INITIAL DRAFT

PACIFIC GAS & ELECTRIC EAGLE RIDGE ACCESS ROAD REPAIR PROJECT INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

PREPARED FOR:

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Acronyms and Abbreviations

AB 52	Assembly Bill 52
ACCWP	Alameda County Clean Water Program
ACDEH	Alameda County Department of Environmental Health
ACFD	Alameda County Fire Department
Alquist-Priolo Act	Alquist-Priolo Earthquake Fault Zoning Act
APMs	applicant proposed measures
ARB	California Air Resources Board
BA	biological assessment
BAAQMD	Bay Area Air Quality Management District
Basin Plan	North Coast Regional Water Quality Control Plan
BMPs	best management practices
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAL FIRE	California Department of Forestry and Fire Protection
Cal-EPA	California Environmental Protection Agency
Cal-OSHA	California Division of Occupational Safety and Health
Caltrans	California Department of Transportation
CAP	climate action plan
CBSC	California Building Standards Code
CCR	California Code of Regulations
CDC	California Department of Conservation
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CGS	California Geological Survey
CH4	methane
CNEL	community noise equivalent level
CO	carbon monoxide
CO2	carbon dioxide
CO_2e	carbon dioxide equivalent
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
Db	decibel

dBA	A-Weighted Decibel
DPM	diesel particulate matter
DTSC	California Department of Toxic Substances Control
Eos	executive orders
EPA	Environmental Protection Agency
ESA	Endangered Species Act of 1973
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FPPA	Farmland Protection Policy Act
GHG	greenhouse gas
HFC	hydrofluorocarbons
HI	hazard index
ITP	Incidental Take Permit
L_{dn}	day-night sound level
L_{eq}	equivalent sound level
L_{min} and L_{max}	minimum and maximum sound levels
LSAA	Lake and Streambed Alteration Agreement
LWRP	City of Livermore Water Reclamation Plant
L_{xx}	percentile-exceeded sound levels
MBTA	Migratory Bird Treaty Act
MLD	Most Likely Descendant
MMs	mitigation measures
MRZ	Mineral Resource Zone
N2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NHPA	National Historic Preservation Act
NO_2	nitrogen dioxide
NOx	nitrogen oxide
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NRCS	National Resources Conservation Service
NWIC	Northwest Information Center
NWS	National Weather Service
OSH	Occupational Safety and Health
OSHA	Occupational Safety and Health Administration
Peak Velocity or PPV	Peak Particle Velocity
PFCs	perfluorinated carbons
PG&E	Pacific Gas & Electric Company

PM	particulate matter
PM10	PM less than or equal to 10 microns in diameter
PM2.5	2.5 microns in diameter
ppv	peak particle velocity
Preserve	Eagle Ridge Preserve Property
RCEM	Road Construction Emissions Model
RCNM	roadway construction noise model
RCRA	Resource Conservation and Recovery Act
Regional Water Boards	State Water Board and the Regional Water Quality Control Boards
ROG	reactive organic gases
SAA	Streambed Alteration Agreement
SB	Senate Bill
Service	U.S. Fish and Wildlife Service
SF_6	sulfur hexafluoride
SFBAAB	San Francisco Bay Area Air Basin
SLF	Sacred Lands File
SMAQMD	Sacramento Metropolitan Air Quality Management District
SMARA	Surface Mining and Reclamation Act of 1975
SO_2	sulfur dioxide
SOD	Sudden Oak Death
SRAs	State Responsibility Areas
State Water Board	State Water Resources Control Board
SVP	Society of Vertebrate Paleontology
SWPPP	Stormwater Prevention and Pollution Plan
TACs	toxic air contaminants
TCRs	Tribal Cultural Resources
Terminal	North Dublin Transmission Terminal
TMDL	Total Maximum Daily Loads
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
Williamson Act	California Land Conservation Act

Chapter 1
Project Overview

The California Department of Fish and Wildlife (CDFW) is the lead agency under the California Environmental Quality Act (CEQA) for this electric transmission access road maintenance project because it is issuing an Incidental Take Permit (ITP) under Fish and Game Code (FGC) Section (§) 2081 and a Streambed Alteration Agreement (SAA) under FGC § 1600. The California Public Utilities Commission (CPUC) has exclusive discretionary jurisdiction over the design, construction, operation, and retirement of Pacific Gas and Electric Company's (PG&E's) transmission facilities and this access road was approved and constructed as part of PG&E's Tri-Valley Capacity 2002 Increase Project (A.99-11-025). However, the CPUC does not require a discretionary permit for this type of maintenance project and thus does not have environmental review responsibility under CEQA. Although implementation of the project as defined by PG&E requires discretionary approvals from other public agencies (e.g., the Regional Water Quality Control Board), CDFW has determined it has the greatest responsibility for supervising or approving the project as a whole. Consequently, CDFW has determined that it is the appropriate CEQA lead agency pursuant to 14 C.C.R. section 15051.

