily logs detailing the types of activities and soils observed, and any discoveries. A cross-trained archaeological/paleontological monitor may conduct both paleontological monitoring and the archaeological monitoring described in MM CUL-4. After monitoring has been completed, the qualified paleontologists shall prepare a monitoring report that details the results of monitoring. The report shall be submitted to CPUC and SDG&E.

Mitigation Measure CUL-9: Recovery of Paleontological Resources. In the event of the discovery of paleontological resources, the paleontological monitor shall have the authority to divert or temporarily halt construction activities within 50 feet of the

discovery to allow recovery of fossil remains in a timely fashion. The qualified paleontologist shall contact CPUC's Cultural Resource Specialist and SDG&E's Cultural Resource Specialist and Environmental Project Manager at the time of discovery. In conjunction with the CPUC's Cultural Resources Specialist and SDG&E's Cultural Resource Specialist and Environmental Project Manager, the qualified paleontologist shall evaluate the significance of the find and if it is determined that the discovery constitutes a significant resource under CEQA, a Paleontological Resources Treatment Plan shall be prepared and implemented by a qualified paleontologist in consultation with CPUC and SDG&E. The treatment plan shall include provisions for the recovery of the discovered fossils along with pertinent stratigraphic data, as well the recovery of small fossil remains, such as isolated mammal teeth, through the collection of bulk-sedimentary-matrix samples for off-site wet screening, as necessary. Fossil remains collected during monitoring and salvage shall be cleaned, repaired, sorted, cataloged, and deposited in a scientific institution with permanent paleontological collections, and a paleontological monitoring report shall be written. The report(s) documenting the implementation of the Paleontological Resources Treatment Plan shall be submitted to CPUC and SDG&E.

Significance after Mitigation: Less than Significant.

d) Whether the Project would disturb any human remains, including those interred outside of formal cemeteries: *LESS THAN SIGNIFICANT IMPACT.*

No human remains are known to exist within the Proposed Project site. However, since the nature of the Proposed Project would involve ground-disturbing activities, it is possible that such actions could unearth, expose, or disturb previously undiscovered human remains. As discussed in the Regulatory Framework section above, the treatment of human remains is governed by Public Resources Code Section 5097.98 and Health and Safety Code Section 7050.5. Accordingly, the San Diego County Coroner must be notified in the event human remains are encountered. If the County Coroner determines that the remains are Native American, the NAHC will be notified in accordance with Health and Safety Code Section 7050.5(c) and Public Resources Code Section 5097.98 (as amended by AB 2641). The NAHC will designate an MLD for the remains per Public Resources Code Section 5097.98. Impacts to human remains would be less than significant.

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3.6 Energy Conservation

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
6. ENERGY CONSERVATION— Would the project:				
a) Have any adverse effects as related to the project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project including construction, operations, maintenance, and/or removal?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse effect on the existing local and regional energy supplies and on requirements for additional capacity?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Adversely affect peak and base period demands for electricity and other forms of energy?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Comply with existing energy standards?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Cause a substantial adverse effect on existing energy resources?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Cause a substantial adverse effect on energy use requirements with regard to transportation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.6.1 Environmental Setting

California's energy system includes electricity, natural gas, and petroleum. According to the California Energy Commission (CEC), California's energy system generates 66 percent of the electricity, 10 percent of the natural gas, and 36 percent of the petroleum consumed or used in the state. The rest of the state's energy is imported, and includes electricity from the Pacific Northwest and the Southwest; natural gas purchases from Canada, Rocky Mountain states, and the southwest; and petroleum imported from Alaska and foreign sources (CEC, 2017a; 2017b; and 2017c).

The production of electricity requires the consumption or conversion of energy resources including natural gas, coal, water, nuclear, and renewable sources such as wind, solar, and geothermal. Of the electricity generated in California, approximately 60 percent is generated by natural gas-fired power plants, six percent comes from large hydroelectric dams, nine percent comes from nuclear power plants, and less than one percent is generated by coal-fired power plants. The remaining approximately 25 percent in-state total electricity production is supplied by renewable sources including solar, biomass, geothermal, small hydro, and wind power (CEC, 2017a). Electricity is generated and distributed via a network of high voltage transmission lines commonly referred to as the power grid.

Gasoline is by far the largest transportation fuel by volume used in California. Nearly all of the gasoline used in California is obtained through the retail market. In 2016, approximately 15.5 billion gallons of gasoline were sold in California's retail market (CEC, 2017d). Diesel fuel is the second largest transportation fuel by volume used in California behind gasoline. It is estimated that approximately 53 percent of total diesel sales in California are associated with retail sales. In 2015, 3.6 billion gallons of diesel were sold in California (CEC, 2017d). According to the U.S. Department of Energy's Energy Information Administration, nearly all semi-trucks,

delivery vehicles, buses, trains, ships, boats and barges, farm, construction, and military vehicles and equipment have diesel engines.

SDG&E is the local public utility and energy supplier for the area in which the Proposed Project would be located, and produces and purchases electricity from both renewable and nonrenewable resources (SDG&E, 2016). SDG&E serves approximately 3.6 million people in a 4,100 square-mile service area in San Diego and southern Orange counties (SDG&E, 2017).

3.6.2 Regulatory Setting

Federal

Energy Policy Act of 2005

The Energy Policy Act of 2005 seeks to reduce reliance on non-renewable energy resources and provide incentives to reduce current demand on these resources. For example, consumers and businesses can obtain federal tax credits for purchasing fuel-efficient appliances and products, including buying hybrid vehicles, building energy-efficient buildings, and improving the energy efficiency of commercial buildings. Additionally, tax credits are available for the installation of qualified fuel cells, stationary microturbine power plants, and solar power equipment.

State

California Integrated Energy Policy

In 2002, the Legislature passed Senate Bill 1389, which required the CEC to develop an integrated energy plan every two years for electricity, natural gas, and transportation fuels, for the California Energy Policy Report. The plan calls for the state to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators in implementing incentive programs for zero emission vehicles and their infrastructure needs, and encouragement of urban designs that reduce vehicle miles traveled and accommodate pedestrian and bicycle access.

The CEC has adopted the 2015 Integrated Energy Policy Report, which assesses major energy trends and issues facing the state's electricity, natural gas, and transportation fuel sectors and provides policy recommendations to conserve resources, protect the environment, ensure reliable, secure, and diverse energy supplies, enhance the state's economy, and protect public health and safety. The 2015 Integrated Energy Policy Report covers a broad range of topics, including energy efficiency, building energy efficiency standards, achieving 50 percent renewables by 2030, and the California Energy Demand Forecast (CEC, 2017e).

Title 24 Building Energy Efficiency Standards

Title 24, Part 6, of the California Code of Regulations is the California Building Code governing all aspects of building construction. Included in Part 6 of the Building Code are standards mandating energy efficiency measures in new construction. Since its establishment in 1977, the

building efficiency standards (along with standards for energy efficiency in appliances) have contributed to a reduction in electricity and natural gas usage and costs in California. The standards are updated every 3 years to incorporate new energy efficiency technologies. The latest update to the Title 24 standards became effective January 1, 2017. The standards regulate energy consumed in buildings for heating, cooling, ventilation, water heating, and lighting. Title 24 is implemented through the local planning and permits processes (CEC, 2016).

Construction Equipment Idling

The California Air Resources Board has also adopted a regulation for in-use off-road diesel vehicles that is designed to reduce emissions from diesel-powered construction vehicles by imposing idling limitations on owners, operators, renters, or lessees of off-road diesel vehicles. The regulation requires an operator of applicable off-road vehicles (self-propelled diesel-fueled vehicles 25 horsepower and up that were not designed to be driven on-road) to limit idling to no more than five minutes.

Local

The CPUC has exclusive jurisdiction over the siting, design, and construction of the Project, therefore the Project is not subject to local discretionary regulations. Details below that relate to local regulations are provided for informational purposes.

San Diego County General Plan

The San Diego County General Plan does not contain energy conservation-related goals or policies relating to utility infrastructure projects.

City of San Diego General Plan

The following policies from the Conservation Element and the Public Facilities, Services and Safety Element of the City of San Diego General Plan regarding energy conservation relate to energy conservation and utility infrastructure projects within San Diego (City of San Diego, 2008).

CE-1.2: Coordinate City energy planning programs with federal, state and regional agencies. Maximize energy efficiency, use of clean renewable resources, and demand response.

PF-M.1: Ensure that public utilities are provided, maintained, and operated in a cost-effective manner that protects residents and enhances the environment.

PF-M.4: Cooperatively plan for and design new or expanded public utilities and associated facilities (e.g., telecommunications infrastructure, planned energy generation facilities, gas compressor stations, gas transmission lines, electrical substations and other large scale gas and electrical facilities) to maximize environmental and community benefits.

3.6.3 Applicant Proposed Measures

No APMs are intended to address potential impacts to energy conservation.

3.6.4 Environmental Impacts

a) Have any adverse effects as related to the project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project including construction, operations, maintenance, and/or removal? *LESS THAN SIGNIFICANT IMPACT.*

Construction-related energy expenditures would include both direct and indirect uses of energy, primarily in the form of diesel and gasoline fuel. Direct energy use would include the consumption of petroleum for workers commute trips, operation of construction vehicles and equipment and the use of electricity as an as-needed temporary power source, e.g., at the proposed construction staging yards, within the three project substations and along the reconductoring alignment. Indirect energy use includes the energy required to make the materials and components used during construction of the Project. This includes energy used for extraction of raw materials, manufacturing, and transportation associated with manufacturing.

Construction-related energy consumption would represent irreversible consumption of finite natural energy resources during the 30 months of construction activity. The precise amount of construction-related energy demand is uncertain. Even so, construction activities would not result in long-term depletion of non-renewable energy resources as this use would be temporary (limited to the construction period) and would not permanently increase reliance on energy resources that are not renewable. Construction activities would not reduce or interrupt existing electrical or natural gas services due to insufficient supply, as construction would not represent a substantial use of energy in the context of overall use and supply in SDG&E's service area, and would not interrupt existing local SDG&E service. Project-specific construction-related energy demands would not be expected to have a significant adverse effect on energy resources. In addition, compliance with the state's regulation for in-use off-road diesel vehicles that requires idling limitations to no more than five minutes would further ensure that fuel energy consumed in the construction phase would not be wasted through unnecessary idling. Therefore, energy consumption by construction activities would result in less than significant impacts pertaining to inefficient or wasteful consumption of energy.

Energy consumption required for Project operation and maintenance would be minimal. Energy would be required in the form of electricity from the SDG&E grid for occasional maintenance activities, and in the form of fuel for periodic visits by inspection and maintenance vehicles. Operation and maintenance activities at the expanded Artesian Substation would increase slightly due to the increase in substation equipment and facilities; over a 10-year period, the Artesian Substation site would experience approximately seven additional maintenance events equating to daily traffic increases of between six and ten vehicle trips for each of those events. With respect to other Project components, the reconductoring alignment would reduce the need for maintenance trips as the new conductor, insulators, and replacement structures would require less maintenance than the existing equivalent equipment.

The amount and form of energy required for operation and maintenance activities would be neither inefficient nor wasteful. Impacts from operation and maintenance of the Project on the consumption of energy would be less than significant.

b) Cause a substantial adverse effect on the existing local and regional energy supplies and on requirements for additional capacity? *NO IMPACT.*

The Proposed Project would be located within SDG&E's service territory and would transmit energy to the regional power grid. The Project would contribute to meeting projected local peak demand electricity needs. Consequently, the Project would have a beneficial impact on local and regional energy supplies because it would ensure that current energy needs are met and that there is capacity and infrastructure to meet projected future energy needs in the Poway Area Load Pocket. No adverse impact on local or regional energy supplies or capacity would result.

c) Adversely affect peak and base period demands for electricity and other forms of energy? *NO IMPACT.*

The Proposed Project would transmit electrical energy to the grid during peak and base periods. Impacts to peak or base electricity demands would occur if significant amounts of electricity were required for construction, operation, or maintenance of the Project such that SDG&E would be required to increase its available supply or production capacity. There may be a limited temporary increase in use of electricity resources and vehicle and equipment fuel during construction, and periodic energy requirements during operation and maintenance, as discussed above under a). However, given the negligible amount of electricity and fuel required for the Project in the context of overall supply and demand within SDG&E's service area and the region as a whole, neither construction nor operation and maintenance would impact peak or base power demands. Additionally, the Project would not impact electricity generation facilities' ability to provide and maintain existing levels of service during peak and base period demands are refineries' ability to serve market demands. Consequently, the Project would cause no adverse impact related to the demand for electricity or other forms of energy.

d) Comply with existing energy standards? *NO IMPACT.*

The upgrading of the transmission network serving the area in which the Proposed Project is located (see Section 2.3) is necessary to meet NERC planning criteria and avoid violation of applicable standards. Specifically, implementation of the Project would result in continued compliance with NERC Reliability Standard TPL-001-4 and avoid a Category P1¹ violation related to overloading of TL6924 or TL6915, causing a loss of service. Therefore, the Project is designed to comply with existing energy standards of NERC.

Energy standards such as the Energy Policy Acts of 1975 and 2005, and Title 24 promote strategic planning and building standards that reduce consumption of fossil fuels, increase use of renewable resources, and enhance energy efficiency. In general, these regulations and policies specify strategies to reduce fuel consumption and increase fuel efficiencies and energy conservation. If the Proposed Project were to use energy resources in a wasteful manner, it would conflict with state energy standards. Compliance with the state's regulation for in-use off-road diesel vehicles

¹ *N-1 Violation:* One of the more common violations of the NERC Reliability Standards where a system element exceeds its applicable rating under an N-1 (N minus one) condition (one element in the system is out of service). Such rating exceedance violations are required to be mitigated.

that requires idling limitations to no more than five minutes would ensure that fuel energy consumed in the construction phase would not be wasted through unnecessary idling. Project construction would be short-term and would not result in the permanent increased use of non-renewable energy resources. Construction of the Project would be conducted in a manner consistent with the goals and strategies of state energy standards.

Project operation would include on-going maintenance activities that would require the use of trucks and equipment that use non-renewable fuels. Energy use for Project operation and maintenance would be minimal, requiring a negligible percentage of the overall energy supplied to San Diego County. Operation and maintenance energy use that would be associated with the Project would be neither wasteful nor inefficient, and would not conflict with current energy conservation standards. There would be no impact under this criterion.

e) Cause a substantial adverse effect on existing energy resources? *NO IMPACT.*

As discussed above, the Proposed Project would increase the reliability of the local electrical transmission grid during peak demand times, reducing the likelihood of interruptions in electrical distribution due to demand on the system. Consequently, the Project would not result in adverse impacts on energy resources.

f) Cause a substantial adverse effect on energy use requirements with regard to transportation? *LESS THAN SIGNIFICANT IMPACT.*

As discussed under criterion a), above, construction activities associated with the Proposed Project would consume energy (primarily through fuel usage) during transportation of labor and materials to and from the Project site. Project operation and maintenance would decrease slightly along the reconductoring alignment and increase by approximately seven additional maintenance events at the Artesian Substation over a 10-year period. Operation and maintenance trips would be undertaken by local SDG&E personnel. The amount of fuel required for construction, operation, and maintenance activities would not be substantial, requiring a negligible percentage of the overall energy supplied to San Diego County. For the reasons discussed above, Project-related transportation energy use impacts would be less than significant.

3.6.5 References

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3.7 Geology, Soils, and Seismicity

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
6. GEOLOGY, SOILS, AND SEISMICITY— Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to Division of Mines and Geology Special Publication 42.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Be located on geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive or corrosive soil, creating substantial risks to life or property? ¹	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.7.1 Environmental Setting

The study area for geology and soils comprises the Project footprint and five miles in all directions. This was considered to be an appropriate area for the evaluation of impacts. Beyond this distance the potential for occurrence of impacts associated with geology and soils would be extremely low.

Local Geology

Geography and Topography

The Project site is located in the southern Peninsular Ranges Physiographic Province, which is characterized by northwest-trending fault-bounded mountain ranges, broad intervening valleys, and low-lying coastal plains. The Peninsular Ranges Physiographic Province extends from the west

¹ The CBC, based on the International Building Code and the now defunct Uniform Building Code, no longer includes a Table 18-1-B. Instead, Section 1803.5.3 of the CBC describes the criteria for analyzing expansive soils.

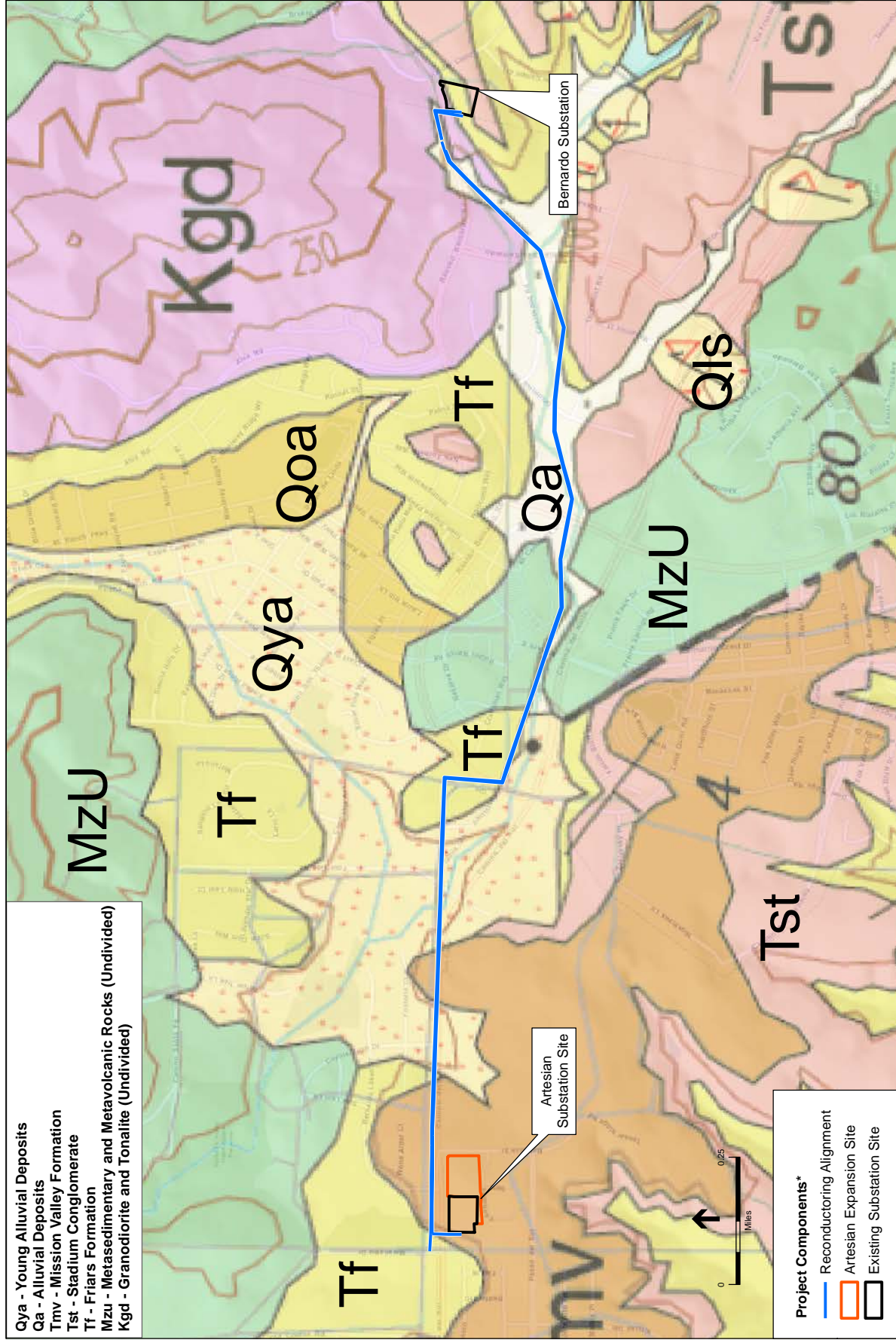
coast of the United States to the Colorado Desert on the east and extends just north of the Los Angeles area to the southern California border. The trend of topography is similar to the Pacific Coast Ranges, which is a series of mountain ranges that stretch along the West Coast of North America from southern Alaska to Northern and Central Mexico. The geology of the study area is more like the Sierra Nevada mountain range (which is a mountain range in California, between the Central Valley of California and the Basin and Range Province), with granitic rock intruding the older metamorphic rocks (CGS, 2002a). All geologic units within the study area are provided in **Table 3.7-1** and depicted in **Figure 3.7-1, Geologic Units in the Study Area**.

**TABLE 3.7-1
GEOLOGIC UNITS IN THE STUDY AREA**

Symbol	Unit Name	Period	Description
Sedimentary Units			
Af	Artificial Fill	Historic	Varies.
Qya	Young Alluvial Deposits	Quaternary (Holocene Epoch)	Mostly poorly consolidated, poorly sorted, permeable flood plain deposits
Qa	Alluvial Deposits	Quaternary (Holocene)	Unconsolidated sandy, silty or clay-bearing alluvium.
Qvop	Very Old Alluvial Deposits	Quaternary (Middle to Early Pleistocene)	Marine terrace deposits consisting of sands and gravels covered by colluvium and alluvium
Tmv	Mission Valley Formation	Tertiary (Middle Eocene Epoch)	Predominately light olive-grey soft and friable fine- to medium-grained marine and nonmarine sandstone with cobble conglomerate tongues.
Tst	Stadium Conglomerate	Tertiary (Eocene Epoch)	Massive cobble conglomerate with yellowish-brown sandstone matrix
Tf	Friars Formation	Tertiary (Middle Eocene Epoch)	Yellowish green to gray medium-grained sandstone with claystone interbeds and cobble conglomerate
Igneous and Metamorphic Units			
Mzu	Metasedimentary and Metavolcanic Rocks (Undivided)	Mid-Cretaceous	Mostly massive, medium- to coarse-grained, dark gray hornblende and diorite and quartz-bearing diorite
Kgd	Granodiorite and Tonalite (Undivided)	Cretaceous	Metavolcanic and metasedimentary rocks mostly consisting of volcanoclastic breccia and metaandesitic flows, tuffs and tuff-breccia

SOURCE: Kennedy and Siang, 2007, 2008.

The existing Artesian Substation site is located at an elevation of approximately 510 to 525 feet above mean sea level (amsl) and approximately a quarter mile to the east is a steep bank at the top of which are located several residences approximately 520 amsl. The Artesian Substation Expansion site is located at approximately the same elevation and has similar topography- its southern side is bordered by a steep bank ascending to residences approximately 545 amsl (Google Earth, 2017). The site itself is graded with a gentle slope. A graded drainage detention basin is located adjacent to the west of the substation site. Roads and urban development, including



* Not all project components shown on this map.
See Figure 2-5 for full list of project components.

SOURCE: SanGIS, 2016; SDG&E; Semptra Energy Utility

CPUC Artesian Substation - 120812.02

Figure 3.7-1

Geologic Units in the Study Area

residential buildings, surround the substation to the north, east and south. In this area there is relatively little topographic relief except for a graded slope to an approximately 545 foot elevation cleared and graded parcel to the south. The Bernardo Substation is also located in an area that has been graded and developed with relatively flat parcels separated by low terracing. The substation is located at an elevation of approximately 740 feet amsl and slopes generally northward. The Rancho Carmel Substation is located within terrain that has been graded relatively flat and developed. The substation is located at an elevation of approximately 820 feet amsl and slopes generally northward (SDG&E, 2016). The reconductoring alignment would be constructed in developed areas ranging in elevation from 500 to 740 feet amsl (Google Earth, 2017).

Soils

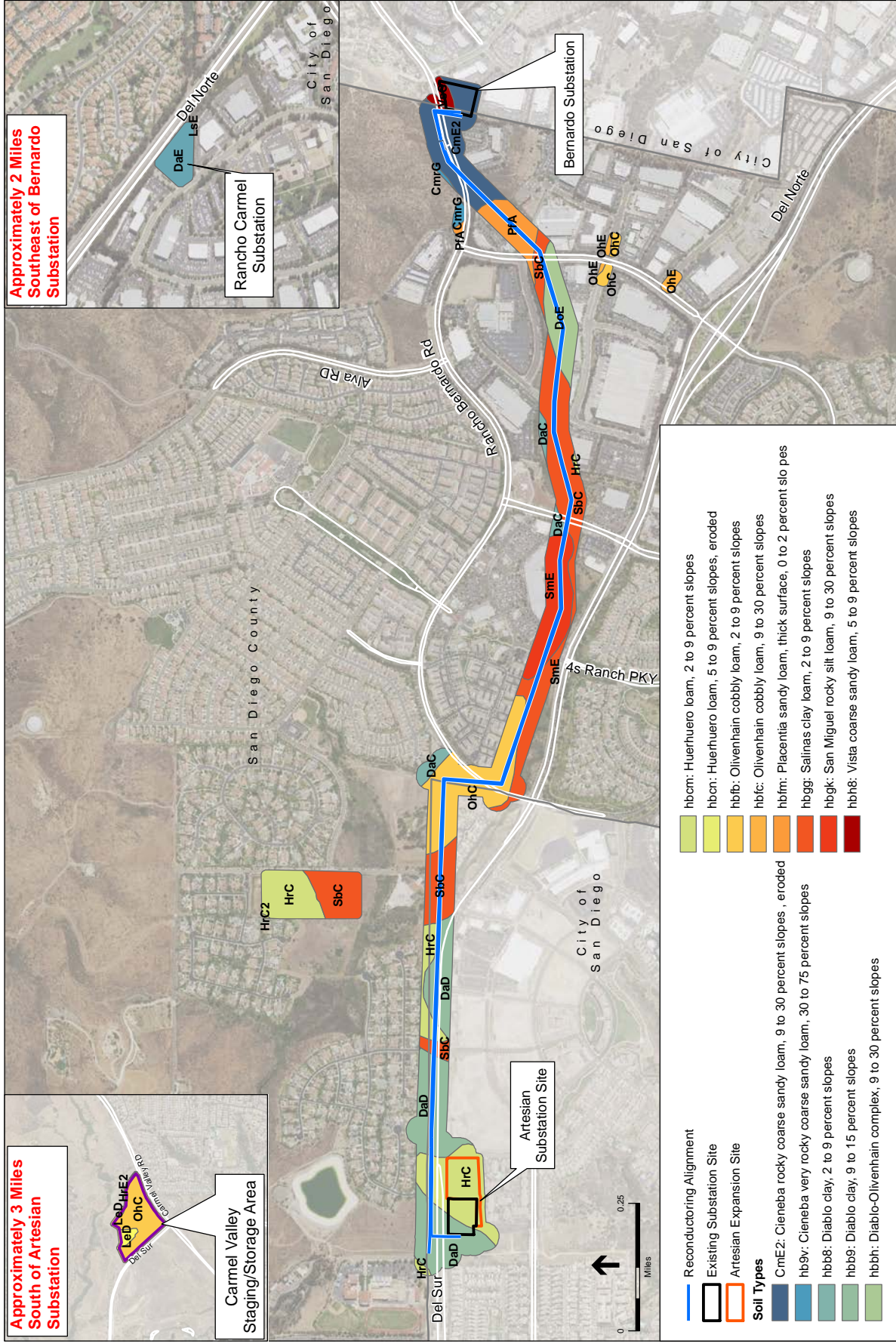
Overview

The study area contains a range of soil types which are depicted in **Figure 3.7-2, *Soils in the Study Area***. In the vicinity of the western portion of the reconductoring alignment route, soils are mapped as Diablo Clay, two to nine percent slopes, Huerhuero loam, nine to 15 percent slopes, Salinas clay loam, and Olivenhain cobbly loam, two to nine percent slopes (NRCS, 2016a). Within the eastern portion of the study area are Salinas clay loam, San Miguel Rocky Silt loam, Diablo clay, Diablo-Olivenhain complex, nine to 30 percent slopes, alternating layers of hard lean clay with varying amounts of sand, Vista Course sandy loam, and Cieneba rocky coarse sandy loam. Of all soil types, Diablo clay and Salinas Clay loam comprise the largest areas underlying the reconductoring alignment. Both Diablo clay and Salinas clay loam are considered to be well drained, and typically accompanies a depth-to-water table of at least 80 inches. Near the Artesian Substation site on the eastern side of the study area, soils consist primarily of Diablo Clay, nine to 15 percent slopes, and Huerhuero loam, two to nine percent slopes. At the Bernardo substation site, soils consist of Vista Course Sandy Loam, five to nine percent slopes, and Cienaba rocky course sandy loam, nine to 30 percent slopes. Of all soil types, Huerhuero loam makes up the majority of the substation areas. Huerhuero loam is moderately well drained, and accompanied by a depth-to-water table of at least 80 inches. At the Rancho Carmel substation site, soil types are limited to Diabale clay, nine to 15 percent slopes (NRCS, 2016b).

Much of the study area comprises soils covered by development, such as construction of roads and buildings. Urban areas are generally covered by asphalt, concrete, buildings and other structures and a mixture of soil and fill. The subsurface in the study area generally consists of undocumented fill, compacted fill, topsoil, colluvium, Stadium Conglomerate, Mission Valley Formation, and Friars Formation with varying thickness (Geocon, 2017).

Soil Expansion

Soil expansion, linear extensibility, or shrink-swell potential refers to the change in volume of soil as moisture content is increased or decreased between a moist and dry state. The volume change is reported as a percent change for the whole soil. The amount and type of clay minerals in the soil influence changes in soil volume. Expansive soils shrink and swell as a result of moisture changes and can damage structures. However, the Diablo Clay, Salinas Clay Loam, and Huerhuero Loam present in the study area are not known for being expansive or for being



* Not all project components shown on this map. See Figure 2-5 for full list of project components.

SOURCE: SanGIS, 2016; SDG&E; Sempra Energy Utility; NRCS, 2017

CPUC Artesian Substation . 120812.02

Figure 3.7-2
Soils in the Study Area

susceptible to shrink swell and are considered “well-drained.” Fat clays are typically more susceptible to shrinking and swelling. Lean clays, like that contained in Diablo Clay, and Salinas Clay Loam, typically are less able to absorb water and therefore less susceptible to shrinking and swelling. The boring logs of borings conducted for the geotechnical investigation indicated lean clays that would be less susceptible to expansion (Geocon, 2017).

Soil Corrosivity

Risk of corrosion pertains to potential soil-induced electrochemical or chemical actions that corrode or weaken concrete or uncoated steel. The rate of concrete corrosion is based mainly on the sulfate, sodium, and chloride content, texture, moisture content, and acidity of the soil. The rate of uncoated-steel corrosion is related to such factors as the moisture, particle-size distribution, acidity, and electrical conductivity of the soil. Steel installations that intersect soil boundaries or soil layers are more susceptible to corrosion than the steel installations that are entirely within one kind of soil or within one soil layer. The risk of corrosion is expressed as low, moderate, or high.

Within the construction staging areas and access roads, soil was evaluated for corrosion potential using the NRCS WebSoilSurvey (NRCS, 2016a). In the vicinity of the reconductoring alignment and underground getaways associated with the Artesian Substation expansion and Bernardo Substation sites, none of the soil types (described above) were determined to have a high potential for corrosion of concrete. Within the footprint of the proposed reconductoring alignment between the Artesian and Bernardo substations, the risk of corrosion was found to have ratings from low to moderate. With regard to potential for corrosion of unprotected steel, soils within this area were found to have corrosion ratings ranging from low to high, with the majority of the area containing soils with the “high” rating. High corrosion risk areas are present throughout the proposed reconductoring alignment, with the exception of the segment that interconnects to the Bernardo Substation (which has a low corrosion risk for steel). More specifically, high risk areas for corrosion of unprotected steel found throughout the reconductoring alignment occur in soil units Diablo clay, Diablo-Olivenhaim complex, Olivenhaim cobbly loam, Placentia sandy loam, and San Miguel rocky silt loam.

Within the three substation sites, none of the soil types were determined to have a high potential for corrosion of *concrete* (NRCS, 2016b). Corrosion ratings range from low to moderation. Moderate corrosion of concrete areas could occur within the Artesian Substation site and the Bernardo Substation site.

With regard to risk of corrosion of *unprotected steel*, soil types were identified as having either a low, or high risk. High risk of corrosion exists within the Rancho Carmel Substation, and the Artesian Substation site. Soil units Diablo clay and Huerhuero loam, found within the Artesian Substation Expansion site, are rated for a high risk of corrosion.

Earthquake Faults and Seismicity

San Diego County in the past century has not been a very seismically active region; however, the area is susceptible to a high risk of geologic hazards that stem largely from movement of the earth’s crust along well-defined active fault zones of the San Andreas Fault system (County of San Diego,

2011a). An active fault is one that has evidence of displacement within the Holocene Period (last 11,000 years); a potentially active fault is one that has evidence of displacement within the Quaternary Period (last 1.6 million years). No faults considered active by the State of California were found to exist within ten miles of the Project site. The closest known active and potentially active faults are located offshore and associated with the Newport-Inglewood-Rose Canyon Fault Zone, approximately 11 miles west of the Project site. This fault zone has an estimated slip rate of 1.5 to 2 millimeters per year (California Geological Survey [CGS], 2002b).

The next closest active or potentially active faults are to the northeast of the Project site and are associated with the Elsinore Fault Zone, approximately 23 miles away (CGS, 2016). The Elsinore Fault Zone is a major dextral strike-slip fault zone that is part of the overall San Andreas Fault System that accommodates up to five millimeters per year of Pacific-North American plate boundary slip (California Geological Survey, 2002). Finally, the Coronado Bank Fault Zone is also located offshore 20 miles to the southwest (CGS, 2016). Other regional faults with the potential to cause strong ground shaking in the study area include the Earthquake Valley Fault (30 miles to the northeast of the Proposed Project site), and the San Jacinto Fault Zone (45 miles to the east of the Proposed Project site). There are no active faults or Alquist-Priolo Earthquake Hazard Zones located within or immediately adjacent to the Project site (County of San Diego, 2011a).

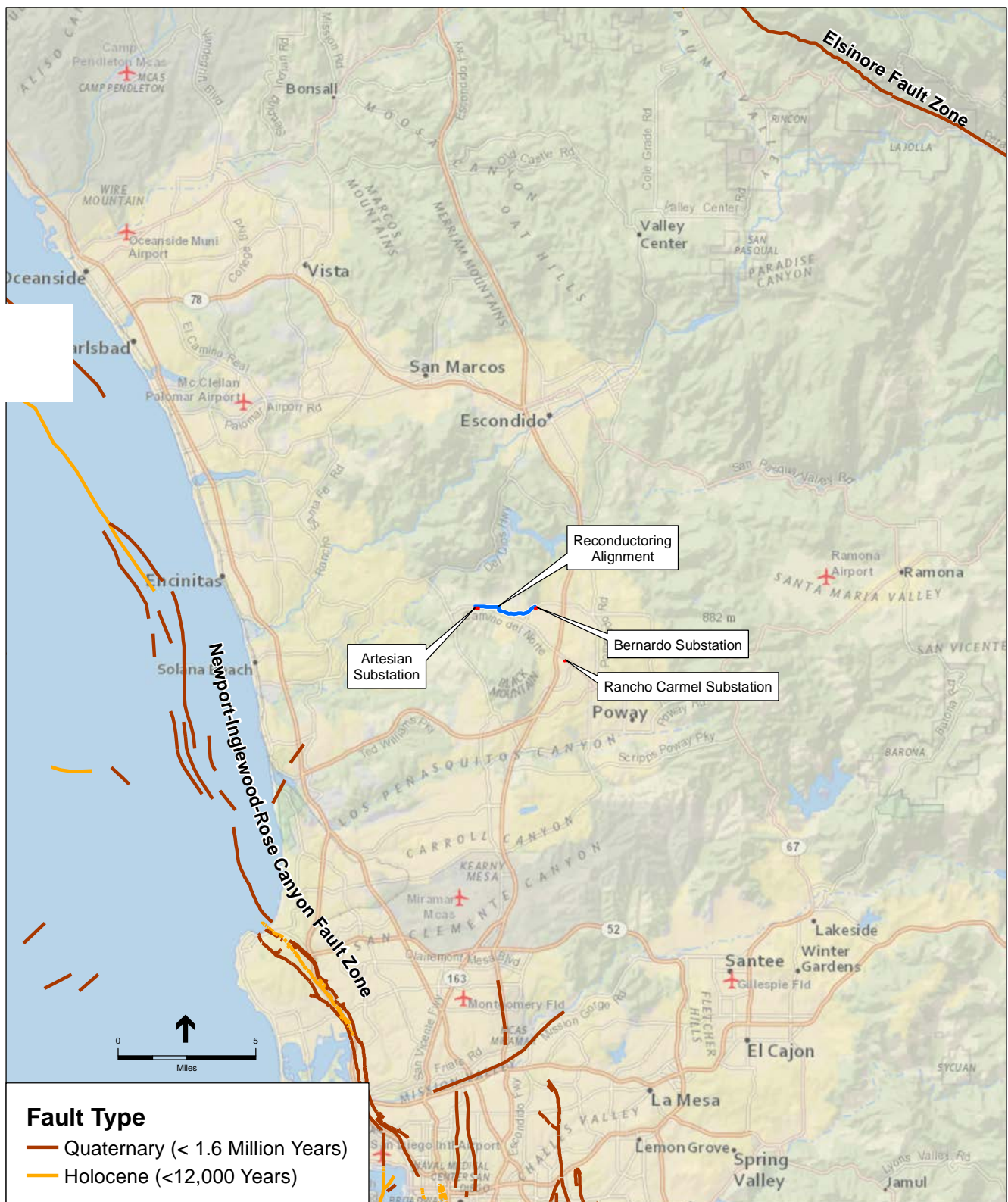
Earthquake Hazards

Fault Rupture

Seismically induced ground rupture is defined as the physical displacement of surface deposits in response to an earthquake's seismic waves. The magnitude and nature of fault rupture can vary for different faults, or even along different strands of the same fault. Ground rupture is considered most likely along faults that have a record of displacement sometime in the past 11,000 years (the Holocene era). There are no Holocene faults in the study area. The nearest active fault is the offshore Newport-Englewood Rose Canyon fault located more than 10 miles to the west (see **Figure 3.7-3, *Faults and Geologic Hazard Zones in the Study Area***). For this reason, the probability of surface rupture occurring within the study area along the Project alignment is low.

Ground Shaking

Ground shaking from earthquakes can cause extensive damage to property and people. Factors that determine the amount of damage caused from ground shaking are interrelated and include the magnitude and depth of the earthquake, distance from the fault, duration of shaking, type of bedrock and soils, and topography, among others. The majority of the area of southern California, including the Project site, could be subject to strong ground shaking during earthquakes. All of San Diego County is located within Seismic Zone 4 (Sec. 1629.4.1 of the California Building Code [CBC]), which is the highest Seismic Zone and, like most of Southern California, could subject to ground shaking (County of San Diego, 2011b). Historically, there have been several strong earthquakes in the vicinity of the County of San Diego. The last earthquake with a magnitude over 6.0 within the vicinity of the Elsinore Fault was in 1910. Others include the magnitude 5.4 magnitude earthquake in July 1986 off the coast of Oceanside on the Coronado Bank Fault and the 7.1 magnitude Loma Prieta Earthquake, located in northern California but felt in San Diego, and finally, the January 17, 1994 magnitude 6.6 Northridge Earthquake which was



SOURCE: SDG&E; Sempra Energy Utility; USGS, 2016

CPUC Artesian Substation . 120812.02

Figure 3.7-3
Faults and Geologic Hazard Zones in the Study Area

felt throughout southern California including San Diego (The San Diego Union Tribune, 2009). While the latter two epicenters were not located within the County, they still caused extreme ground shaking and a similar earthquake in the future would likely do the same. Ground shaking from these events was felt over large distances, and areas underlain by unconsolidated sediments experienced greater structural damage than areas such as the Project site, which is underlain by bedrock.

There are no mapped active or potentially active faults underlying the Project site; however, because of its proximity to the San Andreas Fault Zone and other active faults such as the Elsinore fault, it could experience very strong intensity ground shaking during a large earthquake. According to the Working Group on California Earthquake Probabilities (WGCEP), a working group comprised of seismologists from the U.S. Geological Survey (USGS), California Geological Survey (CGS), Southern California Earthquake Center (SCEC), and California Earthquake Authority (CEA), the 2015 Uniform California Earthquake Rupture Forecast, Version 3 (UCERF3) (WGCEP, 2015) there is a 93 percent probability of a magnitude 6.7 or greater earthquake in the Southern California Region within 30 years, with the greatest probabilities of earthquakes on the Elsinore Fault (3.8%), the San Jacinto Fault (5.0%) and the southern San Andreas Fault (19%). According to the San Diego County Office of Emergency Services, San Diego County, in comparison to other southern California areas, has sparse seismicity. However, since 1984, earthquake activity in San Diego County has doubled over that of the preceding 50 years (County of San Diego, 2016). Therefore, the study area is likely to experience very strong ground shaking from earthquakes in the future.

Liquefaction and Lateral Spreading

Soil liquefaction is a phenomenon in which generally loose, saturated, cohesion-less soils undergo a temporary decrease in strength during seismic ground-shaking and acquire a degree of mobility sufficient to permit ground deformation. Liquefaction can cause foundation failures in buildings and other facilities because of the reduction of foundation bearing strength. The potential for liquefaction depends on the duration and intensity of earthquake shaking, particle size distribution of the soil, density of the soil, and groundwater elevation. High liquefaction potential hazard areas typically have a high groundwater table underlying low- to medium-density, granular sediments, particularly younger alluvium and artificial fill. With respect to the Project, groundwater was not encountered during the geotechnical investigation, except in one boring at a depth of 37 feet below ground surface (URS, 2015). No groundwater was encountered in other borings. Therefore, liquefaction is unlikely to occur as a result of a high groundwater table.

There is very little potential for liquefaction in areas with a deep groundwater table, without saturated, cohesion-less soil layers located close to the ground surface. These conditions are present in the study area. Fill² was documented in some cases, but the majority of the Proposed Project would be constructed in lean clays and granitic soils (Geocon, 2017). According to the

² Fill is earthy material which is used to fill in a depression or hole in the ground or create mounds or otherwise artificially change the grade or elevation of real property.

Draft Liquefaction Hazard figure of the Multi-Jurisdictional Hazard Mitigation Plan, the Proposed Project site is not within a liquefaction hazard area as defined above (County of San Diego, 2010a).

Lateral spreading is a ground failure that involves displacement of large blocks of ground down gentle slopes or toward stream channels. The potential for lateral spreading is highest in areas underlain by soft, saturated, liquefiable materials, especially where bordered by steep banks or adjacent hard ground (soil that is dry, firm, and resistant to pressure). This combination of soils and topography does not occur in the study area. The young alluvial deposits (Qya) unit, which contains more liquefiable soils, is the only geologic unit in the Proposed Project area that might be susceptible to lateral spreading- this is present in the western part of the reconductoring alignment (see Figure 3.7-1, *Geologic Units in the Study Area*), but the Project does not propose any new structures within this geologic unit. Furthermore, unsupported free face slope conditions potentially susceptible to lateral spreading do not occur at any of the substations affected by the Proposed Project. Only adjacent to the Artesian Substation Expansion site, there is a steep bank, however, liquefiable soils do not occur adjacent and do not underlie the Artesian Substation Expansion site and associated 230kV and 69 kV underground getaways. Lateral spreading is therefore unlikely to occur.

Landslides

Areas with steeper slopes have the potential for erosion and slippage. No landslide-susceptible areas are present within or adjacent to the Project site (Geocon, 2017).

Subsidence and Ground Settlement

Subsidence, which is defined as the sinking or lowering of the earth's surface, is typically associated with groundwater overdraft, a condition where the pumping of groundwater from an aquifer exceeds the recharge of that aquifer, when large amounts of water is withdrawn from certain types of rock, such as fine-grained sediments. The study area, does not undergo significant groundwater withdrawal. Soils in the County are mostly granitic (County of San Diego, 2011a), which means the potential for subsidence is low. Subsidence and ground settlement can also occur as a result of, or independent of an earthquake in poorly constructed or uncontrolled fills, or in areas of filled tidal channels. The Proposed Project site is located more than ten miles from the coast, so there are no tidal fill channels that could cause subsidence and ground settlement. This combination of factors means the likelihood of subsidence and ground settlement within the study area is low (County of San Diego, 2011a).

3.7.2 Regulatory Setting

Federal

There are no directly applicable federal regulations that are relevant to geology, soils and seismicity in the study area. However, federal legislation has historically provided funding for disaster relief, recovery, and some hazard mitigation planning. The Disaster Mitigation Act of 2000 (DMA 2000) is the latest legislation to improve this planning process (Public Law 106-390). The new legislation reinforces the importance of mitigation planning and emphasizes

planning for disasters before they occur. As such, DMA 2000 establishes a pre-disaster hazard mitigation program and new requirements for the national post-disaster Hazard Mitigation Grant Program (County of San Diego, 2010b). As part of this program the preparation of a Multi-Hazard Mitigation Plan is required. As summarized below, San Diego County has such a plan.

State

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 to mitigate the hazard of surface faulting to structures for human occupancy. In accordance with this act, the State Geologist established regulatory zones, called “earthquake fault zones,” around the surface traces of active faults and published maps showing these zones. Within these zones, buildings for human occupancy cannot be constructed across the surface trace of active faults. Each earthquake fault zone extends approximately 200 to 500 feet on either side of the mapped fault trace, because many active faults are complex and consist of more than one branch. There is the potential for ground surface rupture along any of the branches. As the Project is proposed to be located in an area which could be affected by an earthquake, this act is applicable.

California Building Code

The California Building Code (CBC), which is codified in Title 24 of the California Code of Regulations, Part 2, was promulgated to safeguard the public health, safety, and general welfare by establishing minimum standards related to structural strength, means of egress to facilities (entering and exiting), and general stability of buildings. The purpose of the CBC is to regulate and control the design, construction, quality of materials, use/occupancy, location, and maintenance of all buildings and structures within its jurisdiction. The California Building Standards Commission administers Title 24, which, by law, is responsible for coordinating all building standards. Under State law, all building standards must be centralized in Title 24 or they are not enforceable. The provisions of the CBC apply to the construction, alteration, movement, replacement, location, and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures throughout California.

The 2016 edition of the CBC is based on the 2015 International Building Code (IBC) published by the International Code Council, which replaced the Uniform Building Code. The code is updated triennially; the 2016 edition of the CBC was published by the California Building Standards Commission on July 1, 2016, and takes effect starting January 1, 2017. The 2016 CBC contains California amendments based on the American Society of Civil Engineers (ASCE) Minimum Design Standard ASCE/SEI 7-16, *Minimum Design Loads for Buildings and Other Structures*, provides requirements for general structural design and includes means for determining earthquake loads³ as well as other loads (such as wind loads) for inclusion into building codes. Seismic design provisions of the building code generally prescribe minimum lateral forces applied statically to the structure, combined with the gravity forces of the dead and

³ A load is the overall force to which a structure is subjected in supporting a weight or mass, or in resisting externally applied forces. Excess load or overloading may cause structural failure.

live loads of the structure, which the structure then must be designed to withstand. The prescribed lateral forces are generally smaller than the actual peak forces that would be associated with a major earthquake. Consequently, structures should be able to: (1) resist minor earthquakes without damage, (2) resist moderate earthquakes without structural damage but with some nonstructural damage, and (3) resist major earthquakes without collapse, but with some structural as well as nonstructural damage. Conformance to the current building code recommendations does not constitute any kind of guarantee that significant structural damage would not occur in the event of a maximum magnitude earthquake. However, it is reasonable to expect that a structure designed in accordance with the seismic requirements of the CBC should not collapse in a major earthquake.

The earthquake design requirements take into account the occupancy category of the structure, site class, soil classifications, and various seismic coefficients, all of which are used to determine a seismic design category (SDC) for a project. The SDC is a classification system that combines the occupancy categories with the level of expected ground motions at the site; SDC ranges from A (very small seismic vulnerability) to E/F (very high seismic vulnerability and near a major fault). Seismic design specifications are determined according to the SDC in accordance with Chapter 16 of the CBC. Chapter 18 of the CBC covers the requirements of geotechnical investigations (Section 1803), excavation, grading, and fills (Section 1804), load-bearing of soils (1806), as well as foundations (Section 1808), shallow foundations (Section 1809), and deep foundations (Section 1810). For Seismic Design Categories D, E, and F, Chapter 18 requires analysis of slope instability, liquefaction, and surface rupture attributable to faulting or lateral spreading, plus an evaluation of lateral pressures on basement and retaining walls, liquefaction and soil strength loss, and lateral movement or which may include ground stabilization, selecting appropriate foundation type and depths, selecting appropriate structural systems to accommodate anticipated displacements, or any combination of these measures. The potential for liquefaction and soil strength loss must be evaluated for site-specific peak ground acceleration magnitudes and source characteristics consistent with the design earthquake ground motions.

The design of the Project is required to comply with CBC requirements, in order to be granted the necessary permits and approvals to construct the Project. This would make the Project consistent with the CBC.

California Public Utilities Commission General Order 95 and 128

California Public Utilities Commission (CPUC) General Orders 95 and 128 apply to construction and reconstruction of overhead electric lines in California. The replacement of poles, towers, or other structures is considered reconstruction and requires adherence to all strength and clearance requirements of this order. Since the Proposed Project would include reconductoring of a power line, these General Orders would directly apply to the Proposed Project. For the purpose of recognizing relative hazards, lines are segregated into classes defined in CPUC Rule 20.6. These classes of lines and the relation of lines to each other and to objects over which they are constructed determine construction requirements.

Codes to which design of transmission lines must adhere include the National Electric Safety Code. Guidance documents are published by the Institute of Electrical and Electronics Engineers

and ASCE. Including ASCE 74, Guidelines for Electrical Transmission Line Structural Loading, which states, “Transmission structures are not typically designed for vibration caused by earthquakes because these loads are less than that of wind/ice combinations.” The exception to this general rule occurs if the tower is built in liquefiable materials, in which case the materials may not support the weight of the tower and tower foundation during a seismic event.

CPUC General Order 128 Rules for Construction of Underground Electric Supply and Communication Systems provides general standards for the construction of underground electric systems.

NPDES Construction General Permit

Construction associated with the Proposed Project would disturb more than one acre of land surface affecting the quality of stormwater discharges into waters of the U.S. The Proposed Project would therefore be subject to the *NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities* (Order 2009-0009-DWQ, NPDES No. CAS000002; as amended by Orders 2010-0014-DWQ and 2012-006-DWQ). The Construction General Permit regulates discharges of pollutants in stormwater associated with construction activity to waters of the U.S. from construction sites that disturb one or more acres of land surface, or that are part of a common plan of development or sale that disturbs more than one acre of land surface. The permit regulates stormwater discharges associated with construction or demolition activities, such as clearing and excavation; construction of buildings; and linear underground projects, including installation of water pipelines and other utility lines. See Section 3.10, *Hydrology and Water Quality*, for additional details.

Local

The CPUC has exclusive jurisdiction over the siting, design, and construction of the Project, therefore the Project is not subject to local discretionary regulations. Details below that relate to local regulations are provided for informational purposes.

County of San Diego

San Diego County Multi-Jurisdictional Hazard Mitigation Plan

A Multi-Hazard Mitigation Plan for San Diego County, California (Plan) was prepared with input from County residents, responsible officials, the San Diego County Water Authority, the Rancho Santa Fe Fire Protection District, the California Emergency Management Agency (Cal EMA) and the Federal Emergency Management Agency (FEMA). It includes the following relevant goals and actions:

Goal 6: Reduce the possibility of damage and losses to existing assets, including people, critical facilities/infrastructure, and public facilities due to earthquakes.

- a. **Action 6.B.1:** Continue to identify hazard-prone structures through GIS modeling.
- b. **Action 6.B.2:** Continue to build critical facilities that function after a major earthquake.

- c. **Action 6.B.3:** Continue to study ground motion, landslide, and liquefaction.
- d. **Action 6.C.1:** Identify projects for pre-disaster mitigation funding.
- e. **Action 6.D.1:** Continue to assess countywide utility infrastructure with regard to earthquake risk.
- f. **Action 6. D.2:** Develop and implement an incentive program for seismic retrofits.
- g. **Action 6. D.3:** Continue to encourage the public to prepare and maintain a 3-day preparedness kit for home and work.

Goal 8: Reduce the possibility of damage and losses to existing assets, including people, critical facilities /infrastructure, and public facilities due to landslide.

- a. **Action 8.A.1:** Continue to identify potential areas based upon historical data.
- b. **Action 8.A.2:** Continue to participate in community awareness meetings.
- c. **Action 8.A.3:** Continue to develop and distribute printed publications to the communities concerning hazards.

City of San Diego

City of San Diego

The City of San Diego has developed several goals, objectives, and policies for hazard mitigation, some of which address seismic hazards:

Goal 3: Reduce the possibility of damage and losses to existing assets, particularly people, critical facilities/infrastructure, and State-owned facilities, due to structural fire/wildfire, coastal storms/erosion/tsunami, earthquake, dam failure, flood, landslide, and other manmade hazards.

- a. **Action 3.A.2:** Provide to critical City of San Diego facilities backup electrical power generating systems, fuel, and necessary supplies in case of major power outages.

Goal 5: Reduce the possibility of damage and losses to existing assets, particularly people, critical facilities/infrastructure, and State-owned facilities, due to geological hazards.

General Plan

The City of San Diego General Plan Public Facilities Element (City of San Diego, 2015) includes the following goal and policy relevant to the Proposed Project related to geology and soils:

Seismic Safety Goal – Protection of public health and safety through abated structural hazards and mitigated risks posed by seismic conditions.

- Ensure that current and future community planning and other specific land use planning studies continue to include consideration of seismic and other geologic hazards. This information should be disclosed, when applicable, in the CEQA document accompanying a discretionary action.

3.7.3 Applicant Proposed Measures

No Applicant Proposed Measures (APMs) have been identified that would address potential impacts related to geology and soils.

3.7.4 Environmental Impacts and Mitigation Measures

Approach to Analysis

The following impact analysis considers the potential geology, soils, and seismicity impacts associated with the construction, operation and maintenance of the Project. Impacts related to geologic and seismic hazards would be considered significant if they resulted in injury, structural collapse, unrepairable facility or utility damage, or severe service disruption. This analysis assumes that construction and design of Project components would utilize standard site preparation practices, engineering designs, and seismic safety techniques that are required under the CBC and other state and local geologic hazard regulations. Soil settlements, earthquake shaking, and/or liquefaction would not be considered significant in cases where structural damage would be minor, undetectable, repairable, or would otherwise not pose substantial risk to the public or the environment. Project components that repair or replace existing facilities that are old, deteriorated, built according to outdated building codes, or otherwise have structural impairments would be considered to have a beneficial impact with respect to geologic and seismic hazards.

CEQA requires analysis of a project's effects on the environment; consideration of the potential effects of a site's environment on a project are outside the scope of required CEQA review (*California Building Industry Association v. Bay Area Air Quality Management District* (2015) 62 Cal. 4th 369). As stated in *Ballona Wetlands Land Trust v. City of Los Angeles* (2011) 201 Cal.App.4th 455, 473: “[T]he purpose of an EIR is to identify the significant effects of a project on the environment, not the significant effects of the environment on the project.” The impacts discussed in this section related to increased exposure of people or structures to risks associated with seismic occurrences and location of people or structures on unstable geologic units are effects on users of the project and structures in the project of preexisting environmental hazards, and therefore “do not relate to environmental impacts under CEQA and cannot support an argument that the effects of the environment on the project must be analyzed in an EIR.” (*Id.* at p. 474.)

ai) Whether the Project would expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault (refer to Division of Mines and Geology Special Publication 42): *LESS THAN SIGNIFICANT IMPACT.*

No active faults zoned under the Alquist-Priolo Earthquake Fault Zoning Act traverse any of the Project site (see Figure 3.7-3). While the Proposed Project would be located in a seismically active area, and there is no guarantee that fault rupture will only occur in areas demonstrating evidence of past faulting, rupture on faults not identified as active are considered less likely (Bryant and Hart, 2007). The Project entails expansion of an existing substation which would be

unmanned during operation, and modifications at two existing substations which would also be unmanned in operation, as well as reconductoring and other minor improvements. None of these activities would cause or increase the risk of exposure of people to loss, injury, or death involving rupture of an earthquake fault. With respect to structures although the Artesian Substation would be increased in size, the risk of impact from earthquake fault rupture would be similar to that which currently exists. There would be a less than significant impact under this criterion.

aii) Whether the Project would expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking: *LESS THAN SIGNIFICANT IMPACT.*

There is the potential for strong seismic ground shaking in the study area due to nearby active fault zones. As a result, structures that would be associated with the Proposed Project could experience strong seismic ground shaking. While the Proposed Project would be located in an area susceptible to earthquake forces, the substations and associated infrastructure would not be used for human occupancy. Other than the expansion of the Artesian Substation, which would be constructed within the existing substation site and adjacent to SDG&E-owned land, the majority of Project components would replace and/or upgrade existing facilities in similar locations. The Project would be designed consistent with CPUC General Order 95, Rules for Overhead Line Construction, to withstand wind, temperature, and wire tension loads, which would also reduce the risk of damage from seismic shaking. In addition, Project design would be required to comply with the CBC. Accounting for these factors would result in a design that would be adequate to withstand expected seismic loading, and therefore impacts due to strong seismic ground shaking would be less than significant.

aiii) Whether the Project would expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction: *LESS THAN SIGNIFICANT IMPACT.*

As noted in Section 3.6.1, *Environmental Setting*, the potential for seismic-related ground failure within the study area is low. Other than the expansion of the Artesian Substation, which would be constructed within the existing substation site and adjacent to SDG&E-owned land, the majority of Project components would replace and/or upgrade existing facilities in similar locations, including existing poles along the reconductoring route, and would not therefore expose additional structures to seismic-related ground failure. As noted above, the Project would be designed consistent with the CBC and CPUC General Order 95, Rules for Overhead Line Construction, which would also reduce the risk from seismically induced ground failures. With the implementation of appropriate soil engineering measures (Geocon, 2017), such as the use of well-compacted non-expansive engineered fill containing a mix of soil particle sizes, liquefaction susceptibility of soils supporting Project structures would be reduced further. Therefore, the extent to which the Proposed Project would cause or exacerbate the exposure of people or structures to seismic-related ground failure would be less than significant.

aiv) Whether the Project would expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides: NO IMPACT.

Land within the Project site has nearly flat topography with very gentle long slopes. The Proposed Project would not be susceptible to landslides (Geocon, 2017). For these reasons, the potential for landslide hazards along the Project alignment is very low, the Project would not cause or exacerbate landslide-related risks, and there would be no impact under this criterion.

b) Whether the Project would result in substantial soil erosion or the loss of topsoil: LESS THAN SIGNIFICANT IMPACT.

Excavation and grading activities planned during construction would increase exposure of soil to erosive forces such as wind and rain. Project activities that would expose soil include grading at the Artesian Substation site and within new/replacement towers and poles locations, including the construction of a new 50-foot tall microwave tower, and the construction of other project components, such as staging areas, access roads, pull sites, and new Artesian Substation getaways.

Intense rain or wind events in the Project area could result in substantial soil erosion into adjacent waterways, and possibly propagation of small rills or gullies. In cases such as this (i.e., constructed-related impacts), increased runoff or entrainment of sediment in runoff is also a concern. The amount of material eroded by wind or rain increases when soil is relatively dry, broken into smaller particles, and when wind velocity and turbulence are higher. Removal of vegetation can also increase the susceptibility of soil to wind erosion. See Section 3.10 regarding measures that would be implemented as part of a SWPPP to reduce the potential for Project construction to result in water-related erosion. Water would be applied during construction to control dust (see Section 2.6.2) which would prevent significant impacts relating to wind-related erosion. During construction, the risk of soil erosion due to wind would also be decreased by dividing the Project into many smaller phases of clearing and grading and by covering disturbed soils as completely as possible. These measures would minimize the risk of soil loss due to wind erosion during Project construction activities.

As shown in Table 2-6, the Project would require a total of approximately 41.7 acres of temporary soil disturbance and 6.18 acres of permanent disturbance distributed along the entire alignment, within the substation expansion areas, and within the staging yards. Due to the extent of soil disturbance, coverage under the Construction General Permit (see Regulatory Setting above) would be required (additional discussion of the required SWPPP is included in Section 3.10, *Hydrology and Water Quality*). With the implementation of a SWPPP, and dust control during construction, the amount of soil erosion caused by the Project would be less than significant with mitigation.

Topsoil is generally removed during construction of buildings and/or infrastructure and therefore as the majority of the Project site is already developed the potential for topsoil loss is reduced. However, the Project would involve development in some areas of vegetated and undeveloped areas, e.g., the Artesian Substation Expansion site and therefore the potential for topsoil loss still exists. With the implementation of a SWPPP, adherence to SDG&E's Manual for Water Quality

Construction and Operational Protocols, and dust control during construction, this impact would be less than significant.

c) Whether the Project would be located on geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse: *LESS THAN SIGNIFICANT IMPACT.*

The geologic and soil units present in the study area are relatively stable and located on flat topography. Impacts associated with landslides and liquefaction are discussed under criteria aiii) and aiv). No activities that could cause or exacerbate any existing risk of subsidence (including groundwater, petroleum, or natural gas withdrawals) are undertaken in the study area, nor are these activities proposed as part of the Project (see Sections 3.9, *Hydrology and Water Quality*, and 3.11, *Mineral Resources*). The potential for ground subsidence within the Project site is therefore low. In addition, the potential adverse effects of instability of Project site soils during the construction and operation and maintenance phases of the Project would be adequately addressed through the compaction and grading requirements of the CBC and specific recommendations provided by SDG&E's Project-specific geotechnical report (Geocon, 2017). Typical and required building practices included in the CBC and also recommended in the Project geotechnical report that would improve soil stability are: moisture conditioning of the soil to achieve maximum stability, ensuring deleterious materials are removed from soil prior to being placed or moved on-site, and/or over-excavating existing soils and placing structural foundations on a mat of artificial fill compacted to appropriate design specifications. These types of measures, which are standard engineering practice and required through building and construction codes, ensure that small ground movements such as long-term soil consolidation or movements due to subsidence or collapsible soils do not damage or deteriorate building foundations and/or other structural components of the Proposed Project. Impacts under this criterion would be less than significant.

d) Whether the Project would be located on expansive or corrosive soil, creating substantial risks to life or property: *LESS THAN SIGNIFICANT IMPACT.*

Expansive Soil

The study area does not include soils with moderate to high expansion potential (Geocon, 2017). Project facility design and construction would comply with CBC and CPUC design standards and would employ standard engineering and building practices common to construction projects throughout California. For example, non-expansive engineered fill would be used to support structures along the reconductoring alignment, and specialized foundation design methods would be employed, as proposed in the geotechnical investigation. Consequently, the Project would not cause any new or exacerbate any existing significant impacts related to expansive soils; impacts would be less than significant under this criterion.

Corrosive Soil

Soils with a high conductivity can corrode unprotected underground metal. Over time, this corrosion could lead to structural failure. Soils with an acidic pH can corrode unprotected concrete. Over time, concrete corrosion could lead to the degradation of concrete resulting in the cracking and

failure of concrete foundations and other support structures. Failed foundations and support structures could result in the breakage of equipment and possibly result in temporary shutdown of operations interrupting the electrical supply. Clayey soils are more susceptible to being corrosive.

Within the study area the soil units that may be more susceptible to corrosion are Diablo Clay, Diablo-Olivenhain Complex, Huerhuero Loam, Olivenhain Cobbly Loam, Placentia Sandy Loam, and San Miguel Rocky Silt Loam, which occur along the reconductoring alignment and at the three substation locations. Managing corrosive soils is standard engineering practice. If corrosive soils are identified during the final geotechnical design study, the Project geotechnical engineer would recommend remedies to eliminate damage from corrosive soils, and those recommendations would be implemented by SDG&E. Methods to reduce corrosion of metal and concrete caused by soils include avoidance and removal or the use of cathodic protection. Compliance with the requirements of the CBC and CPUC design standards would reduce the impact to less than significant.

e) Whether the Project would 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 Project would not include the use of septic tanks or alternative wastewater systems. For this reason, the Project would not pose an environmental or public health hazard by building septic tanks or alternative wastewater disposal systems in soils incapable or adequately supporting such systems. There would be no impact under this criterion.

3.7.5 References

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3.8 Greenhouse Gas Emissions

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
7. GREENHOUSE GAS EMISSIONS — Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.8.1 Environmental Setting

Climate Change

According to the U.S. Environmental Protection Agency (USEPA), the term “climate change” refers to any significant change in measures of climate (such as temperature, precipitation, or wind) lasting for an extended period (over several decades or longer). There is scientific consensus that climate change is occurring and that human activity contributes in some measure (perhaps substantially) to that change. Gases that trap heat in the atmosphere are often called greenhouse gases (GHGs). Emissions of GHGs, if not sufficiently curtailed, are likely to contribute further to increases in global temperatures. The potential effects of climate change in California include sea level rise and reductions in snowpack, as well as an increased number of extreme-heat days per year, high ozone days, large forest fires, and drought years (CARB, 2014). Globally, climate change could affect numerous environmental resources through potential, though uncertain, changes in future air temperatures and precipitation patterns. According to the International Panel on Climate Change (IPCC), the projected effects of climate change are likely to vary regionally, but are expected to include the following direct effects (IPCC, 2007):

- Higher maximum temperatures and more hot days over nearly all land areas;
- Higher minimum temperatures (fewer cold days and frost days over nearly all land areas);
- Reduced diurnal temperature range over most land areas;
- Increase in heat index over most land areas; and
- More intense precipitation events.

In addition, many secondary effects are projected to result from climate change, including a global rise in sea level, ocean acidification, impacts on agriculture, changes in disease vectors, and changes in habitat and biodiversity. The possible outcomes and feedback mechanisms involved are not fully understood, and much research remains to be done; however, over the long term, the potential exists for substantial environmental, social, and economic consequences.

Greenhouse Gas Emissions

Both natural processes and human activities emit GHGs. The accumulation of GHGs in the atmosphere regulates the Earth's temperature; however, emissions from human activities – such as fossil fuel-based electricity production and the use of motor vehicles – have elevated the concentration of GHGs in the atmosphere. This accumulation of GHGs has contributed to an increase in the temperature of the Earth's atmosphere and to global climate change.

Greenhouse Gas Emissions

GHG emissions that result from human activities primarily include carbon dioxide (CO₂), with much smaller amounts of nitrous oxide (N₂O), methane (CH₄, often from unburned natural gas), sulfur hexafluoride (SF₆) from high-voltage power equipment, and hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs) from refrigeration/chiller equipment. Because these GHGs have different warming potentials (i.e., the amount of heat trapped in the atmosphere by a certain mass of the gas), and CO₂ is the most common reference gas for climate change, GHG emissions are often quantified and reported as CO₂-equivalent (CO₂e) emissions. For example, while SF₆ represents a small fraction of the total annual GHGs emitted worldwide, this gas is very potent, with 23,900 times the global warming potential of CO₂. Therefore, an emission of 1 metric ton of SF₆ would be reported as 23,900 metric tons CO₂e. The global warming potential of CH₄ and N₂O are 25 times and 298 times that of CO₂, respectively (CARB, 2016a). The principal GHGs resulting from human activity that enter and accumulate in the atmosphere are described below.

Carbon Dioxide

CO₂ is a naturally occurring gas that enters the atmosphere through natural as well as anthropogenic (human) sources. Key anthropogenic sources include the burning of fossil fuels (e.g., oil, natural gas, and coal), solid waste, trees, wood products, and other biomass, as well as industrially relevant chemical reactions such as those associated with manufacturing cement. CO₂ is removed from the atmosphere when it is absorbed by plants as part of the biological carbon cycle.

Methane

Like CO₂, CH₄ is emitted from both natural and anthropogenic sources. Key anthropogenic sources of CH₄ include gaseous emissions from landfills, releases associated with mining and materials extraction industries (in particular coal mining), and fugitive releases associated with the extraction and transport of natural gas and crude oil. CH₄ emissions also result from livestock and agricultural practices. Small quantities of CH₄ are released during fossil fuel combustion.

Nitrous Oxide

N₂O is also emitted from both natural and anthropogenic sources. Important anthropogenic sources include industrial activities, agricultural activities (primarily the application of nitrogen fertilizer), the use of explosives, combustion of fossil fuels, and decay of solid waste.

Fluorinated Gases

HFCs, PFCs, and SF₆ are synthetic gases emitted from a variety of industrial processes, and they contribute substantially more to the greenhouse effect on a pound for pound basis than the GHGs described previously. Fluorinated gases are often used as substitutes for ozone-depleting substances (i.e., chlorofluorocarbons, hydrochlorofluorocarbons, and halons). These gases are typically emitted in small quantities, but because of their potency they are sometimes referred to as “high global warming potential gases.” Fluorinated gases in the form of SF₆ would be emitted by circuit breakers that would be associated with the Proposed Project.

Greenhouse Gas Sources

Anthropogenic GHG emissions in the United States are derived mostly from the combustion of fossil fuels for transportation and power production. Energy-related CO₂ 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 CO₂ emissions from burning fossil fuels. More than half of the energy-related emissions come from large stationary sources, such as power plants; approximately one-third derive from transportation; and a majority of the remaining sources include: industrial processes, agriculture, commercial, and residential (USEPA, 2016a).

Statewide emissions of GHG from relevant source categories for 2009 through 2015 are summarized in **Table 3.8-1**. Specific contributions from individual air basins, such as the San Diego County Air Basin, which encompasses the Proposed Project site, are included in the emissions inventory but are not itemized by air basin. In 2015, California produced 440.4 million gross metric tons of CO₂e emissions. Transportation was the source of 39 percent of the state’s GHG emissions, followed by industrial at 23 percent, electricity generation at 19 percent, commercial and residential sources at 11 percent, and agriculture and forestry comprised the remaining 8 percent (CARB, 2017).

TABLE 3.8-1
CALIFORNIA GHG EMISSIONS (MILLION METRIC TONS CO₂E)

Emission Inventory Category	2009	2010	2011	2012	2013	2014	2015	
Electricity Generation (In State)	53.51	46.91	41.36	51.18	49.60	51.81	50.21	11.4%
Electricity Generation (Imports)	48.13	43.67	46.94	44.15	40.24	36.56	33.88	7.7%
Transportation	171.45	168.11	164.70	164.38	163.05	164.89	169.38	38.5%
Industrial	97.31	101.12	101.08	101.46	104.27	104.69	102.97	23.4%
Commercial	18.64	20.09	20.73	21.11	21.64	21.37	22.17	5.0%
Residential	30.21	31.26	32.03	30.04	31.19	26.26	26.93	6.1%
Agriculture and Forestry	33.83	34.64	35.28	36.42	34.93	36.03	34.65	7.9%
Not Specified (Solvents & Chemicals)	0.26	0.27	0.25	0.24	0.18	0.24	0.17	<0.1%
Total Gross Emissions	453.34	446.06	442.38	448.97	445.08	441.85	440.36	100.00%

NOTE: The GHG percentages of the total gross emissions for year 2015 were rounded to the nearest whole number.

SOURCE: CARB, 2017.

3.8.2 Regulatory Setting

Federal

Clean Air Act

On April 2, 2007, in *Massachusetts v. USEPA* (549 US 497), the Supreme Court found that GHGs are air pollutants covered by the Clean Air Act. On April 17, 2009, the USEPA Administrator signed proposed “endangerment” and “cause or contribute” findings for GHGs under Section 202(a) of the Clean Air Act. The USEPA found that six GHGs, taken in combination, endanger both the public health and the public welfare of current and future generations. Pursuant to 40 CFR Part 52, *Proposed Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule*, USEPA has mandated that Prevention of Significant Deterioration (PSD) and Title V requirements apply to facilities whose stationary source CO₂e emissions exceed 100,000 tons per year (USEPA, 2016b). The Proposed Project would not trigger PSD or Title V permitting under this regulation because it would generate less than 100,000 tons of CO₂e emissions per year.

40 CFR Part 98. Use of Electric Transmission and Distribution Equipment

Pursuant to federal regulations (i.e., 40 CFR Part 98, Subpart DD) operators of certain electrical facilities, such as SF₆-containing circuit breakers, are required to report SF₆ emissions to the USEPA (USEPA, 2016c). SF₆-containing circuit breakers associated with the Proposed Project would be subject to reporting under this regulation.

State

A variety of statewide rules and regulations mandate the quantification and, if emissions exceed established thresholds, the reduction of GHGs. CEQA requires Lead Agencies to evaluate project-related GHG emissions and the potential for projects to contribute to climate change and to provide appropriate mitigation in cases where the Lead Agency determines that a project would result in a significant addition of GHGs to the atmosphere.

Executive Order S-3-05

In June 2006, Governor Arnold Schwarzenegger signed Executive Order S-3-05, which established 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.

This executive order does not contain any requirements that directly pertain to the Proposed Project; however, future actions taken by the State of California to implement these goals may affect the Proposed Project, depending on the specific implementation measures that are developed.

Assembly Bill 32

California Assembly Bill (AB) 32, *the Global Warming Solutions Act of 2006*, required the California Air Resources Board (CARB) to establish a statewide GHG emissions cap for 2020 based on 1990 emission levels. AB 32 required CARB to adopt regulations that identify and require selected sectors or categories of emitters of GHGs to report and verify their statewide GHG emissions, and CARB is authorized to enforce compliance with the program. Under AB 32, CARB also was required to adopt a statewide GHG emissions limit equivalent to the statewide GHG emissions levels in 1990, which must be achieved by 2020. CARB established this limit in December 2007 at 427 million metric tons of CO₂e. This is approximately 30 percent below forecasted “business-as-usual” emissions of 596 million metric tons of CO₂e in 2020, and about 10 percent below average annual GHG emissions during the period of 2002 through 2004 (CARB, 2009). In the interest of achieving the maximum technologically feasible and cost-effective GHG emission reductions, AB 32 permits the use of market-based compliance mechanisms and requires CARB to monitor compliance with and enforce any rule, regulation, order, emission limitation, emissions reduction measure, or market-based compliance mechanism that it adopts.

Climate Change Scoping Plan (AB 32 Scoping Plan)

In December 2008, CARB approved the AB 32 Scoping Plan outlining the State’s strategy to achieve the 2020 GHG emissions limit. The Scoping Plan estimates a reduction of 174 million metric tons CO₂e (about 191 million tons) from the transportation, energy, agriculture, forestry, and high climate-change-potential sectors, and proposes a comprehensive set of actions designed to reduce overall GHG emissions in California, improve the environment, reduce dependence on oil, diversify California’s energy sources, save energy, create new jobs, and enhance public health. The Scoping Plan must be updated every five years to evaluate the mix of AB 32 policies to ensure that California is on track to achieve the 2020 GHG reduction goal. Appendices C and E of the adopted 2008 AB 32 Scoping Plan include a list of 39 recommended action measures to reduce GHG emissions (CARB, 2009). Of these measures, only one is directly relevant to the Proposed Project. Measure H-6, High GWP Gases was designed to reduce emissions of SF₆ within the electric utility sector and at particle accelerators by requiring the use of best achievable control technology for the detection and repair of leaks, and the recycling of SF₆.

CARB released its first Scoping Plan Update in May 2014 (CARB, 2014). There are no recommended actions identified in the Scoping Plan Update that are directly applicable to the Proposed Project.

California Renewable Energy Programs

In 2002, California initially established its Renewables Portfolio Standard (RPS), with the goal of increasing the percentage of renewable energy in the State’s electricity mix to 20 percent by 2017. State energy agencies recommended accelerating that goal, and California Executive Order S-14-08 (November 2008) required California utilities to reach the 33 percent renewable electricity goal by 2020, consistent with the AB 32 Scoping Plan. In April 2011, Senate Bill 2 of the First Extraordinary Session (SB X1-2) was signed into law. SB X1-2 expressly applies the new 33 percent RPS by December 31, 2020, to all retail sellers of electricity and establishes renewable

energy standards for interim years prior to 2020. In May 2017, Senate Bill 100, The California Clean Energy Act of 2017, was proposed. If approved this would establish a target of 100 percent renewable energy in the state by 2045.

Mandatory Reporting Requirements

Pursuant to California Code of Regulations Title 17, Sections 95100 through 95158, operations of large industrial stationary combustion and process emissions sources that emit 10,000 metric tons CO₂e or more per calendar year are required to report and verify their GHG emissions to CARB. As indicated in **Table 3.8-3**, the total amortized GHG emissions for the Proposed Project would be 391 metric tons per year, which is below the AB 32 reporting threshold; therefore, the Proposed Project would not be subject to the AB 32 mandatory reporting requirements.

Market-Based “Cap-and-Trade” Compliance Mechanism

AB 32 allows the use of market-based compliance mechanisms to achieve the maximum technologically feasible and cost-effective GHG emission reductions. AB 32 also requires CARB to monitor compliance with and enforce any rule, regulation, order, emission limitation, emissions reduction measure, or market-based compliance mechanism that it adopts. In response, CARB adopted a cap-and-trade program that covers major sources of GHG emissions such as refineries and power plants. The program includes an annual emissions cap that declines over time. CARB’s cap-and-trade program applies to facilities that would emit 25,000 metric tons or more of CO₂e per year. Since the total amortized GHG emissions for the Proposed Project are estimated at 412 metric tons per year, the cap-and-trade program would not apply to the Proposed Project (see Section 3.7.4 for a discussion and breakdown of the construction-related and operational GHG emissions associated with the Proposed Project).

Senate Bill 97

In 2007, the California State Legislature passed SB 97, which required amendment of the CEQA Guidelines to incorporate analysis of, and mitigation for, GHG emissions from projects subject to CEQA. The amendments took effect March 18, 2010. The amendments added Section 15064.4 to the CEQA Guidelines, specifically addressing the potential significance of GHG emissions. Section 15064.4 calls for a “good faith effort” to “describe, calculate or estimate” GHG emissions and indicates that the analysis of the significance of any GHG impacts should include consideration of the extent to which the project would:

- Increase or reduce GHG emissions;
- Exceed a locally applicable threshold of significance; or
- Comply with “regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions.”

The CEQA Guidelines also state that a project may be found to have a less-than-significant impact related to GHG emissions if it complies with an adopted plan that includes specific measures to sufficiently reduce GHG emissions (14 Cal. Code Regs. §15064(h)(3)). Importantly,

however, the CEQA Guidelines do not require or recommend a specific analytical methodology or provide quantitative criteria for determining the significance of GHG emissions.

Executive Order B-30-15

In April 2015, Governor Edmund G. Brown Jr. issued an executive order to establish a California GHG reduction target of 40 percent below 1990 levels by 2030. Reaching this emission reduction target will make it possible for California to reach its ultimate goal of reducing emissions 80 percent under 1990 levels by 2050, as identified in Executive Order S-3-05. Executive Order B-30-15 also specifically addresses the need for climate adaptation and directs state government to:

- Incorporate climate change impacts into the State's 5-Year Infrastructure Plan;
- Update the Safeguarding California Plan, the state climate adaption strategy to identify how climate change will affect California infrastructure and industry and what actions the state can take to reduce the risks posed by climate change;
- Factor climate change into state agencies' planning and investment decisions; and
- Implement measures under existing agency and departmental authority to reduce GHG emissions (Office of the Governor, 2015).

Executive Order B-30-15 requires CARB to update the AB 32 Climate Change Scoping Plan to incorporate the 2030 target. The 2030 Draft Scoping Plan (Draft Scoping Plan) will serve as the framework to define the State's climate change priorities for the next 15 years and beyond. In June 2016, CARB released the 2030 Target Scoping Plan Update Concept Paper to describe potential policy concepts to achieve the 2030 target that can be incorporated in the Draft Scoping Plan. The concept paper presents four potential high-level concepts for achieving the needed GHG reductions (CARB, 2016b).

Regulation for Reducing SF₆ Emissions from Gas Insulated Switchgear

The purpose of this regulation (17 Cal. Code Regs. §95350 et seq.) is to achieve GHG emission reductions by reducing SF₆ emissions from gas-insulated switchgear. Owners of such switchgear must not exceed maximum allowable annual emissions rates, which are reduced each year until 2020, after which annual emissions must not exceed 1.0 percent of the total SF₆ capacity of all of the owner's active gas-insulated switchgear equipment. As defined by the regulation, the annual emissions rate equals the gas-insulated switchgear owner's total annual SF₆ emissions from all active gas-insulated switchgear equipment divided by the average annual SF₆ nameplate capacity of all active gas-insulated switchgear equipment. Owners must regularly inventory gas-insulated switchgear equipment, measure quantities of SF₆, and maintain records of these for at least three years. Additionally, by June 1st each year, owners also must submit an annual report to CARB's Executive Officer for emissions that occurred during the previous calendar year (CARB, 2016c).

Local

There are no local adopted policies or goals for reducing GHG emissions that would be directly applicable to the Proposed Project.

3.8.3 Applicant Proposed Measures

With regard to GHG emissions, SDG&E has not proposed any applicant proposed measures for the Proposed Project.

3.8.4 Environmental Impacts and Mitigation Measures

- a) Whether the Project would generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment: *LESS THAN SIGNIFICANT IMPACT.***

Approach to Analysis

Climate change impacts are global, and therefore inherently cumulative in nature; no typical single project would result in emissions of a magnitude that would be significant on a project basis. As such, the assessment of significance in this IS/MND is based on a determination of whether the GHG emissions from the Proposed Project represent a cumulatively considerable contribution to climate change. The Proposed Project would result in GHG emissions from both short-term construction and long-term operations and maintenance activities.

The San Diego Air Pollution Control District (SDAPCD) has not formally adopted a CEQA significance threshold for GHG emission; however, the County of San Diego recommends the use of a screening threshold of 900 metric tons per CO₂e per year (County of San Diego, 2015). The California Air Pollution Control Officers Association has indicated that this threshold would capture more than 90 percent of development projects. A 90 percent emissions capture rate means 90 percent of the total emissions from all development projects would be subject to analysis in an environmental document prepared pursuant to CEQA, potentially including analysis of feasible alternatives and imposition of feasible mitigation measures. Since Executive Order B-3-05 GHG emissions reductions goal of lowering GHG emissions to 80 percent below 1990 levels by 2050 is roughly equivalent to reducing emissions by 81 percent below current levels, the CPUC has determined that the GHG significance threshold of 900 metric tons per year is based on substantial evidence and, therefore, has determined that it is appropriate for use in this analysis.

This GHG significance threshold is intended for long-term operational GHG emissions, but for construction related GHGs, the County recommends that total emissions from construction be amortized over 20 years representing the life of the project and added to operational emissions and then compared to the operation-based significance threshold (County of San Diego, 2015). Similar to the County's recommended approach for construction emissions, this analysis amortizes Proposed Project construction emissions over a 20-year project lifetime, adds them to the operational emissions, and then compares the combined emissions to the significance threshold of 900 metric tons CO₂e per year.

The Project's potential to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions is assessed by examining any potential conflicts with the GHG reduction goals set forth in Executive Order S-3-05, Executive Order B-30-15, and AB 32, including the potential for the Proposed Project to conflict with the recommended actions identified by CARB in its Climate Change Scoping Plan and/or any associated adopted regulations.

Construction Emissions

Construction of the Proposed Project would generate GHG emissions over a construction period of approximately 30 months. Exhaust emissions would result from construction equipment and machinery as well as from vehicular traffic generated by construction activities. As part of the CPUC's Permit to Construct application process, SDG&E provided construction-related GHG emissions estimates for the construction activities that would be associated with the Proposed Project (see Appendix C, *Air Quality and Greenhouse Gas Emissions Calculations*). SDG&E estimated Proposed Project emissions using the California Emissions Estimator Model (CalEEMod) version 2013.2.2. This version of CalEEMod calculates the construction equipment exhaust emissions based on CARB's OFFROAD2011 equipment emission and load factors. See Appendix C for all emission factors and assumptions used to estimate GHG emissions that would be associated with construction of the Proposed Project.

SDG&E's emissions calculations were independently reviewed on behalf of the CPUC and, with the corrections noted, were found suitable for this analysis. The short-term construction emissions estimates provided by SDG&E (SDG&E, 2016) do not include indirect emissions estimates associated with the proposed use of 10 million gallons of water for potable uses, dust suppression, concrete mixing, and other construction activities. Therefore, SDG&E's emissions estimates were supplemented to include construction-related indirect short-term electricity usage-related GHG emissions associated with proposed water use using emission and use factors established by the California Energy Commission (CEC) and The Climate Registry (CEC, 2005; TCR, 2016). In addition, during the peak of construction traffic (see Table 2-14) there would be 30 one-way heavy truck haul trips per day associated with underground trenching work for the conduit substructure. These trips were not accounted for in SDG&E's emissions estimates (ESA, 2017b), so the emissions that would be associated with those trips were estimated using CARB EMFAC2014 (v1.0.7) emission rates for heavy duty trucks, and incorporated them into the overall emission estimates. See Appendix C for all emission factors and assumptions used to estimate GHG emissions that would be associated with construction of the Proposed Project.

Table 3.8-2 presents the total estimated GHG construction emissions that would be associated with the Proposed Project generated by off-road construction equipment, on-road vehicles, and water use. Approximately 2,464 metric tons of CO_{2e} would be generated during the Proposed Project's 30-month construction phase.

**TABLE 3.8-2
PROPOSED PROJECT CONSTRUCTION GHG EMISSIONS**

Construction Phase	Construction Year				Total
	2018	2019	2020	2021	
Phase 1	409	424	9	0	842
Phase 2	0	0	598	0	598
Phase 3	11	0	0	0	11
Phase 4	10	1	0	0	11
Phase 5	0	0	138	0	138
Phase 6	0	56	0	0	56
Phase 7	0	102	0	0	102
Phase 8	9	0	0	0	9
Phase 9	0	21	0	0	21
Phase 10	0	639	0	0	639
Staging Yard Preparation	5	0	0	0	5
Demobilization	0	0	0	3	3
Water Use					30
Total	444	1,242	745	3	2,464

SOURCE: SDG&E, 2016 and ESA, 2017 (see Appendix C).

Operation and Maintenance Emissions

The Proposed Project would require no change to SDG&E's existing operation and maintenance activities, and would result in a negligible net change in long-term vehicle or equipment exhaust emissions. However, GHG emissions associated with operation of the Proposed Project would result from 13 new SF₆-insulated 69 kV circuit breakers and five 230 kV circuit breakers at Artesian Substation. Annual SF₆ emissions for the Proposed Project were estimated based on a leak rate of 1.0 percent of the total SF₆ capacity,¹ and that the 18 new circuit breakers would be installed that would have a combined SF₆ capacity of 289 pounds. The annual SF₆ emissions that would be associated with the Proposed Project would be equivalent to approximately 268 metric tons CO₂e per year (SDG&E, 2016).

Total Amortized Annual Emissions

As indicated in Table 3.8-2, total GHG construction emissions would be approximately 2,464 metric tons CO₂e. These emissions amortized over a 20-year period equal approximately 123 metric tons per year. As presented in **Table 3.8-3, Proposed Project Amortized Annual Emissions**, adding 123 metric tons of CO₂e to the operational emissions of 268 metric tons CO₂e per year equals a total Proposed Project GHG emissions rate of approximately 391 metric tons CO₂e per year, which would be substantially less than the significance threshold of 900 metric tons CO₂e per year. Therefore, the Proposed Project would not generate GHG emissions, either

¹ A leak rate of 1.0 percent is considered to be a conservative assumption because the leakage rate for current SF₆ – containing circuit breaker designs is under 0.5 percent per year (Siemens, 2017).

directly or indirectly, that would have a significant impact on the environment. Impacts would be less than significant.

TABLE 3.8-3
PROPOSED PROJECT AMORTIZED ANNUAL EMISSIONS

Emissions Source	CO ₂ e metric tons/year
Construction emissions: total amortized (20 year period)	123
SF ₆ Circuit Breaker Emissions	268
Total	391
Significance threshold	900
Significant impact?	No

SOURCE: SCE, 2016 and ESA, 2017; see Appendix C for all emissions estimates.

b) Whether the Project would conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases: *LESS THAN SIGNIFICANT IMPACT.*

Construction, operation, and maintenance of the Proposed Project would result in increased GHG emissions compared to baseline conditions; however, the emissions would not exceed regional or quantitative thresholds developed to comply with AB 32 and the Climate Change Scoping Plan. As discussed above and in further detail below, the Proposed Project also would not conflict with GHG reduction goals set forth in Executive Order S-3-05, Executive Order B-30-15, or AB 32, including the 39 Recommended Actions identified by CARB in its Climate Change Scoping Plan. The impact would be less than significant under this criterion.

3.8.5 References

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- CARB, 2016b. 2030 Target Scoping Plan Update Concept Paper, June 17, 2016.
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USEPA, 2016c. Greenhouse Gas Reporting Program, Subpart DD – Use of Electric Transmission and Distribution Equipment, Rule Information. Available at: <https://www.epa.gov/ghgreporting/subpart-dd-use-electric-transmission-and-distribution-equipment>, last updated November 30, 2016.

3.9 Hazards and Hazardous Materials

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
9. HAZARDS AND HAZARDOUS MATERIALS— Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.9.1 Environmental Setting

Materials and waste may be considered hazardous if they are poisonous (toxic); can be ignited by open flame (ignitable), corrode other materials (corrosive); or react violently, explode, or generate vapors when mixed with water (reactive). The term “hazardous material” is defined in California Health and Safety Code Section 25501(p) as any material that, because of quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment.

In some cases, past industrial or commercial uses on a site can result in spills or leaks of hazardous materials and petroleum products to the environment, thus resulting in soil and groundwater contamination. Federal and State laws require that soils having concentrations of contaminants such as lead, gasoline, or industrial solvents that are higher than certain acceptable levels must be handled and disposed as hazardous waste during excavation, transportation, and

disposal. The California Code of Regulations, Title 22, Section 66261.20-24 contains technical descriptions of characteristics that would cause soil to be classified as a hazardous waste.

Federal and state laws require that hazardous materials be specially managed. California regulations are compliant with federal regulations and in most cases, are more stringent. Regulations also govern the management of potentially hazardous building materials, such as asbestos-containing materials, lead-based paint, and polychlorinated biphenyls (PCBs) during demolition activities that could potentially disturb existing building materials.

Hazardous Materials Database Records Search

For the purposes of this analysis the study area for the evaluation of hazardous materials was defined as an area comprising all components of the Proposed Project as well as areas that would be subject to either temporary or permanent disturbance as a result of the Project or used for the transportation of materials, equipment and workers. To evaluate the potential presence of hazardous materials in soil and groundwater, a regulatory database search of sites within one mile of the Proposed Project was conducted to identify the documented use, storage, generation, and/or releases of hazardous materials and/or petroleum products. In addition, active contaminated sites that are currently undergoing monitoring and remediation were identified. A search of the Department of Toxic Substances Control (DTSC) EnviroStor and State Water Resources Control Board (SWRCB) GeoTracker and the databases revealed that there are no known active/open hazardous materials sites within the footprint of any of the Proposed Project components (DTSC, 2014; SWRCB, 2014; SDG&E, 2016a).

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

Based on a review of the SWRCB and DTSC hazardous materials databases, there are four sites within 0.25 mile of the Proposed Project that indicate a past or present hazardous materials release or contamination (see **Table 3.9-1**).

Wood Treatment Products

The existing power line wood poles that would be removed under the Proposed Project are treated with chemicals that likely include pentachlorophenol, creosote, and chromated copper arsenate. These treatment chemicals are used in pressure treated wood to protect wood from rotting due to insects and microbial agents. These chemicals, for certain uses and quantities, can be considered to be hazardous materials, which require specific handling procedures prescribed by state and federal regulations. These chemicals are typically applied to utility wood poles by the manufacturer at their facility and are left to set and dry prior to installation and/or use of the poles. Additionally, the base

**TABLE 3.9-1
HAZARDOUS MATERIALS SITES IN THE STUDY AREA**

Site Name/ Address	Distance to Project Alignment	Regulatory List	Description
Symcoat Metal Processing 10840 Thornmint Road	Approximately 650 feet south of the 69kV reconductor alignment (Structure E22)	SLIC, San Diego Co. HMMD	Open Case – Site Assessment Elevated concentrations of nickel found in the 2014 Preliminary Endangerment Assessment. Nickel-affected soils have been removed to concentrations below an established 2,000 mg/kg cleanup threshold. A work plan has been approved for final measures for affected concrete.
Northrop Grumman Systems Corporation 16710 Via Del Campo Court	Approximately 1,270 feet south of Rancho Bernardo Substation	CHMIRS, San Diego Co. HMMD, Envirostor	Overflow of painting tank to treatment plant to sewage line; Active permits: propane, diesel fuel.
Alcoa Electrical Packaging 16750 Via Del Campo Court	Approximately 1,000 feet south of Rancho Bernardo Substation	SLIC, San Diego Co. SAM	Soil affected by gasoline spill. Case opened 12/8/1999 and closed 1/25/2000 with Cleanup complete.
TRW – Avionics Systems Division 15120 Innovation Drive	Approximately 800 feet south of the Rancho Carmel Substation	SLIC	Contamination not specified. Leak discovery and beginning dated 1/9/1991. Leak reported 2/27/1991. Case Closed.

SOURCE: DTSC, 2017; SWRCB, 2017; SDG&E, 2016a

of some of the treated wood poles may be wrapped with copper naphthenate paper. This paper has been accepted as a wood preservative for several decades and is typically used in non-pressure treatments of wood and other products.

Schools and Day Care Centers

Schools and day care centers are considered sensitive receptors that are more at risk from potential adverse effects associated with accidental release of hazardous materials because children are more susceptible than adults to these effects. Schools that are located within 0.25 mile of the Project site are listed in **Table 3.9-2**.

**TABLE 3.9-2
SCHOOLS WITHIN 0.25 MILE OF THE PROPOSED PROJECT SITE**

School	Address
Maranatha Christian School	9050 Marantha Drive
Maranatha Christian Schools Preschool	10752 Coastwood Boulevard
Design 39 Campus	17050 Del Sur Ridge
Del Norte High School	16601 Nighthawk Lane
Wee Care Preschool	17025 Via Del Campo

Airports

The closest public airports, Montgomery-Gibbs Executive Airport and Ramona Airport, are located over 10 miles away from the Project site. The closest private airport to the study area is located nine miles to the south on Marine Corps Air Station (MCAS) Miramar. The Marine Corps Air Base at Miramar is the closest military airport runway located approximately 10 miles south of the Project.

Wildfire Hazards

The California Department of Forestry and Fire Protection (CalFire) has published Draft Fire Hazard Severity Zones for the state. These maps give fire hazards either a “moderate,” “high,” or “very high” rating classification. The City of San Diego has mapped the western portion of the study area, including the Artesian Substation and a portion of the 69 kV power line alignment (TL6974 and TL6939), as well as the Bernardo Substation, as within the Very High Fire Hazard Severity Zone (City of San Diego, 2009). Staging Yard No. 1 (Carmel Valley Road) is also within the Very High Fire Hazard Severity Zone (City of San Diego, 2009). CalFire has mapped a portion of the power line near the Bernardo Substation as within the Very High Fire Hazard Severity Zone (CalFire, 2007) (see **Figure 3.9-1**, *Fire Hazard Zones*).

3.9.2 Regulatory Setting

Federal

Hazardous Materials Management

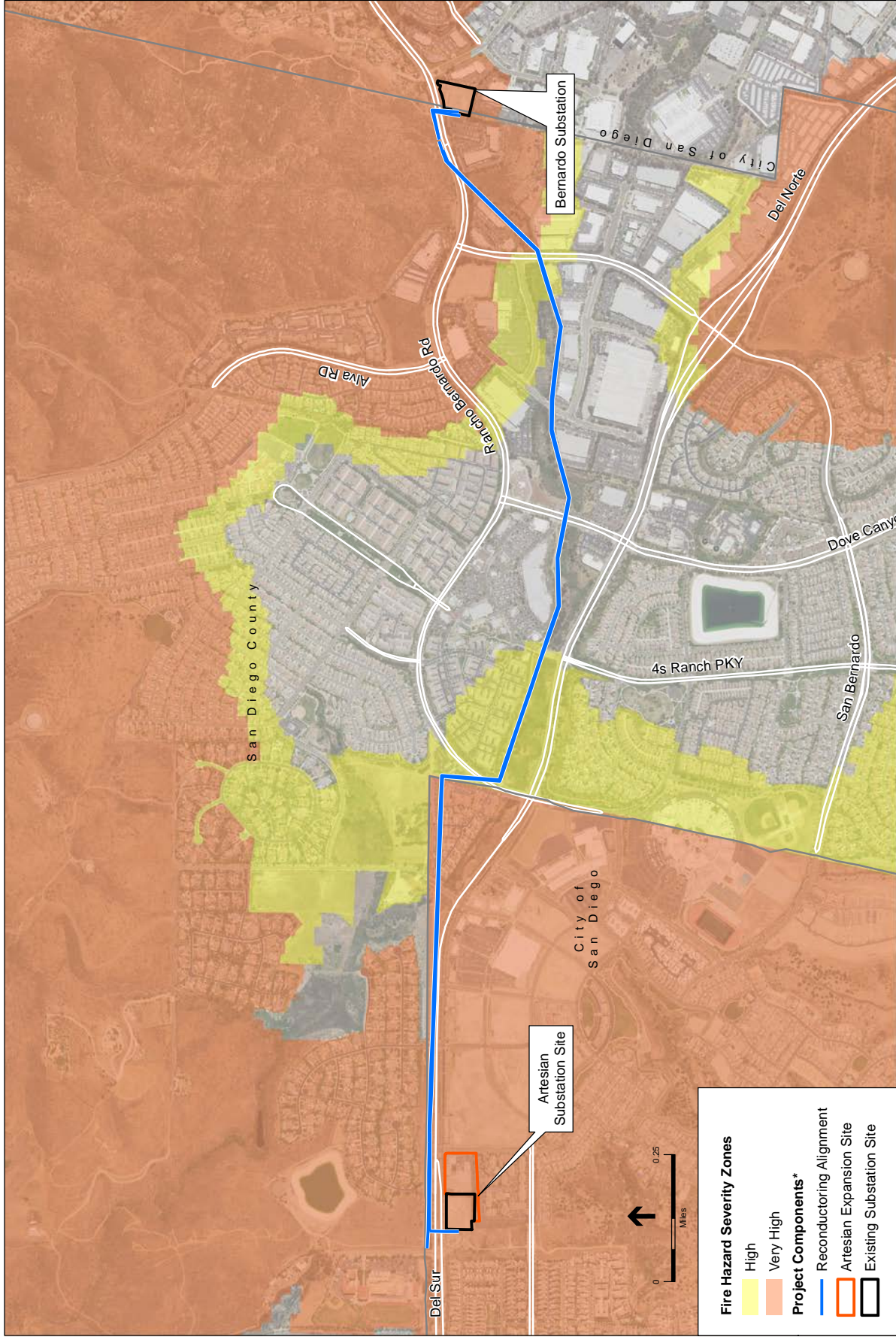
The primary federal agencies with responsibility for hazardous materials management include the U.S. Environmental Protection Agency (USEPA), U.S. Department of Labor Occupational Safety and Health Administration (OSHA), and the U.S. Department of Transportation. With respect to hazardous materials, State and local agencies often have either parallel or more stringent regulations than federal agencies. In most cases, state law mirrors or overlaps federal law and enforcement of these laws is the responsibility of the state or of a local agency to which enforcement powers are delegated. For these reasons, the requirements of the law and its enforcement are discussed under either the state or local agency section.

Resource Conservation and Recovery Act

Under the Resource Conservation and Recovery Act (RCRA), individual states may implement their own hazardous waste programs in lieu of RCRA as long as the state program is at least as stringent as federal RCRA requirements and is approved by the USEPA. The USEPA approved California’s RCRA program, referred to as the Hazardous Waste Control Law (HWCL) in 1992.

Toxic Substance Control Act

The Toxic Substances Control Act of 1976 was enacted by Congress to give the USEPA the ability to track the 75,000 industrial chemicals currently produced or imported into the United States. The USEPA repeatedly screens these chemicals and can require reporting or testing of



* Not all project components shown on this map. See Figure 2-5 for full list of project components.

SOURCE: SanGIS, 2016; SDG&E; Semptra Energy Utility; CalFire, 2007/2009

those that may pose an environmental or human-health hazard. The USEPA can ban the manufacture and import of those chemicals that pose an unreasonable risk.

CERCLA

The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) was developed to protect the water, air, and land resources from the risk created by past chemical disposal practices. This act is also referred to as the Superfund Act, and the sites listed under it are referred to as Superfund sites. Under CERCLA, the USEPA maintains a list, known as the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS), of all contaminated sites in the nation that have in part or are currently undergoing clean-up activities. CERCLIS contains information on current hazardous waste sites, potential hazardous waste sites, and remediation activities. This includes sites that are on the National Priorities List (NPL) or being considered for the NPL.

Hazardous Materials Transportation

The U.S. Department of Transportation regulates hazardous materials transportation on all interstate roads. Within California, the state agencies with primary responsibility for enforcing federal and state regulations and for responding to transportation emergencies are the California Highway Patrol and California Department of Transportation. Together, federal and state agencies determine driver-training requirements, load labeling procedures, and container specifications. Although special requirements apply to transporting hazardous materials, requirements for transporting hazardous waste are more stringent, and hazardous waste haulers must be licensed to transport hazardous waste on public roads.

Occupational Safety

OSHA is the agency responsible for assuring worker safety in the handling and use of chemicals in the workplace. The federal regulations pertaining to worker safety are contained in Title 29 of the Code of Federal Regulations (CFR), as authorized in the Occupational Safety and Health Act of 1970. They provide standards for safe workplaces and work practices, including standards relating to hazardous materials handling. At sites known or suspected to have soil or groundwater contamination, construction workers must receive training in hazardous materials operations and a site health and safety plan must be prepared. The health and safety plan establishes policies and procedures to protect workers and the public from exposure to potential hazards at the contaminated site.

Oil Pollution Prevention

Part 112 of Subchapter D of Chapter I of Title 40 of the Federal Code of Regulations (40 CFR §112) establishes procedures, methods, equipment, and other requirements to prevent discharges from non-transportation-related onshore and offshore facilities into or upon the navigable waters of the United States or that may affect natural resources belonging to, appertaining to, or under the exclusive management authority of the United States. These regulations require facilities with a single tank or cumulative aboveground storage capacities of 1,320 gallons or greater of petroleum to prepare and implement a Spill Prevention, Control, and Countermeasure (SPCC)

Plan (40 CFR §112.1). The purpose of an SPCC Plan is to form a comprehensive federal/state spill prevention program that minimizes the potential for discharges. The SPCC Plan must address all relevant spill prevention, control, and countermeasures necessary at the specific facility for which the SPCC Plan is written.

Federal Regulation 49 CFR Part 77

The Federal Aviation Administration (FAA) is the federal agency that identifies potential impacts related to air traffic and related safety hazards. Federal Regulation 49 CFR Part 77 establishes standards and notification requirements for objects affecting navigable airspace. This notification serves as the basis for evaluating the effect of the proposed construction or alteration on operating procedures; determining the potential hazardous effect of the proposed construction on air navigation; identifying mitigating measures to enhance safe air navigation; and charting of new objects. FAA FAR Part 77 includes the establishment of imaginary surfaces (airspace that provides clearance of obstacles for runway operation) that allows the FAA to identify potential aeronautical hazards in advance, thus preventing or minimizing adverse impacts to the safe and efficient use of navigable airspace. The regulations identify three-dimensional imaginary surfaces through which no object should penetrate.

State

California Code of Regulations

The California Code of Regulations (CCR), Title 22, Section 66261.20-24, contains technical descriptions of characteristics that would classify wasted material, including soil, as hazardous waste. When excavated, soils with concentrations of contaminants higher than certain acceptable levels must be handled and disposed as a hazardous waste.

Department of Toxic Substance Control

The Department of Toxic Substances Control (DTSC) is responsible for regulating the use, storage, transport, and disposal of hazardous substances in the state. DTSC maintains a Hazardous Waste and Substances Site List for site cleanup. This list is commonly referred to as the Cortese List. Government Code Section 65962.5 requires the California Environmental Protection Agency to update the Cortese List at least annually. DTSC is responsible for a portion of the information contained in the Cortese List. Other state and local government agencies are required to provide additional hazardous material release information for the Cortese List.

State Water Resources Control Board

The State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Boards (RWQCBs) administer the requirements of the Clean Water Act that regulate pollutant discharges into waterways of the U.S. The Proposed Project is located within the jurisdiction of the San Diego RWQCB.

Construction associated with the Proposed Project would disturb more than one acre of land surface affecting the quality of stormwater discharges into waters of the U.S. The Proposed

Project would therefore be subject to the *NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities* (Order 2009-0009-DWQ, NPDES No. CAS000002; as amended by Orders 2010-0014-DWQ and 2012-006-DWQ). The Construction General Permit regulates discharges of pollutants in stormwater associated with construction activity to waters of the U.S. from construction sites that disturb one or more acres of land surface, or that are part of a common plan of development or sale that disturbs more than one acre of land surface. The permit regulates stormwater discharges associated with construction or demolition activities, such as clearing and excavation; construction of buildings; and linear underground projects, including installation of water pipelines and other utility lines. For additional details of the NPDES Construction General Permit see Section 3.10, Hydrology and Water Quality.

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program

In January 1996, the California Environmental Protection Agency adopted regulations implementing a Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program). The program has six elements: hazardous waste generators and hazardous waste on-site treatment; underground storage tanks; aboveground storage tanks; hazardous materials release response plans and inventories; risk management and prevention programs; and Unified Fire Code hazardous materials management plans and inventories. The plan is implemented at the local level. The Certified Unified Program Agency (CUPA) is the local agency that is responsible for the implementation of the Unified Program. The County of San Diego Hazardous Materials Division is the certified local CUPA for the Proposed Project.

Hazardous Materials Release Response Plans and Inventory Law

The California Hazardous Materials Release Response Plan and Inventory Law of 1985 (Business Plan Act) requires businesses that store hazardous materials on-site to prepare a business plan and submit it to local health and fire departments. The business plan must include details of the facility and business conducted at the site, an inventory of hazardous materials that are handled and stored on-site, an emergency response plan, and a safety and emergency response training program for new employees with an annual refresher course.

Hazardous Waste Handling

The California Environmental Protection Agency (CalEPA) DTSC regulates the generation, transportation, treatment, storage, and disposal of hazardous waste. State and federal laws require detailed planning to ensure that hazardous materials are properly handled, used, stored, and disposed of, and, in the event that such materials are accidentally released, to prevent or to mitigate injury to health or the environment. Laws and regulations require hazardous materials users to store these materials appropriately and to train employees to manage them safely.

Under the federal Resource Conservation and Recovery Act of 1976 (RCRA), individual states may implement their own hazardous waste programs in lieu of RCRA, as long as the state program is at least as stringent as federal RCRA requirements. In California, the DTSC regulates the

generation, transportation, treatment, storage, and disposal of hazardous waste. The hazardous waste regulations establish criteria for identifying, packaging, and labeling hazardous wastes; prescribe management of hazardous waste; establish permit requirements for hazardous waste treatment, storage, disposal, and transportation; and identify hazardous waste that cannot be disposed of in landfills.

Aboveground Storage of Petroleum Products

The Aboveground Petroleum Storage Act of 1990 requires owners or operators of facilities that store petroleum products with a capacity of 1,320 gallons or more to file a storage statement with the SWRCB and prepare a SPCC plan. The plan must identify appropriate spill containment or equipment for diverting spills from sensitive areas, as well as discuss facility-specific requirements for the storage system, inspections, recordkeeping, security, and personnel training.

The SWRCB requires registration of an aboveground storage tank at a construction site only if the tank is 20,000 gallons or larger, or if the aggregate volume of aboveground petroleum storage is over 100,000 gallons, which would not be applicable to the Proposed Project. For smaller temporary tanks used during construction, methods for controlling a release and measures to clean up an accidental release and prevent degradation of water quality are addressed in the construction stormwater pollution prevention plan (SWPPP) that would be prepared for the Project, as described in Section 3.10, *Hydrology and Water Quality*.

Underground Storage Tanks

State laws governing underground storage tanks (USTs) specify requirements for permitting, monitoring, closure, and cleanup associated with these facilities. Regulations set forth construction and monitoring standards for existing tanks, release reporting requirements, and closure requirements. In the Project area, the County of San Diego Hazardous Materials Division has regulatory authority for permitting, inspection, and removal of USTs. Any entity proposing to remove a UST must submit a closure plan to the regulating agency prior to tank removal. Upon approval of the UST closure plan, the regulating agency would issue a permit, oversee removal of the UST, require additional subsurface sampling if necessary, and issue a site closure letter when the appropriate removal and/or remediation has been completed.

Hazardous Materials Transportation

The State of California has adopted U.S. Department of Transportation (USDOT) regulations for the intrastate movement of hazardous materials; state regulations are contained in 26 CCR. In addition, the State of California regulates the transportation of hazardous waste originating in the state and passing through the state (26 CCR). Both regulatory programs apply in California.

The two state agencies with primary responsibility for enforcing federal and state regulations and responding to hazardous materials transportation emergencies are the California Highway Patrol (CHP) and the California Department of Transportation (Caltrans). The CHP enforces hazardous materials and hazardous waste labeling and packing regulations to prevent leakage and spills of material in transit and to provide detailed information to cleanup crews in the event of an accident. Vehicle and equipment inspection, shipment preparation, container identification, and

shipping documentation are the responsibility of the CHP, which conducts regular inspections of licensed transporters to assure regulatory compliance. Caltrans has emergency chemical spill identification teams at as many as 72 locations throughout the state that can respond quickly in the event of a spill.

Common carriers are licensed by the CHP, pursuant to California Vehicle Code Section 32000. This section requires the licensing of every motor (common) carrier who transports, for a fee, in excess of 500 pounds of hazardous materials at one time, and every carrier, if not for hire, who carries more than 1,000 pounds of hazardous material of the type requiring placards.

Every hazardous waste package type used by a hazardous materials shipper must undergo tests that imitate some of the possible rigors of travel. Every package is not put through every test. However, most packages must be able to be kept under running water for a time without leaking, dropped fully loaded onto a concrete floor, compressed from both sides for a period of time, subjected to low and high pressure, and frozen and heated alternately.

Occupational Safety

The California Department of Industrial Relations Division of Occupational Safety and Health (Cal/OSHA) assumes primary responsibility for developing and enforcing workplace safety regulations in California. Because California has a federally approved OSHA program, it is required to adopt regulations that are at least as stringent as those found in Title 29 of the CFR.

Cal/OSHA regulations concerning the use of hazardous materials in the workplace require employee safety training, safety equipment, accident and illness prevention programs, hazardous substance exposure warnings, and emergency action and fire prevention plan preparation. Cal/OSHA enforces hazard communication program regulations, which contain training and information requirements, including procedures for identifying and labeling hazardous substances, and communicating hazard information relating to hazardous substances and their handling. The hazard communication program also requires that Material Safety Data Sheets (MSDSs) be available to employees, and that employee information and training programs be documented. These regulations also require preparation of emergency action plans (escape and evacuation procedures, rescue and medical duties, alarm systems, and training in emergency evacuation).

Emergency Response

Pursuant to the Emergency Services Act, California has developed an Emergency Plan to coordinate emergency services provided by federal, state, and local governmental agencies and private persons. Response to hazardous materials incidents is one part of this plan. The plan is administered by the State Office of Emergency Services (OES). The OES coordinates the responses of other agencies, including the USEPA, California Highway Patrol, California Department of Fish and Wildlife, the RWQCBs (in this case the San Diego RWQCB), the local air districts (in this case, the San Diego Air Pollution Control District) and local agencies. The State Emergency Plan defines the “policies, concepts, and general protocols” for the proper implementation of the California Standardized Emergency Management System (SEMS). The

SEMS is an emergency management protocol that agencies within the State of California must follow during multi-agency response efforts whenever state agencies are involved.

California Public Utilities Code

California Public Utilities Code Section 21658 prohibits structural hazards associated with utility poles and lines near airports. Should a power line be located in the vicinity of an airport or exceed 200 feet in height, a Notice of Proposed Construction or Alteration (Form 7460-1) is required by the FAA in accordance with Federal Aviation Regulation, Part 77 “Objects Affecting Navigable Airspace.”

Fire Protection

The California Fire Code is contained within Title 24, Chapter 9 of the California Code of Regulations. Based on the International Fire Code, the California Fire Code is created by the California Buildings Standards Commission and regulates the use, handling, and storage requirements for hazardous materials at fixed facilities. Similar to the International Fire Code, the California Fire Code and the California Building Code (CBC) use a hazards classification system to determine the appropriate measures to incorporate to protect life and property.

The California Public Resources Code includes fire safety regulations that apply to state responsibility areas during the time of year designated as having hazardous fire conditions. During the fire hazard season, these regulations restrict the use of equipment that may produce a spark, flame, or fire; require the use of spark arrestors on equipment that has an internal combustion engine; specify requirements for the safe use of gasoline-powered tools in fire hazard areas; and specify fire-suppression equipment that must be provided on-site for various types of work in fire-prone areas. Additional codes require that any person who owns, controls, operates, or maintains any electrical transmission or distribution line must maintain a firebreak clearing around and adjacent to any pole, tower, and conductors that carry electric current as specified in Sections 4292 and 4293. The state’s Fire Prevention Standards for Electric Utilities (14 CCR §§1250-1258) provides specific exemptions from electric pole and tower firebreak and electric conductor clearance standards and specifies when and where standards apply.

Local

The CPUC has exclusive jurisdiction over the siting, design, and construction of the Project, therefore the Project is not subject to local discretionary regulations. Details below that relate to local regulations are provided for informational purposes.