In 2015, Pacific Gas & Electric Company (PG&E) was contacted by the Eagle Ridge Preserve Property (Preserve) to address erosional issues (the formation of sinkholes and downslope pond sedimentation) that were believed to be associated with an existing paved PG&E access road to the North Dublin Transmission Terminal (Terminal). After carrying out a site review (in March 2015) with Preserve representatives, PG&E determined that the sinkholes were likely the result of soil erosion due to road runoff, although some of the erosion is also potentially due to the cattle grazing that occurs onsite. PG&E is proposing to repair a 0.55-mile stretch of the paved access road, and collapse and fill several existing sinkholes in order to repair the site and restore the habitat function for the Preserve. In addition to these activities, PG&E proposes to dredge one seasonal pond, created and managed by the Preserve in September 2014, which may have accumulated sediment due to erosion in the area. Dredging is intended to restore the habitat quality of the pond and restore the pond to the original design depth of 7 feet.

The Preserve was developed to provide mitigation for several local development projects (as detailed in the *Long-Term Resource Management Plan for the Eagle Ridge Preserve Property* (Olberding 2013). Mitigation on the Preserve is primarily for the creation, preservation, and management of breeding, dispersal, and foraging habitat of state and federally listed species including California red-legged frog, California tiger salamander, burrowing owl, and San Joaquin kit fox. The Preserve is in north-central Alameda County, approximately 3 miles north of the City of Livermore (Figure 1.1). The repair activities will occur in the northwestern corner of the Preserve within steeply sloped open grassland habitat with an elevation range of approximately 650 to 910 feet above mean sea level. The proposed repair activities will occur within approximately 8.0 acres of the Preserve.

Three major activities are proposed: dredging of the seasonal pond, filling of and stabilization of sinkhole areas, and road repair. These proposed activities are described in detail below and constitute the *Proposed Project*.

To account for potential indirect effects on environmental resources that occur outside of the immediate project construction footprint, an additional 300-foot buffer around the project components was analyzed and considered in the impact analysis. The project construction footprint plus the 300-foot buffer constitute the *Project Area*.

The California Department of Fish and Wildlife (CDFW) proposes to issue a Section 2081 Incidental Take Permit (ITP) and Lake and Streambed Alteration Agreement (LSAA 1600) to PG&E in conjunction with construction of the proposed project. In compliance with the California Environmental Quality Act (CEQA),

CDFW has prepared this Initial Study to describe the purpose and need for the project, describe the existing conditions, analyze the project's potential environmental impacts, and identify the mitigation measures necessary to reduce the impacts to a less than significant level.

To implement the proposed project, PG&E is also requesting permission from the U.S. Army Corps of Engineers (USACE), Regulatory Division, pursuant to Section 404 of the Clean Water Act (CWA) for regulation of dredged or fill material in jurisdictional waters of the United States. To issue the Section 404 permit, USACE must consult with the U.S. Fish and Wildlife Service (USFWS) pursuant to Section 7(a)(2) of the federal Endangered Species Act of 1973 (ESA). A biological assessment (BA) has been prepared to support USACE's consultation with USFWS.