San Diego County General Plan

The San Diego General Plan Safety Element provides specific policies to identify and reduce hazards to protect and guide future development within the County. The primary objective of the Safety Element is to minimize the risk of person injury, loss of life, property damage, and environmental damage associated with natural and man-made hazards. There are no hazards and hazardous materials policies that would be directly applicable to the Proposed Project (County of San Diego, 2011).

City of San Diego General Plan

The City of San Diego General Plan Public Facilities, Services and Safety Element includes a strategic framework, goals, objectives, and actions for disaster preparedness and hazard mitigation. The General Plan identifies goals and policies intended to allow for the efficient and adequate provision of public services and facilities, as well as to reduce the potential for hazardous or emergency situations to occur (City of San Diego, 2008).

Emergency Response

The San Diego County OES coordinates the County-wide response effort in the event of a disaster situation and also implements the Multi-Jurisdictional Hazard Mitigation Plan (MJHMP). The MJHMP identifies hazards that could potentially affect any or all portions of the County as well as measures for the prevention and minimization of such hazards. San Diego County OES is responsible for notifying appropriate agencies in the event of a disaster, as well as coordinating all responding agencies. The City of San Diego Fire-Rescue Department oversees emergency management within the City. It also participates in disaster preparedness through the San Diego County MJHMP. Mutual aid, response, and emergency management are available from State government agencies where appropriate or by direct request of the local agency.

3.9.3 Applicant Proposed Measures

No Applicant Proposed Measures (APMs) have been identified that would address potential impacts relating to hazards and hazardous materials.

3.9.4 Environmental Impacts

a) Whether the Project would create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials: *LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.*

While the Proposed Project would not require long-term operational use, storage, treatment, disposal, or transportation of significant quantities of hazardous materials, these materials would be used during construction activities. Construction would require the use of limited quantities of common hazardous substances, such as gasoline, diesel fuel, oils and lubricants, hydraulic fluid, and solvents to maintain vehicles and motorized equipment, and cartridges containing primer for ignition and nitrocellulose propellant for gas production in the unlikely event that blasting is necessary (see Section 2.6.8.4 for details). An accidental spill of any of these substances could occur during handling and transfer from one container to another and could impact localized air, soil, water, and/or groundwater quality. Depending on the relative hazard of the material, an accidental spill could pose a hazard to people or the environment and would be considered potentially significant. Blasting agents, if needed, also could present a hazard of injury, mortality, or property damage if improperly handled.

The use of hazardous materials and substances during construction would be subject to the federal, state, and local health and safety requirements for the handling, storage, transportation, and disposal of hazardous materials, as summarized in Section 3.9.2, *Regulatory Setting*.

Implementation of a Stormwater Pollution Prevention Plan (SWPPP) would reduce the chance of a spill/accidental release and would have provisions to contain spills to avoid contamination of water bodies and groundwater. For further information regarding the SWPPP, refer to Section 3.10, *Hydrology and Water Quality*. Construction contractors also would implement typical best management practices (BMPs), such as use of absorbent pads for spill containment and specified locations for vehicle refueling, as proscribed in SDG&E's BMP Manual for Water Quality Construction (SDG&E, 2011). Implementation of **Mitigation Measure HAZ-1** would require the development and implementation of a Hazardous Materials Management Plan (HMMP) to minimize the potential for, and effect of, spills of hazardous material during construction. Compliance with applicable federal, state, and local regulations; compliance with the SWPPP and applicable BMPs; and implementation of the HMMP as described in Mitigation Measure HAZ-1 would ensure that the impact would be less than significant.

Mitigation Measure HAZ-1: Hazardous Materials Management Plan. SDG&E shall prepare and implement a Hazardous Materials Management Plan (HMMP). The HMMP would outline hazardous material handling, use, storage, and disposal requirements, as well as hazardous waste management practices. The HMMP will be developed to ensure that all hazardous materials and wastes would be handled and disposed of according to applicable rules and regulations. The HMMP will include procedures to address hazardous material storage, employee training requirements, hazard recognition, first aid/emergency medical procedures, hazardous material release containment/control procedures, hazard communication training, Personal Protective Equipment training, and release reporting requirements.

Significance after Mitigation: Less than Significant.

Operation and maintenance of the Proposed Project may require the limited use of certain materials such as fuels, oils, solvents, and other chemical products that could pose a potential hazard to the public or the environment during routine transport, use, or disposal. SDG&E currently maintains and operates existing electric transmission, power, distribution and substation facilities throughout the study area. Operations and maintenance activities for the Proposed Project would therefore be similar to current conditions.

During operation and maintenance of the Project, vehicles and equipment used for routine inspections and emergency repair would require the use of fuel and lubricants. Routine maintenance activities would include washing or replacing insulators, repairing or replacing other hardware components, tree trimming, and brush and weed control. While the Project would not require long-term operational use, storage, treatment, disposal, or transport of significant quantities of hazardous materials, such materials would be used during maintenance activities.

Modifications to the Artesian Substation would include relocation of two existing 69/12kV transformers, installation of two new 69/12kV transformers, and one 230/69kV transformer. All of these transformers would include oil spill containment basins. If the quantity of oil stored at the transformers exceeded 1,320 gallons, a SPCC plan describing spill prevention measures would be required by the SWRCB in accordance with the Aboveground Petroleum Storage Act of 1990. The plan must identify appropriate spill containment or equipment for diverting spills from sensitive areas, as well as discuss facility-specific requirements for the storage system, inspections,

recordkeeping, security, and personnel training. Compliance with the measures described in this plan would ensure that potential impacts associated with oil spill would be adequately mitigated.

Hazardous materials needed for maintenance activities would be stored and used in accordance with the product specifications and applicable regulations. Product specifications are described in detail on Material Safety Data Sheets (MSDS), which accompany every batch of materials considered to be hazardous. Information in the MSDS includes instructions on proper use and application of the material, accidental release measures, and handling and storage requirements. Hazard communication programs regulations enforced by Cal/OSHA requires MSDS be available to employees, and that employee information and training programs be documented. Applicable regulations specify storage and handling requirements such as proper container types and usage methods. Compliance with the measures prescribed in these regulations would ensure that potential impacts associated with hazardous product use would be adequately mitigated. Applicable regulations under Caltrans and the California Highway Patrol (CHP) described in Section 3.9.2, *Regulatory Setting*, regulate the transportation of hazardous materials and wastes, including container types and packaging requirements as well as licensing and training for truck operators, chemical handlers, and hazardous waste haulers. All transport of hazardous materials for the Proposed Project would be undertaken compliance with applicable laws, rules, and regulations, including the acquisition of required shipping papers, package marking, labeling, transport vehicle placarding, training, and registrations.

Compliance with applicable federal, state, and local regulations; compliance with the SWPPP and applicable BMPs and SPCC plan; and implementation of Mitigation Measure HAZ-1 would ensure that the impact would be less than significant during Project operation and maintenance.

b) Whether the Project would 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 WITH MITIGATION INCORPORATED.*

Accidents or mechanical failure involving heavy equipment could result in the accidental release of small quantities of fuel, lubricants, hydraulic fluid, or other hazardous substances. These types of spills on construction sites are typically in small quantities, localized, and are cleaned up in a timely manner. Construction contractors are responsible for their hazardous materials and are required under their contract to properly store and dispose of these materials in compliance with state and federal laws. As discussed in Section 3.10, *Hydrology and Water Quality*, the Proposed Project would require a SWPPP, which outlines BMPs to avoid runoff of stormwater and pollutants. The BMPs would include protection measures to contain a potential release and to prevent any such release from reaching an adjacent waterway or stormwater collection system. These would minimize the potential adverse effects to groundwater and soils.

Project construction activities would involve excavating, trenching, and grading, as well as the use of hazardous materials such as gasoline, diesel fuel, oils, lubricants, solvents, and glues. If hazardous materials were present in excavated soil or are inadvertently released into the environment, this could expose people to contaminated soil and groundwater and chemical vapors

during construction. Depending on the nature and extent of any contamination encountered, adverse health effects could result if proper precautions were not taken.

Data obtained from the DTSC's EnviroStor and SWRCB's Geotracker databases indicate that no contamination has been identified at either of the three substation sites or along the reconductoring alignment (DTSC, 2017; SWRCB, 2017; SDG&E, 2016a). The closest site with an open or unresolved case to the Proposed Project is located approximately 650 feet from the reconductoring alignment between Artesian and Bernardo substations (TL6974 and TL6939). However, there is a potential that undocumented releases of hazardous materials (e.g., petroleum hydrocarbons from underground storage tanks, etc.) could occur along the power line alignment. Compliance with applicable federal, state, and local regulations; applicable BMPs; and implementation of Mitigation Measure HAZ-1 would ensure that the impact would be less than significant during Project construction, operation, and maintenance.

c) Whether the Project would 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 IMPACT WITH MITIGATION INCORPORATED.*

As shown in Table 3.9-2, five schools are located within 0.25 mile of the three substations or reconductoring alignment. The Maranatha Christian School is the closest, being located approximately 400 feet northwest of the Artesian Substation site. No new schools are currently proposed in this area. Project construction would require the short-term use of various hazardous materials. Equipment that would contain hazardous materials such as grease, fuel, oil, etc., would be stored in areas located at designated sites during construction of the Proposed Project. However, the Project includes spill containment systems at all staging and storage yards (see Section 2.6.1.1) and therefore the potential for a hazardous materials release during construction to result in increased exposure to hazardous materials at nearby schools is extremely unlikely; therefore, the impact would be less than significant.

Hazardous emissions resulting from construction of the Project would include the temporary and short-term generation of diesel particulate matter (DPM) emissions from the use of off-road diesel equipment and from construction material deliveries and debris hauling using on-road heavy-duty trucks. Diesel particulate matter (DPM) was identified as a TAC by CARB in 1998. The dose to which receptors are exposed is the primary factor affecting health risk from TACs. Dose is a function of the concentration of a substance or substances in the environment and the duration of exposure to the substance (see Section 3.3.4 *Air Quality* for more details). The duration of exposure during construction at Artesian Substation to DPM would be 28-months. The findings from a Health Risk Assessment conducted for the Project concluded that there would be a significant impact relative to exposure of sensitive receptors to substantial pollutant concentrations. However, with the implementation of **Mitigation Measure HAZ-2** (see Section 3.3, Mitigation Measure AIR-1), this impact would be reduced to less than significant.

Significance after Mitigation: Less than Significant.

- d) Whether the Project would be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment: *NO IMPACT.***

The Proposed Project would not be located on a known hazardous materials site pursuant to Government Code Section 65962.5 (DTSC, 2017; SWRCB, 2017; SDG&E, 2016a). Given the distances of the known sites to the Proposed Project, there would be no impact that would occur or be exacerbated related to known hazardous materials sites creating a significant hazard to the public or the environment during construction, operation, or maintenance of 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 result in a safety hazard for people residing or working in the project area: *NO IMPACT.***

The Proposed Project is not located within any airport land use plan area or within two miles of any airport. The closest public airports, Montgomery Field and Ramona Field, are located over 10 miles away from the Proposed Project site; therefore, no impact would occur.

- 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.***

There are no private airstrips in the study area. The closest private airport to the Project location is MCAS Miramar located nine miles to the south and the Project site is outside the Airport Influence Area; therefore, no impact would occur.

- g) Would the Project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan: *LESS THAN SIGNIFICANT IMPACT.***

The Unified San Diego County Emergency Services Organization and the County of San Diego developed an Emergency Operations Plan which was adopted by the San Diego County Board of Supervisors in September of 2014. This Plan does not specify evacuation routes and it is anticipated that these would be identified and coordinated by local law enforcement and emergency services. Project construction may require temporary road closures. Construction of virtually all components of the Project could affect local traffic by adding traffic to the network, causing congestion or reducing the capacity of a given roadway by closing a portion of the roadway for construction. A detailed discussion of traffic impacts is provided in Section 3.17. With respect to impacts of the Proposed Project on an adopted emergency response or evacuation plan, it is anticipated that the only components of the Project that could have an adverse effect would be new underground powerlines (substation getaways) that would require lane closures during the five-month installation period. These underground lines will be installed primarily under Camino Del Sur and Rancho Bernardo Road and only one lane would be closed at a time during installation. It is possible that these routes could be used for emergency evacuation. Although temporary lane closures would be needed, construction within public roadways would be conducted pursuant to approved traffic control plans included in encroachment permits that

SDG&E would be required to obtain for work within or over roadways. These plans would ensure emergency access is preserved during construction activities. With traffic management practiced in accordance with City and County requirements and no expected full road closures, the Project would not impair implementation of or physically interfere with emergency response or evacuation plans. The impact would be less than significant under this criterion.

Operations and maintenance activities for the Proposed Project would generally be similar to existing conditions. An exception would be operation and maintenance of the new underground substation getaways in Camino Del Sur and Rancho Bernardo Road that would require occasional access to splice vaults. Access to these vaults could temporarily impact traffic flow, but streets would remain open to emergency vehicles. Access to the splice vaults within roads would require encroachment permits from the City or County. As part of the encroachment permit process, appropriate traffic control measures (as approved by the City or County) would be required during access of the splice vaults whenever traffic flow could be affected. Finally, maintenance activities at the splice vault locations would only occur at very infrequent intervals (approximately once every three years). Therefore, the Project would not impair implementation of or physically interfere with emergency response or evacuation plans. No impact would result.

h) Whether the Project would expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands: *LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.*

The Artesian and Bernardo substations, portions of the 69 kV power line alignment (TL6974 and TL6939) near both substations, and Staging Yard No. 1 (Carmel Valley Road) are located within a Very High Fire Hazard Severity Zone (City of San Diego, 2009a; CalFire, 2007). The primary risks of potential fire hazards for the Proposed Project involve the use of vehicles and equipment during construction. Heat or sparks from construction vehicles and equipment could have the potential to ignite dry vegetation and cause a fire, particularly during the dry season. Therefore, depending on the time of year and location of construction activities, this could be a potentially significant impact. During operation, the Project also could increase the risk of wildland fires in the area. Electrical lines can start a fire if an object, such as a tree limb, kite, Mylar balloon, etc., simultaneously contacts the power line conductors and a second object, such as the ground or a portion of the supporting pole. System component failures and accidents during maintenance activities can also cause line faults that result in arcing on power lines. Power lines are also subject to conductor-to-conductor contact, which can occur when extremely high winds force two conductors on a single pole to oscillate so excessively that they contact one another. This contact can result in arcing (sparks) that can ignite nearby vegetation.

SDG&E has prepared a Fire Prevention Plan in compliance with CPUC Decision 12-01-032 (Fire Safety Order) and Standard 1.E of General Order 166. Standard 1.E requires SDG&E to prepare and submit plans to minimize the risk of catastrophic wildfire posed by overhead electric lines and equipment during extreme fire-weather events. The Fire Prevention Plan includes descriptions of fire prevention and safety procedures and programs including, but not limited to: fire threat and risk area mapping; operational practices to reduce the risk of fires; fire prevention

outreach and training programs; field practice guidelines; advanced vegetation management; Fire Potential Index; and fire-hardening practices (SDG&E, 2016b).

In addition, SDG&E has developed operating protocols and safety standards that minimize the risk of wildland fires during SDG&E operation and maintenance activities. Specifically, wildland fire prevention would occur through implementation of SDG&E's Electric Standard Practice 113.1 (Revised), Operations and Maintenance Wildland Fire Prevention. The purpose of Electric Standard Practice 113.1 is to formalize standard operating procedures that would improve SDG&E's ability to prevent the ignition of any fire; set minimum requirements for firefighting equipment (including type and location); incorporate federal, state and local requirements into standard business practices; establish Red Flag Warning restrictions; set criteria for when a formal fire plan is required; and establish a template and requirements for formal fire plans.

Consistent with standard practices, SDG&E would implement fire prevention and protection BMPs, which typically include requirements for carrying emergency fire suppression equipment, conducting "tailgate meetings" that cover fire safety discussions, restrictions on smoking and idling vehicles, and construction restrictions during Red Flag Warnings. A Red Flag Warning is issued by the National Weather Service to alert fire departments of the onset, or possible onset, of critical weather and dry conditions that could lead to rapid or dramatic increases in wildfire activity. The type of weather patterns that can cause a warning include low relative humidity, strong winds, dry fuels, the possibility of lightning strikes, or a combination of the above.

In order to ensure that potentially significant wildland fire impacts during construction of the Proposed Project are reduced to less than significant, implementation of **Mitigation Measure HAZ-3** would be required to supplement SDG&E's existing standard practices described above.

Mitigation Measure HAZ-3: Fire Safety. SDG&E and/or its contractors shall prepare a project-specific Construction Fire Prevention Plan (CFPP) to ensure the health and safety of construction workers and the public from fire-related hazards. The appropriate fire departments shall be consulted during plan preparation and the CFPP will include fire safety measures as recommended. The CFPP shall list fire prevention, and extinguishment procedures and specific emergency response and evacuation measures that would be followed during emergency situations. The CFPP also would provide smoking and fire-related rules, storage and parking areas, usage of spark arrestors on construction equipment, and fire-suppression tools and equipment. The CFPP shall include, but not be limited to, the following:

- SDG&E and/or its contractors shall have water tanks, water trucks, or portable water backpacks (where space or access for a water truck or water tank is limited) sited/available in the Project area for fire protection.
- All construction vehicles shall have fire suppression equipment.
- All construction workers shall receive training on the proper use of fire-fighting equipment and procedures to be followed in the event of a fire.

- As construction may occur simultaneously at several locations, each construction site shall be equipped with fire extinguishers and fire-fighting equipment sufficient to extinguish small fires.
- Construction personnel shall be required to park vehicles away from dry vegetation.
- Prior to construction, SDG&E shall contact and coordinate with the appropriate fire departments to determine the appropriate amounts of fire equipment to be carried on the vehicles and appropriate locations for the water tanks, water trucks, and/or water backpacks. SDG&E shall submit verification of its consultation with the appropriate fire departments to the CPUC.
- The CFPP shall be submitted to CPUC staff for approval prior to commencement of construction activities and shall be distributed to all construction crew members prior to construction of the Project.
- Cease work during Red Flag Warning events in areas where vegetation would be susceptible to accidental ignition by Project activities (such as welding or use of equipment that could create a spark). During Red Flag Warning events all non-emergency construction and maintenance activities would cease in affected areas.

Significance after Mitigation: Less than Significant.

3.9.5 References

California Department of Forestry and Fire Protection (CalFire), 2007. Fire Hazard Severity Zones in State Responsibility Areas, San Diego County. Adopted November 7, 2007.

California Department of Toxic Substances (DTSC). 2014. EnviroStor Website. [<https://www.envirostor.dtsc.ca.gov/public/>] Accessed February 9, 2017.

California State Water Resources Control Board (SWRCB), 2014. Geotracker Website. [<http://geotracker.waterboards.ca.gov/>] February 9, 2017.

City of San Diego, 2008. City of San Diego General Plan; Public Facilities, Services and Safety Element. Adopted March 2008.

City of San Diego, 2009a. Official Very High Fire Hazard Severity Zone Map. February 24, 2009.

City of San Diego, 2009b. Frequently Asked Questions, Fire Hazard Severity Zones and New Building Codes for California's Wildland Urban Interface. March 27, 2009.

County of San Diego, 2011. San Diego County General Plan, Safety Element. Adopted August 2011.

San Diego Gas & Electric Company (SDG&E), 2011. Best Management Practices Manual for Water Quality Construction. Revised July 2011.

SDG&E, 2014. Electric Standard Practice – 113.1 (Revised), SDG&E Operations and Maintenance Wildland Fire Prevention Plan. June 25, 2014.

San Diego Gas & Electric Co. (SDG&E) 2016. Proponent Environmental Assessment Artesian 230kV Substation Expansion Project, August 2016a.

SDG&E, 2016b. Fire Prevention Plan. October 31, 2016.

3.10 Hydrology and Water Quality

	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
9. HYDROLOGY AND WATER QUALITY— Would the Project:				
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially alter the existing drainage pattern of a site or area through the alteration of the course of a stream or river, or by other means, in a manner that would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Substantially alter the existing drainage pattern of a site or area through the alteration of the course of a stream or river or, by other means, substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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 authoritative flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

This section describes the existing hydrology in the vicinity of the Proposed Project site and evaluates the potential for construction, operation, and maintenance of the Proposed Project to result in impacts to hydrological resources. For the purposes of the evaluation of hydrology, the study area is defined as the footprint of all components of the Proposed Project, including all areas of temporary and/or permanent ground disturbance, as well as water features and drainages potentially influenced by the Proposed Project.

3.10.1 Environmental Setting

The study area is located in northern San Diego in the San Dieguito Watershed and ranges in elevation from approximately 500 to 800 feet above mean sea level. The southwest coastal region of California is generally arid and characterized by hot, dry summers, and mild winters, typical of a Mediterranean climate. The region normally receives very little annual rainfall, with the majority of precipitation typically falling between October and May and averaging a total of 7-11 inches intermittently over this timeframe (DWR, 2004).

Surface Water Hydrology

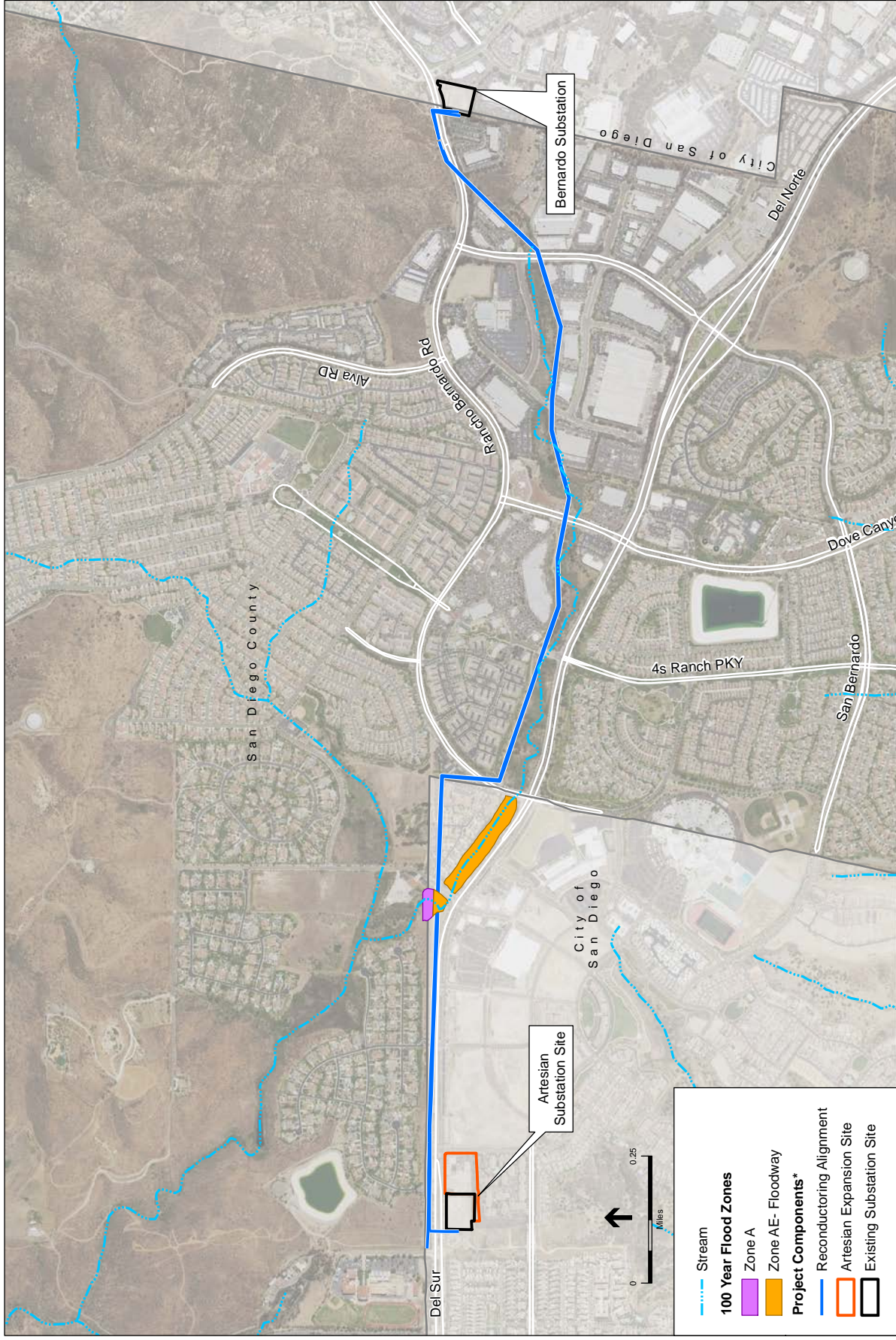
Surface waters and drainages in the study area are depicted in **Figure 3.10-1, *Surface Hydrology and 100 Year Flood Zones in the Project Vicinity***. The Proposed Project would be located predominantly in the San Dieguito Hydrologic Unit (HU), with the exception of proposed Rancho Carmel Substation upgrades which would take place partially in the Peñasquitos HU (DWR, 2004). The San Dieguito HU is divided into five hydrologic areas: Solana Beach, Hodges, San Pasqual, Santa Maria Valley and Santa Ysabel. This HU encompasses approximately 350 square miles and includes the San Dieguito River and its tributaries extending from Del Mar to near Julian, approximately 40 miles northeast of San Diego.

Most of the Proposed Project, including the expansion of the Artesian Substation and associated reconductoring, would be constructed within the San Dieguito HU adjacent to an unnamed tributary to the San Dieguito River, as depicted in Figure 3.10-1. This drainage, locally referred to as Artesian Creek, flows intermittently in a generally westward direction on the north side of Camino Del Norte and Camino Del Sur before turning northward and entering the San Dieguito River downstream of Lake Hodges (SDG&E, 2016). The San Dieguito River flows generally westward to the San Dieguito Lagoon where it meets the Pacific Ocean. Reconductoring activity is proposed to occur near this drainage, as shown on Figure 3.10-1.

The smaller Peñasquitos HU is approximately 170 square miles and includes no major streams. However, the HU is drained by numerous creeks and includes Miramar Reservoir, a water storage facility containing imported Colorado River water. The unit contains two coastal lagoons, Sorrento Lagoon and Mission Bay. Sorrento Lagoon is the mouth of Peñasquitos Creek and empties into the ocean near the northerly boundary of the City of San Diego. Upgrades including cable replacement and temporary connection to a shoo-fly structure for the Rancho Carmel Substation would occur partly within the Peñasquitos HU. The proposed construction at Rancho Carmel Substation would require rearrangements inside and outside of the existing substation boundary, but would not require additional grading or other site development activities.

Groundwater

The Proposed Project would be located within the San Dieguito Valley Groundwater Basin. Recharge of this aquifer occurs chiefly by percolation of surface water flow in the San Dieguito River. Additional sources of recharge to the San Dieguito Basin include percolation of precipitation to the valley floor, and underflow beneath Hodges Dam, located approximately 1.6 miles north of the Artesian Substation on the southwest end of Lake Hodges. The basin is also



* Not all project components shown on this map. See Figure 2-5 for full list of project components.

SOURCE: SanGIS, 2016; SDG&E; Semptra Energy Utility; FEMA Firm Panel 06073C1088G 2012

CPUC Artesian Substation . 120812.02

Figure 3.10-1
Surface Hydrology and 100 Year Flood Zones in the Study Area

supplemented with underflow through the La Jolla Group sediments (DWR, 2004). Water pumped from alluvium in this basin is of variable character, with total dissolved solids (TDS) concentrations ranging from about 500 milligrams per liter (mg/L) in the northeastern part of the basin to more than 5,000 mg/L near the coast (DWR 2004). The San Diequito Basin generally has high sulfate, chloride, and total dissolved solids (TDS) concentrations that cause inferior ratings for domestic and irrigation use for most of the basin. The depth to groundwater within the study area likely varies and site specific data is limited. Ground water seepage was encountered in one of the geotechnical borings completed near the Artesian Substation at a depth of 42 feet below the ground surface (Geocon, 2012).

Flood Potential

The majority of the study area would be located outside of a flood hazard zone as designated by the Federal Emergency Management Agency (FEMA). A small portion of the reconductoring alignment (see Figure 2-6) existing structure E09 would be located in an area mapped within the 1 percent annual chance (100-year) flood zone as depicted on Figure 3.10-1. The rest of the Proposed Project would be located outside of any identified flood zones. The study area is not located within an area identified by the California Office of Emergency Services as a dam or tsunami inundation zone (CDC, 2009).

3.10.2 Regulatory Setting

Federal and State

The statutes that govern the construction and operational/maintenance activities related to the Proposed Project that could affect water quality are the federal Clean Water Act (CWA) (33 U.S.C. §1251) and the state Porter-Cologne Water Quality Control Act (Porter-Cologne) (Water Code §13000 et seq.).

The California Legislature has assigned the primary responsibility to administer and enforce statutes for the protection and enhancement of water quality to the State Water Resources Control Board (SWRCB) and its nine Regional Water Quality Control Boards (RWQCBs). The SWRCB provides state-level coordination of the water quality control program by establishing statewide policies and plans for the implementation of state and federal regulations. The nine RWQCBs throughout California adopt and implement water quality control plans that recognize the unique characteristics of each region with regard to natural water quality, actual and potential beneficial uses, and water quality problems. The study area is located in the San Diego RWQCB, Region 9. The San Diego RWQCB adopts and implements a Water Quality Control Plan that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan (Water Code §§13240-13247).

Clean Water Act

The CWA, enacted by Congress in 1972 and amended several times since its inception, is the primary federal law regulating water quality in the United States and forms the basis for several state and local laws throughout the country. Its objective is to reduce or eliminate water pollution in

the nation's rivers, streams, lakes, and coastal waters. The CWA authorizes the U.S. Environmental Protection Agency (USEPA) to implement federal water pollution control programs such as setting water quality standards for contaminants in surface water, establishing wastewater and effluent discharge limits for various industry categories, and imposing requirements for controlling nonpoint-source pollution. At the federal level, the CWA is administered by the USEPA and U.S. Army Corps of Engineers (USACE). At the state and regional levels, the act is administered and enforced by the SWRCB and the nine RWQCBs.

Beneficial Use and Water Quality Objectives (CWA §303)

The San Diego Regional Water Quality Control Board (RWQCB) is tasked with developing and enforcing water quality objectives and implementing plans to protect the Project area's waters. The RWQCB designates beneficial uses of water bodies in the San Diego Region, and establishes water quality objectives through implementation of the Water Quality Control Plan for the San Diego Basin (Basin Plan). The designation of beneficial uses for the waters of the State by the RWQCB is mandated under Water Code section 13240. Clean Water Act Section 303 requires that the state adopt designated beneficial uses for surface waters. The most recent version of the Basin Plan for the San Diego region was published in 1994 with amendments effective on or before May 17, 2016.

In accordance with state policy for water quality control, the RWQCB employs a range of beneficial use definitions for surface waters and groundwater basins that serve as the basis for establishing water quality objectives and discharge conditions and prohibitions. The Basin Plan identifies existing and potential beneficial uses supported by the key surface water drainages throughout its jurisdiction (RWQCB, 2012). **Table 3.10-1** identifies beneficial uses designated in the Basin Plan for the surface water and groundwater bodies relevant to the study area. The Basin Plan also includes water quality objectives that are protective of the identified beneficial uses; the beneficial uses and water quality objectives collectively make-up the water quality standards for a given region and Basin Plan (RWQCB, 2012). The Basin Plan also includes actions necessary to maintain these water quality standards.

TABLE 3.10-1
DESIGNATED BENEFICIAL USES OF WATER BODIES IN THE STUDY AREA

Water Body	Designated Beneficial Uses
Lusardi Creek	MUN, IND, AGR, REC-1, REC-2, WARM, WILD
San Diegito River*	AGR, IND, REC1, REC2, WARM, WILD
San Diegito River	AGR, BIOL, COLD, IND, MUN, PROC, RARE, REC1, REC2, WARM, WILD

NOTES:

Existing and Potential Beneficial Uses Key:

MUN (Municipal and Domestic Supply); AGR (Agricultural Supply); REC-1 (Body Contact Recreation); REC-2 (Noncontact Recreation); WARM (Warm Freshwater Habitat); COLD (Cold Freshwater Habitat); WILD (Wildlife Habitat); POW (Hydropower Generation); IND (Industrial Service Supply); MIGR (WARM and COLD Migration); SPWN (Warm Spawning).

* Note: water bodies are listed multiple times if they cross hydrologic area or sub-area boundaries.

SOURCE: RWQCB, 2012

National Pollutant Discharge Elimination System Program CWA Section 402

Under CWA Section 402, the National Pollutant Discharge Elimination System (NPDES) stormwater permitting program controls water pollution by regulating point sources of pollution to waters of the United States. The RWQCB administers the NPDES program in the San Diego region.

The Proposed Project would result in the disturbance of more than one acre of soil and therefore would be subject to the *NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities* (Order 2009-0009-DWQ, NPDES No. CAS000002; as amended by Orders 2010-0014-DWQ and 2012-006-DWQ). The permit regulates stormwater discharges associated with construction or demolition activities, such as clearing and excavation; construction of buildings; and linear underground projects, including installation of water pipelines and other utility lines. The Construction General Permit requires that construction sites be assigned a Risk Level of 1 (low), 2 (medium), or 3 (high), based both on the sediment transport risk at the site and the receiving waters risk during periods of soil exposure (e.g., grading and site stabilization). The sediment risk level reflects the relative amount of sediment that could potentially be discharged to receiving water bodies and is based on the nature of the construction activities and the location of the site relative to receiving water bodies. The receiving waters risk level reflects the risk to the receiving waters from the sediment discharge. Depending on the risk level, a construction project could be subject to the following requirements:

- Effluent standards
- Good site management “housekeeping”
- Non-stormwater management
- Erosion and sediment controls
- Run-on and runoff controls
- Inspection, maintenance, and repair
- Monitoring and reporting requirements

The Construction General Permit requires the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP) that includes specific Best Management Practices (BMPs) designed to prevent sediment and other pollutants from contacting stormwater and from moving offsite into receiving waters. The BMPs fall into several categories, including erosion control, sediment control, waste management and good housekeeping, and are intended to protect surface water quality by preventing the off-site migration of eroded soil and construction-related pollutants from the construction area. Routine inspection of all BMPs is required under the provisions of the Construction General Permit. In addition, the SWPPP is required to contain a visual monitoring program and a chemical monitoring program for non-visible pollutants.

Two SWPPPs would be implemented for the Proposed Project: one for the construction of the expanded Artesian Substation, and one for reconductoring of the transmission lines in order to ensure compliance with all relevant SDG&E and government-mandated regulatory water quality standards (SDG&E, 2017). At a minimum, a SWPPP includes:

- Description of construction materials, practices, and equipment storage maintenance;
- List of pollutants likely to contact stormwater and site specific erosion and sedimentation control practices;

- List of provisions to eliminate or reduce discharge of materials to stormwater;
- BMPs for fuel and equipment storage;
- Non-stormwater management measures such as installing specific discharge controls during activities such as paving operations and vehicle and equipment washing and fueling; and
- Commitment that equipment, materials, and workers would be available for rapid response to spills and/or emergencies. All corrective maintenance or BMPs would be performed as soon as possible, depending upon worker safety.

The SWPPP provides specific construction-related BMPs to prevent soil erosion and loss of topsoil. BMPs implemented could include, but would not be limited to: physical barriers to prevent erosion and sedimentation, construction of sedimentation basins, limitations on work periods during storm events, use of swales, protection of stockpiled materials, and a variety of other measures that would substantially reduce or prevent erosion from occurring during construction. Post-construction requirements necessitate that construction sites be restored to pre-project hydrological conditions to ensure that the physical and biological integrity of aquatic ecosystems are sustained in their existing condition, unless the site is located within an area subject to the post-construction standards of an active Phase I or II municipal separate storm sewer system (MS4) permit that has an approved stormwater management plan. Both the City of San Diego and San Diego County are co-permittees in the San Diego Region MS4 regional permit (NPDES No. CAS0109266). SDG&E have confirmed that the Proposed Project would not be covered by the MS4 permit and therefore post and pre-construction hydrological and water quality standards would need to be maintained (SDG&E, 2017). The post-construction standards include structural and nonstructural control measures to replicate the pre-Project water balance and pre-Project drainage density, and reduce pollutants in storm water discharges.

National Flood Insurance Program

FEMA determines flood elevations and floodplain boundaries based on USACE studies. FEMA also distributes the flood insurance rate maps used in the National Flood Insurance Program. These maps identify the locations of special flood hazard areas, including 100-year floodplains.

Federal regulations governing development in a floodplain are set forth in Title 44, Part 60 of the Code of Federal Regulations. Those regulations enable FEMA to require municipalities participating in the National Flood Insurance Program to adopt certain flood hazard reduction standards for construction and development in 100-year floodplains. As depicted in Figure 3.10-1, a small portion of proposed construction including the reframing of existing (E09) pole top structure near Four Gee Road would be located within the 100 year flood plain.

California Fish and Game Code Section 1602

Section 1602 of the Fish and Game Code protects the natural flow, bed, channel, and bank of any river, stream, or lake under the jurisdiction of the California Department of Fish and Wildlife (CDFW). Project plans that are sufficient to indicate the nature of a project for construction must be submitted to CDFW if the project would:

- substantially divert, obstruct, or change a streambed;
- use material from the streambeds; or
- result in the disposal or deposition of debris, waste, or other material containing crumbled, flaked, or ground pavement that can flow into a stream.

For projects affecting the bed, bank, or flow of water under CDFW jurisdiction, applicants must submit a notification of lake or streambed alteration to CDFW. The department may issue an agreement if its staff members determine that the activity may substantially adversely affect fish and wildlife resources. The Proposed Project would include construction near to or across an unnamed tributary to the San Dieguito River (see Section 3.4 for additional discussion of stream impacts).

Porter-Cologne Water Quality Control Act

Under the Porter-Cologne Water Quality Control Act, the SWRCB has authority over waters of the state and water quality. The RWQCBs have local and regional authority. The Project is proposed in an area under the jurisdiction of the San Diego RWQCB. The RWQCB prepares and periodically updates the Basin Plan described under the heading *Beneficial Use and Water Quality Objectives* (CWA §303), above. Pursuant to the CWA NPDES program, the Porter-Cologne Act also delegates the authority to the RWQCBs to issue NPDES permits.

Waste Discharge Requirements

Actions that involve or are expected to involve discharge of waste may be subject to waste discharge requirements (WDR) under the Porter-Cologne Act. Chapter 4, Article 4 of the Porter-Cologne Act (Water Code §13260-13274) states that persons discharging or proposing to discharge waste that could affect the quality of waters of the State (other than into a community sewer system) shall file a Report of Waste Discharge with the applicable RWQCB. However, the RWQCB has issued a waiver for certain types of discharges, as discussed below.

Waiver for Specific Types of Discharges (San Diego RWQCB Order Number R9-2014-0041)

The RWQCB has adopted a waiver of WDR (Resolution R9-2014-0041, *Conditional Waivers of Waste Discharge Requirements for Low Threat Discharges in the San Diego Region*) for specific types of low-threat discharges to the land surface within the San Diego region. Construction dewatering and dredged material disposal to land are among the activities covered by this waiver, providing the subject activities meet the conditions specified within the waiver. Waivers serve much the same purpose as general permits (i.e., they are intended to describe a range of protective measures that could be applied to a broad category of activities). This waiver must be obtained from the RWQCB for any actions that would potentially involve dewatering and/or long-term storage of excavated material on the land surface. Expansion of the stormwater retention basin west of the existing Artesian Substation would involve dredging activities that would be subject to the adopted waiver.

Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act of 2014 (SGMA, Water Code §10723) provides a framework for sustainable management of groundwater resources. In groundwater basins designated by DWR as medium and high priority, local public agencies and locally-controlled groundwater sustainability agencies (GSAs) are required to develop and implement groundwater sustainability plans (GSPs) or alternatives to GSPs. Each GSP or alternative must include measurable objectives and interim milestones for achieving sustainability goals for the given groundwater basin. Plans must also include a physical description of the basin, including information on groundwater levels, groundwater quality, subsidence and groundwater-surface water interaction, historical and projected water demand and supply data, monitoring and management provisions, and a description of how the plan will affect other plans. The San Dieguito Valley Groundwater Basin is currently undesignated under SGMA. The State has designated four groundwater basins in San Diego County as medium-priority groundwater basins within the context of SGMA (County of San Diego, 2017).

Government Code 8589.5 Dam Inundation

Under Government Code §8589.5, the Office of Emergency Services (OES) is responsible for the identification of inundation areas for dam failures in California and provides city and county emergency services coordinators with approved maps of dam failure inundation areas. The California OES Dam Inundation Mapping and Emergency Procedure (DIMAP) was established in 1972 to provide assistance to local jurisdictions by collecting and reviewing dam failure inundation maps, and evaluating waivers for mapping requirements to support effective emergency response procedures and planning (CalOES, 2017).

Local

The CPUC has exclusive jurisdiction over the siting, design, and construction of the Project, therefore the Project is not subject to local discretionary regulations. Details below that relate to local regulations are provided for informational purposes.

San Diego County

The County of San Diego Planning and Development Services Department issues grading permits for work to regulate and oversee activities that could, among other things, degrade water quality within the local environment. In addition, the County of San Diego has a Grading Ordinance designed to minimize damage to surrounding properties and public rights-of-way, the degradation of the water quality of watercourses, and the disruption of natural or County authorized drainage flows caused by the activities of clearing and grubbing, grading, filling and excavating of land, and sediment and pollutant runoff from other construction related activities, and to comply with the provisions of the County's General Permit for Construction Activities (SWRCB Order 2009-0009-DWQ, NPDES Permit Number CAS000002, issued by the San Diego RWQCB).

The City of San Diego

The City of San Diego General Plan contains the following policies that are relevant to construction activity in the Project area.

CE-B.4: Limit and control runoff, sedimentation, and erosion both during and after construction activity.

CE-D.2: Protect drinking water resources by implementing guidelines for future development that may affect water supply watersheds, reservoirs and groundwater aquifers. The guidelines should address site design, Best management Practices (BMPs) and stormwater treatment measures.

- a. Collaborate with other jurisdictions to reduce the potential for polluted runoff to water supply reservoirs.

The conservation element of the city of San Diego's General Plan contains goals seeking: the "protection and restoration of water bodies, including reservoirs, coastal waters, bays, and wetlands" as well as the "preservation of natural attributes of both the floodplain and floodway without endangering life and property (City of San Diego, 2008)." As water runoff flows across impervious surface areas, pollutants such as debris, trash, sediments, oils, and toxic chemicals are concentrated and delivered through storm drains into local waterways. The City of San Diego's Public Works Department oversees all storm water management issues within its jurisdiction, from storm drainage design and construction, to operation and maintenance, to prevent pollution from urban runoff.

Other Technical Plans

SDG&E has provided several additional applicable plans and technical studies that are relevant to this water resources discussion and analysis.

SDG&E Construction Water Sourcing Investigation Plan. The plan consists of an investigation of potential water sources available to SDG&E for Proposed Project construction and operation. Regulatory requirements are outlined for utilizing water from various sources including the use of recycled water intended to provide options supporting appropriate conservation of potable water resources. This plan is relevant to the proposed Project as construction would require the use of water for dust control in a region where water is scarce and conservation measures are of critical importance.

SDG&E Subregional Natural Communities Conservation Plan (NCCP). A multiple species and habitat NCCP has been developed by SDG&E, under Section 10(a) of the federal Endangered Species Act implementing a long- term agreement 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 (16 U.S.C §1539) (SDG&E, 2016)." The NCCP contains directives that seek to protect wetlands along the transmission corridor west of the existing Artesian Substation, adjacent to where construction of new pier foundation structures (P01 and P02) are proposed.

SDG&E's BMP Manual for Water Quality Construction. This manual was developed in response to requirements of the new California Construction General Storm Water Discharge Permit (CGP) (SWRCB Order No. 2009-009-DWQ). Many of the construction activities of SDG&E are linear in nature, unique to utility work, and do not correspond to typical large

development project BMPs. This manual tailors typical BMPs as applicable to utility type work and utility work crews. BMPs are effective in minimizing water pollution from urban runoff, which can result from construction activities.

An **Aquatic Resource Summary Report**, as appended to the Project-specific Biological Technical Report, identifies the waters and wetlands under federal and state jurisdiction within the Project footprint. SDG&E has stated its intention to comply with a design that avoids impact to waters and wetlands under the jurisdiction of the USACE, RWQCB and CDFW (SDG&E, 2016). See further discussion in Section 3.4, Biological Resources.

3.10.3 Applicant Proposed Measures

No Applicant Proposed Measures (APMs) have been identified that would address potential impacts to hydrology and water quality.

3.10.4 Environmental Impacts and Mitigation Measures

a) Whether the Project would violate any water quality standards or waste discharge requirements: *LESS THAN SIGNIFICANT IMPACT.*

Construction of the Proposed Project could affect water quality. Impacts would be most likely during construction of the Artesian Substation and the underground getaways at the Artesian and Bernardo substations, and also during the installation of new and replacement poles as part of proposed reconductoring. Construction of these components could cause erosion and runoff primarily as a result of ground disturbance, both temporary and permanent, removal of vegetation, and grading at the Artesian Substation site (see Section 2.6.3), and during the preparation of construction staging areas and new access roads. Construction of the expanded Artesian Substation and other Project components would also result in an increase in impervious surface area in the study area, which would increase the rate and extent of runoff. This is discussed further below. In addition to impacts from erosion and runoff, contamination from fuels or other hazardous materials used during construction could also adversely affect water quality.

All construction activities would be undertaken in accordance with the SDG&E BMP manual and adhere to the NPDES Construction General Permit requirements, including the implementation of two SWPPPs for the Proposed Project: one for the construction of the expanded Artesian Substation, and one for reconductoring of the transmission lines in order to ensure compliance with all relevant SDG&E and government-mandated regulatory water quality standards (SDG&E, 2017). Project reconductoring activities, such as the placement of new foundation structures (P09-P15) and overhead work including the replacement of transmission lines on existing structures (E09-E23) are proposed to occur within and near this local drainage, to cross the intermittent tributary of the San Dieguito River at approximately nine junctures, which could lead to water quality-related impacts. However, the SWPPP would include detailed measures aimed at avoiding impacts and thereby cover all construction activities, such that potential impacts would not adversely affect this tributary. Adherence to the measures, as outlined in the SWPPP, would minimize potential adverse effects to water quality to less than significant levels. Accidental releases of hazardous

materials that are used during construction, such as diesel fuel, hydraulic fluid, or oils and grease, could occur during construction and could have an adverse effect on water quality. This potential impact is discussed in Section 3.9, *Hazards and Hazardous Materials*.

Operation and maintenance of the Proposed Project could result in impacts to water quality as a result of accidental release of pollutants. For example, oils, fuels and other hazardous substances used during routine operation and maintenance of the three substations could adversely affect water quality if such pollutants were to contact stormwater, runoff, or otherwise infiltrate into groundwater. Potential spills of hazardous materials would be minimized through hazardous materials management measures (see Section 3.9). With implementation of these measures, potential impacts to water quality during operation and maintenance would be less than significant.

b) Whether the Project would substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted): *LESS THAN SIGNIFICANT IMPACT.*

Construction of the Proposed Project would require approximately 10 million gallons of water for dust suppression, concrete mixing and other construction activities. In accordance with the SDG&E Construction Water Sourcing Investigation Plan (ICF, 2015) SDG&E would source this water from existing recycled water supply facilities. Sufficient recycled water capacity is available and therefore construction of the Project would not require any withdrawals from existing groundwater supplies and would not impact the local groundwater table (SDG&E, 2016).

In addition to construction water, the Project would require small quantities of potable water for worker uses during the construction period. This would be sourced from existing Olivenhain Municipal Water District (OMWD) hydrant facilities (SDG&E, 2016). The OMWD obtains its water supply primarily from the Colorado River and the State Water Project and the supply of potable water during construction would not therefore impact groundwater supplies (ICF, 2015).

According to the geotechnical investigation for the Artesian Substation, groundwater was only noted in one boring at a depth of 37 feet below ground surface; however it is possible that shallow groundwater would be encountered elsewhere during construction (URS, 2015). If shallow groundwater is encountered, temporary dewatering may be required during construction in order to complete foundation work. Dewatering is not anticipated to be needed as part of the Project, but should this become required, would be implemented under the requirements of the SWPPP as previously described.

With respect to groundwater recharge, construction of the expanded Artesian Substation and other Project components (see Table 2-7) would result in the addition of new impervious surfaces including permanent operations and maintenance work pads at each of the 230kV drop pole structures. However the addition of a total of 0.17 acres (or approximately 7,405 square feet) of impervious area spread out over multiple locations for these work pads would be relatively minor

in the context of the entire area of recharge of the San Dieguito Valley Groundwater Basin, which covers an area of 350 square miles and is primarily recharged via percolation of flow in the San Dieguito River. Although an existing paved access route at the Artesian Substation is proposed to be widened, the proposed increase in impervious surface area of approximately 175 square feet is also a relatively minor contribution of pavement to the watershed as a whole. Furthermore, new substation perimeter roads are proposed as unpaved Project features. Consequently, the Proposed Project would have a less than significant impact related to groundwater recharge capabilities.

During operation, the water supply needs of the Project would be relatively low. No change in SDG&E's operations and maintenance practices would result from expansion of the Artesian Substation or development of other Proposed Project features that would increase operational water needs. Water would be used within the three substations during routine operation and maintenance activities as well as for other uses such as dust control and landscape irrigation. Potential sources of water have been identified by SDG&E in its Water Sourcing Investigation Plan (ICF, 2015). To achieve SDG&E's objective of water conservation reclaimed tertiary-treated water, in addition to potable water, could be supplied from the OMWD, pending formal permissions (ICF, 2015).

**c) Whether the Project would substantially alter the existing drainage pattern of a site or area through the alteration of the course of a stream or river, or by other means, in a manner that would result in substantial erosion or siltation on- or off-site:
*LESS THAN SIGNIFICANT IMPACT.***

The Proposed Project would not alter the course of any stream or river. Once constructed, drainage patterns would be relatively similar to existing conditions other than a slight increase in runoff as a result of an increase in new impervious surfaces, as discussed above. Operation and maintenance of the Proposed Project facilities would not require substantive changes to surface grades that could significantly alter existing drainage patterns. If grading is needed to preserve surface contours in unpaved areas, such grading would occur with BMPs implemented per the SDG&E BMP Manual and NPDES Construction General Permit requirements to return runoff to existing drainage patterns and to stabilize surface disturbances (see Section 2.6.4.2). In addition, although the Proposed Project is not directly subject to the MS4 permit, the Proposed Project would be subject to the stormwater requirements of agencies that are permittees (such as the City of San Diego) and would therefore be in effect be adhering to the same post-construction standards as set out in the San Diego Region MS4 regional permit (NPDES No. CAS0109266). These standards include structural and nonstructural control measures to replicate the pre-Project water balance and pre-Project drainage density, and reduce pollutants in storm water discharges. For these reasons, the potential impact from changes to drainage patterns causing erosion or siltation would be less than significant.

Construction of the Proposed Project would include ground disturbing activities that could expose soils to erosion or siltation. As noted above, construction activities would include the implementation of required BMPs in accordance with the implementation of a SWPPP and SDG&E's BMP Manual, which include erosion control measures to minimize the potential for erosion and siltation. Implementation of these required BMPs would reduce the potential impact related to drainage patterns causing erosion or siltation to less than significant levels.

d) Whether the Project would substantially alter the existing drainage pattern of a site or area through the alteration of the course of a stream or river or, by other means, substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site: *LESS THAN SIGNIFICANT IMPACT.*

As noted above, the Project would not include significant addition of new impervious surfaces or other modification of surface conditions that could substantively increase surface water runoff volumes. The Project would also be required to adhere to post-construction drainage control standards under the San Diego Region MS4 NPDES permit, which includes volume control measures to limit adverse impacts associated with runoff. In addition, the Project would not require the substantial modification of any upland sites to an extent that it could alter drainage patterns in a way that would increase the potential for on- or off-site flooding. Therefore, based on the Project characteristics, as proposed, and the implementation of required post-construction standards, the impact would be less than significant.

e) Whether the Project would create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff: *LESS THAN SIGNIFICANT IMPACT.*

The Proposed Project would include only relatively minor additions of impervious surfaces (Table 2-7) such that the additional amount of stormwater runoff would be relatively small. SDG&E would also implement a SWPPP and BMPs during operation and maintenance in accordance with its *BMP Manual*. During construction, implementation of a SWPPP would limit runoff volume and control pollutants to ensure there would be no adverse effects on water quality. Initial site work proposed at the Artesian Substation would involve grading and removal of approximately 23,700 cubic yards of soil from the site, as identified in Table 2-9. Although the process of site grading could contribute to sediment pollution potentially impacting stormwater drainage systems, the vast majority of excess soil would be removed from the site by trucks. Furthermore, in addition to implementation of BMPs, and a SWPPP, this Project proposes a planned excavation to increase the capacity of an existing stormwater detention basin (directly west of the Artesian Substation) to accommodate surface water runoff during construction; therefore, capacity exceedances would not occur. Operation and maintenance would not require changes to surface grades and conditions would remain relatively similar to existing conditions. Also, as stated above in criterion c, the Project would be required to adhere to stormwater standards similar to those in the City of San Diego's MS4 NPDES permit, such that impacts of operation and maintenance of the Proposed Project on runoff volumes would not result in an exceedance of the capacity of existing or planned stormwater drainage systems or cause a substantial increase in the amount of polluted runoff. Impacts would be less than significant.

f) Whether the Project otherwise would substantially degrade water quality: *NO IMPACT.*

No additional impacts on water quality beyond those described previously are anticipated. There would be no impact under this criterion.

g) Whether the Project would place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other authoritative flood hazard delineation map: *NO IMPACT.*

The Proposed Project does not include construction of any new housing. Therefore, no impact would occur under this criterion.

h) Whether the Project would place within a 100-year flood hazard area structures that would impede or redirect flood flows: *NO IMPACT.*

The majority of the Proposed Project site is not located within a 100-year flood hazard area. Only one existing structure is located within a 100-year flood zone according to FEMA. Overhead work is proposed for Pole Top Structure E09 which currently exists in a 100-year flood zone and would be used in place for the proposed reconductoring route. No new permanent structures are proposed to be placed within the 100-year flood hazard area; therefore, there would no risk of substantive damage related to flooding and the Proposed Project would not result in impediments or redirections of flood waters. No impact would occur under this criterion.

i) Whether the Project would 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.*

A catastrophic failure of a dam or levee can release large volumes suddenly and expose people and structures within the resulting inundation area to adverse risks. As part of existing regulatory requirements, dam owners submit inundation maps to the Office of Emergency Services (OES) for review and approval in accordance with guidance issued by OES. The Proposed Project is not located within an identified inundation area for a dam or levee failure. There would be no impact under this criterion.

j) Whether the Project would expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow: *NO IMPACT.*

The Project would not result in inundation by seiche, tsunami, or mudflow. Seiches are waves in a semi-enclosed or enclosed body of water such as a lake, reservoir, or harbor. There are no enclosed water bodies within the Project vicinity and the nearest active fault that could generate a seismic event is located eleven miles to the west of the Proposed Project. Tsunamis are ocean waves caused by an underwater earthquake, landslide, or volcanic eruption. The Proposed Project is located in an inland area over eight miles from the ocean and so would not be affected by tsunamis; the effects of tsunamis would be expected to dissipate within a few miles of the coast (CDC, 2009) and so would not affect the Project site. Mudflows generally result from volcanic activity, catastrophic dam failure, or a large volume precipitation event on saturated soils. The Proposed Project is not located in an area of volcanic activity, nor is it located in an area that would be subject to inundation from heavy precipitation or dam failure. Therefore, no impact would occur.

3.10.5 References

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3.11 Land Use and Planning

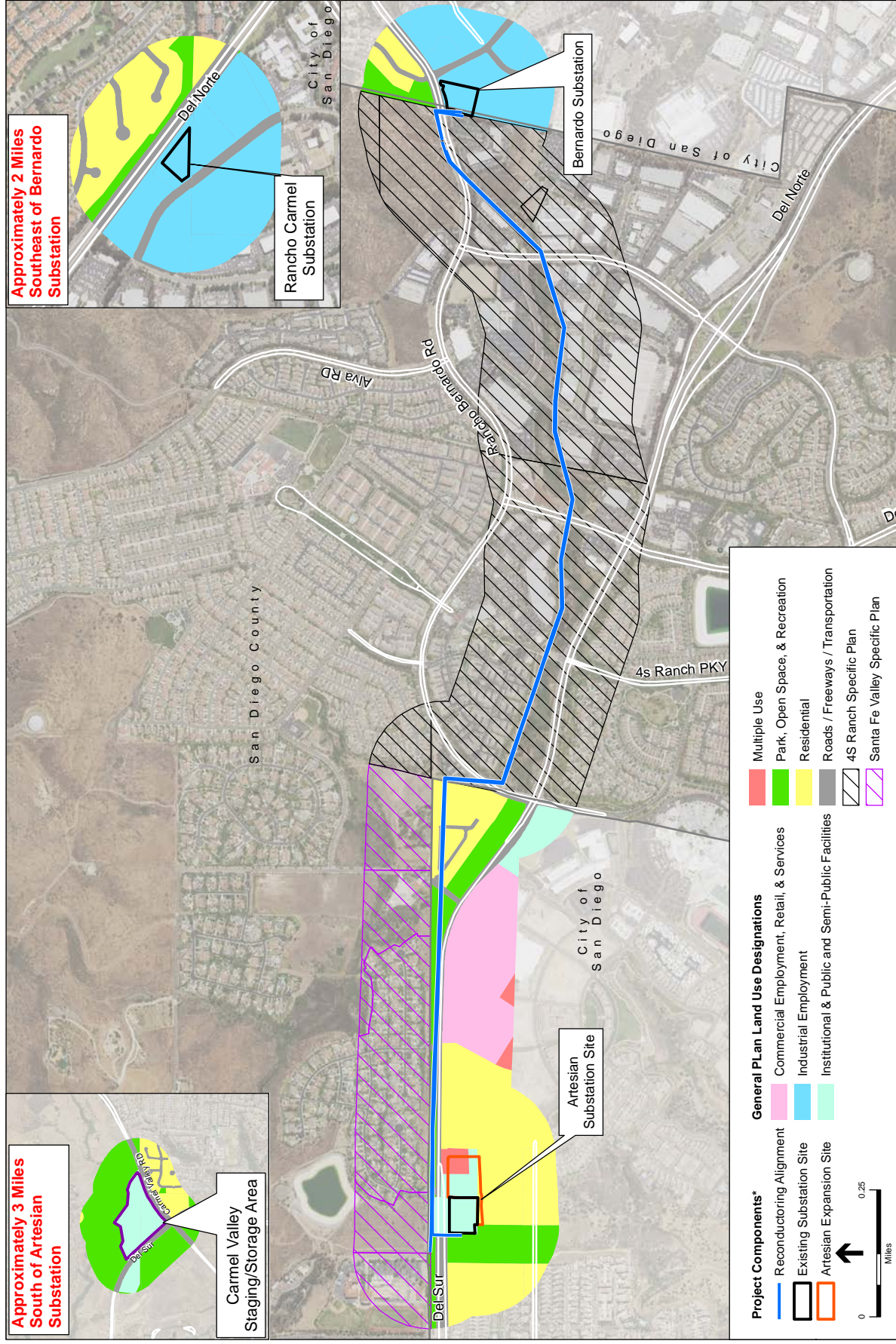
<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
10. LAND USE AND PLANNING— Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.11.1 Environmental Setting

The Proposed Project would be located within the City of San Diego and within portions of unincorporated San Diego County. The western portion of the Proposed Project, including the Artesian substation expansion, and associated new underground 69 kV getaways (underground getaways), would be located in the northeastern corner of the City of San Diego. In this area land use is primarily residential. The reconductoring alignment begins in unincorporated San Diego County (see **Figure 2-1, Proposed Project Location**) where land use is primarily residential, open space, and commercial. Towards the east of the alignment where the route reenters the City of San Diego and interconnects with the Bernardo substation via additional new underground getaways, existing land use includes some industrial facilities as well as commercial and open space. For the purpose of this analysis, the study area is defined as the Proposed Project footprint, and a one-mile¹ buffer of all work areas, staging yards, access roads, and Project components.

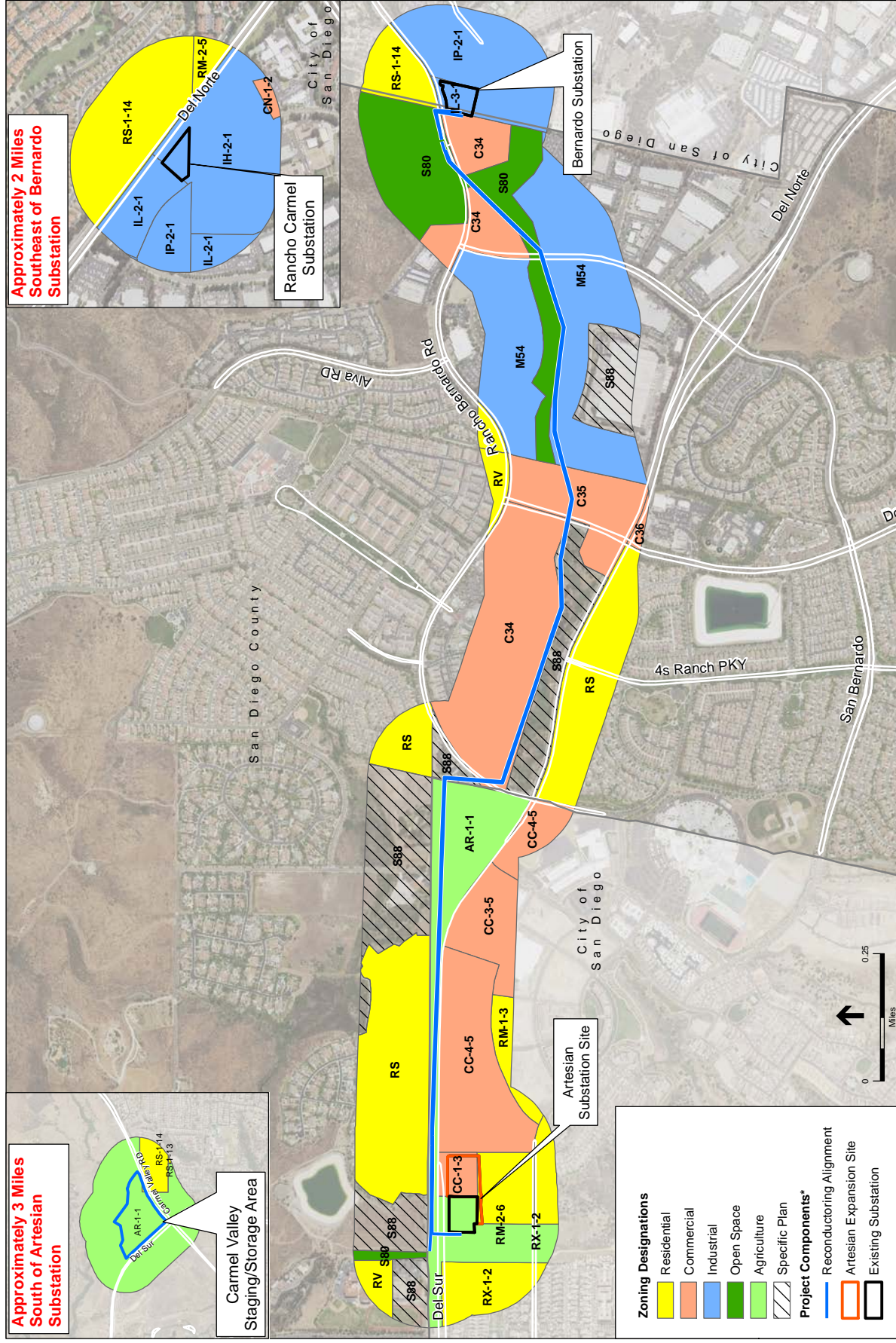
The Proposed Project would be built within existing San Diego Gas and Electric (SDG&E) property and rights-of-way (ROWs). No additional land or ROW is required. Existing land uses, general plan land use designations, and zoning designations that would occur within the study area are described below for each Proposed Project component. **Figure 3.11-1, Local Jurisdictions and Communities**; **Figure 3.11-2, Land Use Designations**, and **Figure 3.11-3, Zoning**, depict the local communities, general land use designations, and zoning designations found within one mile of the Proposed Project. **Figure 3.11-4, Habitat Conservation Plans**, shows the boundaries and designations of the habitat conservation plans discussed in this section.

¹ One mile was selected as an appropriate distance to encompass all or part of any land use plans, policies, regulations and communities relevant to the Proposed Project.



SOURCE: SanGIS, 2016; SDG&E; Sempra Energy Utility

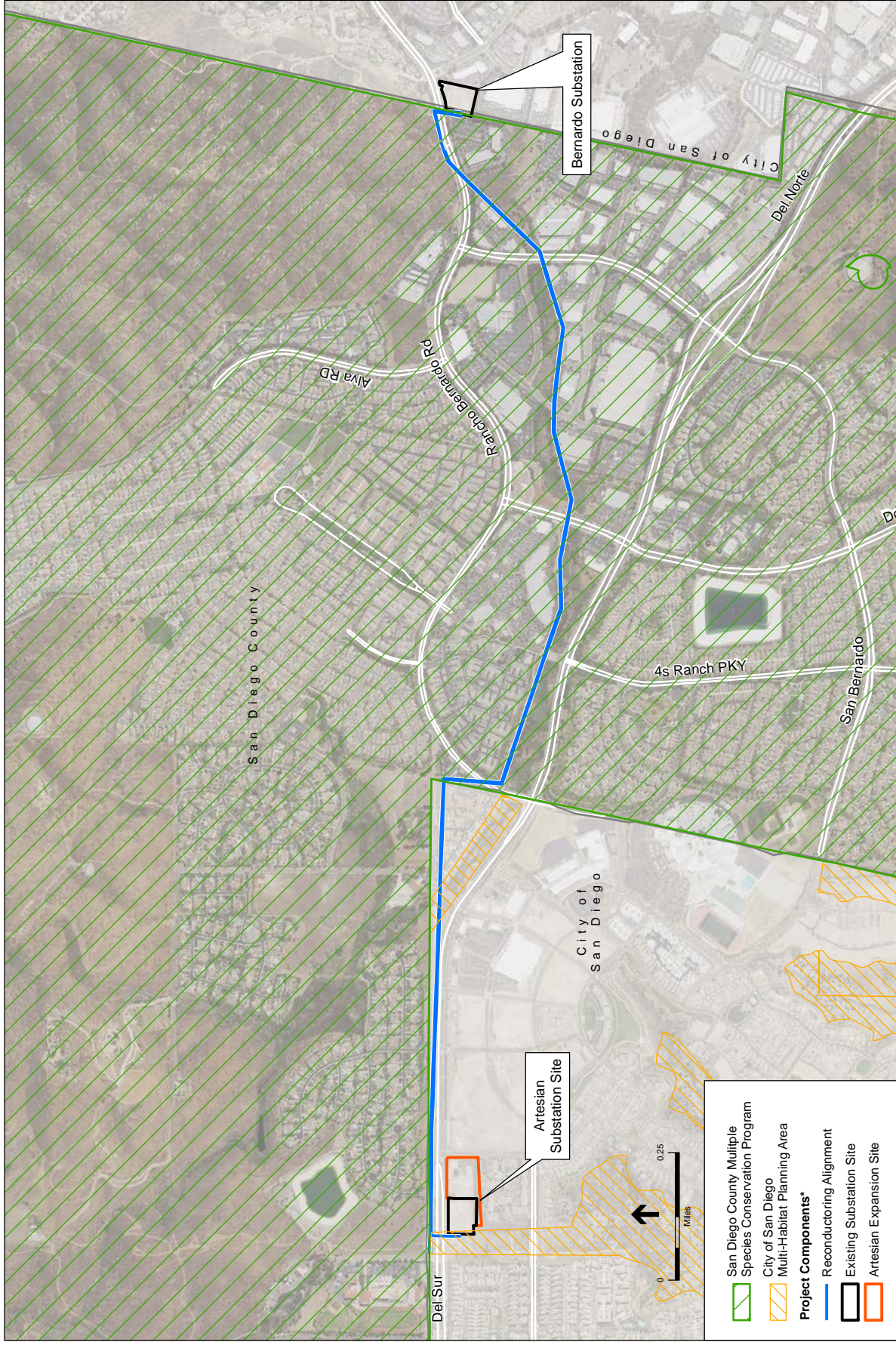
CPUC Artesian Substation . 120812.02
Figure 3.11-2
 Land Use Designations



* Not all project components shown on this map. See figure 2-5 for full list of project components.

SOURCE: SanGIS, 2016; SDG&E; Sempra Energy Utility

CPUC Artesian Substation . 120812.02
Figure 3.11-3
 Zoning Designations



* Not all project components shown on this map. See Figure 2-5 for full list of project components.

CPUC Artesian Substation . 120812.02

Figure 3.11-4
Habitat Conservation Plans

SOURCE: SanGIS, 2016; SDG&E; Semptra Energy Utility

Substations

Artesian Substation and Expansion Site

The existing Artesian Substation and Expansion site are located within an urbanized area of the City of San Diego and the Community Plan area of Black Mountain Ranch. The Substation and proposed Expansion site are bounded by Camino Del Sur Road to the north, a residential apartment complex to the south, an undeveloped, SDG&E-owned parcel to the east across Babcock Street, and a stormwater retention basin and an existing SDG&E transmission corridor to the west. Also to the west are overhead electric power and transmission structures and unpaved access roads, within an existing SDG&E ROW. San Diego Fire Department Station Number 48 is located approximately 0.5 mile to the west. Further north across Camino Del Sur Road, within the Santa Fe Valley Community, are the Maranatha Christian Schools and the Santa Fe Valley Open Space Preserve.

Proposed underground 69 kV getaways, overhead 230 kV getaways, and distribution line upgrades associated with the Artesian Substation would have the same surrounding land uses as the Artesian Substation.

Bernardo Substation

The Proposed Project would also include modifications within the existing 69/12kV Bernardo Substation, which is located in the City of San Diego, and the Community Plan area of Rancho Bernardo. Like the existing Artesian Substation, the existing Bernardo Substation is a developed site. It is bounded by open space to the north across Rancho Bernardo Road including Ralph's Family Ranch, and industrial uses to the south, east and west. Kinderhouse Montessori School is located 0.1 mile to the southeast.

Approximately 0.1 mile to the west of the Bernardo Substation, two new TL6939 and TL6974 underground getaways would connect from the power line reconductoring route in unincorporated San Diego County and the community of San Dieguito Specific Plan Area within the Community of 4S Ranch, to the Bernardo Substation, within the City of San Diego and Community of Rancho Bernardo (SanGIS, 2017c). These components would pass through Rancho Bernardo Road, and would have the same surrounding land uses as the eastern portion of the reconductoring alignment and Bernardo substation, described above.

Rancho Carmel Substation

The Rancho Carmel Substation is an existing facility located on an industrial site in the City of San Diego and Community Plan area of Rancho Bernardo, approximately 2.1 miles southeast of the Bernardo Substation. It is surrounded by industrial enterprises to the south and west and developed residential units to the east and north. The Proposed Project would involve minor modifications to this substation, which would not extend beyond the current footprint. The Rancho Carmel Substation is bounded by a parking lot to the northwest, Camino Del Norte to the northeast, an industrial use to the southeast, and Innovation Road to the southwest. The underground getaway that interconnects with the Rancho Carmel Substation would have the same land use and surrounding land uses as the Rancho Carmel Substation.

Reconductoring Alignment and Other Project Components

The Proposed Project would include reconductoring of 2.2 miles of existing double-circuit 69kV line between Artesian and Bernardo substations. The location of this alignment is described in detail in Section 2.4.2. Beginning from the Artesian Substation the proposed alignment crosses Camino Del Sur road, and traverses east, parallel to the road, to the eastern border of the City of San Diego. The existing line passes through the City of San Diego and Community Plan Area of Black Mountain Ranch, for approximately one mile, parallel to its northern border, before continuing into unincorporated San Diego County (see Figure 3.11-1). The alignment overlaps slightly with the Santa Fe Valley Specific Plan area on the northern side of Camino Del Sur in unincorporated San Diego County, which includes a residential development. South of the alignment on the other side of Camino Del Sur Road is graded, developed land. Land uses to the west and east of the alignment in this vicinity include residential and commercial development, but the alignment itself traverses through a vegetated, open space area in an existing utility corridor. Maranatha Christian School is located 0.1 mile to the west of the Power line reconductoring Route where it interconnects with the Artesian Substation. Santa Fe Fire Station Department 2 is located just north of the alignment approximately 0.66 mile to the east of the Artesian Substation. Within 0.25 mile of the alignment off Rancho Bernardo Road are 4S Ranch Police Station and 4S Ranch Library.

Of the 2.2 miles of reconductoring, approximately 1.2 miles crosses through unincorporated San Diego County. At approximately the point where the alignment crosses Rancho Bernardo Road, the reconductoring route enters unincorporated San Diego County and the Specific Plan Area of San Dieguito (and the community of 4S Ranch). It traverses approximately 1.6 miles to the east where it re-enters the City of San Diego and the community of Rancho Bernardo to interconnect with the Bernardo Substation. Along the western half of this 1.2-mile segment, the alignment is bordered by vegetated land immediately to the south and a residential development in Santa Fe Valley immediately to the north; other residential and commercial uses, such as a commercial shopping center are also located within this section of the study area. A police station is located adjacent to the alignment where the City of San Diego meets Unincorporated San Diego. The eastern half of the 1.2-mile segment contains similar land uses, with vegetated land immediately north and commercial and industrial uses to the south. A school is located 0.5 miles north of the alignment in this vicinity.

Other project components, including stringing and pulling sites, access roads, staging yards, work areas and pole installation sites are located within or close to the reconductoring alignment in areas of similar land use.

Table 3.11-1, *Jurisdictions, Land Use, and Zoning*, summarizes the distance/area of the Proposed Project components that would be located within each jurisdiction.

3. Environmental Checklist and Discussion

3.11 Land Use and Planning

**TABLE 3.11-1
JURISDICTIONS OF THE PROJECT SITES AND ALIGNMENTS**

Proposed Project Component	City/County	Existing Land Use ¹	General Plan Land Use Designation	Zoning Designation	Specific Plan Land Use Designation for unincorporated areas	Distance/ Area ^{7*}
Artesian Substation and Expansion	Black Mountain Ranch, City of San Diego	Communications and Utilities and Commercial Under Construction	Institutional and Public and Semi-Public Facilities, Multiple Use, Residential	Agriculture-Residential (AR-1-1) and Commercial Community (CC-1-3) ⁸	N/A	6 acres
Bernardo Substation	Rancho Bernardo, City of San Diego	Communications and Utilities	Industrial Employment ³	Industrial-Light (IL-3-1) ⁸	N/A	2.1 acres
Rancho Carmel Substation	Rancho Bernardo, City of San Diego	Communications and Utilities	Industrial Employment ³	Industrial-Heavy (IH-2-1) ⁸	N/A	1.3 acres
Reconductoring Alignment and Pole Replacement (western)	Black Mountain Ranch, City of San Diego and Santa Fe Valley, Unincorporated San Diego County	Commercial Under Construction	Specific Plan Area; Institutional and Public and Semi-Public Facilities; Park, Open, Space and Recreation; Roads/Freeways/Transportation, Open Space Park or Preserve, and Residential ⁴	Agricultural-Residential (AR-1-1). ⁸	Neighborhood Commercial, Medium Density, and Neighborhood Park (Santa Fe Valley)	1 mile
Underground Getaways (western)	Black Mountain Ranch, City of San Diego and Santa Fe Valley, Unincorporated San Diego County	Open Space Park or Preserve and Road ROW	Specific Plan Area; Institutional and Public and Semi-Public Facilities; Multiple Use; Park, Open Space; Recreation and Roads/Freeways/Transportation ^{4,5}	Agricultural-Residential (AR-1-1); and Commercial Community (CC-1-3, CC-4-5) ⁸	Neighborhood Commercial (Santa Fe Valley)	0.5 mile
Reconductoring Alignment and Pole Replacement (eastern)	Rancho Bernardo, City of San Diego and 4S Ranch, Unincorporated San Diego County	Communications and Utilities	Specific Plan Area ¹	General Commercial/Residential Use (C34), Specific Planning Use (S88), General Commercial/Residential Use (C35), General Impact Industrial Use (M54), and Open Space Use (S80); Industrial-Heavy (IH-2-1) ^{8,9}		1.2 miles
Underground Getaways (eastern)	Rancho Bernardo, City of San Diego ;4S Ranch, Unincorporated San Diego County	Commercial Under Construction	Specific Plan Area; and Industrial Employment ^{2,3}	General Commercial/Residential Use (C34) and Open Space Park or Preserve (S80); Industrial-Light (IL-3-1) and Industrial-Heavy (IH-2-1) ^{8,9}	Natural Open Space (4S Ranch)	0.26 mile
Work Areas						
Kearny Staging Yard	Kearny Mesa, City of San Diego	Communications and Utilities	Institutional & Public and Semi-Public Facilities ³	Industrial-Light (II-2-1) ⁸		18 acres
Carmel Valley Road Staging Yards	Torrey Highlands, City of San Diego	Vacant and Undeveloped Land	Institutional & Public and Semi-Public Facilities ³	Agricultural-Residential (AR-1-1) ⁸		30 acres
Northeast Annex Staging Yard	City of Escondido	Communications and Utilities	Light Industrial ⁵	Mixed Industrial (MI)		3 acres

**TABLE 3.11-1 (CONTINUED)
JURISDICTIONS OF THE PROJECT SITES AND ALIGNMENTS**

Proposed Project Component	City/County	Existing Land Use ¹	General Plan Land Use Designation	Zoning Designation	Specific Plan Land Use Designation for unincorporated areas	Distance/ Area ^{7*}
Work Areas (cont.)						
Stringing/Pulling Sites	Black Mountain Ranch, Carmel Mountain Ranch, and Rancho Bernardo, City of San Diego and Santa Fe Valley, 4S Ranch; Unincorporated San Diego County	Communications and Utilities, Fire/Police Station, Landscape Open Space, Multi-Family Residential, Office (Low-Rise), Open Space Park or Preserve, Other Health Care, Road Right of Way, and Spaced Rural Residential.	Specific Plan Area; Park, Open Space, and Recreation; Institutional and Public and Semi-Public Facilities; Residential; Multiple Use; and Roads/Freeways/ ^{2,3,4} Transportation	General Commercial/Residential Use (C34), Specific Planning Use (S88), General Commercial/Residential Use (C35), General Impact Industrial Use (M54), and Open Space Use (S80), and Industrial-Heavy (IH-2-1), RS-1-14, Commercial Community (CC-4-15, CC-1-3) and Agricultural-Residential (AR-1-1). ^{8,9}	Natural Open Space (4S Ranch) and Neighborhood Commercial, Medium Density, and Neighborhood Park (Santa Fe Valley)	1.04 acres total
Pole Installation Work Areas	Black Mountain Ranch, Carmel Mountain Ranch, and Rancho Bernardo, City of San Diego and Santa Fe Valley, 4S Ranch; Unincorporated San Diego County	Communications and Utilities, Community Shopping Center, Fire/Police Station, Landscape Open Space, Light Industry-General, Multi-Family Residential, Office (Low-Rise), Open Space Park or Preserve, Other Health Care, Road Right of Way, and Vacant or Undeveloped Land	Specific Plan Area; Institutional and Public and Semi-Public Facilities; Park, Open, Space and Recreation; Roads/Freeways/Transportation, Open Space Park or Preserve, and Residential	General Commercial/Residential Use (C34), Specific Planning Use (S88), General Commercial/Residential Use (C35), General Impact Industrial Use (M54), and Open Space Use (S80), and Agricultural-Residential (AR-1-1). ^{8,9}	Natural Open Space (4S Ranch) and Neighborhood Commercial, Medium Density, and Neighborhood Park (Santa Fe Valley)	5.14 acres
Underground Getaways Construction	Black Mountain Ranch, Rancho Bernardo, City of San Diego, and Santa Fe Valley, 4S Ranch, Unincorporated San Diego County	Open Space Park or Preserve and Road ROW	Institutional and Public and Semi-Public Facilities; Multiple Use; Park, Open Space; Recreation and Roads/Freeways/Transportation; Specific Plan Area; and Industrial Employment ^{4,5}	Agricultural-Residential (AR-1-1); and Commercial Community (CC-1-3, CC-4-5) and General Commercial/Residential Use (C34); Open Space Park or Preserve (S80); Industrial-Light (IL-3-1) and Industrial-Heavy (IH-2-1). ^{8,9}	Natural Open Space (4S Ranch) and Neighborhood Commercial (Santa Fe Valley)	0.76 mile
Access Roads	Black Mountain Ranch, Carmel Mountain Ranch, and Rancho Bernardo, City of San Diego and Santa Fe Valley, 4S Ranch; Unincorporated San Diego County	Communications and Utilities, Community Shopping Center, Fire/Police Station, Landscape Open Space, Light Industry-General, Multi-Family Residential, Office (Low-Rise), Open Space Park or Preserve, Other Health Care, Road Right of Way, and Vacant or Undeveloped Land	Specific Plan Area; Park, Open Space, and Recreation; Institutional and Public and Semi-Public Facilities; Residential; Multiple Use; and Roads/Freeways/Transportation ^{2,3,4}	Industrial-Heavy (IH-2-1), Industrial-Park (IP-2-1), Residential-Single Unit (RS-1-14), and Agricultural-Residential (AR-1-1) ⁸	Natural Open Space (4S Ranch) and Neighborhood Commercial, Medium Density, Neighborhood Park (Santa Fe Valley)	4 miles total
Permanent Work Areas	Black Mountain Ranch, City of San Diego	Communications and Utilities and Commercial Under Construction	Institutional and Public and Semi-Public Facilities, Multiple Use, Residential	Agriculture-Residential (AR-1-1) and Commercial Community (CC-1-3) ⁸	N/A	4.72 acres

SOURCE: (1) SanGIS, 2013 (2) County of San Diego, 1998 (3) SanGIS, 2013- General Plan Land Use (4) County of San Diego, 2013 (5) City of Escondido, 2012 (6) SanGIS, 2017a (7) SDG&E, 2016 (8) City of San Diego a-d, 2016 (9) County of San Diego, 1978a.

3.11.2 Regulatory Setting

Federal

No federal plans or policies concerning land use and planning apply to the Proposed Project.

State

California Public Utilities Commission General Order No. 131-D

The CPUC has sole and exclusive jurisdiction over the siting and design of the Proposed Project because it authorizes the construction, operation, and maintenance of investor-owned public utility facilities. Although such projects are exempt from local land use and zoning regulations and discretionary permitting (i.e., they would not require discretionary approval from a local decision-making body such as a planning commission, county board of supervisors or city council), General Order No. 131-D, Section XIV.B requires that in locating a project “the public utility shall consult with local agencies regarding land use matters.” The public utility would be required to obtain any required non-discretionary local permit (California Public Utilities Commission, 1995).

Local

As noted above, the CPUC has exclusive jurisdiction over the siting, design, and construction of the Project, therefore the Project is not subject to local discretionary regulations. Details below that relate to local regulations are provided for informational purposes.

County of San Diego

Regional Comprehensive Plan (RCP)

The RCP was prepared by the San Diego Association of Governments (SANDAG) to be the strategic planning framework for the San Diego region. It creates a regional vision and provides a broad context in which local and regional decisions can be made that foster a healthy environment, a vibrant economy, and a high quality of life for all residents. The RCP balances regional population, housing, and employment growth with habitat preservation, agriculture, open space, and infrastructure needs. The RCP considers the general plans of all the jurisdictions in the region, examines regional growth patterns and provides a blueprint for growth in San Diego, including where and how growth would occur (SANDAG, 2004).

SDG&E Subregional Natural Community Conservation Plan (NCCP)

The purpose of the 1995 *Subregional 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 habitat, while allowing SDG&E to develop, install, maintain, operate, and repair its facilities as needed to provide energy services to customers living within SDG&E’s service area. Refer to Section 3.4, Biological Resources, for more information about the *SDG&E Subregional NCCP Operational Protocols*.

San Diego County Multiple Species Conservation Program Subarea Plan (MSCP)

The Proposed Project would be located within the San Diego County Multiple Species Conservation Program boundary (County of San Diego, 2017), specifically the South County Subarea Plan. The MSCP is a long-term regional conservation plan designed to establish a connected preserve system that ensures the long-term survival of sensitive plant and animal species and protects the native vegetation found throughout San Diego County. The reconductoring alignment would be located within portions of the area covered by the San Diego County Multiple Species Conservation Program (SanGIS, 2017a) (see Figure 3.11-4). Typically, land uses allowed within the preserve are limited to those considered compatible with the need to permanently protect the covered natural resources.

San Diego County Zoning Ordinance

The San Diego County Zoning Ordinance is the primary mechanism for the implementation of the General Plan. The General Plan identifies general land use designations, while the Zoning Ordinance identifies specific uses and development standards within these land use designations. Zoning in unincorporated San Diego County consists of slightly different naming conventions than it does in incorporated jurisdictions such as the City of San Diego. Definitions of Zoning Designations are provided in **Table 3.11-2, San Diego County Zoning Ordinance Permitted Uses**, below:

**TABLE 3.11-2
SAN DIEGO COUNTY ZONING ORDINANCE PERMITTED USES**

Proposed Project Component	Zoning Designation	Zoning Designation Permitted Use Types relevant to the Proposed Project
Reconductoring Alignment and Poles (eastern)	General Commercial/Residential Use (C34)	Civic Uses Types: Essential Services
Reconductoring Alignment and Poles (eastern)	Specific Planning Use (S88),	Civic Uses Types: Essential Services
Reconductoring Alignment and Poles (eastern)	Commercial/Residential Use (C35)	Civic Uses Types: Essential Services
Reconductoring Alignment and Poles (eastern Reconductoring Alignment and Poles (eastern)	General Impact Industrial Use (M54),	Civic Uses Types: Essential Services and Minor Impact Utilities ¹
Reconductoring Alignment and Poles (eastern) and Underground Getaways (eastern)	Open Space Use (S80)	Civic Uses Types: Essential Services
Underground Getaways (eastern)	General Commercial (C34)	Civic Uses Types: Essential Services

SOURCE: (1) County of San Diego, 1978a

San Diego County General Plan

The San Diego County General Plan provides policies related to land use, mobility, conservation, housing, safety, and noise. The Land Use Element provides a framework for managing future development in the County so that it is thoughtful of the existing character of the current communities and the sensitive natural resources within the County. In order to maximize the effectiveness of the existing infrastructure, the Land Use Element encourages development in the

existing unincorporated communities. General Plan Land Use Designations in San Diego County are described in the Land Use Element of the General Plan (County of San Diego, 2011a). Land Use designations vary within each Specific Plan area, described below.

San Dieguito Community Plan

The San Dieguito Community Plan provides guidance for the low-density estate residential area of San Dieguito, surrounded by the rapidly urbanizing areas of North San Diego County, including the Specific Plan area of 4S Ranch and Santa Fe Valley. The reconductoring alignment passes through these plan areas. According to the Plan, “site and building standards for public facilities, and the extension of utilities, should be based upon the distribution and density of population and the use category of the land to be served.”

Santa Fe Valley Specific Plan

The reconductoring alignment and underground getaways associated with Artesian Substation slightly overlap with the area within the Santa Fe Valley Specific Plan located to the north of the Artesian Substation. The Santa Fe Valley Specific Plan includes approximately 3,160 acres adjacent to the City of San Diego’s northern boundary. The Santa Fe Valley Specific Plan sets forth a comprehensive concept for the development of a residential community in northern San Diego County. The Specific Plan provides a more flexible method of implementing the San Diego County General Plan than conventional zoning. The intent of the land use designations is to promote coordinated development with policies designed to address open space, conservation, and recreation, residential and commercial development, circulation and access, community facilities and infrastructure, development phasing and financing, as well as site planning and community design (County of San Diego, 2013).

4S Ranch Specific Plan

The reconductoring alignment passes through the 4S Ranch Specific Plan area, located adjacent to the City of San Diego’s eastern boundary. The 4S Ranch Specific Plan Area comprises two portions – a 634-acre and a 2,891-acre portion. The 634-acre portion includes a mixture of residential, commercial, industrial, and open space and includes ten guidelines to govern development. The 2,891-acre portion maintains a mixture of residential, commercial, civic, park, and open space uses. The Land Use element is designed to conform to the *San Diego County General Plan* and *San Dieguito Community Plan*; thus, it does not contain any specific guidelines (County of San Diego, 1998).

City of San Diego

Within the City of San Diego, the Proposed Project would be located within several community areas that otherwise would be under the jurisdiction of the City, including Black Mountain Ranch, Carmel Mountain Ranch, Kearny Mesa, Torrey Highlands, and Rancho Bernardo. Land use designations in these communities are consistent with those in the City of San Diego General Plan, described below.

Municipal Code

The City of San Diego Municipal Code contains administrative, criminal, and regulatory ordinances pertaining to the City of San Diego, including zoning requirements. Chapter 13 of the San Diego Municipal Code contains information and ordinances related to City base zones. Base zones are intended to regulate uses and their adverse impacts, zone density and intensity, building size, and the relationships of uses of land and buildings. Zoning designations of land within the Proposed Project site that would be located within the incorporated area of the City of San Diego are presented in **Table 3.11-3**.

City of San Diego General Plan

The *City of San Diego General Plan* provides guidance for development within the City of San Diego. It comprises ten elements and was comprehensively updated by the City Council in 2008. The City Council also certified the General Plan Program Environmental Impact Report and adopted associated amendments to the Land Development Code.

General Plan Land Use Designations that otherwise would be applicable to the Proposed Project can be found within the Land Use Element and include: 1) Industrial; 2) Institutional and Public and Semi-Public Facilities; 3) Multiple Use; 4) Parks, Open Space and Recreation; 5) Residential; and 6) Roads, Freeways and Transportation (City of San Diego, 2008b).

The City of San Diego Subarea Plan MSCP

The City of San Diego Subarea Plan is a subcomponent of the San Diego County MSCP, and guides the establishment of the City of San Diego Multi-Habitat Planning Area (MHPA) preserve system. The Proposed Project, including the Artesian Substation and substation expansion, portions of the associated underground getaways, and a portion of the reconductoring alignment, is partially located in this Plan's boundaries. For the purpose of the analysis below, the San Diego County MSCP policies, which guide those of the City of San Diego Subarea Plan MSCP, are sufficient for determining impacts.

City of Escondido General Plan and Zoning Designations

The Northeast Annex Staging Yard, which would be used for the Project, is located in the City of Escondido within the County of San Diego and has a General Plan land use designation of Light Industrial. According to Chapter II of the City of Escondido General Plan, a designation of Light Industrial allows "Manufacturing, warehouse/ distribution, assembling, wholesaling, and support type uses on sites which are zoned M-2 & M-1 zones. This land use designation accommodates the widest range of Industrial activities which conform to environmental laws and industry standard" (City of Escondido, 2012). This area is zoned M-1. According to the Escondido Municipal Code, "the purpose of the light industrial (M-1) zone is to provide for a variety of light industrial firms engaged in processing, assembling, manufacturing, storage warehousing and distribution, research and development, and other light industrial uses not typically suited to commercial zones by virtue of operational characteristics and space needs. Necessary support and service uses are also permitted" (City of Escondido, 2017).

**TABLE 3.11-3
COUNTY OF SAN DIEGO ZONING FOR INCORPORATED AREAS AND PERMITTED USES**

Proposed Project Component	SANDAG Existing Land Use	Zoning Designation	Zoning Designation Permitted Use Types relevant to the Proposed Project
Reconductoring Alignment and Poles (western)	Commercial Under Construction	Agriculture-Residential (AR-1-1).	The purpose of the AR zones is to accommodate a wide range of agricultural uses while also permitting the development of single dwelling unit homes at a very low density. The agricultural uses are limited to those of low intensity to minimize the potential conflicts with residential uses. This zone is applied to lands that are in agricultural use or that are undeveloped and not appropriate for more intense zoning. ¹
Underground Getaways (western)	Open Space Park or Preserve and Road ROW	Commercial Community (CC-1-3).	The purpose of the CC zones is to accommodate community-serving commercial services, retail uses, and limited industrial uses of moderate intensity and small to medium scale. The CC zones are intended to provide for a range of development patterns from pedestrian-friendly commercial streets to shopping centers and auto-oriented strip commercial streets. Some of the CC zones may include residential development. Property within the CC zones will be primarily located along collector streets, major streets, and public transportation lines. ²
Artesian Substation Expansion	Communications and Utilities and Commercial Under Construction	Commercial Community (CC-1-3)	See above
Bernardo Substation	Communications and Utilities	Industrial-Light (IL-3-1)	The purpose of the IL zones is to provide for a wide range of manufacturing and distribution activities. The development standards of this zone are intended to encourage sound industrial development by providing an attractive environment free from adverse impacts associated with some heavy industrial uses. The IL zones are intended to permit a range of uses, including nonindustrial uses in some instances. ³
Rancho Carmel Substation	Communications and Utilities	Industrial-Heavy (IH-2-1)	The purpose of the IH zones is to provide space for land-intensive industrial activities emphasizing base-sector manufacturing. The IH zones are intended to promote efficient industrial land use with minimal development standards, while providing proper safeguards for adjoining properties and the community in general. It is the intent of these zones to limit the presence of nonindustrial uses in order to preserve land that is appropriate for large-scale industrial users. ³
Kearny Staging Yard	Communications and Utilities	Industrial-Light (IL-2-1)	See above
Carmel Staging Yards	Vacant and Undeveloped Land	Agricultural-Residential (AR-1-1)	See above
Northeast Annex Staging Yard	Communications and Utilities	City of Escondido, N/A	N/A
Access Roads	Communications and Utilities, Community Shopping Center, Fire/Police Station, Landscape Open Space, Light Industry-General, Multi-Family Residential, Office (Low-Rise), Open Space Park or Preserve, Other Health Care, Road Right of Way, and Vacant or Undeveloped Land	Industrial-Heavy (IH-2-1), Industrial-Park (IP-2-1), Residential-Single Unit (RS-1-14), and Agricultural-Residential (AR-1-1)	IH – See above IP – The purpose of the IP zones is to provide for high quality science and business park development. The property development standards of this zone are intended to create a campus-like environment characterized by comprehensive site design and substantial landscaping. Restrictions on permitted uses and signs are provided to minimize commercial influence. ³

TABLE 3.11-3 (CONTINUED)
COUNTY OF SAN DIEGO ZONING FOR INCORPORATED AREAS AND PERMITTED USES

Proposed Project Component	SANDAG Existing Land Use	Zoning Designation	Zoning Designation Permitted Use Types relevant to the Proposed Project
Access Roads (cont.)			RS - The purpose of the RS zones is to provide appropriate regulations for the development of single dwelling units that accommodate a variety of lot sizes and residential dwelling types and which promote neighborhood quality, character, and livability. It is intended that these zones provide for flexibility in development regulations that allow reasonable use of property while minimizing adverse impacts to adjacent properties. ⁴ AR – See above.
Stringing/Pulling Sites	Communications and Utilities, Fire/Police Station, Landscape Open Space, Multi-Family Residential, Office (Low-Rise), Open Space Park or Preserve, Other Health Care, Road Right of Way, and Spaced Rural Residential.	Industrial-Heavy (IH-2-1), RS-1-14, Commercial Community (CC-4-15, CC-1-3) and Agricultural-Residential (AR-1-1)	See above

SOURCES: (1) City of San Diego, 2016a (2) City of San Diego, 2016b (3) City of San Diego, 2016c (4) City of San Diego, 2016d

3.11.3 Applicant Proposed Measures

No Applicant Proposed Measures (APMs) have been identified to address potential impacts to land use and planning.

3.11.4 Environmental Impacts

a) Whether the Project would physically divide an established community:
NO IMPACT.

All Proposed Project components and construction work areas would be located within existing SGD&E ROW/facilities and would not create any new physical barriers between existing communities. The Artesian Substation expansion would extend to a newly acquired SDG&E-owned parcel located immediately to the east and would not interfere or divide any existing land uses. Work at Bernardo and Rancho Carmel substations would be within the existing substation footprints and would not result in any community divisions. Some work areas associated with the reconductoring alignment and substation getaway construction, including pole installation work areas and stringing and pulling sites, would temporarily be located in areas used regularly by local residents primarily for parking near commercial facilities. During construction these areas would be fenced for safety and security reasons but this would not block or prevent access to community resources such as grocery or convenience stores. Where construction would be undertaken in existing roadways, construction work would generally be undertaken within the shoulder of the road. No road closures would be undertaken, and single-lane closures would ensure access would not be substantially impeded, and would not result in any division of existing communities.

Project operation and maintenance would be undertaken within existing SDG&E ROW and/or facilities. Although these are located within existing residential and commercial areas as described above, similar infrastructure currently exists in these locations. Operation and maintenance of the Project would not create any new barriers or divisions to or between any established communities. No impact would occur under this criterion.

b) Whether the Project would 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: NO IMPACT.

No local land use plans, policies, or regulations requiring discretionary approval would apply to the Proposed Project because, pursuant to GO No. 131-D, the CPUC has sole and exclusive jurisdiction over the siting and design of such facilities. Consequently, the Project would not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Proposed Project area. There would be no impact.

As discussed in Section 3.10.2, *Regulatory Setting*, although the Project would be exempt from local land use and zoning regulations and discretionary permitting, G.O. No. 131-D, Section

XIV.B requires that in locating a project “the public utility shall consult with local agencies regarding land use matters.” The CPUC also has consulted with local agencies regarding land use matters that would be affected by the Project and the following land use consistency analysis is provided for informational purposes only.

Regional Comprehensive Plan (RCP). The Proposed Project would be consistent with the Regional Comprehensive Plan, because it would involve enhancement and expansion of existing infrastructure necessary to the Regional Comprehensive Plan’s goal of providing a high quality of life for residents. It would contribute to the RCP’s intention to “balance regional population, housing, and employment growth with habitat preservation, agriculture, open space, and infrastructure needs.” The Project would not conflict with any land use restrictions set forth within the RCP.

SDG&E Subregional Natural Community Conservation Plan (NCCP). The Proposed Project would be consistent with the NCCP and would comply with all regulations set forth therein. See Section 3.4, for more detail regarding such regulations.

San Diego County Multiple Species Conservation Program (MSCP). Parts of the Proposed Project, including the reconductoring alignment and substation getaways associated with the Bernardo Substation, would be located within the MSCP. Because the Proposed Project fits the definition of “necessary infrastructure” as set out in the Plan, it would be consistent with the MSCP.

San Diego County Zoning Ordinance. The Project would not conflict with the zoning designations it would cross in unincorporated San Diego County because those zones allow for “essential services,” such as public facilities and infrastructure that improve energy use and safety within a community. See Table 3.11-2 for more information.

San Diego County General Plan. The Proposed Project would be consistent with General Plan land use designations in San Diego County.

San Dieguito Community Plan, Santa Fe Valley Specific Plan. Some temporary work areas and the underground getaways would be located in areas designated Neighborhood Commercial, Residential, and Neighborhood Park uses in the Santa Fe Valley Specific Plan, which do not explicitly allow for utility development. The San Dieguito Community Plan, which guides the Santa Fe Valley Specific Plan, however, contains a policy to “Locate specific public utility sites and networks and indicate the level and quality of services that should be provided within San Dieguito.” The Proposed Project would be consistent with this Policy.

San Dieguito Community Plan, 4S Ranch Specific Plan. Some temporary work areas and the underground getaways would be located in areas designated Natural Open Space in the 4S Ranch Specific Plan. These designations do not explicitly allow for utility development. The San Dieguito Community Plan, which guides the 4S Ranch Specific Plan, however, contains a policy to “Locate specific public utility sites and networks and indicate the level and quality of services that should be provided within San Dieguito.” The Proposed Project would be consistent with this Policy.

City of San Diego Municipal Code. The Proposed Project would also be generally consistent with the uses allowed by the City of San Diego's zoning ordinance for the affected area, which includes The Artesian Substation may be an existing non-conforming use that would be grandfathered (allowed) in the Agricultural-Residential zone where it currently is located. The proposed expansion of the Artesian Substation could be determined to conflict with the zoning designation if it would expand an existing non-conforming use. In any event, the Artesian expansion site is owned by SDG&E and is not currently used for or suitable for residential or agricultural use, and, as noted, would not be subject to local land use restrictions.

City of San Diego General Plan. In the City of San Diego, the Proposed Project would be inconsistent with the Park, Open Space, and Recreation; Residential; and Roads/Freeways/Transportation designations, which do not explicitly allow for utility development. However the Proposed Project comprises modifications to existing facilities/infrastructure and would not require expansion of areas that are not already cleared and graded. Construction activities undertaken within Park, Open Space, and Recreation designations would be temporary.

City of Escondido General Plan and Zoning Designation. The Proposed Project's Northeast Annex Staging Yard is located in the City of Escondido, and is consistent with the General Plan land use designations of the area.

This site is not located within the California coastal zone, nor is it subject to a local coastal program. Therefore, no plan policy or program exists that is applicable and there is no conflict under this criterion.

None of these local agencies' land use plans, policies, or regulations apply to the Proposed Project regardless of the reason for their adoption. The Project would not conflict with any applicable land use plan, policy, or regulation of any agency with jurisdiction over the Proposed Project and no impact would occur.

c) Whether the Project would conflict with any applicable habitat conservation plan or natural community conservation plan: *NO IMPACT.*

The Proposed Project is located within the area covered by the San Diego County Multiple Species Conservation Plan and the City of San Diego Multiple Use Conservation Subarea Plan. As described in Section 3.11.2, Regulatory Setting, portions of the Project in unincorporated San Diego County would be located within the established San Diego MSCP Subarea Plan and one of its subcomponents, the City of San Diego MSCP Subarea Plan boundaries. These boundaries are depicted in Figure 3.11-4.

Section 1.4.2, Roads and Utilities, Construction and Maintenance Policies, of the MSCP states that "future facilities including electric utilities, should be located in the least environmentally sensitive feasible location and use roads, trails, and other disturbed areas to the greatest extent feasible and should follow previously existing roads, easements, rights of way, and disturbed areas, minimizing habitat fragmentation." The Proposed Project would involve updates to existing infrastructure and would be located within previously disturbed areas within SDG&E

ROW. Construction associated with these components would be located as close to Rancho Bernardo Road as possible, would be temporary, and would be in conformance with the protective measures set forth in Section 3.4, Biological Resources. Therefore, it would comply with this requirement.

Additionally, the San Diego County MSCP allows for certain land uses amongst all subarea plans that it governs, including “necessary infrastructure.”² The Proposed Project fits the definition of necessary infrastructure and would therefore be consistent with the San Diego County MSCP Subarea Plan and the City of San Diego MSCP Subarea Plan.

The SDG&E Subregional NCCP supersedes the San Diego County MSCP and the City of San Diego MSCP Subarea Plan. The Proposed Project would comply with SDG&E Subregional NCCP Section 7.1, Operational Protocols through Applicant Proposed Measures, part of the Proposed Project, and Mitigation Measures, which are discussed in detail in Section 3.4, Biological Resources. Therefore, through compliance with the SDG&E Subregional NCCP Operational Protocols, construction, operation, and maintenance of the Proposed Project would not conflict with any relevant habitat conservation plan or natural community conservation plan, and no impact would occur.

3.11.5 References

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City of Escondido, 2012. General Plan Update. Chapter II, Land Use and Community Form. Available online at <https://www.escondido.org/Data/Sites/1/media/PDFs/Planning/GPUupdate/GeneralPlanChapterII.pdf>. Accessed on February 6, 2017.

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City of San Diego, 1997. City of San Diego Multiple Species Conservation Program Subarea Plan. Available online at <https://www.sandiego.gov/planning/programs/mscp>. Accessed February 3, 2017.

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City of San Diego, 2008b. General Plan, Land Use Element. Available online at https://www.sandiego.gov/sites/default/files/lu_2015.pdf. Accessed February 3, 2017.

² As defined in Section III of the MSCP Framework Management Plan.

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City of San Diego, 2016b. Commercial Base Zones. Available online at <https://www.sandiego.gov/city-clerk/officialdocs/legisdocs/muni>. Accessed February 2, 2017.

City of San Diego, 2016c. Industrial Base Zones. Available online at <https://www.sandiego.gov/city-clerk/officialdocs/legisdocs/muni>. Accessed February 2, 2017.

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County of San Diego, 1998. 4S Ranch Specific Plan. Available online at <http://www.sandiegocounty.gov/content/sdc/pds/advance/spclproj.html>. Accessed on February 1, 2017.

County of San Diego, 2011a. County of San Diego General Plan Land Use Element. Available online at <http://www.sandiegocounty.gov/pds/generalplan.html>. Accessed February 6, 2017.

County of San Diego, 2011b. San Dieguito Community Plan. Available online at: http://www.sandiegocounty.gov/content/dam/sdc/pds/docs/CP/San_Dieguito_Community_Plan.pdf. Accessed February 3, 2017.

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- SanGIS, 2017c. Community Plan (County of San Diego) and Specific Plan (City of San Diego) GIS Files. Available online at <http://www.sangis.org/>. Accessed on February 3, 2017.
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- SDG&E, 2016. Proposed Environmental Assessment GIS Files- Project Components and Work Areas.

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3.12 Mineral Resources

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
11. MINERAL RESOURCES—Would the project:				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

This section describes the existing sources of mineral resources in the Project study area and evaluates the potential for construction, operation, and maintenance of the Project to result in the loss of availability of known or locally important mineral resources. For the purposes of the evaluation of mineral resources, the study area was defined as the footprint of all components of the Proposed Project including all areas of temporary and/or permanent ground disturbance.

3.12.1 Environmental Setting

Mineral Resources

Multiple sources of information were consulted to determine the presence of mineral resources within the study area. These included the Mineral Resources Data System (MRDS), administered by the U.S. Geological Survey (USGS), which provides data describing mineral resources, including deposit name, location, commodity, deposit description, production status and references and which can be used to confirm the presence/absence of existing surface mines, closed mines, occurrences/prospects, and unknown/undefined mineral resources (USGS, 2017). Maps created by the California Geological Survey (CGS; formerly the Division of Mines and Geology), designed to protect mineral resources in California by classifying the regional significance of mineral resources, were also reviewed.

Locations of past and current mining activity as well as the presence of geologic materials that can be mined can both also be used to assess the potential for the presence of mineral resources or the existence of mineral resource recovery sites (mines). According to USGS, there are only four records of mining activity within one mile of the study area (USGS, 2017¹). None of these records relate to active mines.

The State Geologist has classified certain areas of San Diego County as underlain by significant mineral deposits. These areas are known as “Mineral Resource Zones” (see Table 3.12-1). All of the Project components would be located within Mineral Resource Zone (MRZ)-3², with the exception

¹ USGS, 2017a. Mineral Resources On-line Spatial Data for San Diego County. Available online at <https://mrdata.usgs.gov/mrds/select.php?place=f06073&div=fips>. Accessed February 10, 2017.

² MRZ-3 zones are defined as “containing mineral deposits, the significance of which cannot be evaluated from available data” (CDMG, 1982).

of the Rancho Bernardo substation, which is located within an MRZ-2.³ Within the study area, areas within both these MRZs are primarily developed with residential, commercial, and industrial uses, and are therefore not accessible for resource extraction.

Oil, Gas, and Geothermal Resources

The California Division of Oil, Gas, and Geothermal Resources (DOGGR) oversees the drilling, operation, maintenance, and plugging and abandonment of oil, natural gas, and geothermal wells in California, and tracks every known oil and gas well and field in the state. Maps maintained by DOGGR indicate that there are no known oil or gas fields in the study area, and that no oil and gas wells exist within one mile of any of the Proposed Project components (DOGGR, 2017⁴).

3.12.2 Regulatory Setting

Federal

No federal regulations apply to mineral resources within the study area.

State

Surface Mining and Reclamation Act

The Surface Mining and Reclamation Act of 1975 (SMARA) (Pub. Res. Code §§2710-2796) and its implementing regulations (14 Cal. Code Regs. §3500 et seq.) establish a comprehensive state policy for the conduct of surface mining operations and for the reclamation of mined lands to a usable condition that is readily adaptable for alternative land uses. SMARA encourages the production, conservation, and protection of the state's mineral resources and recognizes that "the state's mineral resources are vital, finite, and important natural resources and the responsible protection and development of these mineral resources is vital to a sustainable California" (Pub. Res. Code §2711). Under SMARA, the term "minerals" includes "any naturally occurring chemical element or compound, or groups of elements and compounds, formed from inorganic processes and organic substances, including, but not limited to, coal, peat, and bituminous rock, but excluding geothermal resources, natural gas, and petroleum" (14 Cal. Code Regs. §3501).

The CGS maps and regulates the locations of potential mineral resources in California consistent with SMARA. In order to protect these potential mineral resources, the CGS has classified the regional significance of mineral resources into MRZs and mapped them. Descriptions of the MRZ categories are provided in **Table 3.12-1**. As noted above, all of the Project components would be

³ The MRZ-2 designation is based on the presence of alluvial fan deposits including aggregate resources, such as sand and gravel. MRZ-2 zones are defined as areas where "adequate information indicates that significant mineral deposits are present or where it is judged that a high likelihood for the presence exist" (CDMG, 1982b).

⁴ California Division of Oil, Gas, and Geothermal Resources (DOGGR), 2017. District 1 Wells, shapefiles. Available online at <http://www.conservation.ca.gov/dog/maps/Pages/GISMapping2.aspx>. Accessed on February 16, 2017.

located within Mineral Resource Zone (MRZ)-3⁵, with the exception of the Rancho Bernardo substation, which would be in an MRZ-2-designated area.

TABLE 3.12-1
CALIFORNIA MINERAL LAND CLASSIFICATION SYSTEM CATEGORY DESCRIPTIONS

Mineral Resource Zone Category	Category Description	
MRZ-1	<i>Areas of No Mineral Resource Significance</i>	
MRZ-2	Demonstrated Reserves	<i>Areas of Identified Mineral Resource Significance</i>
MRZ-3	Known Mineral Occurrence	<i>Areas of Undetermined Mineral Resource Significance</i>
MRZ-4	No Known Mineral Occurrence	<i>Areas of Unknown Mineral Resource Significance</i>

SOURCE: California Division of Mines and Geology (CDMG), no date (nd)

Local

The CPUC has exclusive jurisdiction over the siting, design, and construction of the Project, therefore the Project is not subject to local discretionary regulations. Details below that relate to local regulations are provided for informational purposes.

San Diego County General Plan

San Diego County generally recognizes mineral resources as essential to community development and economic prosperity. The San Diego County General Plan Conservation and Open Space Element contains a Mineral Resources section, which outlines goals and policies that, absent General Order 131-D, would be relevant to the Proposed Project.

1. **Goal COS-10: Protection of Mineral Resources.** The long-term production of mineral materials adequate to meet the local County average annual demand, while maintaining permitted reserves equivalent to a 50- year supply, using operational techniques and site reclamation methods consistent with SMARA standards such that adverse effects on surrounding land uses, public health, and the environment are minimized.
 - a. ***Policy COS-10.1: Siting of Development.*** Encourage the conservation (i.e., protection from incompatible land uses) of areas designated as having substantial potential for mineral extraction. Discourage development that would substantially preclude the future development of mining facilities in these areas. Design development or uses to minimize the potential conflict with existing or potential future mining facilities.
 - b. ***COS-10.2 Protection of State-Classified or Designated Lands.*** Discourage development or the establishment of other incompatible land uses on or adjacent to areas classified or designated by the State of California as having important mineral resources (MRZ-2), as well as potential mineral lands identified by other government agencies. The potential for the extraction of substantial mineral resources from lands classified by the State of

⁵ MRZ-3 zones are defined as “containing mineral deposits, the significance of which cannot be evaluated from available data” (CDMG, 1982).

California as areas that contain mineral resources (MRZ-3) shall be considered by the County in making land use decisions.

- c. ***COS-10.3 Road Access.*** Prohibit development from restricting road access to existing mining facilities, areas classified MRZ-2 or MRZ-3 by the State Geologist, or areas identified in the County Zoning Ordinance for potential extractive use in accordance with SMARA section 2764.a.
- d. ***COS-10.6 Conservation of Construction Aggregate.*** Encourage the continued operation of existing mining facilities and streamline the permitting of new mining facilities consistent with the goal to establish permitted aggregate resources that are sufficient to satisfy 50 years of County demand.
- e. ***COS-10.7 Recycling of Debris.*** Encourage the installation and operation of construction and demolition (C&D) debris recycling facilities as an accessory use at permitted (or otherwise authorized) mining facilities to increase the supply of available mineral resources.

City of San Diego General Plan

The City of San Diego also recognizes the importance of mineral resources, including salt (in coastal areas), sand, and gravel to the economic prosperity of its community. The City of San Diego General Plan, Conservation Element outlines a Goal and Policy relevant to the Proposed Project in Section K, Mineral Production.

- 1. **Goal:** Balance mineral production and conservation with habitat and topography protection
 - a. ***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.

Specific Plans in the County of San Diego and City of San Diego

With regard to mineral resources, all goals, policies, and measures within the County of San Diego Specific Plans and the City of San Diego Specific Plans are mandated to be consistent with those set forth in each respective General Plan, described above. Therefore, no Specific Plan goals or policies would be relevant to the Proposed Project.

3.12.3 Applicant Proposed Measures

No Applicant Proposed Measures (APMs) have been proposed to address project impacts on mineral resources.