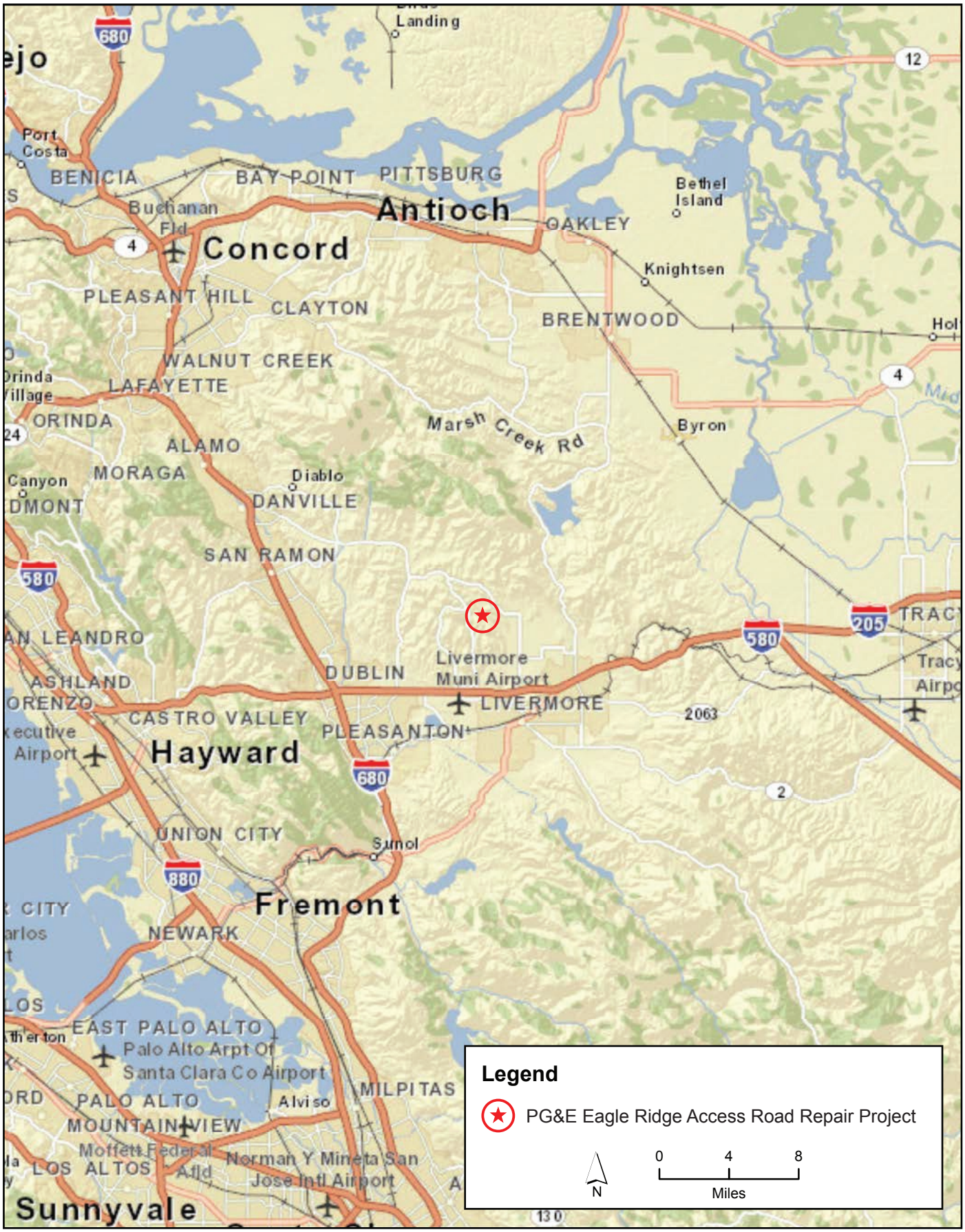

Figure 1.1
Regional Map
Eagle Ridge Access Road Repair Project

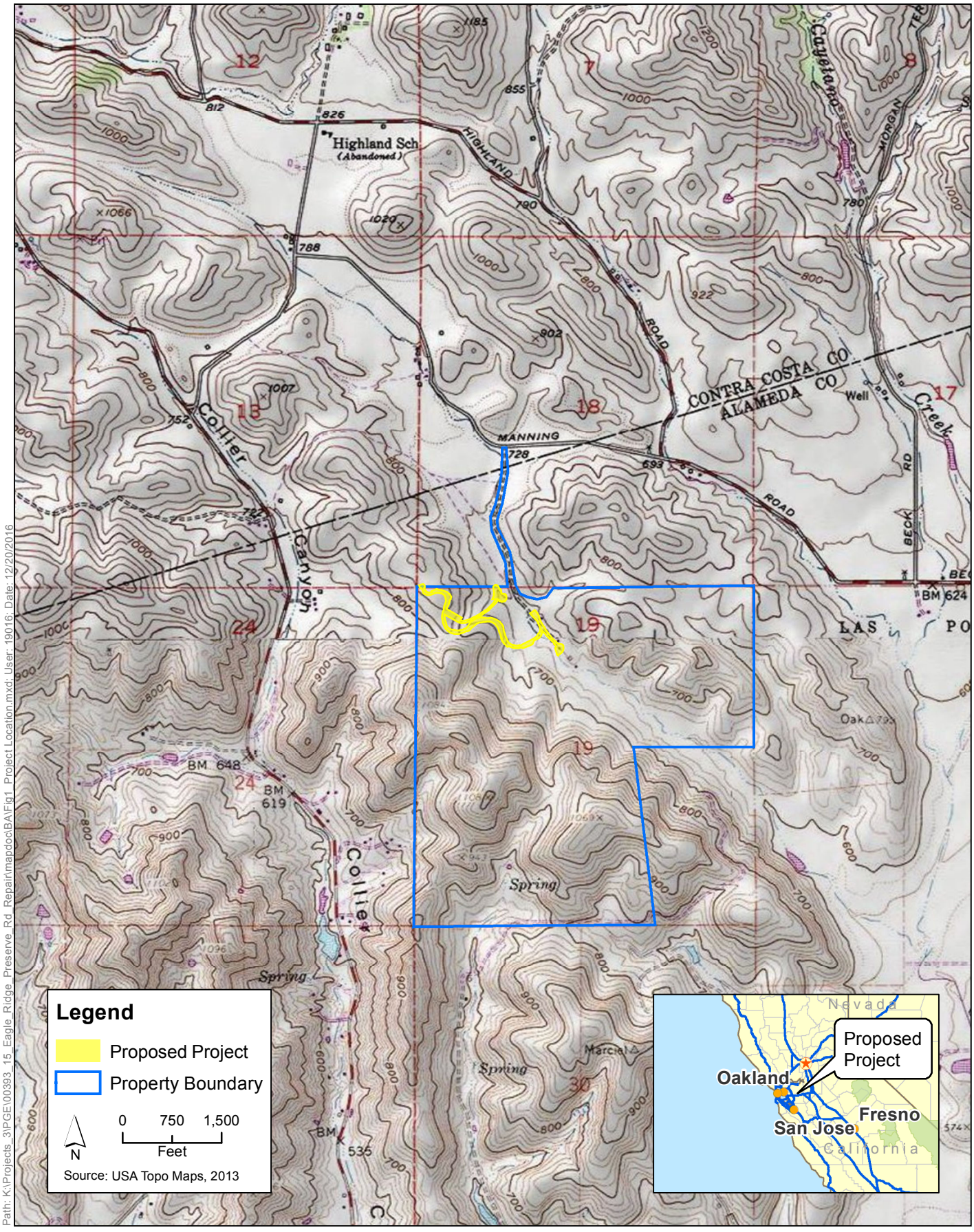

Figure 1.2
Location of the Proposed
Eagle Ridge Access Road Repair Project

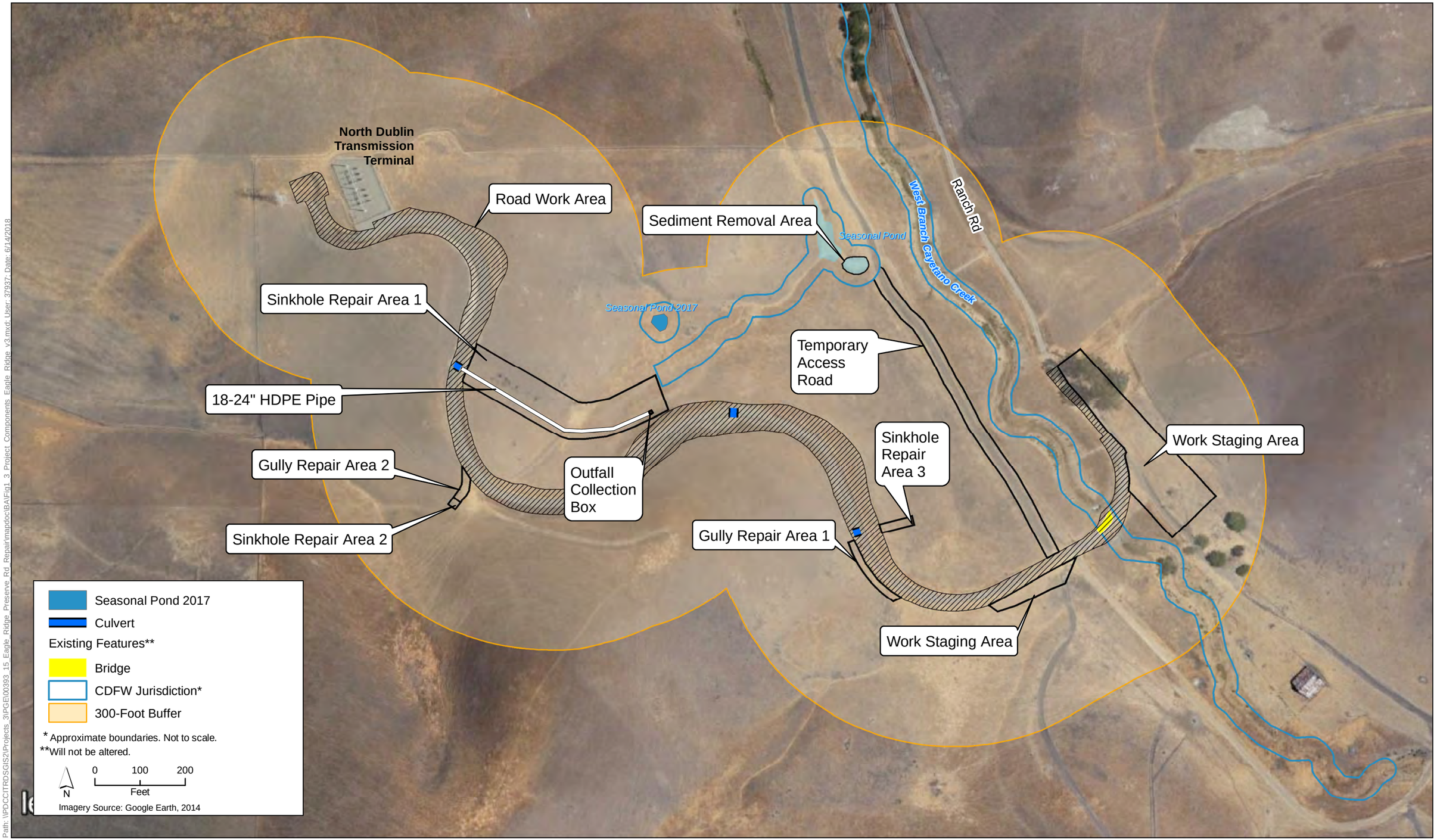

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Figure 1.3
Project Components for the
Eagle Ridge Access Road Repair Project

Chapter 2
Project Description

The proposed project consists of both applicant proposed measures (APMs) and mitigation measures (MMs) to minimize and offset potential environmental impacts of the construction. This chapter describes the project objective, proposed construction activities, and the avoidance and minimization measures that are proposed as part of the project.

2.1 Project Location

The proposed project will take place within the privately owned Eagle Ridge Preserve (Preserve). The Preserve is in north-central Alameda County, north of Interstate 580 and south of Manning Road, approximately 3 miles north of the City of Livermore (Figure 1.1). The proposed project would be in the northwestern corner of the Preserve (Figure 1.2).

2.2 Project Background

PG&E owns, operates, and maintains electrical facilities including transmission substations, distribution substations, and overhead and underground electric lines. Transmission and distribution substations convert electrical power to higher or lower voltages and route the power over the transmission and distribution lines. PG&E needs access to all facilities to perform routine operation and maintenance, and it constructed an access road to the North Dublin Transmission Terminal (Terminal) in 2006.