3.12.4 Environmental Impacts and Mitigation Measures

To evaluate potential impacts of the Project on mineral resources, the locations of Project components were compared with maps of known mineral resources of value to the state, region, and local jurisdictions to determine whether Project components would occur on or otherwise limit access to these resources. The outcomes of this analysis are described below.

a) Whether the Project would result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state:
NO IMPACT.

As described in *Section 3.11.1, Environmental Setting*, the Proposed Project would not affect oil and gas extraction because there are no known oil or gas fields in the study area. With respect to mineral resources, although some potential mineral resources are mapped in the study area, virtually all of these resources are currently located beneath existing developed facilities (including the three Project substations) and roads and are not currently available for extraction.

Furthermore, permanent Project structures outside of the three substation footprints would be limited to poles and electrical lines, which would not substantially block physical access to mineral resource zones during operation of the Proposed Project (SDG&E, 2016). For these reasons, access to and availability of known mineral resources that would be of value to the region and the residents of the state would not be substantially lost as a result of the Proposed Project. There would be no impact from the Project under this criterion.

b) Whether the Project would result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan: NO IMPACT.

The Project alignment does not intersect any mineral resource recovery sites identified in local land use plans. There are no mines or records of mining activity in the study area. The Project would not impact the availability of locally important mineral resources from an identified resource recovery site. There would be no impact under this criterion.

3.12.5 References

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3.13 Noise and Vibration

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporation</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
12. NOISE—Would the project:				
a) 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Result in exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan area, or, where such a plan has not been adopted, in an area within two miles of a public airport or public use airport, would the project expose people residing or working in the area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project located in the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.13.1 Environmental Setting

General Information on Noise

Noise Background

Sound is energy transmitted by pressure waves through a medium such as air. Noise can be defined as unwanted sound. Sound is characterized by various parameters that include the rate of oscillation of sound waves (frequency), the speed of propagation, and the pressure level or energy content (amplitude). In particular, the sound pressure level has become the most common descriptor used to characterize the loudness of an ambient sound level. Sound pressure level is measured in decibels (dB), with zero dB corresponding roughly to the threshold of human hearing and 120 to 140 dB corresponding to the threshold of pain.

Sound pressure fluctuations can be measured in units of hertz (Hz), which correspond to the frequency of a particular sound. Typically, sound does not consist of a single frequency, but rather a broad band of frequencies varying in levels of magnitude (sound power). When all the audible frequencies of a sound are measured, a sound spectrum is plotted consisting of a range of frequency spanning 20 to 20,000 Hz. The sound pressure level, therefore, constitutes the additive force exerted by a sound corresponding to the sound frequency/sound power level spectrum.

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

Noise Exposure and Community Noise

An individual's noise exposure is a measure of the noise experienced by the individual over a period of time. A noise level is a measure of noise at a given instant in time. However, noise levels rarely persist consistently over a long period of time. In fact, community noise varies continuously with time with respect to the contributing sound sources of the community noise environment. Community noise is primarily the product of many distant noise sources, which constitute a relatively stable background noise exposure, with the individual contributors unidentifiable. Background noise levels change throughout a typical day, but do so gradually, corresponding with the addition and subtraction of distant noise sources and atmospheric conditions. The addition of short duration single event noise sources (e.g., helicopter and other aircraft flyovers, horns, sirens) makes community noise constantly variable throughout a day.

These successive additions of sound to the community noise environment vary the community noise level from instant to instant requiring the measurement of noise exposure over a period of time to legitimately characterize a community noise environment and evaluate cumulative noise impacts. This time-varying characteristic of environmental noise is described using statistical noise descriptors. Noise descriptors discussed in this analysis are summarized below:

- L_{eq}:** The equivalent sound level is used to describe noise over a specified period of time, in terms of a single numerical value. The L_{eq} is the constant sound level which would contain the same acoustic energy as the varying sound level, during the same time period (i.e., the average noise exposure level for the given time period).
- L_{dn}:** The day-night noise level (L_{dn}) or the energy average of the A-weighted sound levels occurring during a 24-hour period and which accounts for the greater sensitivity of most people to nighttime noise by weighting noise levels at night ("penalizing" nighttime noises). Noise between 10:00 p.m. and 7:00 a.m. is weighted (penalized) by adding 10 dBA to take into account the greater annoyance of nighttime noises.
- L_{max}:** The instantaneous maximum noise level measured during the measurement period of interest.

Effects of Noise on People

There is no universally acceptable way to measure the subjective effects of noise, or the corresponding reactions of annoyance and dissatisfaction. A wide variation exists in the individual thresholds of annoyance and different tolerances to noise tend to develop based on an individual's past experiences with noise. Thus, an important way of predicting a human reaction to a new noise environment is the way the new noise compares to the existing noise levels to which one has adapted: the so called "ambient noise" level. In general, the more a new noise exceeds the

previously existing ambient noise level, the less acceptable the new noise would be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships occur:

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

These relationships occur in part because of the logarithmic nature of sound and the decibel system. A ruler is a linear scale: it has marks on it corresponding to equal quantities of distance. One way of expressing this is to say that the ratio of successive intervals is equal to one. A logarithmic scale is different in that the ratio of successive intervals is not equal to one. Each interval on a logarithmic scale is some common factor larger than the previous interval. A typical ratio is 10, so that the marks on the scale read: 1, 10, 100, 1,000, 10,000, etc., doubling the variable plotted on the x-axis. The human ear perceives sound in a non-linear fashion; hence, the decibel scale was developed. Because the decibel scale is based on logarithms, two noise sources do not combine in a simple additive fashion, rather they combine logarithmically. For example, if two identical noise sources produce noise levels of 50 dBA, the combined sound level would be 53 dBA, not 100 dBA.

Noise Attenuation

Sound level naturally decreases with more distance from the source. This basic attenuation rate is referred to as the *geometric spreading loss*. The basic rate of geometric spreading loss depends on whether a given noise source can be characterized as a point source or a line source. Point sources of noise, including stationary mobile sources such as idling vehicles or on-site construction equipment, attenuate (lessen) at a rate of 6 dB per doubling of distance from the source. In many cases, noise attenuation from a point source increases by 1.5 dB from 6 dB to 7.5 dB for each doubling of distance due to ground absorption and reflective wave canceling. These factors are collectively referred to as *excess ground attenuation*. The basic geometric spreading loss rate is used where the ground surface between a noise source and a receiver is reflective, such as parking lots or a smooth body of water. The excess ground attenuation rate (7.5 dB per doubling of distance) is used where the ground surface is absorptive, such as soft dirt, grass, or scattered bushes and trees.

Widely distributed noises such as a street with moving vehicles (a “line” source) typically would attenuate at a lower rate of approximately 3 dB for each doubling of distance between the source and the receiver. If the ground surface between source and receiver is absorptive rather than reflective, the nominal rate increases by 1.5 dB to 4.5 dB for each doubling of distance. Atmospheric effects, such as wind and temperature gradients, can also influence noise attenuation rates from both line and point sources of noise. However, unlike ground attenuation, atmospheric effects are constantly changing and difficult to predict.

Sensitive Receptors

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

The existing Artesian Substation is located in an urban area in the City of San Diego sustaining residential, commercial, and industrial land uses. In the vicinity of the Artesian Substation, the nearest residential receptors are approximately 80 feet south of the property line located at an elevation of approximately 550 feet, relatively 25 feet higher in elevation above the Artesian Substation (see Figure 2-5). Other residential areas surround the site on the north and west sides, with proposed office/ commercial buildings planned for development to the east. The Maranatha Christian School property is approximately 400 feet northwest of the Artesian Substation Expansion site.

In the vicinity of the Bernardo Substation land uses are commercial and residential. The closest sensitive receptors to the Bernardo Substation are single-family residences located approximately 260 feet north-east of the substation, across Rancho Bernardo Road.

Land uses surrounding the Rancho Carmel Substation consist of commercial and residential land uses. The closest sensitive receptors to the Rancho Carmel Substation are single-family residences located approximately 260 feet east of the substation.

With respect to the reconductoring alignment, many residences are located within close proximity to this component, with the closest approximately within 50 feet to the existing SDG&E ROW. Other sensitive receptors are also located in close proximity to several poles that are either new or would be replaced as part of the Project. The Maranatha Christian School property is approximately 50 feet to the west of Pole No. R04, the Del Norte High School is located 1,300 feet to the south of Pole No. P09, and Kinderhouse Montessori School is 900 feet to the southeast of Bernardo Substation. Houses of worship include the Maranatha Chapel located 400 feet north of existing Pole No. E21 and the City Church of San Diego located 1,200 feet south of existing Pole No. E23. The Kids' Care Club day care center is located within 400 feet of Pole No. R18.

Existing Noise Environment

The noise environment within the study area is characterized by urban roadways, and residences, industrial and commercial uses. A baseline noise survey was conducted by TRC on May 18 through May 19, 2015 in the vicinity of the Artesian Substation and on May 1 through May 14, 2015 in the vicinity of the line and work areas (TRC, 2016). The result of these 24-hour long-term and short-term noise measurements are presented in **Table 3.13-1** and illustrated in **Figure 3.13-1**.

TABLE 3.13-1
AMBIENT NOISE MEASUREMENTS, dBA

Site	Start Date and Time	Duration	L _{eq} , dBA	L10 dBA	L90 dBA	L _{dn} dBA	Noise sources
LT-1	5/18/15 12:00 PM	24 hrs	--	--	--	56.9	Unattended
ST-1	5/1/15 2:00 PM	15 min.	54.9	57.7	48.9	--	Local traffic, landscaping work, natural sounds (birds, leaves, etc.)
ST-2	5/1/15 2:56 PM	15 min.	57.8	63	44.6	--	Local traffic, natural sounds
ST-3	5/1/15 3:18 PM	15 min.	48.5	50.6	44.4	--	Local traffic, natural sounds
ST-4	5/1/15 3:38 PM	15 min.	53.9	57.5	48.5	--	Local traffic, residential occupants, natural sounds
ST-5	5/14/15 10:01 AM	15 min.	55.9	55.9	39.4	--	Local traffic, aircraft, landscaping work, natural sounds
ST-6	5/14/15 10:21 AM	15 min.	49.7	53.5	41.7	--	Local traffic, residential occupants, natural sounds
ST-7	5/14/15 10:47 AM	15 min.	45.4	48.1	41.3	--	Local traffic, aircraft, natural sounds
ST-8	5/14/15 11:09 AM	15 min.	57.1	61.7	47.9	--	Local traffic, news helicopter, natural sounds
ST-9	5/14/15 11:31 AM	15 min.	56.7	59.1	49.2	--	Local traffic, natural sounds
ST-10	5/14/15 11:58 AM	15 min.	69.0	57.4	48.7	--	Local traffic, loud aircraft, natural sounds
ST-11	8/11/15 12:33 AM	15 min.	45.5	44.5	37	--	Local traffic, natural sounds

SOURCE: TRC, 2016

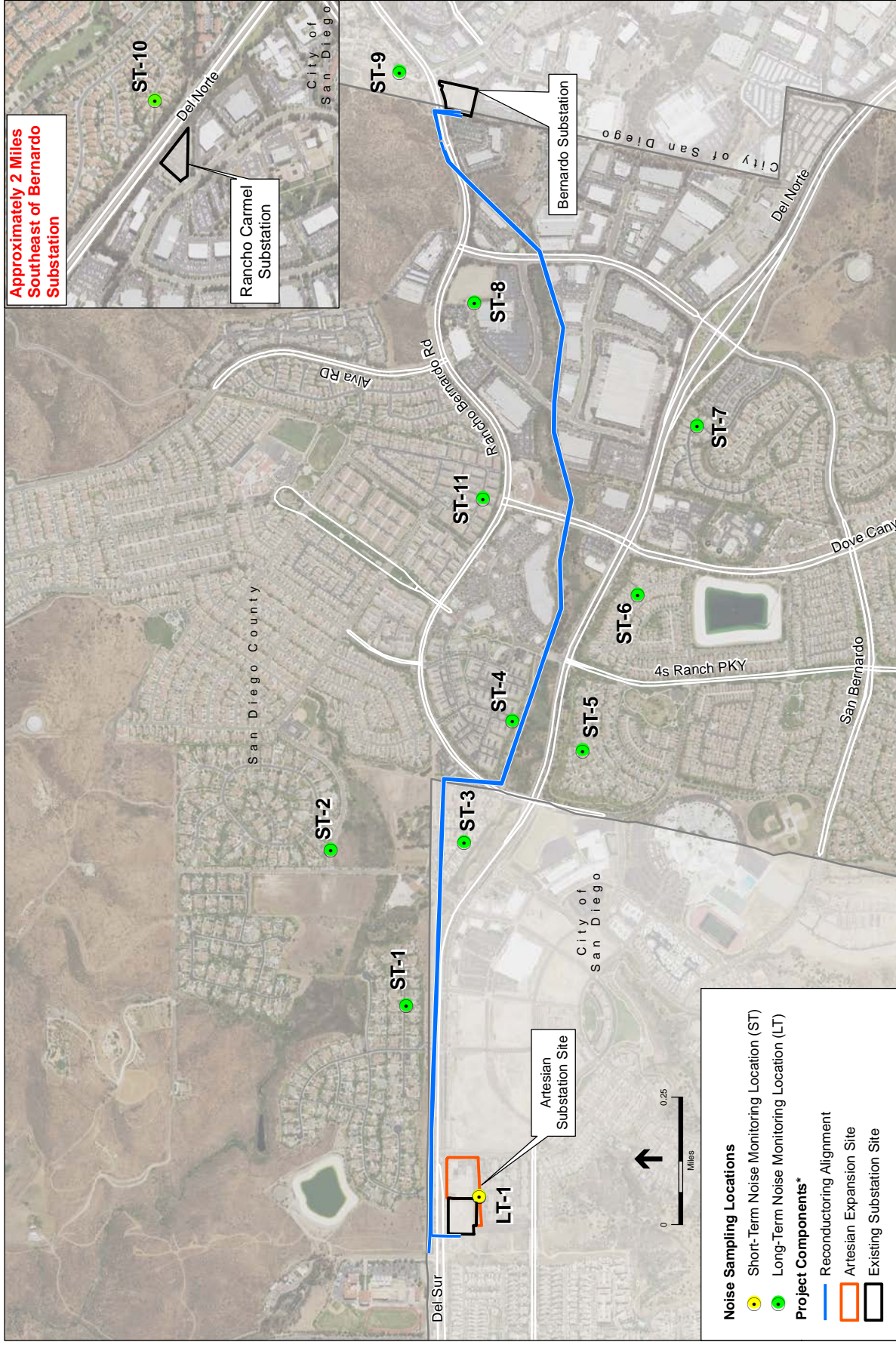
3.13.2 Regulatory Setting

Federal/State

Federal, State, and local agencies regulate different aspects of environmental noise. Federal and State agencies generally set noise standards for mobile sources such as aircraft and motor vehicles, and are not directly relevant to this environmental review, while regulation of stationary sources and development of land use noise compatibility policy is left to local agencies. There are no specific federal or state noise regulations that are applicable to the Proposed Project.

Local

Local regulation of noise involves implementation of general plan policies and noise ordinance standards. Local general plans tend to identify general principles intended to guide and influence development plans; local noise ordinances and codes establish standards and procedures for addressing specific noise sources and activities. Although the CPUC has exclusive jurisdiction over the siting, design, and construction of the Project, and, therefore the Project is not subject to local



* Not all project components shown on this map. See Figure 2-5 for full list of project components.

SOURCE: SDG&E; Sempra Energy Utility

CPUC Artesian Substation . 120812.02
Figure 3.13-1
 Noise Measurement Locations

discretionary regulations, for the purposes of CEQA the CPUC is using the following noise regulations to provide significance thresholds.

San Diego County

The *County of San Diego General Plan's* Noise Element contains policies that define maximum allowable exterior noise level standards for transportation and non-transportation noise sources. The City's General Plan limits exterior noise levels to 60 dBA CNEL for single-family residential uses, 65 dBA CNEL for multi-family residential uses and 70 dBA CNEL for park uses. The County's General Plan does not provide specific hours of allowed construction hours or limits on maximum sound pressure levels generated by construction equipment, but rather; has a policy (N-6.5) that requires the City to develop a limit of hour of operation as appropriate for non-emergency construction.

The County's noise ordinance is contained in the County's Municipal Code, Title 3, Division 6, Chapter 4, Noise Abatement and Control.

Section 36.404 General Sound Level Limits. Regulates operational noise generated by on-site sources and provides sound level limits for various land uses by time of day, as shown in **Table 3.13-2.**

**TABLE 3.13-2
COUNTY AND CITY OF SAN DIEGO SOUND LEVEL LIMITS**

Land Use Zone	Time of Day	One-Hour Average Sound Level (dBA)
1. Single-Family Residential	7:00 a.m. to 7:00 p.m.	50
	7:00 p.m. to 10:00 p.m.	45
	10:00 p.m. to 7:00 a.m.	40
2. Multi-Family Residential (Up to a maximum density of 1/2,000)	7:00 a.m. to 7:00 p.m.	55
	7:00 p.m. to 10:00 p.m.	50
	10:00 p.m. to 7:00 a.m.	45
3. All Other Residential	7:00 a.m. to 7:00 p.m.	60
	7:00 p.m. to 10:00 p.m.	55
	10:00 p.m. to 7:00 a.m.	50
4. Commercial	7:00 a.m. to 7:00 p.m.	65
	7:00 p.m. to 10:00 p.m.	60
	10:00 p.m. to 7:00 a.m.	60
5. Industrial or Agricultural	Any time	75

SOURCE: City of San Diego Municipal Code, Table 36.404

Section 36.408 Hours of Operation of Construction Equipment. Limits the hours of operation of construction equipment to between 7:00 a.m. to 7:00 p.m. Monday through Saturday.

Section 36.409 Sound Level Limitations on Construction Equipment. Provides sound level limits for construction equipment to not exceed an average sound level of 75 dBA for an eight-hour period, between 7:00 a.m. and 7:00 p.m., when measured at the boundary line

of the property where the noise source is located or on any occupied property where the noise is being received.

Section 36.410 Sound Level Limitations on Impulsive Noise. Provides sound level limits of impulsive noise generated by construction equipment to those provided in **Table 3.13-3** when measured at the boundary line of the property where the noise source is located or on any occupied property where the noise is received. The impulsive noise limits provided in Table 3.13-3 are for a 25 percent of the minutes in the measurement period.

TABLE 3.13-3
MAXIMUM SOUND LEVEL LIMITS FOR IMPULSIVE NOISE (L25, dBA)

Occupied Property Use	Impulsive Noise limit (L25 dBA)
Residential, village or civic use	82
Agricultural, commercial or industrial use	85

SOURCE: County of San Diego Municipal Code, Table 36.410B.

Section 36.423 Variances. As it relates to non-emergency work on a public utility facility, an application for a variance may be made to the county noise control officer, who evaluates the request and determines if a variance will be issued, based on the potential impact the noise may have on each property that would be affected, the value to the community of the work being done, and other factors.

City of San Diego

The *City of San Diego General Plan's* Noise Element contains policies that define maximum allowable exterior noise level standards for transportation and non-transportation noise sources. The City's General Plan limits exterior noise levels to 60 dBA CNEL for residential land uses and 65 dBA CNEL for commercial uses. The City's General Plan does not provide specific hours of allowed construction hours or limits on maximum sound pressure levels generated by construction equipment, but rather; has a policy (NE-G.2) that requires the City to develop a limit of hour of operation as appropriate for non-emergency construction.

The City's noise ordinance is contained in the City's Municipal Code, Title 3, Division 6, Chapter 4, Noise Abatement and Control.

Section 59.5.0401 Sound Level Limits. Regulates operational noise generated by on-site sources and provides sound level limits for various land uses by time of day, as shown in Table 3.13-2.

Section 59.5.0404 Construction Noise. Construction activities are prohibited between the hours of 7:00 p.m. and 7:00 a.m. and on Sundays and legal holidays, except in case of emergency or a permit has been applied for and granted beforehand by the Noise Abatement and Control Administrator. Construction noise levels are limited to an average sound level of 75 dBA at or beyond the property lines of any property zoned residential during the 12-hour period from 7:00 a.m. to 7:00 p.m.

3.13.3 Applicant Proposed Measures

SDG&E proposes the following applicant proposed measure (APM) to minimize anticipated impacts related to noise.

APM NV-1: For the few locations where the Proposed Project could exceed the noise ordinance limits during construction, SDG&E would meet and confer with the City and County to discuss temporarily deviating from the requirements of the Noise Code as necessary.

3.13.4 Environmental Impacts and Mitigation Measures

- a) **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-related construction activities would occur at the Artesian, Bernardo and Rancho Carmel substations within the jurisdiction of City San Diego and unincorporated portions of San Diego County. During construction an existing staging yard located within the jurisdiction of the City of Escondido (the Northeast Annex Staging Yard) would be used for temporary storage of construction equipment and materials. However, since this yard is located in an industrial area, no construction activities would occur at the site, and the use of the yard would be similar to existing, a comparison of Project-related construction noise against City of Escondido noise standards was not undertaken.

Construction noise levels are limited by both the City of San Diego Municipal Code and the San Diego County Code to an average sound level of 75 dBA at or beyond the property lines of any property zoned residential during the period from 7:00 a.m. to 7:00 p.m. Construction activity noise levels at the Project site boundary would fluctuate depending on the particular type, number and duration of use of various pieces of construction equipment, and the specific location where it is used within the site. Construction equipment known to generate high noise levels would be used during expansion of the Artesian Substation and associated getaways and also for construction of improvements to the Bernardo and Rancho Carmel substations.

Land uses surrounding the Artesian Substation consist of high density single-family residences to the north, south, and west, along with a school (Maranatha Christian School) to the north-west. The loudest source of noise during the expansion of the Artesian Substation would as a result of pre-construction grading activities. According to Federal Highway Administration's (FHWA) Roadway Construction Noise Model (RCNM), a compactor and grader running at the same time and place would generate an average noise level of 78 dBA L_{eq} from a distance of 50 feet.

Table 3.13-4 shows the maximum construction noise exposure at residences located near each construction area assuming a 7.5 dB drop off rate per doubling of distance.

TABLE 3.13-4
ARTESIAN SUBSTATION EXPANSION
CONSTRUCTION NOISE LEVELS AT EXISTING LAND USES

Sensitive Receptors	Distance to Nearest Sensitive Receptor (feet)	Average Noise Level, L_{eq} dBA
Residences North of the Artesian site	300	59
Residences South of the Artesian site	150	66
Residences West of the Artesian site	300	59
Maranatha Christian School North-west of the project site	700	49

NOTES: Estimates based on a compactor and grader running at the same time and place that would generate a noise level of 78 dBA at 50 feet per FHWA, 2006.

The 2.2 miles of existing double-circuit 69kV power line between the Artesian and Bernardo substations would be reconductored. The reconductoring would include the replacement of some or all of the existing 36 double-circuit wood monopole structures as needed, and the removal of some existing pole structures from service. Land uses along the proposed reconductoring alignment consist of commercial, educational, and residential land uses. Reconductoring activities would occur as close as 50 feet from a sensitive receptor. The loudest construction noise would be generated during pole installation and micro piling activities, which would require the use of a crane and pneumatic tools. According to FHWA's RCNM, a crane and pneumatic tools running at the same time and place could generate an average noise level of 82.6 dBA L_{eq} from a distance of 50 feet. Therefore, the nearest single-family residences would be exposed to a maximum noise level of 82.6 dBA L_{eq} .

Minor construction within the Bernardo Substation would be required in order to facilitate the construction of new underground power line getaway positions. The closest sensitive receptors to the Bernardo Substation are single-family residences located approximately 260 feet north-east of the substation. The loudest onsite construction noise would be generated during onsite trenching, which would require the use of an excavator and jackhammer. According to FHWA's RCNM, an excavator and jackhammer running at the same time and place would generate an average noise level of 83 dBA L_{eq} from a distance of 50 feet. Assuming that these two pieces of construction equipment would operate at the same place and time and a 7.5 dB drop off rate per doubling of distance from the sources, the nearest single-family residences would be exposed to a maximum noise level of 65 dBA L_{eq} .

Minor construction would also be required at the existing Rancho Carmel Substation. The closest sensitive receptors to the Rancho Carmel Substation are single-family residences located approximately 260 feet east of the substation. The loudest onsite construction noise would be generated during onsite equipment replacement and trenching, which would require the use of an excavator and pneumatic tools. According to FHWA's RCNM, an excavator and pneumatic tools running at the same time and place could generate an average noise level of 83 dBA L_{eq} from a distance of 50 feet. Assume these two pieces of construction equipment operating at the same

place and time and a 7.5 dB drop off rate per doubling of distance, the nearest single-family residences would be exposed to a maximum noise level of 64 dBA L_{eq} .

The City and County of San Diego codes both exempt construction noise from the limits identified in Table 3.13-3, provided that construction occurs between the hours of 7:00 a.m. to 7:00 p.m. The City and County also have construction noise limits of 75 dBA when averaged over a workday at an adjoining property line. Construction activities may be required during the nighttime hours (see Section 2.6.11) and it is likely that construction along the reconductoring alignment could expose the nearest sensitive receptors to a maximum noise level that would exceed the average noise threshold of 75 dBA established in the City and County municipal codes. If construction activities occur outside of the City and County allowed construction hours and exceed the applicable construction noise threshold, the Project would result in a violation of the relevant municipal code. This would result in a significant impact. According to **APM NV-1**, SDG&E would meet with both the City and County of San Diego to discuss temporarily deviating from noise standards found in their respective municipal codes. In addition to this APM, implementation of **Mitigation Measures NV-1 and NV-2** would reduce construction noise impacts to a less than significant level.

Although not likely, it is possible that hydraulic rock drilling or rock blasting may be used during construction. If used, rock blasting would substantially reduce construction time at any one location as extensive digging in hard rock would not be required. If blasting is required, it would only be undertaken during construction of the underground getaways at Bernardo Substation and would employ a micropile technique to reduce noise (see Section 2.6.8.4 for details). Residences exposed to blast noise would be located within the City of San Diego. The City's municipal code Section 59.5.0404 (Construction Noise) limits construction noise to an average sound level of 75 dBA at any residential property during a 12-hour period. Since blasting, if used, would be impulsive and occur infrequently (e.g., once or twice a day), residences located near blast sites would not be exposed to noise levels that would exceed the City's 12-hour average 75 dBA construction noise standard. Although the potential blasting activities at the Bernardo Station could expose nearby residences to impulsive noise that could result in a nuisance, blast noise would not exceed the City's noise standard, and would therefore result in a less than significant impact. Additional details of blasting are provided below under criterion b), below.

Operation and Maintenance

The dominant operational noise sources from the Project would be the transformers, cooling fans, and heating, ventilation and air conditioning (HVAC) units associated with the Control Building and the switchgear line-up located in the Artesian Substation Expansion area, and also corona noise generated by the above ground 230 kV and 69 kV getaways at the Bernardo and Artesian substations. Corona noise is brought on by the ionization of a fluid such as air surrounding a conductor that is electrically charged. Modern transmission and power lines have been designed, and are constructed and maintained, to generate a minimum of corona-related noise. Typical corona noise levels from 230 kV lines are in the range of only 15 dBA at a distance of 100 feet during dry weather (DMD & Associates Ltd., 2005).

Sensitive receptors exposed to operational noise levels that exceed those found in Table 3.13-2 would result in a violation of both the City and County of San Diego municipal codes. Since the Artesian Substation would operate 24-hours a day, the more stringent nighttime average one-hour noise standard of 40 dBA L_{eq} for single-family residences and 45 dBA L_{eq} for multi-family residence is used in this analysis as the threshold to determine significance.

In August 2016, computer modeling was performed in order to calculate noise levels that would be generated by operation of the new transformers at the nearby noise sensitive locations and around the proposed Artesian Substation Expansion property site. The predictive noise contours generated during the operation of the Artesian Substation Expansion are presented in **Figure 3.13-2**. The Project includes the construction of a 35-foot tall noise barrier around the substation. The noise reduction effects of this barrier are reflected in the predictive noise contours. The predicted substation sound pressure levels are anticipated to be 45 dBA L_{eq} at the southern property line, which faces the closest receptors (an apartment complex). Substation noise would meet the City of San Diego multi-family residential noise limit of 45 dBA L_{eq} . Since the existing residences are set back approximately 150 feet from the property line, these residences would be exposed to noise levels less than 45 dBA L_{eq} . Therefore, the operation of the proposed Artesian Substation would result in a less than significant impact.

As corona noise from a 230 kV line is generally 15 dBA at 100 feet noise generated by the proposed above ground getaways would not be greater than the existing ambient levels and would not exceed the City and County of San Diego single-family and multi-family residential noise limits. Therefore, the operation of the proposed 230 kV and 69 kV getaways at the Bernardo and Artesian substations would not exceed the City or County of San Diego noise standards and would result in a less than significant impact. Maintenance activities would generally not be changed as a result of the Proposed Project and would not result in any substantial change to existing noise levels. This impact would be less than significant.

Mitigation Measure NV-1: Variance Request. If it is determined that construction activities are necessary during nighttime hours or on a Sunday, SDG&E shall submit a variance request to the County of San Diego and/or City of San Diego planning departments to work outside of allowed construction hours. SDG&E shall provide CPUC with evidence that it has obtained the variance(s) prior to commencing such work.

Mitigation Measure NV-2: Construction Noise Reduction Plan. To reduce daytime noise impacts due to construction of the Proposed Project near sensitive receptors, SDG&E shall develop a Construction Noise Reduction Plan (Plan). The Plan shall be submitted to the CPUC at least 60 days prior to the commencement of construction activities for review and approval. The Plan shall present specific measures that identify how the City and County construction noise limits of 75 dBA as an L_{eq} over a workday at nearby sensitive receptor locations will be adhered to, including but not limited to the following measures:

- When construction activities are conducted within 100 feet of sensitive receptor locations, noise barriers such as noise shields, barriers, blankets, or enclosures shall be used, where feasible, adjacent to or around noisy construction equipment. Noise control shields/barriers/blankets shall be made featuring weather-protected, sound-absorptive material on the construction-activity side of the noise shield/barrier/blanket.

- Distribute to the potentially affected residences within 100 feet of Project construction a “hotline” telephone number, which shall be attended during active construction working hours, for use by the public to register complaints. All complaints shall be logged noting date, time, complainants’ name, nature of complaint, and any corrective action taken.
- When construction activities are conducted within 100 feet of sensitive receptor locations, construction equipment and trucks will be equipped with enhanced noise control measures (where feasible and reasonably available). Enhanced noise control measures will be identified in the Plan and could include, but not necessarily be limited to improved exhaust mufflers and intake silencers, engine enclosures, noise shields or shrouds, etc.
- Impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for project construction within 100 feet of sensitive receptor locations shall be hydraulically or electrically powered where feasible to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used; this muffler can lower noise levels from the exhaust by up to about 10 dB. External jackets on the tools themselves shall be used where feasible; this could achieve a reduction of 5 dB. Quieter procedures, such as use of drills rather than impact tools, shall be used whenever feasible. Note: if a noise reduction feature is not feasible, that does not alleviate the requirement to ensure that the noise levels are reduced to below the City and County of San Diego thresholds.
- Stationary construction noise sources located within 100 feet of sensitive receptor locations shall be located as far from adjacent receptors as possible, and they shall be muffled and enclosed within temporary sheds, incorporate insulation barriers, or other measures to the extent this does not interfere with construction.

Significance after Mitigation: Less than Significant.

b) Result in exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels: *LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.*

Construction

Some types of construction equipment and methods can produce vibration levels that can cause architectural damage to structures and human annoyance.¹ Vibration levels generated during construction of the Proposed Project would vary during the construction period, depending upon the construction activity and the types of construction equipment used. Typical vibration levels for the construction equipment types that would generally result in the highest vibration levels (e.g., drill rig, large bulldozers) are presented in **Table 3.13-5**.

¹ Human annoyance refers to an unpleasant mental state that is characterized by such effects as irritation and distraction from one's conscious thinking. It can lead to emotions such as frustration and anger.



CPUC Artesian Substation . 120812.02

Figure 3.13-2
Predicted Noise Level Contours for the Artesian Substation

SOURCE: TRC, SDG&E, Sempra Energy Utility
Appendix 5.12-A, Black & Veatch Project Noise Analysis:
Artesian Substation

Since a numerical threshold to identify the point at which a vibration impact occurs has not been identified by the City or County, this analysis relies on a vibration thresholds established by the FTA. According to the FTA's *Transit Noise and Vibration Impact Assessment*, residential land uses exposed to a vibration level of 80 VdB could result in human annoyance and residential buildings exposed to a vibration level of 0.2 PPV (inch/second) could result in building damage (FTA, 2006).

TABLE 3.13-5
VIBRATION SOURCE LEVELS FROM CONSTRUCTION EQUIPMENT

Distance (feet)	Peak Particle Velocity (in/sec)
	Drill Rig, Large Bulldozer
50	0.031
75	0.017
100	0.011
150	0.006

SOURCE: FTA, 2006.

The nearest existing sensitive land use to construction activities (including blasting) that would generate the highest levels of vibration are the single-family residences located near the proposed 230 kV and 69 kV getaways located at a proximate distance of 100 feet. A drill rig or large auger would be used to excavate holes that could range between 6 to 9 feet in diameter during concrete pier foundation construction. As shown in Table 3.13-5, the operation of a drill rig could expose the nearest residences to a vibration level of 0.011 PPV or 69 VdB, which is below the 80 VdB threshold for human annoyance and the 0.2 PPV (inch/second) threshold for building damage. Therefore, the use of off-road construction would expose nearby sensitive receptor to vibration levels that would result in a less than significant impact.

As noted, blasting may be used during construction at the Bernardo Substation. A micropile blasting technique would likely be employed to reduce noise and vibration impacts. Ground vibration that occurs from blasting is dependent on the type of rock, type of explosive, and depth below ground that explosives are placed. Blasting in various industries uses different techniques and may result in different PPV. Using Oriard's basic formula for predicting blast vibration found in Caltrans' *Transportation and Construction Vibration Guidance Manual*, vibration levels from various charge weights and distances were approximated and are presented in **Table 3.13-6** (Caltrans, 2013). Since the ground type and explosive yield are not known, the vibration levels presented in Table 3.13-6 represent the worst case vibrations that could be experienced at the nearest sensitive receptor.

Human response to blasting is subjective, as two people will react differently to the same vibration event depending on where they are in a structure. When residents feel a blast, they may become concerned about damage to their home. If blasting is required to remove dense rock, residences located 50 feet from the blast area could be exposed to a vibration levels ranging from 0.46 to 2.92 PPV or 101 to 117 VdB depending on the explosive yield, which would exceed the

applied 80 VdB threshold for human annoyance and the 0.2 PPV (inch/second) threshold for building damage. Therefore, this impact would result in a potentially significant impact. However, implementation of **Mitigation Measure NV-3** would reduce this impact to less than significant by requiring SDG&E to prepare a vibration monitoring report to ensure that blasting activities would not expose the nearest sensitive receptor to vibration levels that would result in human annoyance or building damage.

**TABLE 3.13-6
VIBRATION SOURCE LEVELS FROM BLASTING**

Distance (feet)	Peak Particle Velocity (in/sec) by Pounds of Explosive			Vibration Level (VdB) by Pounds of Explosive		
	1	5	10	1	5	10
50	0.46	1.68	2.92	101	112	117
75	0.24	0.88	1.53	96	107	112
100	0.15	0.55	0.96	92	103	108
125	0.11	0.39	0.67	89	100	105
150	0.08	0.29	0.50	86	97	102
175	0.06	0.23	0.39	84	95	100
200	0.05	0.18	0.32	82	93	98
300	0.03	0.10	0.17	76	88	92
400	0.02	0.06	0.10	72	84	88
500	0.01	0.04	0.07	69	80	85
600	0.01	0.03	0.05	67	78	83
700	0.01	0.02	0.04	65	76	81
800	0.01	0.02	0.03	63	74	79

NOTES: **Bold** = Exceeds 0.2 PPV for building damage threshold or 80 VdB human annoyance threshold

¹ $PPV = K(Ds)^{-1.6}$

K = K Factor, The combined K factor for Oriard's upper and lower bounds are 242 and 24, respectively. Assumed a K factor of 242.

Ds = Square-root scaled distance (distance to receiver in feet divided by square root of charge weight in pounds).

SOURCE: Caltrans, 2013.

Operations and Maintenance

Operation and maintenance of the Project would not introduce any new sources of groundborne vibration to the study area. There would be no impact under this criterion.

Mitigation Measure NV-3: Vibration Reduction Plan. Prior to any blasting construction, the Applicant shall develop a Vibration Reduction Plan in coordination with an acoustical consultant, geotechnical engineer, and construction contractor, and submit the Plan to the CPUC for approval at least 60 days prior to any proposed blasting. The Vibration Reduction Plan shall include vibration reduction measures to ensure that surrounding buildings will be exposed to less than 0.2 PPV to prevent building damage. At a minimum, the plan shall consider the following measures:

- Evidence of licensing, experience, and qualifications of blasting contractors.

- The Plan shall establish a vibration limit of 0.2 PPV at nearby structures in order to protect structures from blasting activities and identify specific locations for monitoring. At a minimum, a pre-blast survey shall be conducted of any potentially affected structures.
- The Plan shall identify the appropriate size of the explosive charge to ensure that a vibration level of 0.2 PPV is not exceeded at nearby structures.
- Impacted property owners shall be notified at least 48 hours prior to the visual inspections.
- Post-construction monitoring of structures shall be performed to identify (and repair if necessary) any damage from blasting vibrations. Any damage shall be documented by photograph, video, etc. This documentation shall be reviewed with the individual property owners and SDG&E shall arrange and fund any needed repairs. Documentation of these efforts shall be provided to the CPUC.

Significance after Mitigation: Less than Significant.

c) Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project: *LESS THAN SIGNIFICANT IMPACT.*

As shown in Figure 3.13-2, predicted operational noise contours for the expanded Artesian Substation would be approximately 45 dBA L_{eq} at the nearest property line, with a reduction to 40 dBA L_{eq} at the nearest residence. Based on a 24-hour long-term ambient noise measurement conducted in the vicinity of the proposed Artesian Substation Expansion area, existing ambient noise levels at the nearest residences were measured to be in a range of the mid-40's to mid-50's dBA during the day, dropping to the lowest measured hourly sound level of 40.5 dBA in the early morning hours (PEA Section 5.12.3.3). The total future sound level at the nearest residential location would therefore be 43 dBA; a 2.5 dB increase over the lowest measured nighttime sound level.

With respect to operational corona noise associated with the new getaways at Artesian and Bernardo substations, modern transmission, and power lines are designed, constructed, and maintained so that they produce a minimum level of corona noise during dry conditions. During rainy conditions, maximum corona noise is approximately 35 dBA L_{eq} at 100 feet (for 230kV lines), but these higher sound levels are generally masked by the falling rain. The lowest measured nighttime L_{eq} sound level along the proposed getaways was 45.5 dBA during dry conditions. In addition, the residences located near the proposed 230kv and 69kv gateways are already subjected to corona noise from the existing power lines in the area and the low levels of corona noise from the new segments of getaways proposed as part of the Project would not increase existing noise levels.

Since maintenance activities at the Project site would not be changed as a result of the Proposed Project and operational noise levels would not elevate ambient noise levels that would be considered perceptible to sensitive receptors in the vicinity of the Project site, this impact would result in a less than significant impact.

d) 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.*

The City and County have established construction noise limits for sensitive receptor locations that are 75 dBA averaged over a workday. These limits are used to judge the significance of short-term daytime construction noise levels relative to the potential to cause a substantial temporary increase in ambient noise levels in the Project vicinity above levels existing without the Project. Sensitive receptors located near construction areas could be exposed to off-road equipment noise levels, as disclosed under item a) above, that would be greater than the existing ambient noise levels measured in the project area identified in Table 3.13-1 and it is likely that construction activities along the reconductoring alignment could expose the nearest sensitive receptors to maximum noise levels that would exceed the average noise threshold of 75 dBA. This represents a significant impact. However, implementation of **Mitigation Measure NV-2** (see impact discussion under criterion a), above), would reduce this construction noise impact to a less than significant level.

In addition to off-road construction equipment, if blasting is required to remove dense rock, sensitive receptors located near these areas could be exposed to blast noise that would result in a substantial noise increase over the existing ambient noise levels. Given the instantaneous nature of blast noise, it would not be practicable to assess such noise using the City's construction noise threshold of 75 dBA, which is an averaged noise limit over an 8-hour workday. Nonetheless, blasting noise could result in a potentially significant nuisance impact. However, implementation of **Mitigation Measure NV-4** (see below) would reduce this construction noise nuisance impact to less than significant.

Although SDG&E would be required to obtain a variance to conduct construction activities outside the allowable construction work hours specified in the noise ordinances of the City and/or County pursuant to **Mitigation Measure NV-1** (see impact discussion under criterion a), above), Proposed Project-related nighttime construction noise levels could result in a substantial increase in nighttime ambient noise levels, causing a significant impact on nearby residences. Implementation of **Mitigation Measures NV-5** is recommended to require SDG&E and/or its construction contractors to reduce noise levels and the associated nuisance at sensitive receptor locations to the extent practical.

Mitigation Measure NV-4: Blasting Plan. Prior to conducting any blasting activities, SDG&E shall develop a Blasting Plan in coordination with an acoustical consultant, geotechnical engineer, and construction contractor. The Blasting Plan shall include at a minimum the following measures:

- Methods of matting or covering of blast area to prevent excessive air blast pressure.
- Description of air blast monitoring program.
- Blasting shall be limited to between the hours of 7:00 a.m. and 7:00 p.m. daily.
- Blasting notification procedures, lead times, and list of those notified. Public notification to potentially affected sensitive receptors describing the expected extent and duration of the blasting.

Mitigation Measure NV-5: Nighttime Noise and Nuisance Reduction Plan. SDG&E and/or its contractors shall develop a Nighttime Noise and Nuisance Reduction Plan in the event that nighttime construction activity is determined to be necessary within 500 feet of sensitive receptors. The plan shall be submitted to the CPUC for review and approval prior to the commencement of nighttime construction activities. The strategy shall include a set of site-specific noise attenuation measures that apply state-of-the-art noise reduction technology to ensure that nighttime construction noise levels and associated nuisances are reduced to the extent feasible. The attenuation measures may include, but not be limited to, the control strategies and methods for implementation that are listed below.

- Plan construction activities to minimize the amount of nighttime construction.
- Offer temporary relocation of residents within 200 feet of nighttime construction activities.
- Temporary noise barriers, such as shields and blankets, shall be installed immediately adjacent to all nighttime stationary noise sources (e.g., auger rigs, generators, compressors, etc.).
- Install temporary noise barriers that block the line of sight between nighttime activities and the closest residences within 500 feet.
- The notification requirements identified in Mitigation Measure NV-2 shall be extended to include residences within 500 feet of pending nighttime construction activities.

Significance after Mitigation: Less than Significant.

- e) For a project located within an airport land use plan area, or, where such a plan has not been adopted, in an area within two miles of a public airport or public use airport, would the project expose people residing or working in the area to excessive noise levels: *NO IMPACT.***

The Proposed Project does not involve the development of new noise sensitive land uses, and thus, implementation of the Project would not expose people to excessive aircraft noise. In addition, there is no public airport located within two miles of any of the Project components; the closest airport is the Marine Corps Air Station at Miramar, located approximately ten miles south of the Artesian Substation. Therefore, the Project would result in no impact relating to this criterion.

- f) For a project located in the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels: *NO IMPACT.***

The Proposed Project is not located within the vicinity of a private airstrip. Therefore, there would be no impact associated with this criterion.

3.13.5 References

Caltrans, 2013. Transportation and Construction Vibration Guidance Manual. September 2013.

City of San Diego, 2006. City of San Diego General Plan. October 2006.

County of San Diego, 2011. San Diego County General Plan. August 2011.

DMD & Associates Ltd., 2005. Effects of High Voltage Transmission Line In Proximity of Highways. Submitted to British Columbia Ministry of Transportation.

Federal Highway Administration (FHWA), 2006. FHWA Roadway Construction Noise Model User's Guide. January 2006.

Federal Transit Administration (FTA), 2006. Transit Noise and Vibration Impact Assessment. May 2006.

San Diego Gas & Electric Co. (SDG&E) 2016. Proponent Environmental Assessment Artesian 230kV Substation Expansion Project, August 2016.

3.14 Population and Housing

	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
13. POPULATION AND HOUSING— Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Displace substantial numbers of existing housing units, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

This section evaluates the potential for construction, operation, and maintenance of the Proposed Project to result in impacts related on population and housing in the study area. For the purposes of the evaluation of potential population and housing impacts, the study area was defined as the footprint of all components of the Proposed Project including all areas of temporary and/or permanent ground disturbance and the surrounding communities within which the Project would be constructed and operated, as described below.

3.14.1 Environmental Setting

The Proposed Project would be constructed within San Diego County, within the communities of Poway, 4S Ranch, Rancho Peñasquitos, Carmel Mountain Ranch and Black Mountain Ranch; and in the City of San Diego. The Proposed Project would be located in an area that is predominantly residential with some light-industrial and commercial development.

Population

Table 3.14-1 summarizes projected population growth from 2010 to 2050 for the region of San Diego. As demonstrated in the table, the population in this area is expected to increase substantially over the next 30-35 years.

**TABLE 3.14-1
PROJECTED POPULATION GROWTH, 2010 – 2050**

Area	2010 Population	Projected 2020 Population	Projected 2050 Population	Numeric Change	% Change 2010 - 2050
City of San Diego	1,301,617	1,454,150	1,766,700	465,083	35.7%
County of San Diego, Unincorporated	486,564	543,471	662,195	175,631	36.1%
San Diego Region	3,095,313	3,435,713	4,068,759	973,446	31.4%

SOURCE: San Diego Association of Governments (SANDAG), 2013).

Housing

Table 3.14-2 depicts housing data for San Diego County and the City of San Diego.

**TABLE 3.14-2
2010 HOUSING DATA ESTIMATES**

Jurisdictional Area	Total Housing Units	Occupied Housing Units	Vacant Housing Units	Vacancy Rate (percent)
City of San Diego	511,820	477,008	34,812	6.0
County of San Diego, unincorporated	169,142	156,529	12,613	6.7%
San Diego County Total	1,149,426	1,068,797	80,629	7.0

SOURCE: SANDAG, 2010c.

3.14.2 Regulatory Setting

Federal/State

No federal/state regulations apply to population and housing within the study area.

Local

The CPUC has exclusive jurisdiction over the siting, design, and construction of the Project, therefore the Project is not subject to local discretionary regulations. Details below that relate to local regulations are provided for informational purposes.

San Diego County

The Housing Element of the San Diego County General Plan (County of San Diego, 2011) includes objectives, policies, and programs for the following six major goals related to population and housing:

Goal H-1: Housing Development and Variety. A housing stock comprising a variety of housing and tenancy types at a range of prices, which meets the varied needs of existing and future unincorporated county residents, who represent a full spectrum of age, income, and other demographic characteristics.

Goal H-2: Neighborhoods That Respect Local Character. Well-designed residential neighborhoods that respect unique local character and the natural environment while expanding other opportunities for affordable housing.

Goal H-3: Housing Affordability for All Economic Segments. Affordable and suitable housing for all economic segments, with emphasis on the housing needs of lower income households and households with special needs.

Goal H-4: Affordable Housing Preservation. Programs that conserve housing currently available and affordable to lower income households, and programs that prevent or reverse deterioration in areas exhibiting symptoms of physical decline.

Goal H-5: Constraints on Housing Development. Promote governmental policies or regulations that do not unnecessarily constrain the development, improvement, or conservation of market rate or affordable housing.

Goal H-6: Delivery of Housing Services. An institutional framework that effectively delivers housing services and programs to implement the goals, policies and programs of this Housing Element.

City of San Diego

The Housing Element 2013-2050 of the City of San Diego General Plan (City of San Diego, 2013) includes objectives, policies, and programs for the following five major goals related to population and housing:

Goal 1: Ensure the provision of sufficient housing for all income groups to accommodate San Diego's anticipated share of regional growth over the next housing element cycle, 2013 – 2020, in a manner consistent with the development pattern of the Sustainable Communities Strategy (SCS), that will help meet regional GHG targets by improving transportation and land use coordination and jobs/housing balance, creating more transit-oriented, compact and walkable communities, providing more housing capacity for all income levels, and protecting resource areas.

Goal 2: Maintain at a high level and upgrade, where necessary, the quality, safety and livability of San Diego's housing stock, with emphasis on preservation of San Diego's affordable housing stock.

Goal 3: Streamline the entitlement and permitting process for new residential development by minimizing governmental constraints in the development, improvement, and maintenance of housing without compromising the quality of governmental review or the City's responsibility to ensure development takes place in a sustainable manner.

Goal 4: Provide affordable housing opportunities consistent with a land use pattern which promotes infill development and socioeconomic equity; and facilitate compliance with all applicable federal, state, and local laws and regulations.

Goal 5: Cultivate the City as a sustainable model of development.

3.14.3 Applicant Proposed Measures

No Applicant Proposed Measures (APMs) have been proposed to address potential effects to population and housing.

3.14.4 Environmental Impacts and Mitigation Measures

a) Whether the Project would induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure): *LESS THAN SIGNIFICANT IMPACT.*

The Proposed Project does not include new homes or businesses, and so would not directly induce substantial temporary or permanent population growth in the study area. Accordingly, the Proposed Project would have no direct impact on population growth inducement.

The Proposed Project could have an indirect impact on the population growth inducement in the study area if it resulted in an increase in local population. During the approximately 30-month construction period (winter 2018 through summer 2021), up to 45 construction workers would be employed during peak construction (SDG&E 2016, see also Section 2.6.10.1). Construction would be performed by either SDG&E construction crews or contractors who reside generally within San Diego County or adjacent areas and would not require substantial number of workers to relocate to the area to complete the work. Operation and maintenance activities associated with the Proposed Project also would not result in any notable increase in area residents as there would be virtually no changes to existing operation and maintenance activities with the implementation of the Proposed Project. Accordingly, the Proposed Project would have a less than significant indirect impact on population growth associated with the Proposed Project's temporary or permanent workforce.

The Proposed Project's projected improvement in the reliability of electrical services is consistent with development anticipated by plans and with San Diego County's expected population growth. The Proposed Project does not include the extension of infrastructure other than the expansion of Artesian Substation into areas beyond existing utility corridors. Furthermore, this work is proposed in order to address future projected population growth, consistent with the City of San Diego's goals related to the provision of housing and the planned development patterns of the City's Sustainable Community Strategy. Accordingly, the Proposed Project would have a less than significant indirect impact on population growth associated with extension of infrastructure.

b) Whether the Project would displace substantial numbers of existing housing units, necessitating the construction of replacement housing elsewhere: *NO IMPACT.*

Because no housing units would be displaced by the Proposed Project, the construction of replacement housing would not be required. The Proposed Project would be located within the existing SDG&E rights-of-way along Camino del Sur and Rancho Bernardo roads and through the City of San Diego franchise-positions. The developed portions of the study area are predominantly residential housing units with some light-industrial and commercial development; however, none of these units would be displaced as a result of Project construction. No impact would occur.

c) Whether the Project would displace substantial numbers of people, necessitating the construction of replacement housing elsewhere: *NO IMPACT.*

As noted above, the Proposed Project would not displace any housing; it also would not displace people or any other structures that are currently inhabited. Therefore, the Proposed Project would have no impact associated with the displacement of people or the construction of replacement housing.

3.14.5 References

- California Department of Finance (DOF), 2014. Report P-1, State and County Population Projections July 1, 2010 – 2060, December 15, 2014. Available online at <http://www.dof.ca.gov/Forecasting/Demographics/Projections/>. Accessed November 30, 2016.
- City of San Diego, 2013. General Plan, Housing Element 2013-2020. Available online at <https://www.sandiego.gov/sites/default/files/legacy/planning/genplan/heu/pdf/housingelementfull.pdf>. Accessed December 15, 2016.
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- San Diego Association of Governments (SANDAG), 2010a. Regional Growth Forecast 2050 Attachment 4 2050 Subregional Growth Forecast. Available online at <http://www.sandag.org/index.asp?projectid=355&fuseaction=projects.detail>. Accessed November 30, 2016.
- San Diego Association of Governments (SANDAG), 2010b. January 1, 2010 Estimates of Population and Housing by Jurisdiction. Available online at http://www.sandag.org/uploads/publicationid_485_637.pdf. Accessed November 30, 2016.
- San Diego Gas & Electric Co. (SDG&E) 2016. Proponent Environmental Assessment Artesian 230kV Substation Expansion Project, August 2016.

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3.15 Public Services

	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
14. PUBLIC SERVICES— Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:				
i) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
v) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.15.1 Environmental Setting

This section presents existing public services including fire and police protection, schools, parks, libraries, and other public facilities within the vicinity of the Proposed Project site, as discussed by jurisdiction below. For the purposes of evaluation of public services, the study area is defined as the footprint of all components of the Proposed Project including all areas of temporary and/or permanent ground disturbance as well as public service facilities serving residents and visitors within five miles¹ of the Proposed Project sites.

Fire Protection

The north San Diego region has been classified by Cal Fire to be of very high fire severity and has many canyons with dry brush that is highly prone to wildfires (Cal Fire, 2007). The San Diego Fire-Rescue Department and the Rancho Santa Fe Fire Protection District (RSFFPD) provide fire protection service within the study area in coordination with the San Diego County Fire Authority, which provides emergency services to unincorporated areas of the county.

San Diego County Fire Authority

The San Diego County Fire Authority, staffed by both professionally trained volunteer and paid firefighters, provides support for emergency medical and fire services to a 1.5 million-acre area of unincorporated San Diego County including all of the project components that are located outside of the City of San Diego's sphere of influence. In addition to fire and medical support, San Diego County Fire Authority also coordinates regional fire prevention activities for unincorporated San Diego County and coordinates regional emergency response to disasters through a joint powers

¹ Five miles was selected as a reasonable distance within which potential impacts associated with public services could occur as a result of the Project.

agreement between all 18 incorporated cities and the County of San Diego (County of San Diego, 2017). The San Diego County Fire Authority offices are located at 5510 Overland Avenue in San Diego.

Rancho Santa Fe Fire Protection District

The Rancho Santa Fe Fire Protection District (RSFFPD) spans approximately 38 square miles and protects over 29,000 residents (RSFFPD, 2016a). District personnel includes six chief officers, five support staff, a three-member fire prevention bureau, 14 captains, 14 engineers, 17 firefighter/paramedics and one fire service assistant. The RSFFPD has six stations, including the nearest County fire station to the Proposed Project, Station 2, located at 16930 Four Gee Road, approximately 150 feet north of the reconductoring alignment at the intersection of Artesian Road and Four Gee Road. RSFFPD Station 2 responds to emergencies in the master-planned communities of 4S Ranch, Santa Fe Valley, and Bernardo Lake Estates, and also protects a large business/industrial park and the communities of Bernardo Point and the Summit of Rancho Bernardo (RSFFPD, 2016b).

Escondido Fire Protection District

The SDG&E owned Northwest Storage Facility is located approximately 7.5 miles north of the reconductoring alignment in the City of Escondido. Fire protection services in this city are provided by the Escondido Fire Protection District.

San Diego Fire-Rescue Department

The San Diego Fire-Rescue Department serves 331 square miles and a population of 1,337,000 people in the City of San Diego through 48 fire stations (City of San Diego, 2016a). Fire Station 33 serves Rancho Bernardo and its surrounding areas, and is equipped with a fire engine, brush engine, and paramedic unit (City of San Diego, 2016b). Located at 16966 Bernardo Center Drive, Fire Station 33 is approximately 1.25 miles from the Bernardo Substation. Fire Rescue Department Station 46 serves the Santaluz and surrounding areas is located one mile north of the proposed Carmel Valley staging yard and approximately three miles southwest of the Artesian substation on 14556 Lazanja Drive.

Police Protection

San Diego County Sheriff's Department

San Diego County Sheriff's Department serves unincorporated San Diego, including portions of the study area, via the 4S Ranch Substation located at 10282 Rancho Bernardo Road, approximately 50 feet from the TL 6939 reconductoring route and adjacent to proposed 69kV tubular steel pole dead end (P07) (see Figure 2-5). The San Diego County Sheriff's Department is the chief law enforcement agency in San Diego with 4,000 employees including officers and support staff. The department provides law enforcement, detention and court services for San Diego County and specialized regional services to both the County and City of San Diego (County of San Diego, 2017).

San Diego Police Department

The San Diego Police Department (SDPD) provides law enforcement services to the Project site within the City of San Diego. The Northeastern Division serves the neighborhoods of Carmel Mountain, Miramar, Miramar Ranch North, Mira Mesa, Rancho Bernardo, Rancho Encantada, Rancho Peñasquitos, Sabre Springs, and Scripts Ranch. The Northeastern Division, located at 13396 Salmon River Road, serves a population of over 234,000 people and encompasses over 100 square miles. A portion of the Proposed Project, including sites in the vicinity of the existing Artesian Substation, would be in the service area of the Northwestern Division, located at 12592 El Camino Real in the City of San Diego. The Northwestern Division, which serves a population of 71,000 city residents and has a service area encompassing 41.6 square miles, provides law enforcement services to the communities of Sorrento Valley, Torrey Preserve, Del Mar Heights, Carmel Valley, north City, and Black Mountain Ranch (City of San Diego, 2015).

Schools and Libraries

The Proposed Project would be constructed within the Poway Unified School District (Poway USD), which operates 25 elementary schools, seven middle schools, six high schools, and one adult school, in total serving more than 35,000 students (Poway USD, 2016).

There are eight schools located within one mile of the Proposed Project site including: Marantha Christian School, Marantha Christian Preschool, Design 39 Campus, Kinderhouse Montessori School, Westwood Elementary School, Rancho Bernardo High School, and Del Norte High School.

Marantha Christian School located at 9050 Marantha Drive, directly northeast of the existing Artesian Substation on the corner of Camino del Sur and Marantha Drive, approximately 320 feet northwest of the proposed open and close switch work, and approximately the same distance east of proposed installation of a new 69kV double circuit tubular steel pole and a new tie line (TL616). Several existing wood poles are also proposed for removal from service near the Marantha Christian School.

Marantha Christian Preschool is located at 10752 Coastwood Road in San Diego approximately 0.4 mile west of the Bernardo Substation.

Del Norte High School, part of the Poway USD, serves grades 9-12 and is located at 16601 Nighthawk Lane, approximately 0.25 mile south of the reconductoring alignment and 0.65 miles from the Artesian Substation.

Design 39 Campus, affiliated with the Poway USD, is located at 17050 Del Sur Ridge in San Diego approximately 500 feet southwest of the reconductoring alignment.

Kinderhouse Montessori is located at 17025 Via del Campo San Diego, approximately 0.2 mile southeast of the Bernardo Substation.

Westwood Elementary School, part of the Poway USD, serves kindergarten through fifth grade and is located at 17449 Matinal Road San Diego, approximately 0.75 mile from the Bernardo Substation.

Rancho Bernardo High School in the Poway USD is a public high school serving more than 2,000 students is located at 13010 Paseo Lucido in San Diego, approximately 0.6 mile from the Rancho Carmel Substation.

The San Diego County Library has two branches in the vicinity of the Proposed Project, including Rancho Bernardo public library located at 17110 Bernardo Center Drive and the 4S Ranch Public Library located at 10433 Reserve Drive (County of San Diego, 2016).

Parks

Parks within the study area include Black Mountain Open Space Park and Gonzales Canyon. Numerous local county parks including the 4S Ranch Heritage Park, 4S Ranch Patriot Park, 4S Ranch Pioneer Park, and 4S Ranch Community Park are located within approximately 0.5 mile of the Proposed reconductoring route. Several homeowner's association (HOA) parks are located just west of the Artesian Substation including Kristen Glen HOA Park approximately 750 feet west. The Santa Fe Valley Open Space Preserve is directly north of the Artesian Substation (within 0.25 miles) and encompasses a total area of 300 acres (SDG&E, 2016). Other preserves near the Proposed Project site include Greenfield and Christopher Hill Preserves. See Section 3.16 for additional discussion of recreational facilities, including parks and open space, in the study area.

Emergency Medical Services

The nearest medical services to the study area is Palomar Medical Center located at 15615 Pomerado Road in Poway, which provides emergency services to inland North San Diego County communities including Poway, Rancho Bernardo and the Rancho Penasquitos areas (Palomar Health, 2016).

3.15.2 Regulatory Setting

Federal/State

There are no federal or state regulations related to public services that apply to the Project.

Local

The CPUC has exclusive jurisdiction over the siting, design, and construction of the Project, therefore the Project is not subject to local discretionary regulations. Details below that relate to local regulations are provided for informational purposes.

San Diego County

The San Diego County General Plan Land Use Element contains the following goals and policies relevant to provision of public services for unincorporated areas:

Goal LU-12: Infrastructure and Services Supporting Development. Adequate and sustainable infrastructure, public facilities, and essential services that meet community needs and are provided concurrent with growth and development.

LU-12.3: Infrastructure and Services Compatibility. Provide public facilities and services that are sensitive to the environment with characteristics of the unincorporated communities. Encourage the collocation of infrastructure facilities, where appropriate.

LU-12.4: Planning for Compatibility. Plan and site infrastructure for public utilities and public facilities in a manner compatible with community character, minimize visual and environmental impacts, and whenever feasible, locate any facilities and supporting infrastructure outside preserve areas (County of San Diego 2011).

City of San Diego

The City of San Diego General Plan: Public Facilities, Services, and Safety Element contains numerous goals and policies pertaining to the provision of public services to the city. San Diego seeks to provide the public facilities and services needed to serve the existing population and new growth. Such services include: fire prevention, emergency services, public and private healthcare services, a library system, and a multi-level school system (City of San Diego, 2015).

3.15.3 Applicant Proposed Measures

No Applicant Proposed Measures (APMs) are proposed that address potential impacts to fire, police, schools, parks, or other public services.

3.15.4 Impacts and Mitigation Measures

a.i) Whether the Project would result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection: *NO IMPACT.*

The Proposed Project would not introduce any new uses to the study area that would generate long-term changes increasing the need for fire protection services. Furthermore, the study area is already served by fire protection facilities and infrastructure and this would not change as a result of Project development. Given the nature and scope of the Proposed Project, construction could result in emergency situations, such as accidents or combustion of materials that require emergency response services. Construction activities associated with the Proposed Project would be temporary, lasting approximately 30 months (SDG&E 2016). No increases in demand for fire protection services are anticipated and therefore would not require construction of new or physically altered fire protection facilities. Therefore, no impact would occur.

a.ii) Whether the Project would result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police protection: *LESS THAN SIGNIFICANT IMPACT.*

The Proposed Project would not provide or generate a need for any new or physically altered government facilities, and would not introduce any new uses to the study area that would increase the existing demand for police protection services. Project construction may temporarily cause an increase in the existing demand for police services due to possible theft of construction equipment and/or vandalism that could occur during the 30-month construction period. Additionally, construction activities may include temporary traffic control or other public safety measures, which would typically be coordinated by law enforcement staff. Although Project construction may result in a temporarily increased demand for police services, such an increase would not be substantial and would not require the construction of a new or any modification of an existing police station, the construction of which could cause significant environmental effects, in order to maintain acceptable service ratios. Therefore, impacts would be less than significant.

a.iii) Whether the Project would result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for schools: *NO IMPACT.*

Although at the peak of construction, the Proposed Project is estimated to employ up to 45 crew members on a daily basis, operation and maintenance of the Proposed Project would not result in any long-term staff increases. Given that an increased demand for public school services is ordinarily associated with a population increase and the Project neither includes housing nor requires long-term staff increases, no increase in local population would result from Project construction. Therefore, substantial adverse physical impacts associated with new or altered schools would not result from construction of the Project. No impact would occur under this criterion.

a.iv) Whether the Project would result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for parks: *NO IMPACT.*

The Project does not propose housing and would not require the construction of any new or modified parks, and, as such, would not increase local population levels impacting demand or performance objectives for local parks. Therefore, no impact would occur.

a.v) Whether the Project would result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for other public facilities: *NO IMPACT.*

No new or physically altered public facilities are such as public libraries or hospitals are proposed to be constructed as part of the Project. The Proposed Project would not result in substantial adverse impacts to other public facilities (e.g., public libraries or healthcare providers) because, as discussed above, the Proposed Project would not result in a significant increase in local population or housing, which would typically be associated with increased demand for such public service facilities. Therefore, no impact would occur.

3.15.5 References

California Department of Fire and Forestry (Cal Fire), 2007. *San Diego County Fire Hazard Severity Zones in SRA*. Adopted by Cal Fire November 7, 2007. Available online at http://www.fire.ca.gov/fire_prevention/fhsz_maps_sandiego. Accessed January 19, 2017.

City of San Diego, 2015. City of San Diego General Plan Public Facilities, Services and Safety Element. Updated June, 2015. Available online at <https://www.sandiego.gov/planning/genplan/#genplan>. Accessed January 20, 2017.

City of San Diego, 2016a. <https://www.sandiego.gov/fire/about>. Accessed November 16, 2016.

City of San Diego, 2016b. City of San Diego Official Website “Fire-Rescue Department”. <https://www.sandiego.gov/fire/about/firestations/sta33>. Accessed November 16, 2016.

City of San Diego, 2017. <https://www.sandiego.gov/police/services/divisions/>. Accessed January 18, 2017.

County of San Diego, 2011. San Diego County General Plan, Land Use Element. Available online at <http://www.sandiegocounty.gov/pds/generalplan.html>. Accessed January 19, 2017.

County of San Diego, 2015. San Diego County Sheriff’s Department Official Website. “About Us”. <http://www.sdsheiff.net/aboutus.html>. Accessed January 18, 2017.

County of San Diego, 2016. Library Hours and Locations. http://www.sdcl.org/locations_ALL-BRANCHES.html. Accessed December 1, 2016.

County of San Diego, 2017. “Office of Emergency Services”. Available online <http://www.sandiegocounty.gov/content/sdc/oes.html>. Accessed February 10, 2017.

Palomar Health, 2016. “Emergency Services North San Diego County”. <http://www.palomarhealth.org/emergency-services/emergency-service-home>. Accessed December 1, 2016.

Poway Unified School District, 2016a. "About Us". <http://www.powayusd.com/en-US/District/>. Accessed November 30, 2016.

Rancho Santa Fe Fire Protection District (RSFFPD), 2016a. "About the Fire District". <http://www.rsf-fire.org/about/stations/admin.html>. Accessed November 16, 2016.

Rancho Santa Fe Fire Protection District (RSFFPD), 2016b. "Fire Station Locations". <http://www.rsf-fire.org>. Accessed November 16, 2016.

San Diego Gas & Electric Co. (SDG&E) 2016. Proponent Environmental Assessment Artesian 230kV Substation Expansion Project, August 2016.

U.S. Forest Service, 2016. <http://www.fs.usda.gov/Cleveland>. Accessed December 1, 2016.

3.16 Recreation

	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
15. RECREATION—Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.16.1 Environmental Setting

Existing recreational and open space resources within the vicinity of the Proposed Project site are discussed by jurisdiction below. For the purposes of evaluation of recreational resources, the study area was defined as the footprint of all components of the Proposed Project including all areas of temporary and/or permanent ground disturbance as well as neighboring parks, open space, and other lands used for recreational purposes within five miles¹ of the Proposed Project site.

Federal Recreation Resources

There is no land under federal management or ownership in the study area. The closest federal land is San Diego National Wildlife Refuge, encompassing over 11,000 acres of sage and chemise covered canyons located approximately twenty-five miles south of the Artesian Substation.

State Recreation Resources

There are no lands owned by the state of California in the study area. The nearest state recreational areas include numerous state beaches approximately nine miles west of the Artesian Substation including San Elijo and Seaside State Beach near the city of Solana Beach. Torrey Pines State Natural Reserve, located approximately ten miles southwest of the Artesian Substation is a 2,000 acre coastal state park offering numerous ocean side hiking trails.

Local Recreation Resources

San Diego County

San Diego County provides more than 100 parks across 50,000 acres of land including 36 local day-use parks, 19 regional parks, 9 camping parks, a number of open space preserves and several registered historic sites (County of San Diego, 2016). Lusardi Creek Open Space preserve is a

¹ Five miles was selected as a reasonable distance within which to evaluate potential effects of the Project as beyond this distance impacts on recreational resources would be expected to either not occur or be imperceptible.

small county preserve featuring multi-use trails, along Lusardi Creek located within two miles of the existing Artesian Substation and proposed reconductoring route along Camino del Sur.

Several parks located within one mile of the reconductoring alignment are locally-run homeowner's association (HOA) parks including 4S Ranch Community Park, 4S Ranch Patriot Park, 4S Ranch Pioneer Park, 4S Ranch Sports Park, and 4S Ranch Heritage Park. These parks offer a range of recreational opportunities including walking trails, picnic areas, playgrounds, a roller-hockey rink, tennis courts and a variety of sporting fields. The county of San Diego approved a Community Trails Master Plan in 2005 which seeks to develop an interconnected system of regional and community trails and pathways intended to address the public need for recreation, transportation as well as provide health and quality of life benefits to the community (County of San Diego, 2005). Although not officially designated yet, informal trails are proposed for development within the study area including the "4S Ranch Community Trail" across from the Bernardo Substation and the proposed "Starwood Trail" which runs along Artesian Road beginning at Marantha Road just north of the Artesian Substation.

Additional recreational facilities within five miles of the Artesian Substation include the Santaluz Club offering golf, tennis, other fitness activities, as well as a venue for private events. The Bernardo Heights Country Club and Lucido Park are private recreational clubs located within a mile of the Rancho Carmel Substation. These facilities offer golf and tennis respectively.

No other County parks or recreation facilities are located within five miles of the Project site.

City of San Diego

The City of San Diego owns and manages numerous parks and open space areas in the study area including the 2,352 acre Black Mountain Open Space Park, located approximately three miles south of the Artesian Substation. Black Mountain is made up of a series of chaparral and sage covered hills, ridges, and canyons located in the Rancho Peñasquitos area of northern San Diego, situated between Camino Del Sur to the west, Peñasquitos Drive to the east, Lusardi Creek to the north and Carmel Mountain Road to the south. As discussed in Section 3.1, *Aesthetics*, the 1,554-foot summit of Black Mountain provides 360-degree views of the surrounding area. Access to the summit is provided by a 2.5-mile hike or bike ride up a dirt road that is near Hilltop Community Park (City of San Diego, 2016).

In addition to the Black Mountain Ranch Open Space Park, the Santa Fe Valley Open Space Preserve lies directly north of the Artesian Substation with approximately 65 acres (of the total 300 acres) located within one mile of the Artesian Substation (SDG&E, 2016). The Santa Fe Valley Open Space Preserve is one of numerous conservation lands that comprise the Multiple Species Conservation Program (MSCP) that the city of San Diego implemented in 1998. Many of the conservation lands covered in the MSCP, including the Santa Fe Valley Open Space Preserve, allow for some level of public access or light recreational use consistent with the conservation management objectives for the given habitats (City of San Diego, 1998).

3.16.2 Regulatory Setting

Federal

Given that no Project activity is proposed in or near any federal lands, no federal plans or policies concerning recreation apply to the Proposed Project.

State

Given that no Project activity is proposed in or near any state lands, no state plans or policies concerning recreation apply to the Proposed Project.

Local

The CPUC has exclusive jurisdiction over the siting, design, and construction of the Project, therefore the Project is not subject to local discretionary regulations. Details below that relate to local regulations are provided for informational purposes.

San Diego County

The *San Diego County General Plan* (2011) identifies goals and policies regarding parks and recreation in the Conservation and Open Space Element of the General Plan.

Goal COS-21: Park and Recreational Facilities. Park and recreation facilities that enhance the quality of life and meet the diverse active and passive recreational needs of county residents and visitors, protect natural resources and foster an awareness of local history, with approximately ten acres of local parks and 15 acres of regional parks provided for every 1000 persons in the unincorporated County (SDGP, 2011).

Policy COS-21-3: Park Design. Design parks that reflect community character and identity, incorporate local and cultural landscapes and features, and consider the surrounding land uses and urban form and cultural and historic resources.

Policy COS-21-4: Regional Parks. Require new regional parks to allow for a broad range of recreational activities and preserve special or unique natural or cultural features when present.

Policy COS-21-5: Connection to Trails and Networks. Connect public parks to trails and pathways and other pedestrian or bicycle networks where feasible to provide linkages and connectivity between recreational uses.

City of San Diego

The *City of San Diego General Plan* identifies policies regarding recreation in the Recreation element of the General Plan. The identified purpose of the recreation element in the general plan is: “to protect, acquire, develop, operate, maintain, and enhance public recreation opportunities and facilities throughout the City for all users” (City of San Diego, 2015).

With population pressures and limited remaining vacant land in the San Diego region, the City faces the challenge of balancing competing uses. Three categories of parks and recreation are identified in the general plan including population based, resource based and open space (City of San Diego, 2015). Some relevant park planning policies identified in the plan that address the aforementioned challenges include:

RE-A.6: Pursue opportunities to develop population-based parks.

- a) Identify underutilized City lands with potential for use as mini-parks, pocket parks, plazas and community gardens.
- b) Encourage community participation in development and maintenance of City-owned mini-parks, pocket parks, plazas, and community gardens.

RE-A.8: Park Standards. Provide population based parks at a minimum ratio of 2.8 useable acres per 1,000 residents.

RE-E.6: Use underutilized or unnecessary City rights-of way and utility easements to help meet recreational needs where appropriate.

- a) Develop and maintain an inventory of underutilized or unnecessary rights-of way, including underlying ownership.
- b) Develop criteria to determine potential value of underutilized or unnecessary rights-of way and utility easements for recreational use, including bike, pedestrian, and equestrian linkages for trail access to parks, and open space (and canyons), and as overlooks into open space or beaches.

San Dieguito Community Plan

The following local planning goals pertain to recreation and open space in the community of San Dieguito, a planning region overlapping the Proposed Project reconductoring route, which includes the 4S Ranch development, a planned community bisected by proposed reconductoring activities central to the Proposed Project. As stated in the San Dieguito Community Plan, *“(s)pecial care should be taken to maintain open space corridors that connect larger permanent open space uses such as parks. Cutting a canyon off from the greater open space system can inhibit migration opportunities and cause existing habitat to gradually diminish in viability (County of San Diego 2014).”*

6. Recreation Goal: Enrich the lives of San Dieguito residents of all age groups by establishing a well-balanced system of recreational facilities and services. Provide fifteen acres of local recreational area for each 1,000 population for the entire community.

8. Open Space Goal: Provide a system of open space that is adequate to preserve the unique natural elements of the community.

3.16.3 Applicant Proposed Measures

No Applicant Proposed Measures (APMs) have been proposed to address impacts on recreational resources.

3.16.4 Impacts and Mitigation Measures

a) Whether the Project would increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated: *LESS THAN SIGNIFICANT IMPACT.*

Although there are no federal or state recreational areas within the study area, as described in *Section 3.15.1, Environmental Setting*, the Proposed Project would be located near local parks and other facilities used for recreational activities. Although the construction associated with reconductoring would occur within existing utility rights of way and franchise positions along public roads, the City of San Diego allows use of utility corridors for recreational purposes, where appropriate. Therefore, some temporary construction related impacts may be experienced by recreational users of these routes, which could result in temporary increases in use of other facilities. However this increase would not be expected to result in any noticeable effects on other facilities or cause any physical deterioration. Temporary impacts due to construction, such as increased noise, dust, and the presence of construction equipment or vehicles may occur along informal local trails adjacent to utility corridors where numerous existing wood poles (R3-R13) are proposed to be removed from service north of and parallel to Camino del Sur (from west to east) from Marantha Road adjacent to the Santa Fe Open Space Preserve to Artesian Road just northeast of Babcock Road.

Similarly, temporary construction-related impacts are also likely to occur along the undesignated informal trails utilized for recreational purposes along the reconductoring route (TL 6939 and TL6974) from Four Gee Road along Wild Horse Glen to Saintsbury Glen. Temporary disturbances are also likely north of and parallel to Camino del Norte between Rancho Bernardo and 4S Ranch Parkway where overhead wire work is proposed and where existing wood stub poles including R14 and R15 are proposed to be removed from service. As stated above, the construction-related disturbances are proposed to occur within utility rights of way and are not expected to physically limit or impact recreational facilities in any long-term way. These proposed Project activities would not otherwise generate any physical deterioration of parks or recreational facilities in the study area.

The Proposed Project would not result in a significant increase in local population or housing, which typically would be associated with increased permanent demand for parks or other recreational facilities. The number of construction workers that would be required for Project construction, at its peak, would be approximately 45 crew members per day. The Proposed Project construction activities would be temporary, lasting approximately 30 months. It is possible that construction workers could increase the use of existing park and recreation facilities. However, any such increase would not be substantial and would not result in a substantial increase in demand for existing park or recreational facilities, resulting in substantial physical deterioration of existing facilities. The impacts would be less than significant.

No changes to existing operation and maintenance activities are anticipated with Proposed Project implementation. As a result, the operation and maintenance of the Proposed Project would be similar to the existing conditions, and would not result in the displacement of recreational users compared to existing conditions. Additionally, operation and maintenance would result in no

increase in area residents or employees. Therefore, Proposed Project operation and maintenance would not result in a measurable change in the existing level of use at neighborhood and regional parks or other recreational facilities, and so would not cause or accelerate any substantial physical deterioration of those facilities. Impacts would be less than significant.

b) Whether the Project includes recreational facilities or requires 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 and would not require the addition of new or the expansion of any existing recreational facilities that might have an adverse physical effect on the environment for the reasons described above under a). Therefore, the Project would have no impact regarding this criterion b).

3.16.5 References

- City of San Diego, 1998. Multiple Species Conservation Program MSCP Plan. Available online at <https://www.sandiego.gov/planning/programs/mscp>. Accessed December 19, 2016.
- City of San Diego, 2015. City of San Diego General Plan: Recreation Element. Adopted June, 2015. Available online at <http://www.sandiegocounty.gov/pds/generalplan.html>. Accessed January 17, 2017.
- County of San Diego, 2005. San Dieguito Community Trails and Pathways Plan. Available online at <http://www.sandiegocounty.gov/content/sdc/pds/community-trails-master-plan.html>. Accessed March 2, 2017.
- County of San Diego, 2011. San Diego County General Plan, Conservation Element. Available online at <http://www.sandiegocounty.gov/pds/generalplan.html>. Accessed January 17, 2017.
- County of San Diego, 2014. San Dieguito Community Plan, San Diego County General Plan adopted December 31, 1974; amended June 18, 2014. Available online at <http://www.sandiegocounty.gov/pds/generalplan.html>. Accessed January 18, 2017.
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- San Diego Gas & Electric Co. (SDG&E) 2016. Proponent Environmental Assessment Artesian 230kV Substation Expansion Project, August 2016.
- Torrey Pines Docent Society, 2016. Torrey Pines State Natural Reserve docent managed website: <https://torreypine.org/>. Accessed January 18, 2017.

3.17 Transportation and Traffic

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
16. TRANSPORTATION AND TRAFFIC— Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.17.1 Environmental Setting

Roadway Network

For the purposes of this analysis the study area is defined as the area bounded by Rancho Bernardo Road to the north, Carmel Mountain Road to the south, Camino Del Sur to the west, and Pomerado Road to the east. Regional transportation in the study area is facilitated primarily by Interstate 15 (I-15) and Interstate 5 (I-5). I-15 is a major north-south route of the Interstate Highway System located approximately three-and-a-half miles east of the Project site that runs between San Diego and the Canadian Border in Montana. I-5 is a major north-south route of the Interstate Highway System located approximately seven miles west of the Project area that carries traffic along the west coast of the United States from the Canadian border to the Mexican border. These roadways, which are under the jurisdiction of the California Department of Transportation (Caltrans), would be used to access the Project site during construction and operation. The local transportation system in the study area includes roads maintained by the City of San Diego, the City of Escondido and the County of San Diego. **Table 3.17-1** summarizes the characteristics of the relevant regional and local roadways in the study area.

TABLE 3.17-1
SUMMARY OF STUDY AREA ROADWAY CHARACTERISTICS

Roadway Segment	Jurisdiction	Classification	No. of Lanes	Average Daily Traffic Volume ¹	Level of Service ²
I-15: Carmel Mountain Road – Pomerado Road	Caltrans	Freeway	8-14	211,000 – 225,000	F
Camino Del Sur: Carmel Valley Road – Caminito Lazanja	City of San Diego	Major Arterial	4	11,985	A
Camino Del Sur: Via Verrazano – Via Azul	City of San Diego	Major Arterial	4	10,113	A
Camino Del Sur: San Dieguito Road – Paseo Del Sur	City of San Diego	Major Arterial	4	10,467	A
Camino Del Sur: Casey Glen – Old Course Road	City of San Diego	Major Arterial	4	12,239	A
Camino Del Sur: Four Gee Road – Rancho Bernardo Road	City of San Diego	Major Arterial	4	21,229	A
Camino Del Norte: Dove Canyon Road – Camino San Bernardo ³	County of San Diego	Primary Arterial	6	29,800	A
Camino Del Norte: Bernardo Center – Paseo Montanoso	County of San Diego	Primary Arterial	6	41,600	B
Camino Del Norte: I-15 – Carmel Mtn	County of San Diego	Primary Arterial	6	45,600	B
Camino San Bernardo: Camino Del Norte – Rancho Bernardo Road	County of San Diego	Major Arterial	4	3,200	A
Rancho Bernardo: Camino San Bernardo – Matinal Road	City and County of San Diego	Major Arterial	4	28,400	B
Rancho Bernardo: Broken Bow Court – Matinal Road	City of San Diego	Major Arterial	4	27,045	B
Rancho Bernardo: Via Tazon – W Bernardo Drive	City of San Diego	Major Arterial	4	30,115	B
Rancho Bernardo: W Bernardo Drive – I-15	City of San Diego	Primary Arterial	6	44,536	B

NOTES:

- 1 Average Daily Traffic (ADT) values given are the most current year (from range of 2006-2014) and correspond with each listed roadway at the listed cross street. Where ADT values were available for multiple segments for a given roadway, ADT values are given for those segments closest to the Proposed Project area.
- 2 See following page for definition. Where published LOS values are used, LOS values represent only segments in the vicinity of the Proposed Project.
- 3 The values for this segment were taken from a segment of Camino Del Norte directly east of Camino San Bernardo.

SOURCES: CALTRANS, 2014; City of San Diego Public Works Department, 2015; SANDAG, 2010; City of San Diego *Street Design Manual*; San Diego County *Street Design Manual*.

Existing Roadway Levels of Service

Level of service (LOS) is a qualitative measure that describes operational conditions as they relate to the traffic stream and perceptions by motorists and passengers, in terms of factors such as speed and travel time, delays, freedom to maneuver, traffic interruptions, comfort, convenience, and safety. There are six levels of operational service, given letter designations from LOS A to LOS F, with LOS A representing the best operating conditions (free-flow) and LOS F the worst (severely congested flow with high delays). The ratio of a road's traffic volume to its capacity is computed, and the resulting volume/capacity (v/c) ratio is assigned an LOS grade, indicative of traffic conditions (see **Table 3.17-2** for the range of v/c ratios for each LOS, and Table 3.17-1 for existing levels of service on study area roadways). For freeways and highways, the minimum acceptable LOS is typically LOS E.

TABLE 3.17-2
LEVEL OF SERVICE DEFINITIONS

LOS	V/C Ratio	Description
A	0.00 – 0.60	Free-flow conditions with unimpeded maneuverability. Stopped delay at signalized intersections is minimal.
B	0.61 – 0.70	Reasonably unimpeded operations with slightly restricted maneuverability. Stopped delays are not bothersome.
C	0.71 – 0.80	Stable operations with somewhat more restrictions in making mid-block lane changes than LOS B. Motorists will experience appreciable tension while driving.
D	0.81 – 0.90	Approaching unstable operations where small increases in volume produce substantial increases in delay and decreases in speed.
E	0.91 – 1.00	Operations with significant intersection approach delays and low average speeds.
F	>1.00	Operations with extremely low speeds caused by intersection congestion, high delay, and adverse signal progression.

SOURCE: Transportation Research Board, Highway Capacity Manual Special Report 209, 1994.

Bicycle Facilities

Bicycle facilities within the City of San Diego are developed and maintained according to the City's *Bicycle Master Plan* (City of San Diego, 2013). According to the *Bicycle Master Plan*, bicycle facilities in San Diego are classified as Class I, Class II, or Class III facilities, as defined by the state in Streets and Highway Code Section 890.4. Class I facilities are bike paths with exclusive right-of-way for use by bicyclists or pedestrians. Class II facilities are bike lanes striped with the paved areas of roadways and established for the preferential use of bicycles, while Class III facilities are signed bike routes that allow bicycles to share streets or sidewalks with vehicles or pedestrians.

Designated bicycle facilities that either intersect, or are located immediately adjacent to the locations of Proposed Project components include Class II (Bike Lane) facilities located on Camino Del Sur, Camino Del Norte, Carmel Valley Road, and Rancho Bernardo Road. There are no Class I or Class III bicycle facilities nearby.

Air Traffic Facilities

The closest public airports operating near the Project site are the Ramona Airport (approximately 22 miles east of the Artesian Substation) and Montgomery-Gibbs Executive Airport (approximately 20 miles southwest of the Artesian Substation). The Marine Corps Air Base at Miramar is the closest military airport runway located approximately 10 miles south of the Project site.

Public Transit and Rail Services

Bus services in the study area are provided by San Diego Metropolitan Transit System (MTS). MTS also operates four trolley and light rail lines in San Diego County; however, none of those lines operate within the study area. MTS operates 93 fixed route bus lines within the City of San Diego and surrounding areas with a fleet of over 4,500 buses. No transit service is currently provided in the vicinity of the Artesian Substation. There are eleven bus routes that operate in the study area, as shown in **Table 3.17-3**. The nearest bus stop to the Bernardo Substation is located more than three-quarters of a mile to the east at the intersection of Rancho Bernardo Road and West Bernardo Drive; the nearest bus stop to the Rancho Carmel Substation is located approximately one-third of a mile to the east at the intersection of Camino Del Norte and Paseo Lucido.

TABLE 3.17-3
BUS LINES WITHIN THE STUDY AREA

Proposed Project Element	Roadway/Route	Bus Line(s)
Bernardo Substation	I-15	237, 921, 235, 110, 20, 944, 270 280, 290
	Pomerado Road	945, 945A
Rancho Carmel Substation	Camino Del Norte	20
	Carmel Mountain Road	20
	Pomerado Road	945, 945A

SOURCE: MTS Regional Transit Map, November 2016.

3.17.2 Regulatory Setting

Federal

Federal Aviation Administration

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

Transportation of Hazardous Materials

The U.S. Department of Transportation (DOT) is the administering agency for the following regulations:

- Title 49 Code of Federal Regulations (CFR) Sections 171 through 177 (49 CFR 171–177), which govern the transportation of hazardous materials, the types of materials defined as hazardous, and the marking of transportation vehicles.
- Title 49 CFR 350–399 and Appendices A through G, Federal Motor Carrier Safety Regulations, which address safety considerations for the transport of goods, materials, and substances over public highways.
- Title 49 CFR 397.9, the Hazardous Materials Transportation Act of 1974, which directs DOT to establish criteria and regulations for the safe transportation of hazardous materials.

State

California Department of Transportation (Caltrans) owns the rights-of-way for state highways, including any on- and off-ramps that provide access to the Project area. Any Project-related work within the state rights-of-way requires a ministerial Encroachment Permit from Caltrans. Caltrans is also the administering agency for regulations related to traffic safety, including the licensing of drivers, oversized (weight and load) vehicle limitations, transportation of hazardous and combustible materials, and the safe operation of vehicles.

Local

The CPUC has exclusive jurisdiction over the siting, design, and construction of the Project, therefore the Project is not subject to local discretionary regulations. Details below that relate to local regulations are provided for informational purposes.

San Diego Association of Governments

SANDAG serves as the regional planning agency for all of San Diego County. SANDAG is responsible for planning and allocating local, state, and federal funds for the region's transportation network. State law and the California Transportation Commission require SANDAG to adopt a 20-year regional transportation plan every four years, which considers improvements to freeways, state highways, transit, and regional bicycle and pedestrian routes. SANDAG prepares and administers a number of key plans that relate to regional transportation infrastructure and planning, such as the Regional Transportation Plan. These plans are generally utilized to identify and address current and projected future transportation planning and congestion management through traffic monitoring, traffic mitigation, transportation system planning, specific transportation project identification and funding, and transportation system management. The Regional Transportation Plan addresses large-scale transportation planning and projects and does not generally address small-scale construction project planning.

San Diego County

San Diego County requires that the placement of any structures on, over, or under county roads obtain an encroachment permit to be approved by the Department of Public Works as required by San Diego County Code of Regulatory Ordinances Section 71. The *San Diego County General Plan*, Mobility Element proposes policies and goals to achieve a balanced multimodal transportation system with sufficient capacity to support uses and development in the Land Use Element. The *San Diego County General Plan* does not contain any policies that apply generally to construction projects.

City of San Diego

The stated purpose of the *City of San Diego General Plan*, Mobility Element is to “improve mobility through development of a balanced, multi-modal transportation network.” The Mobility Element is focused on the current and future relief of traffic congestion, mainly through detailed planning and coordination between transportation and land use planning both at the local and regional level. The Mobility Element goals and policies address traffic congestion through planning policy and design guidelines that generally do not apply to construction-related projects like the Proposed Project that do not result in permanent transportation system demands.

Public Utility Standards

The California Joint Utility Traffic Control Manual provides standards and principles to consider when constructing in a road. The document states it is the responsibility of the contractor performing work on or adjacent to a road to implement traffic control devices and procedures to ensure the safe passage of motorists, bicyclists, and pedestrians. This manual does not establish a legal standard; rather, it provides information and guidance.

3.17.3 Applicant Proposed Measures

The Proposed Project includes no Applicant Proposed Measures (APMs) that focus on potential effects to transportation and traffic.

3.17.4 Environmental Impacts and Mitigation Measures

- a) Whether the Project would 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 IMPACT.***

Construction of the Proposed Project would result in minor, temporary increases in ADT along road segments where construction personnel, equipment, and other construction-related trips would access work areas and staging yards. Due to the nature of transmission and power line construction, multiple work areas are needed and construction traffic is largely spread out among existing roadways and SDG&E access roads. Traffic-generating construction activities related to the Proposed Project (see Tables 2-11 through 2-14 for details) would consist of the daily arrival

and departure of construction workers to each work site; trucks hauling equipment and materials to the work sites; and the hauling of excavated spoils from, and import of new fill to, certain work sites. The roadways that would be potentially affected by construction-related traffic are listed in Table 3.17-1.

To evaluate the potential worst case scenarios, potential effects on roadway LOS were analyzed assuming that all Proposed Project-related trips could occur on a single roadway where that roadway could represent a common travel route for multiple project elements (such as Camino Del Sur and Camino Del Norte). This analysis is considered to be conservative as, in reality, construction trips would be distributed along the roads adjacent to the reconductoring alignment. The peak number of construction-related vehicle trips would occur while the following overlapping phases of construction are occurring:

- Phase 1(d): Eastern Parcel Above Ground Construction
- Phase 1(e): Wiring and Relay Testing
- Phase 6(b): Artesian 69kV Getaway – Cable Pulling
- Phase 7(a): Bernardo 69kV Getaway – Trenching and Conduit Installation
- Phase 10(c): 69kV Stringing

Further detail on the construction phasing is provided in Section 2.6 of the *Project Description*. During this peak construction period (see Table 2-14), where several construction phases could be underway concurrently, it is estimated that a maximum of 178 one-way construction-related trips would occur at the Project site¹ (SDG&E, 2016). This would include 88 one-way worker trips to various staging yards and work sites and 90 PCE (passenger car equivalent) one-way truck trips for hauling of materials.

As shown in Table 3.17-1, I-15, which would likely be utilized for construction-related traffic, currently experiences unacceptable operating conditions (LOS F) in the study area. However, the additional traffic resulting from construction of the Proposed Project would not represent a significant increase in the total ADT or volume-to-capacity (V/C) ratio, and as such would not be anticipated to create a significant impact on level of service. For example, existing ADT on I-15 is in the range of 211,000 to 225,000, of which Proposed Project-related construction traffic would represent a less than a 0.08 percent increase. This corresponds to a change in V/C of approximately 0.001, which would be less than the 0.005 allowable change for freeways operating at LOS F.² On the study area roadways that currently operate at LOS A or LOS B, the addition of construction-related trips would not result in any degrading of LOS to an unacceptable level. Therefore, the addition of construction-related trips would result in a less than significant impact to the performance of study roadway segments.

¹ Due to the size and greater effect on traffic that larger vehicles (such as hauling and cement trucks) have, a passenger car equivalent (or PCE) of 3.0 was applied to such trips for the purpose of the analysis. E.g. 30 one-way truck trips were evaluated as 90 on-way car trips.

² Per City of San Diego Significance Determination Thresholds, a project would result in a significant impact if project ADT were to result in greater than a 0.005 increase in V/C for freeways operating at LOS F.

The most substantial effects on traffic during construction would be associated with the installation of two small sections of underground power line near the Artesian and Bernardo substations (i.e., substation getaways). Construction of underground utilities affects traffic by reducing the capacity of a given roadway by closing a portion of the roadway for construction; with respect to the Proposed Project, it is anticipated that only one lane would be closed at a time during the installation of underground lines. The underground lines would be installed primarily under Camino Del Sur and Rancho Bernardo Road. As shown in Table 3.17-1, the four-lane segment of Camino Del Sur from Four Gee Road to Rancho Bernardo Road that would be affected by the installation of an underground power line at the Artesian Substation currently operates at LOS A; a lane closure on this roadway would result in a temporary degradation in operations to LOS B. The four-lane segment of Rancho Bernardo Road from Camino San Bernardo to Matinal Road would be affected by the installation of an underground power line at the Bernardo Substation; a lane closure on this roadway would result in a temporary degradation of operations from LOS B to LOS D. The construction of these two facilities would not cause roadway operations on either of the affected roadways to degrade to LOS E or LOS F.³ Therefore, the impact of temporary lane closures needed for the installation of underground power lines would be less than significant.

Operation and maintenance of the Proposed Project would be similar to the operation and maintenance of existing facilities. It is anticipated that current trips would be reduced as the reconductoring alignment would require less maintenance than the existing equivalent equipment. Operation and maintenance activities at the expanded Artesian Substation would increase slightly due to the increase in substation equipment and facilities; over a 10-year period, the Artesian Substation site would experience approximately seven additional maintenance events equating to daily traffic increases of between six and ten vehicle trips for each of those events. Overall, operation and maintenance of the Proposed Project would not result in a perceptible increase in traffic, and the impact to all study roadway segments would be less than significant.

b) Whether the Project would 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: *NO IMPACT.*

State Proposition 111, passed by voters in 1990, established a requirement that urbanized areas prepare and regularly update a Congestion Management Program (CMP). Although SANDAG provided regular updates for the state CMP from 1991 through 2008, the San Diego region elected to opt out of (be exempt from) the state CMP in October 2009. As such, there is no relevance of the Project to potential conflicts with an applicable CMP, and no impact would occur.

³ Within the City and County of San Diego, LOS E and F are considered unacceptable for roadway operating conditions.

c) Whether the Project would result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks: *NO IMPACT.*

None of the Proposed Project structures or equipment used to construct the Proposed Project would be taller than 200 feet. Helicopters would not be used during construction. An airspace obstruction analysis was conducted by SDG&E to determine FAA noticing requirements for the reconductoring alignment and substation getaways. The results of this analysis indicated that the Proposed Project structures would result in No Hazard to Air Navigation. Therefore, no impacts to air traffic would occur.

With respect to air traffic, operation and maintenance of the Proposed Project would occur in the same or essentially the same locations as they occur today under existing conditions. Helicopter use beyond that currently required for existing facilities would not be necessary to operate or maintain the Proposed Project. As a result, there would be no impact to air traffic due to the operation and maintenance of the Proposed Project.

d) Whether the Project would substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment): *LESS THAN SIGNIFICANT IMPACT.*

Construction of the Proposed Project would not require any permanent modifications to existing public roadways or other transportation infrastructure. Construction work that would occur within and above public road ROWs (e.g., installation of underground substation getaways in public streets and stringing conductor over public streets) could increase hazards; however, SDG&E would utilize guard structures and other safety procedures for conductor stringing over roadways to ensure that risk of hazard is minimized (see Section 2.6.8.1 in the *Project Description* for further details). In addition, SDG&E would be required to obtain encroachment permits for work within or over roadways, as applicable pursuant to local regulations. The encroachment permits would include detailed, project-specific traffic control plans that would ensure work is completed in a safe manner, in accordance with applicable local regulations, including proper signage, safety cones, flaggers, and other traffic control measures, as necessary. Therefore, construction of the Proposed Project would result in a less than significant impact with respect to increased hazards and incompatible uses.

Operation and maintenance activities of the Proposed Project would be similar to the operation and maintenance of existing facilities. The expanded Artesian Substation, existing Bernardo and Rancho Carmel substations, and the power and transmission lines would operate unstaffed, with minimal maintenance; maintenance would occur on facilities outside of the public ROW. The new underground substation getaways at the Artesian and Bernardo substations would require periodic maintenance and access to approximately five underground vaults located within public streets. Access to these vaults could result in short-term disruption of traffic along Camino Del Sur, Babcock Street, and Rancho Bernardo Road. However, access to these vaults would be infrequent (once per three years), only last one day per visit, and be conducted pursuant to City and County of San Diego encroachment permit requirements, including traffic control measures.

Therefore, operation and maintenance of the Proposed Project would result in a less than significant impact with respect to increased hazards and incompatible uses.

e) Whether the Project would result in inadequate emergency access: *LESS THAN SIGNIFICANT IMPACT.*

As noted previously, construction of the Proposed Project would temporarily increase vehicle traffic and would result in temporary lane closures during the installation of the new underground power line getaways. Although this can affect emergency access, the increase in vehicle traffic during construction would be minor, and is not expected to significantly affect response times. Construction within public roadways would be conducted pursuant to approved traffic control plans that would ensure emergency vehicle access is preserved during construction activities. Therefore, construction of the Proposed Project would result in a less than significant impact to emergency access.

Operation and maintenance activities for the Proposed Project would be similar to the operation and maintenance of existing facilities. As noted previously, the only new operation and maintenance activities would occur at the expanded Artesian Substation site and at the underground vaults located along the new underground substation 69kV power line getaways. The new underground getaways vaults would require periodic maintenance and access, and access to these vaults could result in short-term changes to traffic along existing public roadways. However, visits to these vaults would be infrequent (once per three years), only last one day per visit, and would be conducted pursuant to City and County of San Diego encroachment permit requirements, including traffic control measures. Emergency access would be preserved. Therefore, operation and maintenance of the Proposed Project would result in a less than significant impact to emergency access.

f) Whether the Project would conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities: *LESS THAN SIGNIFICANT IMPACT.*

Construction, operation and maintenance of the Proposed Project would not affect public transit as there are no public transit routes or facilities within or adjacent to the Proposed Project components. No impact to public transit routes or facilities would result.

Construction of the underground getaways would require temporary detours for four Class II bike lanes along Camino Del Sur and Rancho Bernardo Road. Although construction of these facilities would take up to four weeks, the portion of the work affecting the bike lanes would occur for a shorter period of time. SDG&E would conduct all construction activities pursuant to adopted traffic control plans including detours for cyclists and pedestrians when bike lanes or sidewalks must be closed. Therefore, construction of the Proposed Project would result in a less than significant impact to bicycle and pedestrian facilities.

Operation and maintenance activities for the Proposed Project would be similar to the operation and maintenance of existing facilities. The new underground getaways vaults would require periodic maintenance and access, and access to these vaults could result in short-term changes to

traffic along existing public roadways. However, visits to these vaults would be infrequent (once per three years), only last one day per visit, and would be conducted pursuant to City and County of San Diego encroachment permit requirements, including traffic control measures. Therefore, operation and maintenance of the Proposed Project would result in a less than significant impact to bicycle and pedestrian facilities.

3.17.5 References

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3.18 Utilities and Service Systems

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
17. UTILITIES AND SERVICE SYSTEMS—Would the project:				
a) Conflict with wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Result in a determination by the wastewater treatment provider that would serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.18.1 Environmental Setting

Water Services

San Diego County

The potable water supply in the study area (San Diego County) is administered by the San Diego County Water Authority (SDCWA), a water wholesaler made up of 24-member water agencies. SDCWA purchases water from the Metropolitan Water District of Southern California and the Imperial Irrigation District, and operates a desalination plant in Carlsbad. SDG&E anticipates that the majority of the water supply for the Proposed Project would come from Olivenhain Municipal Water District (OMWD), one of SDCWA's member agencies. OMWD provides potable and recycled water to 84,000 customers (SDCWA, 2016), including the communities of Encinitas, Carlsbad, San Diego, San Marcos, and Solana Beach. OMWD maintains 400 miles of potable water pipeline, 46 miles of recycled water pipeline, three water treatment plants, and 17 storage tanks/reservoirs (OMWD, 2016). OMWD customers receive a blend of water treated primarily at the David C. McCollom Water Treatment Plant, but also at Metropolitan Water District of Southern California's Robert A. Skinner Treatment Plant and SDCWA's Twin Oaks Valley Water Treatment Plant.

City of San Diego

The City of San Diego, also a member agency of the SDCWA, provides potable and recycled water services to 1.3 million residents in the City of San Diego through its Public Utilities Department (City of San Diego, 2016). The City's water system spans three major water treatment service areas, with three water treatment plants, nine reservoirs, and two water reclamation plants. The service area also overlays several groundwater basins. In addition to local runoff from rainfall that is captured in the City's reservoirs and the use of recycled water for non-potable water demands from the City's water reclamation plants, imported water is purchased from the SDCWA to meet the majority of water demands in the City (City of San Diego, 2015). Besides distributing recycled water within its own service area, the City's Public Utilities Department sells recycled water to OWMD and two other local water agencies: Otay Water District and the City of Poway.

Wastewater Services

San Diego County

Wastewater services in the unincorporated San Diego County portion of the Project site are provided by OMWD. OMWD's 4S Ranch Water Reclamation Facility processes wastewater and produces up to 2 million gallons per day of recycled water (OMWD, 2016).

City of San Diego

The City collects and treats approximately 160 mgd of wastewater that is generated in a 450-square-mile area made up of the City's boundaries, as well as 12 other agencies that form the Metro Wastewater Joint Power Authority. Collectively, the wastewater collection and treatment system is known as the Metro System. Wastewater is treated at three treatment plants: the North City Water Reclamation Plant (NCWRP), the South Bay Water Reclamation Plant (SBWRP), and the Point Loma Wastewater Treatment Plant (PLWTP). All three plants are located in the City. The closest plant to the Project site is the NCWRP, 11 miles to the southwest. Currently the wastewater treatment system services 2.2 million people. The North City Water Reclamation Plant, specifically, processes an average of 940,000 gallons per day of wastewater (City of San Diego, 2015a). Planned improvements will increase wastewater treatment capacity to serve an estimated population of 2.9 million and nearly 340 mgd by the year 2050 (City of San Diego, 2015). As part of the Proposed Project, SDGE would request approval from the City of San Diego for the use of recycled water for Project-related uses within the City's jurisdiction.

Solid Waste and Recycling Services

Table 3.18-1 below, details landfills that are feasible for use by the Proposed Project based on proximity and capacity to the Project site. SDG&E, however, has identified two potential landfills for use that could accept Project solid (non-hazardous) waste: Otay Landfill in Chula Vista, California, located approximately 25 miles south of the Proposed Project site, and Soil Safe, Inc., Soil Recycler in Adelanto, California, located approximately 110 miles north of the Proposed Project site (SDG&E, 2016).

**TABLE 3.18-1
LANDFILLS TO BE USED BY THE PROPOSED PROJECT**

Facility	Type of Waste Accepted	Location	Distance from the Proposed Project	Remaining Capacity (cy)	Daily Capacity tons/day
Soil Safe, Inc., Soil Recycler	Nonhazardous	Adelanto, California	110 miles north	400,000 tons (permitted capacity)	5,000
Sycamore	Asbestos, Contaminated soil, Mixed municipal, Sludge (BioSolids), Agricultural, Dead Animals, Tires, Shreds, Wood waste, Other designated	San Diego, CA	12.5 miles southwest	39,608,998	5,000.00
West Miramar Sanitary Landfill	Construction/demolition, Mixed municipal, Tires	San Diego, CA	12.7 miles southwest	87,760,000	8,000
Ramona	Agricultural, Construction/demolition, Mixed municipal, Sludge (BioSolids), Tires, Wood waste	Ramona, CA	14.8 miles northwest	Full	
Clean Harbor Environmental Services	Contaminated soil, Industrial, Other designated, Other hazardous	Buttonwillow, California	220 miles north	13,250,000 (max permitted capacity)	10,500
Las Pulgas	Construction/demolition, Industrial, Mixed municipal, Sludge (BioSolids)	Camp Pendleton, CA	23.6 miles southeast	10,103,973	400.00
San Onofre	Industrial, Mixed municipal, Construction/demolition, Sludge (BioSolids)	Camp Pendleton, CA	23.6 miles southeast	1,064,500	100.00
Otay Landfill	Nonhazardous	Chula Vista, California	25 miles south	24,514,904 (CalRecycle, 2012).	5,830
Waste Management Kettleman Hills Facility	Nonhazardous and contaminated soil	Kettleman City, CA	260 miles north	6,000,000	8,000
Borrego	Agricultural, Construction/demolition, Mixed municipal, Sludge (BioSolids), Tires, Wood waste	Borrego Springs, CA	49.29 miles northeast	111,504	50 tons/day
Escondido Resource Recovery Landfill	Nonhazardous	Escondido, CA	seven miles to the northwest	5,249 tons/day (permitted capacity)	2,500

SOURCE: CalRecycle, 2017

SDG&E has also identified two potential hazardous waste landfills among those included in Table 3.18-1 that could accept Project waste if needed: 1) Waste Management Kettleman Hills Facility, located approximately 260 miles north of the Proposed Project site in Kettleman City, California; and 2) Clean Harbor Environmental Services in Buttonwillow, California, which is located approximately 220 miles north of the Proposed Project site.

San Diego County

Currently, solid waste generated by residents and businesses is disposed of locally at one of seven active landfills. San Diego County also contains nine transfer stations, construction demolition and inert processing facilities, ten biomass processing facilities, and various recycling programs that currently serve the unincorporated area's solid waste disposal service needs (San Diego County, 2011). These landfills are listed in Table 3.18-1. The landfills currently operating in the County for public use are either privately owned and operated, or are operated by the City of San Diego. The Escondido Resource Recovery Landfill is the closest landfill to the Proposed Project site, located approximately seven miles to the northwest in the City of Escondido.

City of San Diego

The City of San Diego Solid Waste Division collects and disposes of refuse, recyclables, and green waste within the city limits. More than 1.4 million tons of waste is disposed at the Miramar Landfill every year. Operation of the facility requires a Solid Waste Facility Permit, issued by the City's Local Enforcement Agency, which reports to the California Integrated Waste Management Board. 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 Miramar, within the City's boundaries. A proposed expansion of Sycamore Landfill is currently under review by the City. The Otay Landfill is located within an unincorporated island within the City of Chula Vista. The Miramar Landfill is the closest landfill to the Proposed Project site within the City of San Diego, approximately 13 miles to the southwest.

All landfills identified as available for use by the Proposed Project, based on proximity and capacity, are included in Table 3.18-1, above.

3.18.2 Regulatory Setting

Federal

No federal regulations pertaining to Utilities and Service Systems apply to the Project.

State

Water Services

Porter-Cologne Water Quality Control Act

The State of California's Porter-Cologne Water Quality Control Act provides the basis for water quality regulation within California and assigns primary responsibility for the protection and enhancement of water quality to the State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCBs). The San Diego RWQCB serves the Project area.

Under the Porter-Cologne Act, the SWRCB and RWQCBs also have the responsibility of granting Clean Water Act National Pollutant Discharge Elimination System (NPDES) permits and Waste Discharge Requirements for certain point-source and non-point discharges to waters.

The Porter-Cologne Act allows the SWRCB to adopt statewide water quality control plans, which serve as the legal, technical, and programmatic basis of water quality regulation statewide or for a particular region. Water quality control plans limit impacts on water quality from a variety of sources. The Water Quality Control Plan for the San Diego Basin (Basin Plan) establishes water quality objectives and beneficial uses for waters in the San Diego basin, and is implemented by the San Diego RWQCB. The Basin Plan designates beneficial uses and water quality objectives for “waters of the State,” including surface waters and groundwater, and includes programs of implementation to achieve the water quality objectives.

San Diego RWQCB Waiver No. 2 – “Low Threat” Discharges to Land

This waiver facilitates the discharge of recycled water to land in the area subject to the jurisdiction of the San Diego RWQCB. Temporary uses of tertiary-treated recycled water, including dust control, soil compaction, concrete mixing, and housekeeping (e.g., street sweeping), are permitted via this waiver.

Wastewater Services

As the Project may use recycled water during construction (see Section 2.6.2) and would generate wastewater during construction activities such as dust control and dewatering, and also via runoff, the following regulations are applicable.

SWRCB Order WQ-2016-0068-DDW

This SWRCB-adopted order permits temporary and permanent uses of tertiary-treated recycled water for allowed construction activities including dust control, soil compaction, concrete mixing, housekeeping (e.g., street sweeping), and hydrostatic testing (SWRCB, 2016).

NPDES Construction General Permit

The RWQCB administers the NPDES stormwater permitting program in the San Diego Region. Construction activities disturbing one acre or more of land, which includes the Project, are subject to the permitting requirements of the NPDES General Permit for Discharges of Storm Water Runoff Associated with Construction Activity (Construction General Permit) and must apply for Construction General Permit coverage. For all new projects, applicants must electronically file permit registration documents using the Stormwater Multiple Applications and Report Tracking Systems (SMARTS), and must include a Notice of Intent (NOI), risk assessment, site map, and stormwater pollution prevention plan (SWPPP) to be covered by the General Construction Permit prior to beginning construction. The risk assessment and SWPPP must be prepared by a state-qualified SWPPP Developer. See Section 3.9, Hydrological Resources, for more information.

Solid Waste and Recycling Services

The Project would generate solid waste during construction (see Section 2.6.4) and therefore the following requirements are applicable.

California Integrated Waste Management Act

The Integrated Waste Management Act of 1989 (Pub. Res. Code §40050 et seq.), as amended, requires all non-residential building projects to divert from landfill a minimum of 65 percent of all waste produced. Diversion includes waste prevention, reuse, and recycling. The Act resulted in the creation of the state agency now known as CalRecycle. Under the Act, jurisdictions also have to submit solid waste planning documentation to CalRecycle. The Act also set into place a comprehensive statewide system of permitting, inspections, and maintenance for solid waste facilities, and authorized local jurisdictions to impose fees based on the types and amounts of waste generated.

Title 22 California Code of Regulations Division 4.5

Title 22 of the California Code of Regulations discusses an array of requirements with respect to the disposal and recycling of hazardous and universal wastes. Specific standards and requirements are included for the identification, collection, transport, disposal, and recycling of hazardous wastes. Additional standards are included for the collection, transport, disposal, and recycling of universal wastes, where universal wastes are defined as those wastes identified in Section 66273.9 of Title 22 of the California Code of Regulations, including batteries, electronic devices, mercury-containing equipment, lamps, cathode ray tubes, and aerosol cans. Requirements include recycling, recovery, returning spent items to the manufacturer, or disposal at an appropriately permitted facility. Division 4.5 of Title 22 also provides restrictions and standards relevant to waste destination facilities, and provides authorization requirements for various waste handlers.

Title 24 California Code of Regulations Division 11 (California Green Building Standards Code)

As amended, California's Green Building Standards Code (CALGreen) requires that nonresidential building projects recycle and/or salvage for reuse a minimum of 65 percent of the nonhazardous construction and demolition waste (24 Cal. Code Regs. §5.408).

Local

The CPUC has exclusive jurisdiction over the siting, design, and construction of the Project, therefore the Project is not subject to local discretionary regulations. Details below that relate to local regulations are provided for informational purposes.

County of San Diego General Plan- Land Use Element

The following general plan goals and policies are potentially relevant to public utilities and services:

Goal LU-12: Infrastructure and Services Supporting Development. Adequate and sustainable infrastructure, public facilities, and essential services that meet community needs and are provided concurrent with growth and development.

Policy LU-12.2. Maintenance of Adequate Services. Require development to mitigate significant impacts to existing service levels of public facilities or services for existing residents and businesses. Provide improvements for Mobility Element roads in accordance with the Mobility Element Network Appendix matrices, which may result in

ultimate build-out conditions that achieve an improved LOS but do not achieve a LOS of D or better.

Policy LU-12.3. Infrastructure and Services Compatibility. Provide public facilities and services that are sensitive to the environment with characteristics of the unincorporated communities. Encourage the collocation of infrastructure facilities, where appropriate.

Policy LU-12.4. Planning for Compatibility. Plan and site infrastructure for public utilities and public facilities in a manner compatible with community character, minimize visual and environmental impacts, and whenever feasible, locate any facilities and supporting infrastructure outside preserve areas.

Goal LU-13: Adequate Water Quality, Supply, and Protection. A balanced and regionally integrated water management approach to ensure the long-term viability of San Diego County's water quality and supply.

Policy LU-13.2. Commitment of Water Supply. Require new development to identify adequate water resources, in accordance with State law, to support the development prior to approval.

GOAL LU-14: Adequate Wastewater Facilities. Adequate wastewater disposal that addresses potential hazards to human health and the environment.