The access road was constructed in 2006. In 2013, the Preserve placed the property surrounding the Terminal and access road in a conservation easement. The easement was established by several local developers to compensate for unavoidable impacts on wetlands, riparian habitat and special-status species habitat resulting from local development projects, including the Alameda County Transportation Commission I-580 Westbound High Occupancy Vehicle Lane Project, BJP-ROF Jordan Ranch Development Project, and Standard Pacific Homes Fallon Crossing Development Project. It restricts future development of the property and limits its use to habitat conservation. The Preserve is managed to benefit California red-legged frog, California tiger salamander, burrowing owl, and San Joaquin kit fox, as described in the *Long-Term Resource Management Plan for Eagle Ridge Preserve Property* (Olberding 2013). Several habitat enhancement actions were implemented on the Preserve and included the construction of two seasonal ponds northeast and downhill of the Terminal access road.

In 2015, PG&E was contacted by the Preserve to address erosional issues, such as the formation of sinkholes and downslope seasonal pond sedimentation that were believed to be associated with the access road to the Terminal. PG&E and Preserve representatives conducted a site review to investigate the erosion, and PG&E determined that the sinkholes, which are large and deep collapse features, were likely the result of soil erosion due to road runoff (See Figure 1.3). In August 2017, PG&E and Preserve representatives agreed upon a plan for sediment removal from the lower of the two constructed seasonal ponds. PG&E plans to dredge approximately 2 feet of accumulated sediment from the pond floor. The work would avoid impacts to wetland vegetation on the margins of the pond and restore it to an original depth of 7 feet. No work will occur at the upper pond.

On December 10, 2015, a pavement evaluation and slope erosion investigation were conducted to investigate the potential causes of the soil erosion and assess the deterioration of the road pavement (Salem 2016a, 2016b). Salem's (2016b) assessment revealed that the access road is in deteriorating condition with apparent and significant damage. The road has developed a network of surface cracks (approximately 1–4 inches wide

at the surface and 2–4 feet deep [Salem 2016a]), web cracking and rutting, and longitudinal cracking [Salem 2016b], and appears to have poor surface drainage (see Appendix A Site Photos).

The asphalt road was built on subgrade that consists of highly expansive fat clay with sand, silty clayey sand, and silty sandy clay. The highly expansive nature of the subgrade has caused the asphalt pavement to fail due to cyclic swelling and shrinking (Salem 2016b). Salem also noted that the primary cause of the surface cracks was the seasonal shrinking and swelling of near surface exposures and that cracks were primarily concentrated in a soil-covered bedrock zone dominated by claystone; the intensity of the surface cracking also appeared to increase in proximity to sinkhole features (Salem 2016a). Generally, the lower one-third of the road alignment showed more deterioration than the upper two-thirds (Salem 2016b). Of note, as of February 2017, hillside erosion had formed upslope of the road alignment and may be exacerbating the stormwater discharge off of the access road (see Appendix A, Site Photos).

The erosional nature of the soil in the Project Area, exacerbated by cattle grazing immediately uphill of the access road, has contributed to the clogging of three storm drain inlets, located on the inner bank of the access road. Soil upslope of the road has sloughed and accumulated around the drain inlets. The clogged inlets prevent surface runoff from entering relief drains, which then flows over the road at high velocities. These concentrated flows discharge to unprotected road shoulders and edges, and resulting in gullying and erosion. As of March 1, 2018, the inlets had still not been cleared, and there appear to be no plans to do so before the road reconstruction project begins.

Additionally, several large sinkholes have developed in an area downslope of the northernmost cross drain culvert, a sinkhole has formed approximately 100 feet south of a rocked road shoulder area, and a sinkhole has formed across from a gully erosion area. The sinkholes have likely formed as a result of discharge of directed and concentrated stormwater drainage on the slope (Salem 2016a,b). Salem notes that the directed drainage of large volumes of rainfall from the access road surface into the expansive clay has caused the clay to disaggregate along the shrink-swell cracks, allowing rainfall to flow into subsurface cracks further downslope. As the sinkholes enlarge, additional water enters the subsurface more rapidly further downslope, thus washing additional sediment downhill. The individual sinkhole features vary in size and depth, but range from 1 to 10 feet wide at the surface to 2 to 10 feet deep, although the surface openings generally narrows to a depth of 2- 4 feet (Salem 2016a).

2.3 Project Objectives

The objective of the project is to address the damage to the Preserve occurring as a result of the deteriorating road condition, ensuring PG&E has access to the Terminal and enabling PG&E to operate and maintain its facility. If left unchecked, erosion will adversely affect the ability of the Preserve to provide adequate habitat for Preserve's functions and will continue to structurally compromise the access road.

Repairs to eliminate the hillside erosion resulting from the surface runoff would improve habitat quality within the Preserve. Completion of the proposed project would ensure the long-term function and safety of the access road and improve the surrounding area within the Preserve.