Policy LU-14.1. Wastewater Facility Plans. Coordinate with wastewater agencies and districts during the preparation or update of wastewater facility master plans and/or capital improvement plans to provide adequate capacity and assure consistency with the County's land use plans.

City of San Diego General Plan- Public Facilities and Services Element

The following general plan goals and policies are potentially relevant to public utilities and services:

Goal. Public utility services provided in the most cost-effective and environmentally sensitive way.

Goal. Public utilities that sufficiently meet existing and future demand with facilities and maintenance practices that are sensible, efficient, and well-integrated into the natural and urban landscape.

Policy PF-M.1. Ensure that public utilities are provided, maintained, and operated in a cost-effective manner that protects residents and enhances the environment.

Policy PF-M.4. Cooperatively plan for and design new or expanded public utilities and associated facilities (e.g., telecommunications infrastructure, planned energy generation facilities, gas compressor stations, gas transmission lines, electrical substations and other large-scale gas and electrical facilities) to maximize environmental and community benefits.

- a) Use transmission corridors to enhance and complement wildlife movement areas and preserved open space habitats as identified in the City's Multiple Species Conservation Plan (MSCP).

- b) Provide adequate buffering and maintained landscaping between utility facilities and residential and non-residential uses, including the use of non-building areas and/or rear setbacks.
- c) Maximize land use and community benefit by locating compatible/appropriate uses within utility easements/ROWs (e.g., passive parkland, natural open space, wildlife movement, urban gardens, plant nurseries, parking, access roads, and trails). Trails can be allowed in these easements/ROWs, provided proper indemnification, funding, and maintenance is set forth in a written agreement between the public utility, the City, and project developer.
- e) Incorporate public art with public utility facilities, especially in urban areas.
- f) Ensure utility projects account for maintenance of community streetscape elements and street trees.
- g) Coordinate projects in the public ROW with all utility providers.

Goal. Maximum diversion of materials from disposal through the reduction, reuse, and recycling of wastes to the highest and best use.

Policy PF-I.2. Maximize waste reduction and diversion.

- a) Maximize the separation of recyclable and compost materials.
- b) Reduce and recycle Construction and Demolition (C&D) debris. Strive for recycling of 100 percent of inert C&D materials and a minimum of 50 percent by weight of all other material.
- c) Use recycled, composted, and post-consumer materials in manufacturing, construction, public facilities and in other identified uses whenever appropriate.

Wastewater Services

County of San Diego Watershed Protection, Stormwater Management, and Discharge Control Ordinance (WPO), County of San Diego Code of Regulatory Ordinances, Section 67.817

San Diego RWQCB Order No. R9-2007-0001 mandates that the County of San Diego submit new and updated Urban Runoff Management Plans (URMPs) to the RWQCB. Requirements in the WPO are intended to: 1) prohibit polluted non-stormwater discharges to the stormwater conveyance system and receiving waters; 2) establish requirements to prevent and reduce pollution to water resources; 3) establish requirements for development project site design to reduce stormwater pollution and erosion; 4) establish requirements for the management of stormwater flows from development projects to prevent erosion and to protect and enhance existing water-dependent habitats; 5) establish standards for the use of off-site facilities for stormwater management to supplement on-site practices at new development sites; and 6) establish notice procedures and standards for adjusting stormwater and non-stormwater management requirements, where necessary.

Solid Waste and Recycling Services

San Diego County Integrated Waste Management Plan (IWMP)

The San Diego County IWMP was updated most recently in 2005. It provides a description of the facilities and strategies that will provide adequate capacity for the disposal of solid waste within the County over the next 15 years, including alternatives such as additional waste diversion programs and waste export. The Countywide Siting Element it contains presents a strategy to assist local governments and private industry in planning for integrated waste management and the siting of solid waste disposal facilities. The goals and policies listed in the Countywide Siting Element are intended to assist all jurisdictions to plan and implement a solid waste management program (San Diego County, 2011).

San Diego County Construction and Demolition Ordinance (Ordinance No. 9840)

San Diego County's Construction and Demolition Ordinance (9840) applies to projects above 40,000 square feet in area and applies to the Project. The ordinance would require SDG&E to:

1. Submit a valid and comprehensible Debris Management Plan with an application for a building permit and/or demolition permit to the Department of Public Works. The DMP shall provide the following information: (1) the type of project; (2) the total square footage of the project; (3) the estimated volume or weight of project construction and demolition debris, by material type that the project will generate; (4) the maximum volume or weight of construction and demolition debris that can feasibly be diverted via reuse or recycling; (5) the estimated volume or weight of construction and demolition debris that will be disposed of in a landfill; and (6) the name and address of any person and/or recycling facility the Applicant proposes to use to collect, process or receive construction and/ demolition debris the project will generate. Applicable projects must recycle 90 percent of inert debris and 70 percent of all other construction and demolition debris.
2. Submit a Performance Guarantee, which would be fully refundable and based on the square footage of the permitted project (\$0.20 per square foot).
3. Maintain a Daily Log onsite - subject to inspection.
4. Recover/Recycle C&D debris.
5. Apply for a refund by submitting a Final Debris Management Plan.

City of San Diego Construction and Demolition Ordinance (San Diego Municipal Code Chapter 6, Article 6, Division 6)

The City's Construction and Demolition (C&D) Debris Deposit Ordinance requires that the majority of construction, demolition and remodeling projects requiring building, combination and demolition permits pay a refundable C&D Debris Recycling Deposit and divert 65 percent of their debris by total weight by recycling, reusing or donating usable materials. The ordinance is designed to keep C&D materials out of local landfills and ensure they get recycled.

3.18.3 Applicant Proposed Measures

No Applicant Proposed Measures (APMs) have been identified that would address potential impacts of utilities or service systems.

3.18.4 Environmental Impacts and Mitigation Measures

a) Whether the Project would exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board: *NO IMPACT.*

The Proposed Project would not exceed any wastewater treatment requirements of the San Diego RWQCB. During construction, self-washing concrete trucks with mobile containment could be used or equipment would be washed and contained in accordance with local encroachment permits. During construction, portable toilets would be provided for crews. Construction activities would be temporary, lasting approximately 30 months, and peak construction would employ a maximum of 45 workers per day, generating a limited amount of wastewater. Accordingly, wastewater generated from portable worker facilities during construction would be limited and handled by a licensed provider in accordance with all applicable requirements and with available capacity for the Project's wastewater treatment needs.

Wastewater would also be generated during construction as a result of potential runoff associated with the creation of approximately 1.91 acres of new impervious surface as a result of the expansion of Artesian Substation and a small area (less than an acre) of new impervious surface associated with access road creation and widening at the substation site. The Project includes the expansion of an existing detention basin located to the west of the substation site in order to accommodate this increased runoff. A SWPPP (see Section 3.10.2 for more details) would also be implemented as part of the Project. This would ensure the control of the discharge of pollutants by requiring the implementation of dewatering and storm water runoff prevention control procedures and BMPs to control erosion and discharge of sediments. Therefore, there would be no exceedance of applicable wastewater treatment requirements.

Dewatering is not expected to occur during construction, but if needed, pump trucks and baker tanks (large water storage tanks) would be used in accordance with all relevant local, state and federal requirements. Therefore there would be no exceedance of applicable wastewater treatment requirements.

Because the Project would not result in additional staffing at the substations or along the reconductoring alignment after construction is completed, no additional wastewater would be generated during operation or maintenance of the Project. Project operation and maintenance would generally remain the same as existing, and would include personnel visits for routine and emergency inspections and to repair or maintain the infrastructure at the proposed Artesian Substation expansion site, and along the reconductoring alignment. The frequency of inspection and maintenance activities would depend upon weather effects and any unique problems that may arise due to such variables as substantial storm damage or vandalism. The operational activities along the reconductoring alignment would be similar in scope to the existing operational activities taking place at these locations for other infrastructure, and the volume of wastewater

discharged from proposed operational activities would not increase relative to current discharge volumes. Accordingly, the Project would have no impact with respect to exceeding applicable wastewater treatment requirements. See also, criterion e) below.

b) Whether the Project would 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: *NO IMPACT*.

The Proposed Project would not require or result in the construction or expansion of water or wastewater treatment facilities. No such facilities would be developed as part of the Proposed Project and no construction, operation, or maintenance-related activity is expected to displace or destroy existing water wells, pipelines, or other facilities that provided water or wastewater services to the Project location. Construction of underground Project components could potentially damage existing utilities, including water mains, storm drains, and sewer lines, as a result of ground excavations, requiring the construction of new facilities. However underground Project components would be constructed within duct banks, and in locations where these banks cross or run parallel to other utility lines, a minimum radial clearance of 12 inches would be required. The radial clearance of the duct banks would therefore prevent any impacts of the Proposed Project on ongoing water or wastewater treatment for which such nearby water utility lines would be used.

As previously described, portable toilets would be provided for crew members during construction of the Project. As described in criteria a), wastewater generated during construction would be limited and handled by a licensed provider with available capacity for the Proposed Project's wastewater needs and would not require new facilities or the expansion of existing facilities. Construction runoff would be controlled via implementation of a SWPPP and the expansion of the existing detention basin.

The Proposed Project would require water use during construction, primarily as dust control on access roads, soil compaction during grading, and establishment of landscaping. This water would be supplied from OMWD hydrant/water fill up sites located close to the Proposed Project, as well as the City of San Diego, and would not require the construction of new or expanded water facilities.

No impact would occur. See also criteria d) and e) below.

c) Whether the Project would 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 IMPACT*.

The Project would include the expansion of an existing storm water drainage facility. As part of the Project, an existing stormwater detention basin immediately west of the existing Artesian Substation would be expanded as part of Phase I of Project construction (described in Section 2.6.3). The expanded detention basin would hold water and would drain into existing San Diego County and City of San Diego facilities at the same rate that the detention basin currently drains into these facilities. Although the Project would involve the construction of

expanded stormwater drainage facilities, this would not result in significant environmental effects, because the drainage rate would remain the same under the Project as per existing conditions. As discussed in Section 3.4, this area does not contain any sensitive biological resources, jurisdictional wetland or other aquatic resources and the expansion would not impact biological resources (see Section 3.4.5 for additional details). By increasing the capacity for runoff control, the detention basin would reduce potential impacts associated with erosion and sedimentation (see Section 3.10 for additional discussion). The impact under this criterion would be less than significant.

d) Whether sufficient water supplies would be available to serve the Project from existing entitlements and resources, or whether new or expanded entitlements would be needed: *LESS THAN SIGNIFICANT IMPACT.*

The Proposed Project could require about 10 million gallons of water during the construction period for potable uses, dust suppression, concrete mixing and other construction activities. As described in Section 3.10, water use during construction would be available from existing sources and would not require local water providers to obtain additional water entitlements. SDG&E will use tertiary-treated Title 22-compliant recycled water for approved construction uses such as dust control, soil compaction, and concrete mixing. Potable water will be required where regulations prohibit the use of recycled water. Water would be trucked in from the OMWD, which would primarily be recycled. SDG&E has obtained a Water Availability Letter from OMWD documenting the availability of water to this Project (OMWD, 2016). No new or expanded recycled water entitlements would be required.

Water use during operation and maintenance of the Proposed Project would be similar to existing conditions. Water use for washing insulators would increase slightly due the additional equipment at the expanded substation. Operation and maintenance of the expanded substation would only result in a relatively small increase in water demand (approximately 5,000 gallons per year), but would not demand or warrant expanding existing water entitlements beyond those already required.

No new or expanded water entitlements beyond those currently used by existing facilities undergoing construction would be needed for the Proposed Project and the Project would have less than significant impacts on existing water entitlements and resources.

e) Whether the Project would result in a determination by the wastewater treatment provider that would serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments: *NO IMPACT.*

As described above in criteria b) and d), above, the primary use of water during Project construction would be for dust control. Other than Artesian Substation, where runoff would be controlled via the implementation of a SWPPP, this water would evaporate or be absorbed into the ground, and would not require treatment as wastewater. Runoff at the Artesian Substation would also be accommodated by existing storm water infrastructure, including the expanded detention basin and would be compliant with the requirements of the NPDES permit acquired as part of the Proposed Project. In addition, construction would generate small volumes of sanitary

wastewater for a limited time that would be disposed of by a licensed provider with available capacity to serve the Proposed Project needs.

Operation and maintenance of the Proposed Project with regard to wastewater would be similar to existing conditions. No new wastewater-generating facilities would be constructed or operated as part of the Proposed Project. The Proposed Project would not result in a determination by a wastewater treatment provider that it has inadequate capacity to serve the Project's projected demand in addition to its existing commitments; therefore, no impact would occur.

f) Whether the Project would be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs: *LESS THAN SIGNIFICANT IMPACT.*

Construction of the Project would generate various waste materials, primarily associated with the expansion of the Artesian Substation and as a result of pole replacement during construction of the construction alignment (see Section 2.6.4). Waste would include concrete, plastics, wood and other metals, utility poles, utility line cables, and general waste such as paper, soil and vegetation. Whenever possible, SDG&E would re-use or recycle all old structures/poles, materials, and components following the retirement of substations, power lines, and structures/poles. Any material that cannot be re-used or recycled would be collected in steel bins, dump trucks, or metal drums (for hazardous materials) and recycled or properly disposed of off-site.

Pursuant to the Integrated Waste Management Act and local ordinances described in the Regulatory Setting, the Proposed Project would divert a minimum of 65 percent of all waste produced. This would include wood poles and associated hardware, conductors and insulators and scrap steel, copper, other metals; concrete; soils; and batteries.

Construction would result in a net export of soil (See Table 2-8). Soil would be reused onsite wherever possible with the remainder being exported to an appropriate disposal facility or otherwise reused. As shown in Table 3.18-1, hazardous waste and sanitary landfills close to the Proposed Project have been identified to have sufficient capacity for waste generated during construction, including soil.

A relatively small amount of hazardous or otherwise regulated waste would be generated during construction and demolition activities. Because the majority of waste resulting from the removal of existing structures and materials would be salvageable, the remaining construction waste would be minor and would be accommodated by existing landfills.

The operation and maintenance of the Project would generate negligible waste. Operation and maintenance would not significantly differ from existing conditions. As described in Section 3.18.1, landfills nearby the Proposed Project would have enough capacity to accept any generated hazardous and nonhazardous waste.

Therefore, impacts under this criterion would be less than significant.

g) Whether the Project would comply with federal, state, and local statutes and regulations related to solid waste: *LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.*

As discussed above, the Proposed Project would generate waste during construction and minimal waste during operation and maintenance. Construction waste would include disposal of a limited amount of materials that would not be recycled or reused. Pursuant to the San Diego County Construction and Demolition Ordinance, the Proposed Project would be required to divert 90% of inerts and 70% of all other materials generated from the landfill through recycling and reuse measures. The City of San Diego requires 65% of all construction waste be diverted from the landfill. Because the Project passes through both jurisdictions, it would have to comply with the more stringent County requirement. According to both the City and County solid waste management ordinances, an applicant must submit a completed County Debris Management Plan (DMP) and pay refundable fees, which would be reimbursed if all applicable compliance requirements of the ordinances are achieved. To achieve compliance with these ordinances, SDG&E would be required to prepare a Solid Waste Management Plan, **Mitigation Measure US-1**, and pay refundable deposits to the City of San Diego and County of San Diego. With implementation of this Mitigation Measure, impacts would be less than significant.

Mitigation Measure US-1: Solid Waste Management Plan and Construction and Demolition Debris Recycling Plan. The Applicant will prepare and submit a Solid Waste Management Plan (Plan) to the CPUC, San Diego County, and the City of San Diego for review and approval prior to the start of construction. The Solid Waste Management Plan will outline how the applicant will sort, measure, and record the disposal of solid waste to ensure that 90% of inerts and 70% of all other materials recycled and diverted from a landfill. The Plan would detail reporting requirements to the CPUC, San Diego County, and the City of San Diego.

Measures in the plan will include, but will not be limited to:

- Provision of space and/or bins for appropriate storage of recyclables on site;
- Establishment of a recyclable material pickup area;
- Development of a recordation system that details the amount of solid waste created, solid waste recycled, and solid waste delivered to each solid waste disposal facility.

Significance after Mitigation: Less than Significant.

3.18.5 References

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3.19 Mandatory Findings of Significance

<i>Issues (and Supporting Information Sources):</i>		<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
18.	MANDATORY FINDINGS OF SIGNIFICANCE — Would the project:				
a)	Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b)	Have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c)	Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.19.1 Mandatory Findings of Significance Discussion

- a) Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory: *LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.***

If mitigated as proposed, the Project would not have the potential to substantially degrade the quality of the environment. As analyzed in Section 3.3, *Air Quality*, the Project would result in no impact regarding conflict with or obstruction of the implementation of the applicable air quality plan, and less than significant impacts regarding violation of air quality standards or substantial contributions to an existing or projected air quality violation, cumulatively considerable net increases of criteria pollutants for which the region is a designated non-attainment area, and the creation of objectionable odors. If all diesel-powered construction equipment meets USEPA-certified Tier 4 standards or is equipped with Level 3 diesel particulate filters and if emissions controls are implemented as recommended in Mitigation Measure AIR-1, the Project also would have a less than significant impact relating to the exposure of sensitive receptors to substantial pollutant concentrations. As analyzed in Section 3.10, *Hydrology and Water Quality*, the Project would have no impact relating to the substantial degradation of water quality and a less than significant impact relating to violation of water quality standards and waste discharge requirements.

As analyzed in Section 3.4, *Biological Resources*, the Project would not substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or substantially reduce the number or restrict the range of a rare or endangered plant or animal. Impacts on species identified as a candidate, sensitive, or special-status would be reduced to less than significant with the implementation of Mitigation Measures BIO-2 through BIO-3, which require surveys for special-status plants and the implementation of a Restoration and Mitigation Plan. Impacts would be less than significant regarding riparian habitat and other sensitive natural communities, federally protected wetlands, fish and wildlife movement, and the use of native wildlife nursery sites. The Project would not conflict with policies, ordinances, or plans protecting biological resources, including any adopted HCP or NCCP.

Finally, as analyzed in Section 3.5, *Cultural Resources*, the Project would not eliminate important examples of the major periods of California history or prehistory. With the implementation of Mitigation Measures CUL-1 through CUL-5, the Project would have a less than significant impact on historical and unique archaeological resources. With the implementation of Mitigation Measures CUL-6 through CUL-9, the Project would have a less than significant impact on unique paleontological resources and sites and unique geologic features.

b) Have impacts that are individually limited, but cumulatively considerable: *LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.*

The Project does not have impacts that are individually limited but cumulatively considerable. CEQA Guidelines Section 15130 requires a discussion of the cumulative impacts of a project when the project's incremental contribution to a significant cumulative effect is "cumulatively considerable," meaning that the project's incremental effects are considerable when viewed in connection with the effects of past, current, and probable future projects. An incremental, project-specific contribution to a cumulative impact is less than cumulatively considerable, and thus is not significant, if, for example, the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact.

Consistent with CEQA Guidelines Section 15130(b), the CPUC prepared a list of past, present, and reasonably anticipated future projects that could produce related or cumulative impacts, including those projects outside the control of the Lead Agency and also considered projections contained in planning documents designed to evaluate regional or area-wide conditions. Existing conditions within the cumulative impacts area of effect reflect a combination of the natural condition and the effects of past actions in the affected area. The following factors also were used to determine an appropriate list of projects to be considered in this cumulative analysis:

- **Similar Environmental Impacts** – A relevant project is defined as a "reasonably foreseeable" project that would contribute to effects on resources also affected by the Project. For the purpose of this analysis, relevant projects with potential similar environmental impacts include, for example, other electric transmission, or public utility-related projects.
- **Geographic Scope** – The appropriate geographic area of cumulative consideration is identified on a resource-by-resource basis as dictated by relevant physical and/or

environmental boundaries (such as the extent of the groundwater basin or the roadways traveled by Project vehicles) and is not limited by the 3-mile radius shown in **Figure 3.19-1**.

- **Timing and Temporal Scope** – Incremental impacts of the Project could combine with the incremental impacts of other projects to cause or contribute to cumulative effects if the Project's construction, operation, and maintenance periods coincide in terms of timing with the effects of the other projects.

San Diego County, the City of San Diego, the City of Escondido, the California Department of Transportation (Caltrans), and San Diego Gas and Electric (SDG&E) were contacted for information on projects within their respective jurisdictions (City of San Diego, 2017; San Diego County, 2017), however, project information was primarily derived from City and County websites. The projects considered to be part of the potential cumulative scenario are presented in **Table 3.19-1, Cumulative Scenario for the SDG&E Artesian 230kv Substation Expansion Project**, which also describes the approximate geographic location of each project (see also Figure 3.19-1, *Cumulative Projects*). Most of these projects are located in the City of San Diego. The projects in the potential cumulative scenario include a range of project types in the cities of San Diego and Escondido, and in San Diego County. They primarily consist of infrastructure, utility development, and capital improvement projects. San Diego County and City of San Diego public works department capital improvement plan projects in the vicinity of the Project are also included in Table 3.19-1.

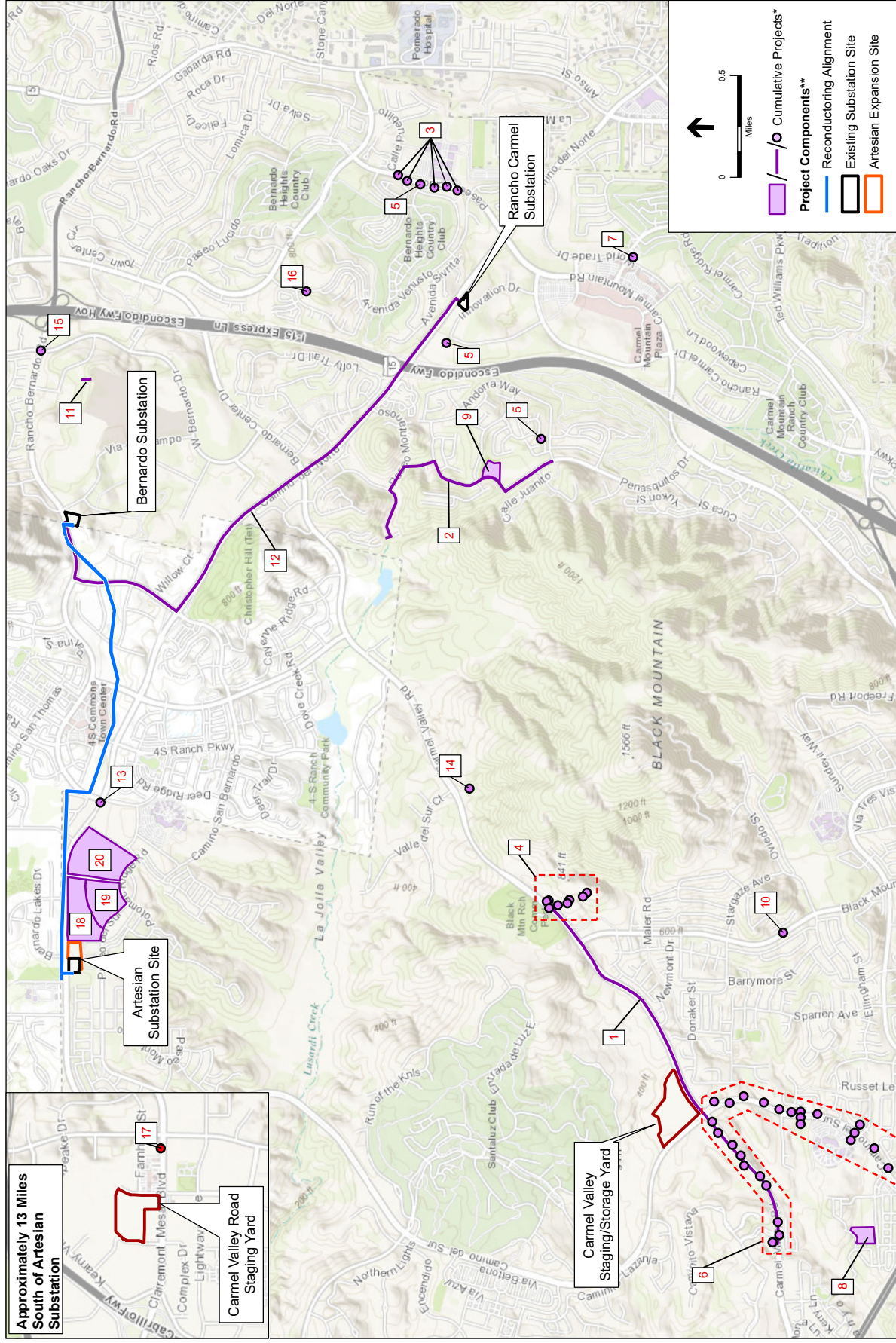
The projects identified below are considered reasonably likely to be constructed and/or operated, and to contribute incremental impacts that are similar to and during a similar timeframe as the Project.

Aesthetics

The Proposed Project would have no impact pertaining to scenic resources within a state scenic highway. Therefore, the Project would not cause or contribute to any cumulative impact related to scenic resources within a state scenic highway. (No Impact)

The geographic scope of the cumulative effects analysis for visual resources consists of potential shared viewsheds, which may include designated scenic corridors, major roadways, recreational areas, and other locations from which a viewer could see the Project as well as other projects in the cumulative scenario. This geographic scope primarily includes the foreground viewshed, or within 0.5 mile of the viewer. Cumulative effects on visual resources could occur during Project construction, operation or maintenance.

The visual impacts analysis of the Proposed Project (Section 3.1.4) concluded that impacts regarding scenic vistas, visual character/quality, and light/glare would be less than significant. Cumulative projects (including those listed in Table 3.19-1) that are within approximately 0.5 mile of the Project would contribute visual impacts that could combine with those of the Project as seen from public roadways and recreational areas.



* For detailed list of cumulative projects see Table 3.19-1.

** Not all project components shown on this map. See Figure 2-5 for full list of project components.

SOURCE: SanGIS, 2016; SDG&E; Sempra Energy Utility

CPUC Artesian Substation . 120812.02

Figure 3.19-1
Cumulative Projects

**TABLE 3.19-1
CUMULATIVE SCENARIO**

ID	Project Name	Project Location	Approximate Distance from the Proposed Project	Jurisdiction	Project Description/Size	Construction Start Date	Construction End Date
1	SDG&E Sycamore to Peñasquitos 230kV Transmission Line Project	Between existing Sycamore Canyon and Peñasquitos Substations	Adjacent to the Carmel Valley Road staging yard – new line would be installed in Carmel Valley Road.	CPUC/City of San Diego	The Sycamore to Peñasquitos project would construct a new 230kV transmission line between the existing Sycamore Canyon and Peñasquitos substations. The new line would be a combination of overhead and underground. The in service date is May 2017; construction is not anticipated to overlap with the Proposed Project.	1/2016	1/2017
2	PS 84 Upgrade and PS 62 Abandonment	Along Avenida de los Lobos, continuing onto Paseo Montanoso. Cut to Paymogo Street and follows Amazon Street onto Peñasquitos Drive	0.8 mile west of Rancho Carmel Substation	City of San Diego	This project provides for the elimination of Sewer Pump Station 62 through the installation of various pipelines and the upsizing of the existing Sewer Pump Station 84.	8/2012	TBD
3	70 th St, Paseo Lucido & San Ysidro St Lts	Along Paseo Lucido in between Avenida Venusto and Calle Pueblito	0.5 mile northeast of Rancho Carmel Substation	City of San Diego	This project will install street lighting to City Standards to improve safety.	8/2015	TBD
4	Recycled Water Tank Modification	This project occurs along Carmel Valley Road and cuts across to travel along a private road that extends south from Carmel Valley Road	Approximately 0.9 mile northeast of Carmel Valley Staging Yard	City of San Diego	To comply with California Water Code Section 13529.2, the sub drains and tank drains from the Black Mountain Ranch Recycled Water Steel Tank will be relocated to the sewer.	9/2015	8/1/2017
5	Citywide Manhole Improvements	North of Via Abajo; Northwest of Rancho Carmel Drive; Intersection of Calle Saucillo and Paseo Lucido	0.7 mile southwest of Rancho Carmel Substation, 0.2 mile west of Rancho Carmel Substation, 0.6 northeast of Rancho Carmel substation	City of San Diego	This project will result in improvements to deteriorated manholes citywide.	10/2015	TBD
6	Torrey Highlands Community ID and Enhance	Travels west along Carmel Valley Road from Caminito Vistana and then south along Camino Del Sur to Torrey Meadows Drive	400 feet southwest of Carmel Valley Staging Yard	City of San Diego	This project will provide for community identification signage that will help differentiate Torrey Highland from the adjacent areas of Rancho Peñasquitos, Black Mountain/Santa Luz and Pacific Highland Ranch.	7/2016	3/1/2017
7	ADA Accessibility Improvements Group II	Southern corner of Highland Ranch Road and World Trade Drive	Approximately 0.8 mile southeast of Rancho Carmel Substation	City of San Diego	This project proposes to mitigate existing major barriers to accessibility in the parking area and path of travel to the building and throughout the building including the restrooms.	9/2016	12/1/2017

**TABLE 3.19-1 (CONTINUED)
CUMULATIVE SCENARIO**

ID	Project Name	Project Location	Approximate Distance from the Proposed Project	Jurisdiction	Project Description/Size	Construction Start Date	Construction End Date
8	Torrey Highlands Neighborhood Park	Northwest corner of Torrey Meadows Drive and Via Sabbia	Approximately 0.9 mile southwest of Carmel Valley Staging Yard	City of San Diego	This project provides for the acquisition, design, and construction of a five useable acre neighborhood park in Torrey Highlands adjacent to a proposed elementary school, including a half-width street improvement and a comfort station.	9/2016	10/1/2017
9	Rolling Hills Neighborhood Park ADA Upgrade	South of the intersection between Madrigal Street and Peñasquitos Drive	0.7 mile west of Rancho Carmel Substation	City of San Diego	This project provides for the design and construction of ADA upgrades to the tot lot play areas at Rolling Hills Neighborhood Park in the Rancho Peñasquitos Community.	3/2017	11/1/2017
10	Morena Boulevard & West Bernardo Drive Medians	Near W Bernardo Court	0.2 mile to the east of the Rancho Bernardo Substation	City of San Diego	This project includes replacing of existing 3-foot median with a new raised stamped concrete and a new black vinyl chain link fence on Morena Boulevard between Ashton Street and Littlefield Street	5/2017	TBD
11	Citywide Street Lights GF Group 15	Intersection of Lethbridge Way and Black Mountain Road	Approximately 0.9 mile southeast of Carmel Valley Staging Yard	City of San Diego	This project will install street lighting per City standards to improve safety.	11/2017	7/1/2018
12	Sewer Group 836	Approximately 530 feet south of the intersection of Via Tazon and West Bernardo Court	0.6 mile east of Rancho Bernardo Substation AND 0.8 mile east of the Kearny Staging Area	City of San Diego	This project will rehabilitate and replace approximately 2.0 miles of existing sewer mains (Sewer Referral Program).	5/2018	3/1/2020
13	TL 633 Reconductor/ Underground Conversion Project	Project route would travel from Rancho Carmel Substation to Bernardo Substation via Camino Del Norte, Camino San Bernardo, and Rancho Bernardo Road	This project would occur at substations and streets used during the Proposed Projects construction	City of San Diego, San Diego County, and CPUC	This project would reconductor and relocate the existing 69kV power line TL633 between the Rancho Carmel and Bernardo Substations. SDG&E is working with the City of San Diego to install the approximately 3-mile line in an underground position located within City streets (franchise position). The project has an initial in service date of 2016, but construction could be delayed until 2017. It is anticipated that the TL633 project will be completed prior to the Proposed Project beginning construction.	2016 or 2017	2018
14	Camino Del Norte (Transmission)	where Camino del norte re-enters City of SD on the eastern boundary	about 0.5 miles east of Rancho Bernardo station	City of San Diego	This is a transmission line reconductoring project.	TBD	TBD

**TABLE 3.19-1 (CONTINUED)
CUMULATIVE SCENARIO**

ID	Project Name	Project Location	Approximate Distance from the Proposed Project	Jurisdiction	Project Description/Size	Construction Start Date	Construction End Date
15	Trail For all People	Black Mountain Ranch Open Space	one mile to the northwest of the Carmel Valley Staging Yards	City of San Diego	This project provides for design and construction of a 1,300 linear foot paved trail to accommodate people of all physical abilities. The trail is located within the Black Mountain Open Space Park off of Miner's Ridge Loop staging area.	TBD	TBD
16	Widening of Rancho Bernardo Road	east of I-15 in Rancho Bernardo	0.5 mile east of Rancho Carmel Substation	City of San Diego	This project will allow street widening to accommodate future development in Black Mountain Ranch.	TBD (planned)	TBD
17	Silvergate Residential Care Facility	16061 Avenida Venusto in Rancho Bernardo	0.5 mile southeast of Rancho Carmel Substation	City of San Diego	This project would develop a 200 unit residential care facility on 10.8 acres.	under construction	TBD
18	Citywide Street Lights Group 1602		0.18 mile east of Kearny Staging Yard	City of San Diego			
19	Del Sur Commercial/Professional Development	At the corner of Camino Del Sur and Babcock street	Located immediately east of the Artesian Substation Expansion site, across Babcock Street	City of San Diego	The Del Sur Commercial/Professional development is an approximately 23-acre plot that will include offices and other professional development. A set construction date has not been confirmed by the developer, therefore overlapping construction cannot be ruled out.	TBD	TBD
20	Del Sur Living Residential Development	Located south and east of the Artesian Substation Expansion site	Located south and east of the Artesian Substation Expansion site	City of San Diego	Del Sur Living is constructing single-family homes within an approximately 20-acre plot southeast of the Substation Expansion site. A set construction date has not been confirmed by the developer, therefore overlapping construction cannot be ruled out.	TBD	TBD
21	Del Sur Town Center	South of Camino Del Sur	Approximately 0.08 mile (east) from Artesian Substation Expansion	City of San Diego	Retail center included in Del Sur Living's development plan. This portion of Del Sur Living is already under construction and is anticipated to be complete prior to construction of the Proposed Project.	2015	TBD, but prior to 2018

Construction and operation of the expanded Artesian Substation would result in a change to the area's visual character by extending and expanding the existing substation infrastructure to the east. The expanded substation would not result in substantial adverse effects to scenic vistas, substantially degrade the existing character of the area, or result in significant light or glare impacts. There are three large development projects located immediately east of the proposed substation expansion site. The approximately 23-acre site directly across Babcock Street is currently vacant and is proposed for office and professional development. An approximately 20-acre site southeast of this area is proposed for residential use, and portions are under construction. Further down Camino Del Sur is the recently constructed Del Sur Town Center retail development. These development projects are surrounded by existing urban development and so would not be likely to result in an adverse change in the area's visual character. The proposed expanded Artesian Substation's incremental contribution to visual character impacts would not combine with the incremental impacts of these nearby projects to cause or contribute to a significant cumulative impact. (Less than Significant Impact)

The Proposed Project would add new or upgraded electrical infrastructure to the overall visual setting of the 69kV reconductoring alignment. The Project would contribute to cumulative adverse effects where aboveground facilities or evidence of underground facilities (e.g., cleared ROWs) occupy the same field of view as other built facilities or impacted landscapes in the viewshed. Existing utility infrastructure, including subtransmission and transmission lines and substations, have already compromised the existing visual setting in the Project vicinity. The Project's impacts would not combine with the impacts of other projects to cause or contribute to a significant cumulative effect because they would not significantly alter the existing scenic quality or viewshed. (Less than Significant Impact)

With respect to impacts associated with light or glare, construction of the Project would not overlap with construction of any project within 0.5 miles and therefore the Project's incremental contribution to light and glare impacts would not combine with the incremental impacts of these nearby projects to cause or contribute to a significant cumulative impact.

During operation new Project structures would use dulled galvanized steel or weathering steel designed to minimize the potential for glare. Potential glare from overhead conductors would be minimized through the use of non-specular conductors, similar to what currently exists within the study area. The only permanent new lighting source for the Proposed Project would be nighttime safety lighting at the expanded Artesian Substation. These lights would be directed downward and shielded to minimize glare into surrounding properties. The Artesian Substation is located in a developed urban environment which includes numerous existing sources of nighttime lighting (e.g. surrounding residences, street-lighting, retail development). Project lighting would not create a new source of substantial light or glare that would be significant, or which would combine with the incremental impacts of nearby projects to cause or contribute to a significant cumulative impact. (Less than Significant Impact)

Agriculture and Forestry Resources

The Proposed Project would have no impact with respect to conversion of Farmland to non-agricultural use, conflicting with agricultural zoning or a Williamson Act contract, conflicting

with or causing rezoning of forest land or timberland, converting forest land to non-forest use, or involving other changes in the environment that could convert Farmland or forest land. Therefore, the Project could not cause or contribute to any potential cumulative impact related to these concerns. (No Impact)

Air Quality

The geographic scope considered for cumulative impacts to air quality is the San Diego Air Basin (Air Basin). In developing its Air Quality Impact Assessment Trigger Levels for air pollutants, the San Diego Air Pollution Control District (SDAPCD) considered the emission levels for which a project's individual emissions would be cumulatively considerable. Therefore, if a project would exceed the identified significance thresholds, its emissions would be cumulatively considerable, and if a project would not exceed the significance thresholds, its emissions would not be cumulatively considerable. Proposed Project-related construction activities, as described in Section 3.3, *Air Quality*, would not exceed the identified significance thresholds. Therefore, construction of the Proposed Project would not result in a cumulatively considerable net increase in regional criteria pollutant and precursor emissions and the associated cumulative impact would be less than significant.

As described in Section 3.3, construction of the Artesian Substation would result in the longest toxic air contaminant exposure period that would be associated with the Proposed Project, lasting for approximately 28 months. A health risk assessment (HRA) conducted for proposed construction activities at Artesian Substation found that the health risk impact associated with inhaled TACs would be reduced to less than significant with implementation of Mitigation Measure AIR-1 (see Appendix C for HRA). As shown in Table 3.19-1, the projects considered to be part of the potential cumulative scenario would not be constructed in the immediate vicinity (i.e., within 1,000 feet) and time frame as the Proposed Project, with the possible exception of the TL 633 Reconductor/Underground Conversion Project (Cumulative Project No. 13). However, in the event that construction activities associated with this project and the Proposed Project overlap in time and space, the exposure period at any one sensitive receptor location would be expected to be no more than several weeks. Therefore, the health risk from the short-term DPM emissions that would be associated with construction of the Proposed Project would not be cumulatively considerable, and the cumulative impact would be less than significant.

Construction of the Project would cause a less than significant impact related to the generation of odors from diesel equipment emissions because construction activities would be intermittent and spatially dispersed, and associated odors would dissipate quickly. There is no existing adverse cumulative condition related to odors to which the Proposed Project could contribute. Projects in the cumulative scenario are not expected to cause diesel-related odors that would substantially intermingle with those of the Proposed Project and, thereby, cause a significant cumulative effect. The cumulative impact would be less than significant.

Long-term operation and maintenance of the Project would not cause emissions that would exceed the operational significance thresholds (see Section 4.3, *Air Quality*, Impact 4.3-3). Therefore, cumulative impact would be less than significant.

Biological Resources

The geographic context for the analysis of cumulative impacts associated with biological resources is the study area used for the analysis presented in Section 3.4. The study area comprises the habitats within and close to the Proposed Project components which could be affected by Project construction, operation and maintenance.

The Proposed Project would not cause any impacts associated with a conflict with any local policies or ordinances protecting biological resources and would not conflict with the provisions of a conservation plan. Therefore, the Proposed Project could not cause or contribute to potential cumulative impacts associated with these considerations. Further, the Proposed Project reconductoring alignment would be constructed within existing SDG&E ROW which may function as a wildlife corridor. No other cumulative Project would be constructed within this area. Therefore there is no potential for a cumulative impact to occur with respect to movement of wildlife or use of habitat as a wildlife nursery site. (No Impact)

Additionally, operation and maintenance activities for the Proposed Project would be substantially the same as and in the same locations as current operation and maintenance activities for the existing infrastructure. Throughout the operation and maintenance of the Proposed Project, SDG&E would continue to implement the SDG&E Subregional NCCP Operational Protocols, as described previously. With implementation of these NCCP Operational Protocols, incremental Project-specific impacts on sensitive natural communities from operation and maintenance activities would be less than significant and there would not be a cumulatively considerable contribution to impacts on biological resources once construction was completed. (Less than Significant Impact)

As analyzed in Section 3.4.4, potential incremental impacts of the Proposed Project would include: less than significant impacts on special status plants and wildlife, nesting birds and special-status avian species, and a sensitive natural community, as well as indirect impacts on aquatic resources and temporary impacts on a wildlife corridor. The potential significance of these incremental contributions to cumulative conditions is analyzed below.

In addition to past urban development in the study area that has contributed to a loss of habitat that could support special-status plants and birds, nesting birds and other wildlife species, there are numerous foreseeable development projects at various locations near the Proposed Project site, currently in the planning stages, which could be constructed and operational in the foreseeable future and which could result in impacts on the same resources that the Project could affect. These include several large projects in close vicinity of the Artesian Substation; the Del Sur Commercial/ Professional Development, located immediately east of the Artesian Substation Expansion site across Babcock Street, and the Del Sur Living Residential Development located south and east of the Artesian Substation Expansion site. Activities associated with the construction of the Proposed Project would cause loss of undeveloped habitat in the area as a result of the expansion of Artesian Substation and the proposed reconductoring, which would traverse native habitat in several locations and which could combine with impacts from other cumulative projects to cause a significant cumulative impact. However, APMs BIO-1 through BIO-8 and Mitigation Measures BIO-1 through BIO-3 would be implemented if the Project is approved to avoid and

minimize potential impacts to special-status species and their habitat. This would ensure that the contribution of the Proposed Project to a significant cumulative impact on special status species would not be cumulatively considerable. (Less than Significant Impact)

With respect to special-status plants impacts would be generally avoided as a result of the implementation of APM's BIO-4 and Mitigation Measure BIO-1, Where avoidance is not possible Mitigation Measure BIO-2 would be implemented to ensure plants would be salvaged and replanted. It is assumed that other cumulative projects would be subject to their own evaluation under CEQA and would therefore be expected implement a similar approach to minimize cumulative impacts on special status plants. Therefore there would not be a significant cumulative impact on special-status plants to which the Project could contribute.

The Project would be located in mainly urban areas with scattered native scrub habitats and adjacent open space that provide habitat for special-status plants and birds, nesting birds and other wildlife species. Proposed construction of the Project could impact this habitat. There is the potential for similar impacts from ongoing and future development projects, which, in combination with impacts from the Proposed Project, could cause a cumulatively significant impact on nesting birds and special-status avian species.

The Project could impact up to 0.5-acres of quino checkerspot butterfly (QCB) habitat. QCB is a federally protected species. APM BIO-2 and Mitigation Measure BIO-3 would ensure that this habitat loss was fully mitigated through habitat compensation at a 1:1 ratio. It is assumed that other cumulative projects would be subject to their own evaluation under CEQA and would therefore be expected to apply similar compensation to address impacts on QCB. Therefore there would not be a significant cumulative impact on QCB to which the Project could contribute. (Less than Significant Impact)

With the implementation of NCCP Operational Protocols (SDG&E 2016), and APM BIO-6 and APM BIO-7 impacts from the Project on reptiles and amphibians would be less than significant. With the implementation of similar protective measures by other cumulative projects it is not considered likely that there would be an existing significant adverse cumulative condition to which the Project would contribute, and the Project's less than significant contribution would not combine with the incremental impacts of other present or reasonably foreseeable future development in this predominantly developed area to cause or contribute to one. (Less than Significant Impact)

With respect to nesting birds, the Proposed Project generally involves the replacement of existing facilities and would not remove substantial amounts of nesting locations or foraging habitat or increase the extent of predation, which is not anticipated to differ substantially from existing levels. Although the Project would result in the removal of some areas of vegetation, primarily during construction at and around Artesian Substation and along the reconductoring alignment, disturbance in the majority of these areas would be temporary and areas would be restored post-construction (see Section 2.6.4.2), with the Project resulting in a maximum of 6.18 acres of permanent disturbance (Table 2-7), much of which is already developed and which does not provide suitable nesting habitat. The contribution of the Project to an impact on this habitat would not be cumulatively considerable in the context of available nesting opportunities in the study area.

Construction of the Proposed Project would not result in direct impacts to riparian habitat. However the Project could impact sensitive natural vegetation communities. Permanent vegetation loss would occur from siting of Project components, while temporary loss would occur during construction, although cleared areas would be restored post-construction (see Section 2.6.4.2). Indirect impacts could include inadvertent introduction of competitive exotic species and effects from fugitive dust, which can be deposited on plant leaves, reducing photosynthesis. Such impacts potentially could combine with impacts from other projects in the cumulative scenario to cause a significant cumulative impact except for the fact that the Project-specific impact would be offset at a 1:1 ratio pursuant to APM BIO-2. Therefore, the contribution of the Project to any cumulative impact would not be cumulatively considerable. (Less than Significant Impact)

With respect to federally-protected wetlands, although construction of the Proposed Project would not cause direct impacts, indirect impacts could occur as described above. Such impacts could combine with impacts from other Projects to cause cumulative impacts; however, Project-specific compliance with water quality limits and other relevant thresholds that have been set by the USACE, CDFW, and RWQCB at levels protective of cumulative conditions would ensure that the contribution of the Proposed Project, when combined with the incremental impacts of other projects in the cumulative scenario, would not be cumulatively considerable. (Less than Significant Impact)

Cultural Resources

The geographic scope for cumulative impacts to historical resources, archeological resources, and paleontological resources includes a 1-mile radius from the Project footprint. This geographic scope of analysis is appropriate because the cultural resources within this radius are expected to be similar to those in the Project area because their proximity, similar environments, landforms, and hydrology would result in similar land-use types; and thus, site types. The same holds true for paleontological resources, given that the geographic scope includes sediments and geologic deposits similar to those found in the Proposed Project area.

As a result of the cultural resources analyses, no historical or unique archaeological resources were identified within or immediately adjacent to the Proposed Project site. Similarly, no unique paleontological or unique geologic resources were identified. Therefore, the Proposed Project would not significantly impact known historical, unique archaeological, unique paleontological or unique geologic resources, and could not cause or contribute to cumulative impacts with respect to these considerations. (No Impact)

As analyzed in Section 3.5.4, Proposed Project-related ground disturbing activities, with the implementation of mitigation measures, would result in a less than significant impact relating to inadvertent impacts to unknown resources that may qualify as historical, unique archaeological, unique paleontological, or unique geologic resources. None of the potentially cumulative projects would result in ground disturbance in the same area as the Proposed Project. Given that there is no existing significant impact to such resources and no other projects that would contribute impacts in the same area, the Proposed Project's less than significant contribution to cumulative conditions would not cause or contribute to a significant cumulative impact to cultural resources. (Less than Significant Impact)

Energy Conservation

As analyzed in Section 3.6, *Energy Conservation*, the Proposed Project would have no impact regarding local and regional energy supplies and capacity; peak and base period demands for electricity and other forms of energy; conflicts with energy standards; or energy resources. Therefore, the Project would not cause or contribute to any cumulative impact related to these considerations. (No Impact)

The geographic scope of potential cumulative effects with respect to energy conservation includes the electric grid to which Project power would contribute and areas from which transportation fuels would be provided (for this analysis, publicly available fuel sources in the vicinity of the Project site). The Project would cause less than significant incremental impacts relating to the consumption of energy and use of transportation energy. The operational electricity requirements would be negligible. The Project would result in a less than significant incremental contribution to cumulative conditions during construction, operation, and maintenance activities.

The ongoing impacts of past projects are reflected in the description of the environmental setting discussed in Section 3.6.1. Other present and reasonably foreseeable future projects that could contribute to energy demands include other projects in the vicinity of the Project site that use electrical energy during operation and transportation fuels during construction and operation (see Table 3.19-1). The Proposed Project's less than significant incremental impact relating to the use of electrical or transportation energy is not expected to combine with the incremental impacts of other projects to cause an adverse cumulative impact on energy (e.g., disruption of electrical energy transmission or transportation fuel shortage). Project-related transportation impacts would be limited to the construction phase, which could overlap with the transportation needs (including fuel needs) of other present or future projects that occur during the Project's construction activities. Regardless, there is no significant cumulative condition to which the Project could contribute, and given the Project's less than significant incremental impact, the Project itself would not cause a significant cumulative impact. Therefore, the Project's less than significant incremental usage of transportation energy would not be cumulatively considerable (Less than Significant Impact).

Geology, Soils, and Seismicity

Impacts on geology and soils are generally localized and do not result in regionally cumulative impacts. Geologic conditions can vary significantly over short distances creating entirely different effects elsewhere. Unless a project would alter the soils and rock underlying other adjacent projects or affect surrounding land due to landslides, impacts related to geologic, soils, and seismic hazards would be limited to the project site. The geographic scope of cumulative impacts related to geologic, soils, or seismic hazards therefore includes the Project site (including alignments) and any projects immediately adjacent to it.

As analyzed in Section 3.7.4, potential incremental impacts of the Proposed Project would include: exposure of people and structures to seismic ground shaking and liquefaction; exposure of soil to erosive forces; and placement of structures on unstable or expansive soil. However, with the incorporation of standard construction and engineering practices and the NPDES permit, all

geologic, soils, and seismic hazard impacts that would be associated with the Project would be less than significant.

Potential cumulative projects (including those identified in Table 3.19-1), including residential and other developments, would be engineered and designed according to the California Building Code, and would be required to comply with California OSHA regulations during construction. The standards, thresholds, and minimum requirements established in the Building Code and by OSHA are set at levels expected to provide for cumulative safety. For these reasons, the incremental impacts of the Proposed Project, in combination with the incremental impacts of other projects in the geographic area, would not cause or contribute to any significant cumulative effect relating to geology and soils. The Project would contribute incrementally to soil erosion during construction; however, there is no significant cumulative impact to which Project would contribute. Therefore, a less than significant cumulative impact would result. (Less than Significant Impact)

Greenhouse Gas Emissions

GHG emissions are inherently a cumulative concern, in that the significance of GHG emissions is determined based on whether such emissions would have a cumulatively considerable impact on global climate change. Although the geographic scope of cumulative impacts related to GHG emissions is global, this analysis focuses on impacts associated with potential conflicts with California's reduction goals set forth in Executive Order S-3-05, Executive Order B-30-15, Assembly Bill (AB) 32 and the Proposed Project's direct and/or indirect generation of GHG emissions. The Proposed Project would result in emissions of GHG and would not conflict with the state's GHG reduction goals. Therefore, although existing cumulative GHG conditions are significant and adverse, the Proposed Project-specific incremental contribution would not be cumulatively considerable. (Less than Significant Impact)

Hazards and Hazardous Materials

As analyzed in Section 3.9, *Hazards and Hazardous Materials*, the Proposed Project would have no impact regarding its location relative to hazardous materials site, airport land use plans, or private airstrips; or impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Therefore, the Project would not cause or contribute to any cumulative impact related to these considerations. (No Impact)

Depending on the pathway of migration, the geographic scope for cumulative effects relating to hazards and hazardous materials would be the air basin, watershed boundary, groundwater basin, or extent of affected soils. Materials delivery routes also would be included in the event of a traffic accident-related spill. Cumulative hazards and hazardous materials-related effects could arise at any point during Proposed Project construction or operation and maintenance-related activities. Potential cumulative projects (including those identified in Table 3.19-1) could create hazardous materials-related effects that would be similar to those of the Proposed Project.

The Proposed Project would result in a less than significant impact regarding hazardous emissions, wastes, or materials within one-quarter mile of an existing or proposed school. Project-related impacts would be limited to the construction phase, which could overlap with the

construction, operation, or maintenance of other projects that would result in impacts that could occur at the same time in the same area as the Proposed Project. Regardless, there is no significant cumulative condition to which the Proposed Project could contribute and, given the Proposed Project's less than significant impact, the Proposed Project itself would not cause a significant cumulative impact. Therefore, the Proposed Project's less than significant impact would not be cumulatively considerable. (Less than Significant)

With mitigation incorporated, the Proposed Project would result in less than significant impacts regarding the transport, use, disposal of hazardous materials; upset and accident conditions involving the release of hazardous materials; and exposure of people or structures to wildland fire. Current and reasonably foreseeable projects would be required to comply with measures that would minimize and/or avoid such impacts. For example, Chapter 7A of the 2007 California Building Code, as adopted and amended by the City of San Diego, includes additional building standards applicable to new construction for projects located within a Very High Fire Hazard Severity Zone. The additional building standards in Chapter 14 Article 5 Division 38 of the Municipal Code apply in conjunction with the requirements of Chapter 7A (City of San Diego, 2009b). Accordingly, no significant cumulative impact would result from the cumulative scenario, and the Proposed Project's incremental impact would not cause or contribute to any significant cumulative impact regarding the transport, use, disposal of hazardous materials; upset and accident conditions involving the release of hazardous materials; or exposure of people or structures to wildland fire. (Less than Significant)

Hydrology and Water Quality

The Proposed Project would result in no impacts relating to: substantial degradation of water quality; the placement of housing within a 100-year flood hazard as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other authoritative flood hazard delineation map; placement within a 100-year flood hazard area of structures that would impede or redirect flood flows; exposure of people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam; or the exposure of people or structures to seiche, tsunami, or mud flow. Therefore, the Proposed Project could not cause or contribute to potential cumulative impacts associated with these considerations. (No Impact)

The geographic context for potential cumulative impacts associated with the remaining hydrology and water quality considerations is the San Dieguito watershed (for surface waters) and the San Dieguito Valley Groundwater Basin (for groundwater). The incremental impacts of the Proposed Project could combine with the incremental impacts of cumulative projects (potentially including those identified in Table 3.19-1) during construction, operation, or maintenance of the Proposed Project.

Construction-related impacts on water quality, associated with the Proposed Project and projects identified in Table 3.19-1 have the potential to result from several different sources. Among these sources are contamination from fuels or other hazardous materials and an increase in erosion caused by grading or vegetation clearing that leads to increased sedimentation. Vegetation may be cleared or mowed to improve existing access roads or establish overland access routes, work areas, pull sites, or helicopter landing zones for construction. In some instances, minor grading

may also be needed to improve work areas or existing access roads. The Project, along with projects identified in Table 3.19-1, have the potential to adversely affect water quality temporarily because of erosion and subsequent sedimentation that can occur when off-road vehicle uses or earth-disturbing activities increase.

However, the Proposed Project, along with the projects identified in Table 3.19-1, would be required to comply with applicable federal, State, and local water quality regulations and to comply with independently enforceable limitations that have been set at levels designed to protect cumulative conditions, including by obtaining coverage under the Construction General Permit, Section 401 of the Clean Water Act water quality certification, and/or Waste Discharge Requirements. The Construction General Permit reduces the ability of combined sites to adversely impact water quality. Under the Construction General Permit, all qualifying projects in the cumulative scenario would be required to prepare and implement a Stormwater Pollution Prevention Plan (SWPPP), which includes storm water management measures that would effectively control erosion and sedimentation and other construction related pollutants during construction. Other management measures, such as construction of infiltration/detention basins, would be required to be identified and implemented that would effectively treat pollutants that would be expected for the post-construction land use for certain projects. Construction and operational related stormwater runoff, and waste discharge from the Proposed Project, and other projects within the region, would be controlled by the requirements of a National Pollution Discharge Elimination System (NPDES) permit (e.g., General Permit) and WDR measures. Other new development in the area would also be required to control construction and operational stormwater by implementing federal, State, and local requirements regarding hydrology and water quality, as well as by requirements introduced through CEQA review where applicable. The imposition of such requirements would result in a less than significant cumulative impact.