2.4 Proposed Activities

PG&E proposes to rebuild the asphalt access road to the Terminal, collapse and fill hillside sinkholes, dredge one man-made seasonal pond located downslope of the access road, and repair two stormwater runoff areas ("gully repair areas" adjacent to the access road, see Figure 1.3). Construction of the proposed project would require the following project components:

1. Site preparation of laydown area, equipment staging and temporary material.
2. Removing and replacing the existing road and roadside drainage structures. Work activities would include a combination of road surface pulverizing, grading, and ripping of the subgrade according to engineering specifications to achieve required compaction and avoid future problems with clay swelling and erosion.
3. Restoring two gully areas adjacent to the road.
4. Reshaping and repairing hill slope topography and collapsing and filling in sinkholes. Work activities would include installation of an underground pipeline to convey stormwater to the base of the slope into an energy dissipation structure (e.g. an outfall collection box).
5. Pond dredging during the dry season with a mini excavator and using spoil materials as fill for the sinkhole and hill slope repair.
6. Cleanup and post-construction site restoration.

2.4.1 Road Repair

The 18-foot-wide access road that branches from the Preserve's ranch road for 2,858 feet (or 0.55 mile) to the Terminal would be removed, pulverized, and rebuilt. The road repair work would involve removing and grinding the existing asphalt along the entire length of the road, excavating the subgrade down to an engineered specified depth under the current road location, and using the pulverized asphalt to re-stabilize and re-contour the subgrade. Stabilizing and contouring the subgrade would be conducted in accordance with engineering specifications to achieve appropriate soil compaction and avoid future problems with clay swelling and shrinking.

The road work area consists of the existing 18-foot-wide roadway, and a 6-foot-wide temporary work area on either side of road. Engineering designs would be used to confirm the precise road work areas needed.

In addition to rebuilding the road, PG&E would repair two gully areas to ensure proper dispersal of road runoff. The locations of the gully repair areas are shown on Figure 1.3. Gully Repair Area #1 is located on the lower third of the road alignment and is approximately 16-foot-wide by 167-foot-long. Gully Repair Area #2 is located approximately 250 feet south of the northern most cross-drain culvert at the terminal end of a 75-foot rocked grassland area. Within Gully Repair Area #2 is a sinkhole that is approximately 3-foot wide by 4-foot long. A 20-foot by 20-foot work area is required to repair this gully area. The gully repair areas would be restored by recontouring with native soil and reseeding.

Three existing crossdrain structures (18- to 24-inch corrugated metal pipes, see Figure 1.3) and associated armored piped inlet and rock armored outfalls would not be replaced or altered. However, the outfall of the uppermost drainage structure would be extended through a sinkhole repair area to drain lower on the hillside (see details below). Where practicable, road segments would be outsloped and undulated to encourage dispersed road drainage.

2.4.2 Hillslope and Sinkhole Stabilization

There are three sinkhole repair areas. Sinkhole Repair Area #1 is downslope of the northernmost cross drain culvert, and Sinkhole Repair Area #2 is downslope from Gully Repair Area #2. Sinkhole Repair Area #3 is across from Gully Repair Area #1 (see Figure 1.3 and Appendix A, Site Photos). All sinkholes in these areas would be repaired.

For site repair, the sinkholes would be collapsed using a tracked bulldozer and filled with dredged material from the seasonal pond. Once filled, the hillslope would be re-contoured following engineering specifications.

Should additional fill material be needed to obtain desired hill slope topography and proper drainage, clean fill material would be obtained offsite from a vendor that provides clean soil. To conduct repair activities at Sinkhole Repair Area #1, an approximately 90-foot-wide by 460-foot-long construction work area would be established around the sinkhole centerline (see Figure 1.3 Sinkhole Repair Area). Sinkhole Repair Area #2 is within the footprint of Gully Repair Area #2 and requires no additional construction footprint for repair. To conduct repair activities at Sinkhole Repair Area #3, an approximately 20-foot wide by 75-foot long work area would be temporarily established.

To prevent infiltration of surface drainage at the current discharge outlet into the natural slopes which are underlain by susceptible claystone bedrock, the outlet of the uppermost cross-drain culvert would be extended downslope approximately 450 linear feet. A section of 18-inch corrugated metal pipe will be installed through the existing sinkholes and buried following the existing slope (see Figure 1.3). The new section of pipe would convey stormwater downhill and discharge the water into a new energy dissipater structure at the base of the slope, where soils are more stable (Salem 2016a), and where the hillside grade is less steep.

The energy dissipater structure would redirect flows back into a natural seasonal swale that ultimately flows to the constructed seasonal ponds. The energy dissipater structure would be designed to minimize flow velocities and dissipate energy at the outfall, thereby decreasing the potential for soil erosion and scour to the seasonal swale and adjacent grasslands. The energy dissipater would consist of a 36-inch diameter corrugated metal pipe, installed vertically (e.g., stand pipe), and set on top of an 18-inch by 48-inch concrete foundation. The concrete foundation will be poured on-site and the energy dissipater will be placed into the concrete slurry while still wet. Forty-eight inches (48-inches) of the vertical pipe would be buried below ground and 12 inches of the pipe would be above existing grade and capped with a grate (see Exhibit A - Engineering Exhibits, Sheet 2 of 4, detail Type GMP with type 36R and 36RX Grate Details). The center of the underground portion would have a 6-inch weep hole above ¾-inch crushed rock to allow water to percolate out of the vertical pipe and into the ground. The weep hole will allow runoff to slowly infiltrate out into the soil during light stormwater events. During moderate or heavy stormwater events, the vertical grate will fill with runoff and then bubble up through the grate; when runoff comes up through the energy dissipater it will flow out into a rip-rap apron in a tub like formation (additional details below). The grate will prevent wildlife entrapment and reduce debris blockage and would be inspected, cleaned and maintained on an annual basis.