Regarding depletion of groundwater supplies, the Proposed Project would result in no cumulative impact, because all water used during construction and operation and maintenance would come from recycled water sources (SDG&E Construction Water Sourcing Investigation Plan). A 0.17-acre increase in impervious surfaces would result in no significant cumulative impact on groundwater recharge when combined with other projects in the cumulative scenario, because these projects would not increase impervious surfaces. Projects 12 through 18 (listed on Table 3.19-1) would have the potential to occur during the same time frame as the Proposed Project; however, these projects would involve construction on existing impervious surfaces. Therefore, the Proposed Project could not, when combined with projects in the cumulative scenario, cause or contribute to a significant cumulative impact. (Less than Significant Impact)

Regarding alteration of the existing drainage pattern of a site or area through the alteration of the course of a stream or river in a manner that would result in substantial erosion on or offsite, the Proposed Project would contribute a less than significant impact to cumulative conditions because, once constructed, drainage patterns affected by the Project would be relatively similar to existing conditions other than a slight increase in runoff as a result of an increase in new impervious surfaces. Operation and maintenance of the Proposed Project facilities would not require substantive changes to surface grades that could significantly alter the existing drainage patterns. As discussed above, other projects in the cumulative scenario would not substantially

increase runoff and would also not alter existing surface grades; therefore, the Proposed Project would not (when combined with other cumulative projects) significantly alter existing drainage patterns. All qualifying projects (including the Proposed Project) would be required to comply with the NPDES Construction General Permit, which includes measures to prevent erosion and siltation. Through compliance with these requirements and implementation of BMPs, the incremental impact of the Project, in combination with the incremental impacts of other projects, would not cause or contribute to a significant cumulative effect. (Less than Significant Impact)

Furthermore, the Proposed Project would not create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial sources of polluted surface water runoff in a manner that would result in flooding on or off-site. The Proposed Project would include expansion of a stormwater detention basin. This expansion would capture increased surface water runoff, and drain it at the same rate as the existing detention basin does, into existing stormwater treatment facilities. While the detention basin would increase in capacity, the drainage rate would not change; therefore, the Proposed Project could not contribute to a cumulative impact. Additionally, the Proposed Project would be required to comply with stormwater requirements consistent with the City of San Diego's MS4 Permit, and with the NPDES Permit, as would all other qualifying projects in the cumulative scenario. Compliance with these requirements would prevent contribution to a significant cumulative impact. Cumulative impacts would not be significant. (Less than Significant Impact)

Land Use and Planning

The Proposed Project would result in no impact relating to physical division of an established community, nor would it conflict with any applicable HCP or NCCP. Also, as discussed in Section 3.11.4, the Project would not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project. Because the Project would have no impact pertaining to land use and planning considerations, the Project could not cause or contribute to a cumulative land use and planning-related impact. (No Impact)

Mineral Resources

As analyzed in Section 3.12, Mineral Resources, the Proposed Project would result in no impact relating to the loss of availability of a known mineral resource that would be of value to the region and the residents of the State or 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. Therefore, the Proposed Project could not cause or contribute to any cumulative impact related to these considerations. (No Impact)

Noise

As analyzed in Section 3.13.4, the Project is not proposed to be located within an airport land use plan area, or within two miles of a public airport or public use airport, or in the vicinity of a private airstrip, and so would result in no impact relating to the exposure of people residing or working in such areas to excessive noise levels. (No Impact)

The geographic context for changes in the noise and vibration environment due to development of the Proposed Project would be localized in mainly adjacent urban areas of the City and County of San Diego. In order to contribute to a cumulative construction noise impact, another project in close proximity would have to generate noise at the same time as the Proposed Project. There are numerous foreseeable development projects at various locations near the proposed Project site, currently in the planning stages, which could be constructed and operational in the foreseeable future. The largest projects in close vicinity of the Proposed Project are the Del Sur Commercial/ Professional Development located immediately east of the Artesian Substation Expansion site (across Babcock Street) and the Del Sur Living Residential Development located south and east of the Artesian Substation Expansion site.

Construction of the Artesian Substation Expansion site could occur at the same time as the Del Sur Commercial/ Professional Development and Del Sur Living Residential Development Projects. As analyzed in Section 3.13.4, construction of the Project, as mitigated, would expose existing residences located 150 feet south of the Artesian Substation Expansion site to noise levels that would not exceed the City and County's exterior construction noise standard of 75 dBA L_{eq} and would not result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project. The combined effect would result in the exposure of nearby offsite sensitive receptors to higher noise levels than what was predicted under the Project, but would not cause or contribute to a significant cumulative effect. (Less than Significant Impact after Mitigation)

The use of off-road construction equipment used to construct the Project would not expose adjacent sensitive receptors to vibration levels that would result in human annoyance or building damage. However, the blasting might be required to remove dense rock along the 230kv and 69kv getaways. Although it is not anticipated that blasting would be required during construction, charges used to blast dense rocks could expose adjacent sensitive receptors to vibration levels that could result in human annoyance or building damage. As analyzed in Section 3.13.4, project-related blast vibration, as mitigated, would not expose existing residences to vibration levels that would result in human annoyance or building damage. Since the cumulative projects near-the Project site are not close enough to the Project site to have an additive effect from those localized construction vibration sources, the Project would not cause or contribute to significant cumulative effects relating to groundborne vibration. (Less than Significant Impact after Mitigation)

Noise generated during the operation and maintenance of the Project would not exceed either the County's or City's exterior noise standards or substantially elevate existing noise levels. The Project would not have the potential to cause or contribute to a cumulative impact. The Del Sur Commercial/ Professional Development and Del Sur Living Residential Development projects would contribute to localized increases in noise primarily as a result of increased traffic on local roadways. Because the proposed substation expansion and associated 230kv and 69kv getaways would not generate regular increase in daily vehicle trips it would not contribute to any traffic noise impacts of these cumulative projects. Therefore, cumulative operational noise impacts would be less than significant. (Less than Significant Impact)

Population and Housing

As analyzed in Section 3.14, the Proposed Project would result in no impact relating to the displacement of substantial numbers of existing housing units or substantial numbers of people, necessitating the construction of replacement housing elsewhere. The Project also would result in no impact relating to the direct inducement of substantial population growth in the affected area. Therefore, the Proposed Project would not cause or contribute to cumulative impacts relating to these considerations. (No Impact)

The geographic context for the consideration of potential cumulative impacts associated with the indirect inducement of substantial population growth includes the City and County of San Diego. The temporal scope of potential cumulative impacts is restricted to the Proposed Project's approximately 30-month construction period, when up to 45 construction workers would be employed, since operation and maintenance of the Project would require virtually no change to employment levels relative to existing conditions.

Both the City and County of San Diego are expected to undergo population growth over the next few decades. As described in Section 3.14, *Population and Housing*, by 2050, the population of San Diego County is expected to increase 36 percent from 2010 levels to 662,195 persons while the population of the City of San Diego is expected to increase 36 percent from 2010 levels to 465,083 (SANDAG, 2013). Although the Proposed Project would help accommodate anticipated population growth, it would not induce it. To the contrary, the Project is intended to address anticipated future growth consistent with established planning goals related to the provision of housing and the planned development patterns of the City of San Diego's Sustainable Community Strategy. Growth is anticipated in the cumulative context; however, this is the plan – not an adverse condition. As a result, there is no significant adverse cumulative condition to which the Proposed Project could contribute. (Less than Significant Impact)

Public Services

As analyzed in Section 3.15, *Public Services*, the Proposed Project would have no impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection, schools, parks, or other public facilities. Therefore, the Proposed Project could not cause or contribute to a significant cumulative impact relating to these considerations. (No Impact)

As analyzed in Section 3.15, *Public Services*, the Proposed Project would have a less than significant impact relating to increased demand for law enforcement services. The geographic context for the consideration of potential cumulative impacts associated with the provision of such services includes the service areas of San Diego Police Department and the San Diego County Sheriff's Department. Because the Proposed Project could result in an increased demand for law enforcement services during the construction and operation and maintenance periods, potential cumulative impacts also could arise in this timeframe. Cumulative conditions are not significant and adverse with respect to a need for new or physically altered governmental facilities. The Proposed Project's incremental less than significant impact, in combination with the incremental impacts of

other cumulative projects (including those identified in Table 3.19-1), would not cause or contribute to any significant cumulative impact. (Less than Significant Impact)

Recreation

As analyzed in Section 3.16, the Proposed Project would result in no impact relating to the construction of new or expansion of existing recreational facilities, and so could not cause or contribute to a significant cumulative impact in this respect. (No Impact)

The geographic scope of potential cumulative impacts relating to the substantial physical deterioration of existing neighborhood and regional parks or other recreational facilities includes the parks and recreation facilities in western San Diego County and the City of San Diego. The temporal scope of potential cumulative impacts is restricted to the Proposed Project's approximately 30-month construction period, when up to 45 construction workers would be employed, since operation and maintenance of the Project would require virtually no change to employment levels relative to existing conditions.

The potential cumulative projects identified in Table 3.19-1 include several infrastructure projects that could increase the demand on existing park and recreation facilities and/or result in the need for new facilities within the Project vicinity by temporarily increasing the construction workforce in the area. However, there is no indication that existing neighborhood and regional parks or other recreational facilities are experiencing levels of demand such that the anticipated negligible increase in use associated with construction activity in the area would lead to the occurrence or acceleration of substantial physical deterioration. Accordingly, there is no significant cumulative impact to which the Proposed Project could contribute, and the incremental less than significant impact of the Project, in combination with the incremental impacts of other projects in the cumulative scenario, would not cause a significant adverse cumulative impact to occur. (Less than Significant)

Transportation and Traffic

As analyzed in Section 3.17, the Proposed Project would result in no impact relating to a change in air traffic patterns; therefore, the Project could not cause or contribute to any cumulative impact regarding this consideration.

The geographic context for considering potential cumulative impacts associated with transportation and traffic issues includes the roadways used by Project-generated worker and truck trips and for access by emergency service vehicles, and areas where roadways would be crossed during conductor stringing activities. The temporal context for the cumulative transportation and traffic impacts is limited to the Project's construction phase. In conjunction with the incremental impacts of other cumulative projects (including those identified in Table 3.19-1), the Proposed Project would not cause or contribute to significant cumulative transportation and traffic impacts because the combined traffic levels would not conflict with applicable, established measures of effectiveness for the performance of the circulation system; would not conflict with an applicable congestion management program; would not substantially increase hazards due to design features; would not result in inadequate emergency access; and would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the

performance or safety of such facilities. The Project's less than significant incremental impacts would not be cumulatively considerable, and cumulative impacts would be less than significant. (Less than Significant)

Utilities and Service Systems

As analyzed in Section 3.18, the Proposed Project would have no impact relating to: conflict with wastewater treatment requirements of the San Diego RWQCB; the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects; or the adequacy of the wastewater treatment provider's capacity to serve the Project's projected demand in addition to the provider's existing commitments. Therefore, the Proposed Project could not cause or contribute to a significant cumulative impact with respect to these considerations. (No Impact).

Also as analyzed in Section 3.18, the Proposed Project (in some case with and in other cases without mitigation measures incorporated) would result in less than significant impacts relating to a need for the construction of new or expansion of existing storm water drainage facilities, the construction of which could cause significant environmental effects; the sufficiency of existing, available water supplies; the sufficiency of permitted landfill capacity to accommodate solid waste disposal needs; and compliance with federal, state, and local statutes and regulations related to solid waste. Regarding these considerations, geographic scope of review includes the service areas of affected utilities and service systems, which generally is limited to the area within the City and County of San Diego.

The temporal scope of potential cumulative effects is limited to the construction period. As described in Section 3.18, *Utilities and Service Systems*, the Proposed Project would result in no impacts to utilities during operations or maintenance, because the Project would replace existing facilities and would not significantly increase demand for water, wastewater, or solid waste services. Accordingly, the timeframe within which the Project could contribute to any adverse cumulative condition would be limited to the construction period.

Construction of the Project would increase the amount of impervious surfaces at the Artesian Substation Expansion site; which would result in the need for new stormwater drainage facilities, the expansion of which could cause environmental effects. Although the Project would include the expansion of a stormwater detention basin, this would drain at the same rate as the existing basin into existing stormwater drainage facilities. While the detention basin would increase in capacity, the drainage rate would not change, and could not, when combined with other concurrent construction projects listed in Table 3.19-1, cause a need for new stormwater drainage facilities. No cumulative impact would occur. (No Impact)

Construction of the Project would require 10 million gallons of water over the construction period. In accordance with the SDG&E Construction Water Sourcing Investigation Plan (see Section 3.10.4) SDG&E would source this water from existing recycled water supply facilities. Sufficient recycled water capacity is available and therefore construction of the Project would not require any withdrawals from existing groundwater supplies and would not impact the local groundwater table. Therefore, the Project's incremental impacts, when combined with the

incremental impacts of other projects in the cumulative scenario, would not result in a significant adverse impact related to the availability of existing water supplies. (Less than Significant Impact)

Construction of the Project would generate solid waste in volumes consistent with local diversion requirements. Other projects in the cumulative scenario (including projects identified in Table 3.19-1) also are anticipated to generate solid waste during the Project's 30-month construction period. However, there is no indication that the Project's potential destination landfills are at or nearing capacity, or that progress toward their full capacity would be accelerated relative to the anticipated planning horizon under cumulative conditions. Therefore, there is no significant cumulative effect to which the Project could contribute. Even if cumulative conditions did represent a significant cumulative effect, however, the Project's incremental contribution would not be cumulatively considerable in light of the negligible amount of waste anticipated to result during the Project's limited construction period. Therefore, the Project's incremental impacts, when combined with the incremental impacts of other projects in the cumulative scenario, would not result in a significant adverse impact related to sufficient capacity of a landfill or compliance with federal, state, and local statutes and regulations related to solid waste. With respect to compliance with federal, state, and local statutes and regulations related to solid waste, with mitigation the Project would result in a less than significant impact and would be in compliance with applicable statutes and regulations. Other cumulative projects would be expected to similarly comply and therefore there would not be a cumulative impact to which the Project could contribute. Accordingly, no significant cumulative impact would result. (Less than Significant Impact).

c) Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly: *LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.*

The Project has the potential to have environmental effects that could cause substantial direct or indirect adverse effects on human beings; however, the implementation of mitigation measures would reduce such impacts to less than significant levels. As analyzed in the context of Mandatory Finding a), the Project's impacts relating to *Air Quality* and *Noise* (unless mitigated as recommended) could cause adverse effects on human beings. However, implementation of the mitigation measures identified in the respective sections of this IS/MND would reduce or avoid such impacts on human beings to a less than significant level.

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- San Diego Gas and Electric, 2016. Proposed Environmental Assessment for the SDG&E Artesian 230kv Substation Expansion Project, Section 5.18 Cumulative Impacts. August 2016.
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SECTION 4

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SECTION 5

Mitigation Monitoring, Reporting and Compliance Program

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PUBLIC UTILITIES COMMISSION

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MITIGATION MONITORING, REPORTING AND COMPLIANCE PROGRAM

San Diego Gas & Electric's Artesian 230kV Substation Expansion Project (APPLICATION NO. A.16-08-010)

Introduction

This document describes the mitigation monitoring, reporting, and compliance program (MMRCP) for ensuring the effective implementation of the mitigation measures required for approval by the California Public Utilities Commission (CPUC) of the application by the San Diego Gas and Electric Company's (SDG&E) to construct, operate and maintain the Artesian 230kV Substation Expansion Project (Project). The MMRCP includes all measures proposed by SDG&E (APMs), and all mitigation measures identified by the CPUC to reduce potentially significant impacts to less than significant.

If the Project is approved, this MMRCP would serve as a self-contained general reference for the MMRCP adopted by the Commission for the Project. If and when the Project is approved by the Commission, the CPUC will compile the Final MMRCP to assure that it includes all measures as adopted.

California Public Utilities Commission – MMRCP Authority

The California Public Utilities Code in numerous places confers authority upon the CPUC to regulate the terms of service and the safety, practices, and equipment of utilities subject to its jurisdiction. It is the standard practice of the CPUC, pursuant to its statutory responsibility to protect the environment, to require that mitigation measures stipulated as conditions of approval are implemented properly, monitored, and reported on. In 1989, this requirement was codified statewide as Section 21081.6 of the Public Resources Code. Section 21081.6 requires a public agency to adopt a reporting or monitoring program when it adopts a mitigated negative declaration for a project that could have potentially significant environmental effects. California Environmental Quality Act (CEQA) Guidelines Section 15097 was added in 1999 to further clarify agency requirements for mitigation monitoring and reporting.

The purpose of a MMRCP is to ensure that measures adopted to mitigate or avoid significant impacts of a project are implemented. The CPUC views the MMRCP as a working guide to

facilitate not only the implementation of mitigation measures by the project proponent, but also the monitoring, compliance, and reporting activities of the CPUC and any monitors it may designate.

The CPUC will address its responsibility under Public Resources Code Section 21081.6 when it takes action on SDG&E's application. If the CPUC approves the application, it also will adopt a MMRCPP that includes the mitigation measures ultimately made conditions of approval by the CPUC. Because the CPUC must decide whether or not to approve the SDG&E application and because the application may cause either direct or reasonably foreseeable indirect effects on the environment, CEQA requires the CPUC to consider the potential environmental impacts that could occur as the result of its decision and to consider mitigation for any identified significant environmental impacts.

If the CPUC approves SDG&E's application for authority to reinforce the electric transmission and distribution system, SDG&E would be responsible for implementation of all of the Applicant Proposed Measures (APM) identified in Section 2.8 of the Final IS/MND Project Description and all mitigation measures governing the construction, operation, and maintenance of the Project. Though other federal, State, and local agencies would have permit and approval authority over some aspects of the Project, the CPUC would continue to act as the lead agency for monitoring compliance with all mitigation measures required by the adopted IS/MND. All approvals and permits obtained by SDG&E would be submitted to the CPUC prior to commencing the activity for which the permits and approvals were obtained.

In accordance with CEQA, the CPUC reviewed the impacts that would result from approval of the application. The activities considered include expansion and rebuilding of the existing 69/12 kilovolt (kV) Artesian Substation including construction of a new connection to an existing 230kV transmission line, relocating an existing underground powerlines and constructing new underground getaways connecting the existing 69kV overhead lines and the new 230kV transmission line, modifications at the existing Bernardo and Rancho Carmel substations, replacing an existing conductor (reconductoring) for approximately 2.2 miles of a 69kV power line between existing Artesian and Bernardo substations, and related infrastructure. Reconductoring would involve removal and/or replacement of power poles, placement of new poles and other distribution line upgrades.

The CPUC review concluded that implementation of the Project would not result in any significant unmitigable impacts. All potential impacts would be mitigated to less than significant levels or would be less than significant. SDG&E has agreed to incorporate all the CPUC-recommended mitigation measures into the Project. The CPUC has included the stipulated mitigation measures as conditions of approval of the application and has circulated an IS/proposed MND for public review.

Because the CPUC must decide whether or not to approve the SDG&E application and because the application may cause either direct or reasonably foreseeable indirect effects on the environment, CEQA requires the CPUC to consider the potential environmental impacts that could occur as the result of its decisions and to consider mitigation for any identified significant environmental impacts.

The attached IS/MND presents and analyzes potential environmental impacts that would result from construction, operation, and maintenance of the Project, and recommends mitigation measures as appropriate. Based on the IS/MND, approval of the application would have no impact or less than significant impacts in the following areas:

- Aesthetics
- Agriculture and Forestry Resources
- Energy Conservation
- Geology, Soils, and Seismicity
- Greenhouse Gas Emissions
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Population and Housing
- Public Services
- Recreation
- Transportation and Traffic

The IS/MND indicates that approval of the application would result in potentially significant impacts in the areas listed below, and so identifies APMs and mitigation measures that have been accepted by SDG&E to reduce the significance below established thresholds.

- Air Quality
- Biological Resources
- Cultural Resources
- Hazards and Hazardous Materials
- Noise
- Utilities and Service Systems

Roles and Responsibilities

As the lead agency under CEQA, the CPUC is required to monitor this Project to ensure that the required mitigation measures and all APMs are implemented. The CPUC will be responsible for ensuring full compliance with the provisions of this MMRCP and has primary responsibility for implementation of the monitoring program. The purpose of the monitoring program is to document that the mitigation measures and APMs required and relied upon by the CPUC are implemented and that mitigated environmental impacts are reduced to a less-than-significant level. The CPUC has the authority to halt any activity associated with the Project if the activity is determined to be a deviation from the approved Project or the adopted APMs and mitigation measures.

The CPUC may delegate duties and responsibilities for monitoring to other mitigation monitors or consultants as deemed necessary. The CPUC will ensure that the person(s) delegated any duties or responsibilities are qualified to monitor compliance.

The CPUC, along with its mitigation monitor, will ensure that any variance process, which will be designed specifically for the Project, or deviation from the procedures identified under the monitoring program is consistent with CEQA requirements; no Project variance will be approved by the CPUC if it creates new significant environmental impacts. As defined in this MMRCP, a variance should be strictly limited to minor Project changes that will not trigger other permit requirements, that does not increase the severity of an impact or create a new impact, and that clearly and strictly complies with the intent of the mitigation measure. A change to the Project that has the potential for creating significant environmental effects will be evaluated to determine whether supplemental CEQA review is required. Any proposed deviation from the approved

Project and adopted mitigation measures, including correction of such deviation, shall be reported immediately to the CPUC and the mitigation monitor assigned to the construction for their review and CPUC approval. In some cases, a variance also may require approval by a CEQA responsible agency.

Enforcement and Responsibility

The CPUC is responsible for enforcing the procedures for monitoring through the environmental monitor. The environmental monitor shall note problems with monitoring, notify appropriate agencies or individuals about any problems, and report the problems to the CPUC. The CPUC has the authority to halt any construction, operation, or maintenance activity associated with the Project if the activity is determined to be a deviation from the approved Project or adopted APMs or mitigation measures. The CPUC may assign its authority to its environmental monitor.

Mitigation Compliance Responsibility

SDG&E is responsible for successfully implementing all of the adopted APMs and mitigation measures in this MMRCPP. The MMRCPP contains criteria that define whether mitigation is successful. Standards for successful mitigation also are implicit in many mitigation measures that include such requirements as obtaining permits or avoiding a specific impact entirely. Additional mitigation success thresholds will be established by applicable agencies with jurisdiction through the permit process and through the review and approval of specific plans for the implementation of mitigation measures.

SDG&E shall inform the CPUC and its mitigation monitor in writing of any mitigation measures that are not or cannot be successfully implemented. The CPUC in coordination with its mitigation monitor will assess whether alternative mitigation is appropriate and specify to SDG&E the subsequent actions required.

Dispute Resolution Process

This MMRCPP is expected to reduce or eliminate many of the potential disputes concerning the implementation of the adopted measures. However, in the event that a dispute occurs, the following procedure will be observed:

- **Step 1.** Disputes and complaints (including those of the public) should be directed first to the CPUC's designated Project Manager for resolution. The Project Manager will attempt to resolve the dispute.
- **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, Reporting and Compliance Program.
- **Step 3.** If a dispute or complaint regarding the implementation or evaluation of the MMRCPP or the mitigation measures cannot be resolved informally or through enforcement or compliance action by the CPUC, any affected participant in the dispute or complaint may file a written "notice of dispute" with the CPUC's 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 also may seek review by the Commission through existing procedures specified in the Commission's Rules of Practice and Procedure for formal and expedited relief.

General Monitoring Procedures

Mitigation Monitor

Many of the monitoring procedures will be conducted during the construction phase of the Project. The CPUC and the mitigation monitor are responsible for integrating the mitigation monitoring procedures into the construction process in coordination with SDG&E. To oversee the monitoring procedures and to ensure success, the mitigation monitor assigned to the construction must be on site during that portion of construction that has the potential to create a significant environmental impact or other impact for which mitigation is required. The mitigation monitor is responsible for ensuring that all procedures specified in this MMRCPP are followed.

Construction Personnel

A key feature contributing to the success of mitigation monitoring will be obtaining the full cooperation of construction personnel and supervisors. Many of the mitigation measures and APMs require action on the part of the construction supervisors or crews for successful implementation. To ensure success, the following actions, detailed in specific mitigation measures included in this MMRCPP, will be taken:

- SDG&E shall require all contractors to comply with the conditions of Project approval, including all applicable APMs and mitigation measures.
- One or more pre-construction meetings will be held to inform all and train construction personnel about the requirements of the MMRCPP.
- A written summary of mitigation monitoring procedures will be provided to construction supervisors for all APMs and mitigation measures requiring their attention.

General Reporting Procedures

Site visits and specified monitoring procedures performed by other individuals will be reported to the mitigation monitor assigned to the construction. A monitoring record form will be submitted to the mitigation monitor by the individual conducting the visit or procedure so that details of the visit can be recorded and progress tracked by the mitigation monitor. A checklist will be

developed and maintained by the mitigation monitor to track all procedures required for each mitigation measure and to ensure that the timing specified for the procedures is adhered to. The mitigation monitor will note any problems that may occur and take appropriate action to rectify the problems. SDG&E shall provide the CPUC with written quarterly reports of the Project, which shall include progress of construction, resulting impacts, mitigation implemented, and all other noteworthy elements of the Project. Quarterly reports shall be required as long as mitigation measures are applicable.

Public Access to Records

The public is allowed access to records and reports used to track the monitoring program. Monitoring records and reports will be made available for public inspection by the CPUC on request. The CPUC and SDG&E will develop a filing and tracking system.

Condition Effectiveness Review

In order to fulfill its statutory mandates to mitigate or avoid significant effects on the environment and to design a MMRCP to ensure compliance during project implementation (Pub. Res. Code §21081.6):

- The CPUC may conduct a comprehensive review of conditions which are not effectively mitigating impacts at any time it deems appropriate, including as a result of the Dispute Resolution procedure outlined above; and
- If in either review, the CPUC determines that any conditions are not adequately mitigating significant environmental impacts caused by the project, or that recent proven technological advances could provide more effective mitigation, then the CPUC may impose additional reasonable conditions to effectively mitigate these impacts.

These reviews will be conducted in a manner consistent with the CPUC's rules and practices.

Mitigation Monitoring, Reporting and Compliance Program

The table attached to this MMRCP presents a compilation of the APMs and mitigation measures in the IS/MND. The purpose of the table is to provide a single comprehensive list of impacts, mitigation measures, APMs, monitoring and reporting requirements, and timing. SDG&E proposed APMs to minimize impacts to the environment from implementation of the Project. The impact analysis in this IS/MND assumed that the APMs listed below would be implemented as part of the Proposed Project.

APM BIO-1: If work is scheduled to occur within suitable burrowing owl habitat (as determined in the Biological Technical Report), burrowing owl surveys will be conducted prior to construction consistent with the Take Avoidance Surveys described in the 2012 Staff Report on Burrowing Owl Mitigation. If burrowing owls are identified within approximately 150 meters (492 feet) of the proposed work area, SDG&E will implement the recommendations of said staff report to avoid impacts to burrowing owl.

APM BIO-2: SDG&E will compensate for temporary and permanent impacts according to Table 7.4 of the SDG&E NCCP.

APM BIO-3: If construction occurs during the nesting or breeding season, SDG&E will perform a site survey in the area where the work is to occur. This survey will be performed to determine the presence or absence of nesting birds. If an active nest is identified, (i.e., containing eggs or young) a suitable construction buffer will be implemented to ensure that the birds are not substantially adversely affected. If the birds are federal or state-listed species, SDG&E will consult with the USFWS and CDFW as necessary. Monitoring of the nest will continue until the birds have fledged or construction is no longer occurring on site.

APM BIO-4: SDG&E will complete a PSR for the entire Project area prior to construction to verify the location of rare plants.

APM BIO-5: SDG&E will complete a PSR for the entire Project area prior to construction to verify the location of sensitive biological resources.

APM BIO-6: Prior to the start of construction, SDG&E will conduct training of all project personnel regarding the appropriate work practices necessary to effectively implement the Proposed Project APMs, standard operating procedures, and to comply with the applicable environmental laws and regulations.

APM BIO-7: A biological monitor will be present during ground-disturbing and vegetation removal activities located within environmentally sensitive areas. Immediately prior to initial ground-disturbing activities and/or vegetation removal, the biological monitor will survey the site to ensure that no sensitive species will be impacted.

APM BIO-8: If modifications to the pole work areas are required, SDG&E's on-site environmental monitors, as appropriate, will assist construction crews in the field to locate pole work areas that avoid and minimize impacts to sensitive environmental resources.

APM CUL-1: Native American monitoring may be implemented if substation, transmission, power or distribution line construction has the potential to impact identified and mapped traditional locations or places. The role of the Native American monitor shall be to represent tribal concerns and communicate with the tribal council. Appropriate representatives will be identified based on the location of the identified traditional location or place.

APM NV-1: For the few locations where the Proposed Project could exceed the noise ordinance limits during construction, SDG&E would meet and confer with the City and County to discuss temporarily deviating from the requirements of the Noise Code as necessary.

TABLE 5-1
MITIGATION MONITORING, REPORTING, AND COMPLIANCE PROGRAM FOR THE SDG&E ARTESIAN 230kV SUBSTATION EXPANSION PROJECT

Environmental Impact	Applicant Proposed Measures (APMs) and Mitigation Measures (MMs) Identified in the IS/MND	Implementing Actions	Monitoring/ Reporting Requirements	Timing
Aesthetics				
No mitigation required.				
Agriculture and Forestry Resources				
No mitigation required.				
Air Quality				
	<p>MM AIR-1: Use of Tier-4 Engines SDG&E (and/or its construction contractor(s)) shall ensure that at least 81 percent of all diesel-powered equipment use (tracked as horse-power hours) during construction activities at Artesian Substation (defined as construction Phases 1, 2, 5, and 6) is from equipment that meet USEPA-certified Tier 4 standards, the highest USEPA-certified tiered emission standards, or are otherwise equipped with Level 3 diesel particulate filters (DPFs). If DPF retrofits are not used as part of the construction fleet, a minimum of 78 percent of the equipment use hours shall be from equipment that are certified Tier 4. An initial listing that identifies each off-road unit's certified tier specification and/or diesel particulate filter status to be operated at the Artesian Substation shall be submitted to the CPUC for review and approval prior to commencement of construction activities at the Artesian Substation site. Construction activities at the Artesian Substation site shall not commence until the equipment listing has been approved by the CPUC. As SDG&E requires new or replacement construction equipment at the Artesian Substation site, SDG&E shall submit verification of the certified engine tier or Level 3 DPF retrofit prior to use on the Project. Prior to the commencement of construction, SDG&E and CPUC shall develop a diesel-powered equipment use hours tracking tool and procedure. The tracking tool shall be utilized by SDG&E (and/or its construction contractor(s)) to keep track of the daily equipment use hours of all diesel-powered equipment. If all diesel-powered equipment is either certified Tier 4 or is retrofitted with a Level 3 DPF, the tracking tool would not be required. The tracking tool shall be maintained by SDG&E and tracking updates shall be submitted to the CPUC on a weekly basis to track the Project's compliance. The updated tracking tool shall be submitted to the CPUC no later than the Wednesday of the following week.</p>	SDG&E and its contractors to implement measure as defined	CPUC mitigation monitor to inspect compliance.	Prior to and during all phases of construction activities at the Artesian Substation Site.
Biological Resources				
	<p>APM BIO-1: If work is scheduled to occur within suitable burrowing owl habitat (as determined in the Biological Technical Report), burrowing owl surveys will be conducted prior to construction consistent with the Take Avoidance Surveys described in the 2012 Staff Report on Burrowing Owl Mitigation. If burrowing owls are identified within approximately 150 meters (492 feet) of the proposed work area, SDG&E will implement the recommendations of said staff report to avoid impacts to burrowing owl.</p>	SDG&E and its contractors to implement measure as defined	CPUC mitigation monitor to inspect compliance.	Prior to construction and during all phases of construction activities.

TABLE 5-1 (CONTINUED)
MITIGATION MONITORING, REPORTING, AND COMPLIANCE PROGRAM FOR THE SDG&E ARTESIAN 230kV SUBSTATION EXPANSION PROJECT

Environmental Impact	Applicant Proposed Measures (APMs) and Mitigation Measures (MMs) Identified in the IS/MND	Implementing Actions	Monitoring/ Reporting Requirements	Timing
Biological Resources (cont.)	APM BIO-2: SDG&E will compensate for temporary and permanent impacts according to Table 7.4 of the SDG&E NCCP.	SDG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	Prior to onset of construction.
	APM BIO-3: If construction occurs during the nesting or breeding season, SDG&E will perform a site survey in the area where the work is to occur. This survey will be performed to determine the presence or absence of nesting birds. If an active nest is identified, (i.e., containing eggs or young) a suitable construction buffer will be implemented to ensure that the birds are not substantially adversely affected. If the birds are federal or state-listed species, SDG&E will consult with the USFWS and CDFW as necessary. Monitoring of the nest will continue until the birds have fledged or construction is no longer occurring on site.	SDG&E and its contractors to implement measure as defined.	SDG&E biologist to coordinate with CDFW regarding construction activities within a nesting bird exclusion zone. CPUC mitigation monitor to inspect compliance.	Up to 30 days prior to construction and during all phases of construction activities.
	APM BIO-4: SDG&E will complete a PSR for the entire Project area prior to construction to verify the location of rare plants.	SDG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	Up to 30 days prior to construction.
	APM BIO-5: SDG&E will complete a PSR for the entire Project area prior to construction to verify the location of sensitive biological resources.	SDG&E and its contractors to implement measure as defined.	SDG&E biologist to coordinate with CDFW regarding construction activities within a nesting bird exclusion zone. CPUC mitigation monitor to inspect compliance.	Up to 30 days prior to construction and during all phases of construction activities.
	APM BIO-6: Prior to the start of construction, SDG&E will conduct training of all project personnel regarding the appropriate work practices necessary to effectively implement the Proposed Project APMs, standard operating procedures, and to comply with the applicable environmental laws and regulations.	SDG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	Up to 30 days prior to construction. To be repeated for all new construction personnel.
	APM BIO-7: A biological monitor will be present during ground-disturbing and vegetation removal activities located within environmentally sensitive areas. Immediately prior to initial ground-disturbing activities and/or vegetation removal, the biological monitor will survey the site to ensure that no sensitive species will be impacted.	SDG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	Immediately prior to and during construction. To be repeated for all new construction personnel.
	APM BIO-8: If modifications to the pole work areas are required to conduct the work, SDG&E's on-site environmental monitors, as appropriate, will assist construction crews in the field to locate pole work areas that avoid and minimize impacts to sensitive environmental resources.	SDG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	During construction.

TABLE 5-1 (CONTINUED)
MITIGATION MONITORING, REPORTING, AND COMPLIANCE PROGRAM FOR THE SDG&E ARTESIAN 230kV SUBSTATION EXPANSION PROJECT

Environmental Impact	Applicant Proposed Measures (APMs) and Mitigation Measures (MMs) Identified in the IS/MND	Implementing Actions	Monitoring/ Reporting Requirements	Timing
Biological Resources (cont.)				
	<p>MM BIO-1: Plant Surveys. Consistent with the new 5-Year LE-HCP and the existing SDG&E Subregional NCCP, SDG&E will complete a PSR for the entire Project area prior to construction to verify the location of rare plants. Based on the PSR findings, to the extent feasible, the final project design shall avoid and minimize impacts on known special-status plant populations within and adjacent to the construction footprints, with complete avoidance of any non-covered federal or State-listed plant species. SDG&E and/or its contractors shall design facilities to avoid sensitive plant populations whenever possible, shall install exclusion fencing around sensitive plant populations with as large a buffer as possible to minimize the potential for direct and indirect impacts. Any special status plants that cannot be avoided will be mitigated under the terms of the PSR. Mitigation shall include relocation of plants and implementation of a Restoration and Mitigation Plan (see MM BIO-2).</p> <p>MM BIO-2: Plant Salvage and Replanting. Where avoidance of non-listed plant species is not feasible even with the implementation of minimization efforts described under MM BIO-1, SDG&E and/or its contractors shall compensate for any loss through plant salvage and replanting, as follows:</p> <ul style="list-style-type: none"> A qualified ecologist shall develop a Restoration and Mitigation Plan according to CDFW guidelines and in coordination with CDFW. At a minimum, the plan shall include collection of complete plants or reproductive structures (as appropriate) from affected plants, a full description of microhabitat conditions necessary for each affected species, seed germination requirements, proposed restoration techniques for temporarily disturbed occurrences, an assessment of potential transplant and enhancement sites, a description of performance criteria, and a monitoring program to follow the progress of transplanted individuals. <p>MM BIO-3: QCB compensation. Where avoidance of suitable habitat for QCB is not feasible, SDG&E shall compensate for the loss through habitat-based compensatory mitigation per the SDG&E Low-Effect Habitat Conservation Plan for the Quino Checkerspot Butterfly.</p>	<p>SDG&E and its contractors to implement measure as defined.</p> <p>SDG&E and its contractors to implement measure as defined.</p> <p>SDG&E and its contractors to implement measure as defined.</p>	<p>CPUC mitigation monitor to inspect compliance.</p> <p>CPUC mitigation monitor to inspect compliance.</p> <p>CPUC mitigation monitor to inspect compliance.</p>	<p>Prior to final design and construction.</p> <p>As part of final design and prior to construction.</p> <p>As part of final design and prior to construction.</p>
Cultural Resources				
	<p>APM CUL-1: Native American monitoring may be implemented if substation, transmission, power or distribution line construction has the potential to impact identified and mapped traditional locations or places. The role of the Native American monitor shall be to represent tribal concerns and communicate with the tribal council. Appropriate representatives will be identified based on the location of the identified traditional location or place.</p> <p>MM CUL-1: Retention of Qualified Archaeologist. Prior to the start of any ground disturbing activity, a qualified archaeologist, defined as an archaeologist meeting the Secretary of the Interior's Standards for professional archaeology (U.S. Department of the Interior, 2008) shall be retained by SDG&E to carry out all mitigation measures related to archaeological resources.</p>	<p>SDG&E and its contractors to implement measure as defined.</p> <p>SDG&E and its contractors to implement measure as defined.</p>	<p>CPUC mitigation monitor to inspect compliance.</p> <p>CPUC mitigation monitor to inspect compliance.</p>	<p>During construction.</p> <p>Prior to any ground-disturbance.</p>
Historical and Archaeological Resources				

TABLE 5-1 (CONTINUED)
MITIGATION MONITORING, REPORTING, AND COMPLIANCE PROGRAM FOR THE SDG&E ARTESIAN 230kV SUBSTATION EXPANSION PROJECT

Environmental Impact	Applicant Proposed Measures (APMs) and Mitigation Measures (MMs) Identified in the IS/MND	Implementing Actions	Monitoring/ Reporting Requirements	Timing
Cultural Resources (cont.)				
Historical and Archaeological Resources Historical and Archaeological Resources (cont.)	MM CUL-2: Pre-construction Cultural Resources Sensitivity Training. Prior to the start of any ground-disturbing activity, the qualified archaeologist shall prepare cultural resources sensitivity training materials for use during Project-wide Environmental Awareness Training (or equivalent). The cultural resources sensitivity training shall be conducted by a qualified environmental trainer (often the Lead Environmental Inspector [LEI] or equivalent position) working under the supervision of the qualified archaeologist. The qualified archaeologist shall determine and ensure the suitability of the qualified environmental trainer. The cultural resources sensitivity training shall be conducted for all construction personnel. Construction personnel will be informed of the types of archaeological resources that may be encountered, and of the proper procedures to be enacted in the event of an inadvertent discovery of archaeological resources or human remains. SDG&E shall ensure that construction personnel are made available for and attend the training and retain documentation demonstrating attendance.	SDG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	Prior to any ground-disturbance.
	MM CUL-3: Restrictions on Work Outside of Designated Areas. Approved work areas will be established and construction crews shall be instructed to stay within the approved work areas and shall not conduct any Project-related work out side of the defined areas.	SDG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	During construction.
	MM CUL-4: Archaeological Monitoring. An archaeological monitor working under the supervision of the qualified archaeologist shall monitor all ground disturbing activities that occur within 100 feet of resources CA-SDI-11487, -11508, -5098, and -11744. Monitors shall have the authority to redirect work within 100 feet in the event of a discovery and provisions of MM CUL-5 shall be implemented. If ground disturbing activities are occurring simultaneously in areas located more than 500 feet apart, additional monitors shall be retained to adequately observe ground disturbing activities. The qualified archaeologist, in consultation with the CPUC and SDG&E, shall have the discretion to modify the monitoring requirements based on in-field observations of subsurface conditions. The archaeological monitor shall keep daily logs detailing the types of activities and soils observed, and any discoveries. After monitoring has been completed, the qualified archaeologist shall prepare a monitoring report that details the results of monitoring. The report shall be submitted to CPUC and SDG&E. A copy of the final report will be filed at the South Coast Information Center.	SDG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	During construction.
	MM CUL-5: Unanticipated Discoveries. In the event of the unanticipated discovery of archaeological materials all work shall immediately cease in the area (within approximately 100 feet) of the discovery until it can be evaluated by the qualified archaeologist. Construction shall not resume until the qualified archaeologist has conferred with CPUC and notified SDG&E's Cultural Resource Specialist and Environmental Project Manager regarding the significance of the resource. If it is determined that the discovered archaeological resource constitutes a historical resource or a unique archaeological resource under CEQA, avoidance and preservation in place is the preferred manner of mitigation. Preservation in place may be accomplished by, but is not limited to, avoidance, incorporating the resource into open space,	SDG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	During construction.

TABLE 5-1 (CONTINUED)
MITIGATION MONITORING, REPORTING, AND COMPLIANCE PROGRAM FOR THE SDG&E ARTESIAN 230kV SUBSTATION EXPANSION PROJECT

Environmental Impact	Applicant Proposed Measures (APMs) and Mitigation Measures (MMs) Identified in the IS/MND	Implementing Actions	Monitoring/ Reporting Requirements	Timing
Cultural Resources (cont.)				
Historical and Archaeological Resources Historical and Archaeological Resources (cont.)	capping, or deeding the site into a permanent conservation easement. In the event that preservation in place is demonstrated to be infeasible and data recovery through excavation is the only feasible mitigation available, a Cultural Resources Treatment Plan shall be prepared and implemented by the qualified archaeologist in consultation with CPUC and SDG&E that provides for the adequate recovery of the scientifically consequential information contained in the archaeological resource. The qualified archaeologist and CPUC will consult with appropriate Native American representatives in determining treatment for prehistoric or Native American resources to ensure cultural values ascribed to the resource, beyond that which is scientifically important, are considered.			
Paleontological Resources	MM CUL-6: Retention of Qualified Paleontologist. Prior to the start of any ground-disturbing activity, a qualified paleontologist meeting the Society for Vertebrate Paleontology's professional standards (SVP, 2010) shall be retained by SDG&E to carry out all mitigation measures related to paleontological resources.	SDG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	Prior to construction.
	MM CUL-7: Paleontological Sensitivity Training. Prior to start of any ground-disturbing activity, the qualified paleontologist shall prepare paleontological resource sensitivity training materials for use during Project-wide Environmental Awareness Program training (or equivalent). The cultural resource sensitivity training shall be conducted by a qualified environmental trainer (often the Lead Environmental Inspector [LEI] or equivalent position) working under the supervision of the qualified paleontologist. The qualified paleontologist shall determine and ensure the suitability of the qualified environmental trainer. The paleontological resources sensitivity training shall be conducted for all construction personnel. Construction personnel will be informed of the types of paleontological resources that may be encountered, and of the proper procedures to be enacted in the event of an inadvertent discovery of paleontological resources. SDG&E shall ensure that construction personnel are made available for and attend the training and retain documentation demonstrating attendance.	SDG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	Prior to construction.
	MM CUL-8: Paleontological Monitoring. A paleontological monitor working under the supervision of the qualified paleontologist shall monitor all ground-disturbing that involve the original cutting of previously undisturbed sediments associated with the Friars and/or Mission Valley Formations, as well activities associated with the installation of the 69kV and 230kV tubular steel poles and cable pole foundations. The paleontological monitor shall keep daily logs detailing the types of activities and soils observed, and any discoveries. A cross-trained archaeological/paleontological monitor may conduct both paleontological monitoring and the archaeological monitoring described in MM CUL-4. After monitoring has been completed, the qualified paleontologists shall prepare a monitoring report that details the results of monitoring. The report shall be submitted to CPUC and SDG&E.	SDG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	During construction.

TABLE 5-1 (CONTINUED)
MITIGATION MONITORING, REPORTING, AND COMPLIANCE PROGRAM FOR THE SDG&E ARTESIAN 230kV SUBSTATION EXPANSION PROJECT

Environmental Impact	Applicant Proposed Measures (APMs) and Mitigation Measures (MMs) Identified in the IS/MND	Implementing Actions	Monitoring/ Reporting Requirements	Timing
Cultural Resources (cont.)				
Paleontological Resources (cont.)	<p>MM CUL-9: Recovery of Paleontological Resources. In the event of the discovery of paleontological resources, the paleontological monitor shall have the authority to divert or temporarily halt construction activities within 50 feet of the discovery to allow recovery of fossil remains in a timely fashion. The qualified paleontologist shall contact CPUC's Cultural Resource Specialist and SDG&E's Cultural Resource Specialist and Environmental Project Manager at the time of discovery. In conjunction with the CPUC's Cultural Resources Specialist and SDG&E's Cultural Resource Specialist and Environmental Project Manager, the qualified paleontologist shall evaluate the significance of the find and if it is determined that the discovery constitutes a significant resource under CEQA, a Paleontological Resources Treatment Plan shall be prepared and implemented by a qualified paleontologist in consultation with CPUC and SDG&E. The treatment plan shall include provisions for the recovery of the discovered fossils along with pertinent stratigraphic data, as well the recovery of small fossil remains, such as isolated mammal teeth, through the collection of bulk-sedimentary-matrix samples for off-site wet screening, as necessary. Fossil remains collected during monitoring and salvage shall be cleaned, repaired, sorted, cataloged, and deposited in a scientific institution with permanent paleontological collections, and a paleontological monitoring report shall be written. The report(s) documenting the implementation of the Paleontological Resources Treatment Plan shall be submitted to CPUC and SDG&E.</p>	SDG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	During construction.
Geology, Soils, and Seismicity				
No mitigation required.				
Hazards and Hazardous Materials				
Hazardous Materials	<p>MM HAZ-1: Hazardous Materials Management Plan. SDG&E shall prepare and implement a Hazardous Materials Management Plan (HMMP). The HMMP would outline hazardous material handling, use, storage, and disposal requirements, as well as hazardous waste management practices. The HMMP will be developed to ensure that all hazardous materials and wastes would be handled and disposed of according to applicable rules and regulations. The HMMP will include procedures to address hazardous material storage, employee training requirements, hazard recognition, first aid/emergency medical procedures, hazardous material release containment/control procedures, hazard communication training, Personal Protective Equipment training, and release reporting requirements.</p> <p>MM HAZ-2: Use of Tier-4 Engines. Implement MM AIR-1 regarding diesel-powered construction equipment emissions</p>	SDG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	Prior to and during construction.
		SDG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	Prior to and during all phases of construction activities at the Artesian Substation Site.

TABLE 5-1 (CONTINUED)
MITIGATION MONITORING, REPORTING, AND COMPLIANCE PROGRAM FOR THE SDG&E ARTESIAN 230kV SUBSTATION EXPANSION PROJECT

Environmental Impact	Applicant Proposed Measures (APMs) and Mitigation Measures (MMs) Identified in the IS/MND	Implementing Actions	Monitoring/ Reporting Requirements	Timing
Hazards and Hazardous Materials (cont.)				
Fire Hazards	<p>MM HAZ-3: Fire Safety. SDG&E and/or its contractors shall prepare a project-specific Construction Fire Prevention Plan (CFPP) to ensure the health and safety of construction workers and the public from fire-related hazards. The appropriate fire departments shall be consulted during plan preparation and the CFPP will include fire safety measures as recommended. The CFPP shall list fire prevention, and extinguishment procedures and specific emergency response and evacuation measures that would be followed during emergency situations. The CFPP also would provide smoking and fire-related rules, storage and parking areas, usage of spark arrestors on construction equipment, and fire-suppression tools and equipment. The CFPP shall include, but not be limited to, the following:</p> <ul style="list-style-type: none"> • SDG&E and/or its contractors shall have water tanks, water trucks, or portable water backpacks (where space or access for a water truck or water tank is limited) sited/available in the Project area for fire protection. • All construction vehicles shall have fire suppression equipment. • All construction workers shall receive training on the proper use of fire-fighting equipment and procedures to be followed in the event of a fire. • As construction may occur simultaneously at several locations, each construction site shall be equipped with fire extinguishers and fire-fighting equipment sufficient to extinguish small fires. • Construction personnel shall be required to park vehicles away from dry vegetation. • Prior to construction, SDG&E shall contact and coordinate with the appropriate fire departments to determine the appropriate amounts of fire equipment to be carried on the vehicles and appropriate locations for the water tanks, water trucks, and/or water backpacks. SDG&E shall submit verification of its consultation with the appropriate fire departments to the CPUC. • The CFPP shall be submitted to CPUC staff for approval prior to commencement of construction activities and shall be distributed to all construction crew members prior to construction of the Project. • Cease work during Red Flag Warning events in areas where vegetation would be susceptible to accidental ignition by Project activities (such as welding or use of equipment that could create a spark). During Red Flag Warning events all non-emergency construction and maintenance activities would cease in affected areas. 	SDG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	Prior to and during construction.
Hydrology and Water Quality				
No mitigation required.				

TABLE 5-1 (CONTINUED)
MITIGATION MONITORING, REPORTING, AND COMPLIANCE PROGRAM FOR THE SDG&E ARTESIAN 230kV SUBSTATION EXPANSION PROJECT

Environmental Impact	Applicant Proposed Measures (APMs) and Mitigation Measures (MMs) Identified in the IS/MND	Implementing Actions	Monitoring/ Reporting Requirements	Timing
Land Use and Planning				
No mitigation required.				
Mineral Resources				
No mitigation required.				
Noise and Vibration				
	APM NV-1: For the few locations where the Proposed Project could exceed the noise ordinance limits during construction, SDG&E would meet and confer with the City and County to discuss temporarily deviating from the requirements of the Noise Code as necessary.	SDG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	Prior to and during construction.
	MM NV-1: Variance Request. If it is determined that construction activities are necessary during nighttime hours or on a Sunday, SDG&E shall submit a variance request to the County of San Diego and/or City of San Diego planning departments to work outside of allowed construction hours. SDG&E shall provide CPUC with evidence that it has obtained the variance(s) prior to commencing such work.	SDG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	Prior to and during construction.
	<p>MM NV-2: Construction Noise Reduction Plan. To reduce daytime noise impacts due to construction of the Proposed Project near sensitive receptors, SDG&E shall develop a Construction Noise Reduction Plan (Plan). The Plan shall be submitted to the CPUC at least 60 days prior to the commencement of construction activities for review and approval. The Plan shall present specific measures that identify how the City and County construction noise limits of 75 dBA as an Leq over a workday at nearby sensitive receptor locations will be adhered to, including but not limited to the following measures:</p> <ul style="list-style-type: none"> • When construction activities are conducted within 100 feet of sensitive receptor locations, noise barriers such as noise shields, barriers, blankets, or enclosures shall be used, where feasible, adjacent to or around noisy construction equipment. Noise control shields/barriers/blankets shall be made featuring weather-protected, sound-absorptive material on the construction-activity side of the noise shield/barrier/blanket. • Distribute to the potentially affected residences within 100 feet of Project construction a "hotline" telephone number, which shall be attended during active construction working hours, for use by the public to register complaints. All complaints shall be logged noting date, time, complainant's name, nature of complaint, and any corrective action taken. • When construction activities are conducted within 100 feet of sensitive receptor locations, construction equipment and trucks will be equipped with enhanced noise control measures (where feasible and reasonably available). Enhanced noise control measures will be identified in the Plan and could include, but not necessarily be limited to improved exhaust mufflers and intake silencers, engine enclosures, noise shields or shrouds, etc. 	SDG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	Prior to and during construction within 100 feet of sensitive receptor locations.

TABLE 5-1 (CONTINUED)
MITIGATION MONITORING, REPORTING, AND COMPLIANCE PROGRAM FOR THE SDG&E ARTESIAN 230kV SUBSTATION EXPANSION PROJECT

Environmental Impact	Applicant Proposed Measures (APMs) and Mitigation Measures (MMs) Identified in the IS/MND	Implementing Actions	Monitoring/ Reporting Requirements	Timing
Noise and Vibration (cont.)				
	<ul style="list-style-type: none"> Impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for project construction within 100 feet of sensitive receptor locations shall be hydraulically or electrically powered where feasible to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used; this muffler can lower noise levels from the exhaust by up to about 10 dB. External jackets on the tools themselves shall be used where feasible; this could achieve a reduction of 5 dB. Quieter procedures, such as use of drills rather than impact tools, shall be used whenever feasible. Note: if a noise reduction feature is not feasible, that does not alleviate the requirement to ensure that the noise levels are reduced to below the City and County of San Diego thresholds. Stationary construction noise sources located within 100 feet of sensitive receptor locations shall be located as far from adjacent receptors as possible, and they shall be muffled and enclosed within temporary sheds, incorporate insulation barriers, or other measures to the extent this does not interfere with construction. 			
	<p>MM NV-3: Vibration Reduction Plan. Prior to any blasting construction, the Applicant shall develop a Vibration Reduction Plan in coordination with an acoustical consultant, geotechnical engineer, and construction contractor, and submit the Plan to the CPUC for approval at least 60 days prior to any proposed blasting. The Vibration Reduction Plan shall include vibration reduction measures to ensure that surrounding buildings will be exposed to less than 0.2 PPV to prevent building damage. At a minimum, the plan shall consider the following measures:</p> <ul style="list-style-type: none"> Evidence of licensing, experience, and qualifications of blasting contractors. The Plan shall establish a vibration limit of 0.2 PPV at nearby structures in order to protect structures from blasting activities and identify specific locations for monitoring. At a minimum, a pre-blast survey shall be conducted of any potentially affected structures. The Plan shall identify the appropriate size of the explosive charge to ensure that a vibration level of 0.2 PPV is not exceeded at nearby structures. Impacted property owners shall be notified at least 48 hours prior to the visual inspections. Post-construction monitoring of structures shall be performed to identify (and repair if necessary) any damage from blasting vibrations. Any damage shall be documented by photograph, video, etc. This documentation shall be reviewed with the individual property owners and SDG&E shall arrange and fund any needed repairs. Documentation of these efforts shall be provided to the CPUC. 			
	<p>MM NV-4: Blasting Plan. Prior to conducting any blasting activities, SDG&E shall develop a Blasting Plan in coordination with an acoustical consultant, geotechnical engineer, and construction contractor. The Blasting Plan shall include at a minimum the following measures:</p> <ul style="list-style-type: none"> Methods of matting or covering of blast area to prevent excessive air blast pressure. Description of air blast monitoring program. 			

TABLE 5-1 (CONTINUED)
MITIGATION MONITORING, REPORTING, AND COMPLIANCE PROGRAM FOR THE SDG&E ARTESIAN 230kV SUBSTATION EXPANSION PROJECT

Environmental Impact	Applicant Proposed Measures (APMs) and Mitigation Measures (MMs) Identified in the IS/MND	Implementing Actions	Monitoring/ Reporting Requirements	Timing
Noise and Vibration (cont.)				
	<ul style="list-style-type: none"> Blasting shall be limited to between the hours of 7:00 a.m. and 7:00 p.m. daily. Blasting notification procedures, lead times, and list of those notified. Public notification to potentially affected sensitive receptors describing the expected extent and duration of the blasting. 			
	<p>MM NV-5: Nighttime Noise and Nuisance Reduction Plan. SDG&E and/or its contractors shall develop a Nighttime Noise and Nuisance Reduction Strategy Plan in the event that nighttime construction activity is determined to be necessary within 500 feet of sensitive receptors. The plan shall be submitted to the CPUC for review and approval prior to the commencement of nighttime construction activities. The strategy shall include a set of site-specific noise attenuation measures that apply state-of-the-art noise reduction technology to ensure that nighttime construction noise levels and associated nuisances are reduced to the extent feasible. The attenuation measures may include, but not be limited to, the control strategies and methods for implementation that are listed below.</p> <ul style="list-style-type: none"> Plan construction activities to minimize the amount of nighttime construction. Offer temporary relocation of residents within 200 feet of nighttime construction activities. Temporary noise barriers, such as shields and blankets, shall be installed immediately adjacent to all nighttime stationary noise sources (e.g., auger rigs, generators, compressors, etc.). Install temporary noise barriers that block the line of sight between nighttime activities and the closest residences within 500 feet. The notification requirements identified in Mitigation Measure NV-2 shall be extended to include residences within 500 feet of pending nighttime construction activities. 			
Population and Housing				
No mitigation required.				
Public Services				
No mitigation required.				
Recreation				
No mitigation required.				

TABLE 5-1 (CONTINUED)
MITIGATION MONITORING, REPORTING, AND COMPLIANCE PROGRAM FOR THE SDG&E ARTESIAN 230kV SUBSTATION EXPANSION PROJECT

Environmental Impact	Applicant Proposed Measures (APMs) and Mitigation Measures (MMs) Identified in the IS/MND	Implementing Actions	Monitoring/ Reporting Requirements	Timing
Transportation and Traffic				
No mitigation required.				
Utilities and Service Systems				
	<p>MM US-1: Solid Waste Management Plan and Construction and Demolition Debris Recycling Plan. The Applicant will prepare and submit a Solid Waste Management Plan (Plan) to the CPUC, San Diego County, and the City of San Diego for review and approval prior to the start of construction. The Solid Waste Management Plan will outline how the applicant will sort, measure, and record the disposal of solid waste to ensure that 90% of inerts and 70% of all other materials recycled and diverted from a landfill. The Plan would detail reporting requirements to the CPUC, San Diego County, and the City of San Diego. Measures in the plan will include, but will not be limited to:</p> <ul style="list-style-type: none"> • Provision of space and/or bins for appropriate storage of recyclables on site; • Establishment of a recyclable material pickup area; • Development of a recordation system that details the amount of solid waste created, solid waste recycled, and solid waste delivered to each solid waste disposal facility. 	SDG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	Prior to and during construction.