Grate-bar spacing would be designed to prevent small wildlife (e.g., ground squirrels, field mice, frogs, salamanders etc.) from squeezing through the grate (see Exhibit A Engineering Exhibits). To protect the outfall structure, prevent further erosion, and encourage gentle dispersal of stormwater back into the natural seasonal swale, a rip-rap apron skirt would be placed around the energy dissipater. The rip-rap apron will consist of approximately 3-inches to7-inches of ¾-inch diameter native rock that would be 12” deep; the rock may be vibrated in place. Uphill of the outfall structure, the rip-rap apron skirt would be 4-foot long by 8-foot wide; downhill of the outfall structure the rip-rap apron skirt would be approximately 16-feet long by 14-feet wide.

To install the pipeline drainage structure and energy dissipater, an approximately 90-foot-wide by 460-foot-long construction work area would be established around the centerline of the new drainage structure (see Figure 1.3 Outfall Collection Box). This work area would allow for safe equipment maneuvering, equipment staging, and stockpiling of excavated material. A tracked excavator would be used to dig a 4-foot-deep by 3-foot-wide by 400-foot long trench. Approximately 4,800 cubic feet (177.78 cubic yards) of soil would be excavated to install the new drainage pipe. Spoil piles would be contained within the construction footprint work area, and spoils may be used to fill the sinkholes. Once the new drainage pipe and energy dissipater are installed, the trench would be backfilled with approximately 3 feet of native material and the site would be restored to specified engineering contours to facilitate hillside drainage.

Overland access to the Sinkhole Repair Area and the Erosion Repair Area will be from the existing access road at the northernmost cross-drain culvert, as shown on the engineering topographic exhibit (Exhibit A). The access route will parallel the work areas, thus minimizing temporary ground disturbance. The access route will be staked and clearly flagged immediately prior to construction activities.

2.4.3 Seasonal Pond Dredging

PG&E would dredge sufficient sediment (approximately 1,873 cubic feet) from the seasonal pond to restore the former ponding depth. Approximately two feet of accumulated sediment would be removed to restore the design dimensions to be consistent with other constructed ponds in the Preserve (approximately 70-feet by 70-feet and a maximum depth of 7feet; see Olberding 2013 and Olberding pers. comm.). The pond would be dredged with a mini-tracked excavator, and then the sediment would be transported upslope from the pond to the sinkhole repair areas. An existing graded dirt access road, routinely used by Preserve personnel or its contractors for pond maintenance and access, will be used to transport excavated material to the sinkhole repair areas (see Figure 1.3). A 30-foot wide temporary access route will be staked immediately prior to construction activities to delineate work area boundaries. Activities would occur during the dry season (generally May 15 to October 15) or when water is not present in the pond and the presence of listed species is minimal, unless permits for the project state otherwise. Activities would avoid impacts to wetland vegetation on the pond margin and no work is proposed in the adjacent upper pond. APMs and MMs (see Section 3.4.4 *Biological Resources Applicant-Proposed Measures and Section 3.4.5 Mitigation Measures*) would be implemented to avoid and minimize impacts on biological resources that may be present in the seasonal ponds.

2.4.4 Project Equipment and Machinery

PG&E expects to use 4x4 work trucks, hand tools, light-duty pickup trucks and trailers or lowbed trailers to haul equipment, tracked excavator, tracked backhoe, loader, grader, small bulldozer, and water truck. Paving equipment would be also be utilized to asphalt the road surface. On a typical work day, approximately four to six construction workers would be at the project site. Not all equipment or workers may be active during all stages of construction. Additional equipment or workers may be identified once project design is finalized or during construction if unexpected conditions are encountered.

Equipment would be staged in the southeastern portion of the project area, as shown on Figure 1.3. These areas are previously disturbed by an existing graded ranch road and former home sites. If a work area is not being repaired, construction equipment, vehicles, and materials may be stored or parked in that location in accordance with applicant-proposed measures as described in Section 3.4.4.

Access to the project site is only via a graveled ranch road that terminates at Manning Road (see Figure 1.3). The road is approximately 15-feet wide with 4-feet road shoulders and is routinely used by Preserve personnel and contractors.

2.4.5 Erosion and Sediment Control, Pollution and Prevention during Construction

The approximately 0.55-mile of rebuilt access road would require surface grading and excavation, as discussed under *Road Repair*. Measures to minimize and avoid erosion and pollution and to provide sediment control during construction are discussed in their respective Chapter 3 resource sections. Please see Section 3.6, *Geology and Soils*, and Section 3.9, *Hydrology and Water Quality*, for APMs addressing hazardous waste, spill prevention, erosion, and sedimentation.

Small, temporary stockpiles of excavated dirt may be located near the gully repair areas and sinkhole repair areas; the excavated dirt would be used to backfill the sinkholes. Stockpiles would be located away from or down-gradient of waterways. Sediment control measures and the development of a Stormwater Prevention and Pollution Plan (SWPPP), as described in Section 3.6.4 *Geology and Soils Applicant-Proposed Measures*, would be implemented to manage temporary stockpiles.

Construction debris would be taken on a line truck with a trailer to a construction debris collection and recycling service center for recycling or disposal. Asphalt and concrete subgrade would be taken to an area service center collection bin for transport with other materials for disposal to a licensed Class 1 landfill or a composite-lined portion of a solid waste landfill.

2.4.6 Cleanup and Post-Construction Restoration

During construction, construction debris would be collected daily, or as needed, from line work areas and hauled away for recycling or disposal. Construction debris would be collected from road repair construction areas and stored in approved containers onsite or would be hauled away for recycling or disposal periodically during construction. PG&E would conduct a final survey to document that clean-up activities have been successfully completed.

Following completion of all construction activities related to the repair and stabilization of the sinkholes, seasonal pond dredging, and road repair, the work areas would be inspected on foot by PG&E with the property owner (or their representative).

All natural, disturbed areas would be restored and re-seeded with a certified weed-free grass mix. The grass mix and re-seeding methods would be approved by the Preserve and CDFW. Existing access roads and dirt roads would not be re-vegetated, as they will continue to be used for operations and maintenance.

2.4.7 Construction Schedule

The construction schedule would be determined by the project's environmental requirements, permitting, and operational restrictions. Construction activities are proposed to begin in the summer of 2018. Table 2-1 provides a summary of the preliminary proposed construction schedule. The construction period for the entire project is expected to take approximately three months. Sinkhole repair, hillside topography re-contouring, and seasonal pond sediment removal would occur in the summer months (or when environmental permits allow) and road repair activities would occur simultaneously.

Table 2-1. Preliminary Construction Schedule

Milestone	Date
Final engineering completed	Spring 2018
Permitting	Spring 2018
Construction begins	Summer 2018
Cleanup	Fall 2018
Project operational	Winter 2018 (1-2 months after completion of construction)

2.4.8 Operation and Maintenance

Once the access road to the Terminal has been rebuilt, PG&E's local maintenance and operations group would assume inspection, patrol, and maintenance responsibilities. No additional staff would be required after the road rebuild and pond dredging is completed. Existing operation and maintenance crews would

periodically inspect and maintain the access road drainage structures as part of their current electrical transmission operation and maintenance activities.

Eagle Ridge Preserve staff or representatives would continue the management and monitoring of the existing seasonal wetlands, seasonal ponds, and upland grassland habitat in the project area. These scheduled monitoring and management activities would continue to be the responsibility of the Eagle Ridge Preserve Land Manager as described in the *Long-Term Resource Management Plan for the Eagle Ridge Preserve Property* (Olberding 2013).

2.4.9 Applicant-Proposed Measures

PG&E proposes Applicant-Proposed Measures (APMs) for the design, construction, and operation of the proposed project to ensure that the project would be implemented with minimal environmental impacts and in a manner consistent with applicable rules and regulations. All project personnel will adhere to the APMs for the duration of the project. These would include PG&E BMPs and the requirements of applicable agency work authorization permits. The evaluation of impacts in the resource sections of this initial study considers the APMs part of the proposed project. The proposed APMs are listed below in Table 2-2 and are discussed in the context of the environmental resources present, in the respective resource category subsections in Chapter 3.

The APMs will be implemented by PG&E or its contractors. For contractors, implementation of the APMs will be specified in contract provisions. Additionally, this Initial Study Mitigated Negative Declaration also includes Mitigation Measures (MMs) imposed by CDFW to further avoid, minimize, and mitigate impacts to a less-than-significant level.

Table 2-2. Applicant-Proposed Measures

Measure Numbering	Measure
APM-AQ-1	Minimize fugitive dust
APM- AQ-2	Minimize exhaust emissions
APM-BIO-1	Implement general avoidance measures to protect biological resources
APM-BIO-2	Protect aquatic resources and habitat for special-status wildlife
APM-BIO-3	Provide wildlife escape ramps and inspect trenches
APM-BIO-4	Cover and inspect open-ended pipes prior to moving
APM-BIO-5	Implement timing restriction during construction
APM BIO-6	Dust Suppression
APM BIO-7	Contracts
APM BIO-8	Vehicle and Equipment Inspections
APM BIO-9	Permit Copies
APM-CR-1	Implement measures to protect previously unidentified cultural resources
APM-CR-2	Implement measures if construction activities inadvertently discover or disturb human remains
APM-CR-3	Educated construction personnel in recognizing fossil material
APM-CR-4	Inadvertent discovery of fossils
APM-GEO-1	Implement erosion and sediment control measures
APM-HAZ-1	Implement fire hazard best management practices
APM-HYDRO-1	Implement waterway best management practices
APM- NOI-1	Implement construction noise control

2.5 Required Agency Approvals

- California Department of Fish and Wildlife 2081 Incidental Take Permit
- California Department of Fish and Wildlife Lake and Streambed Alteration Agreement
- USACE Section 404 (Nationwide Permit 27)
- USFWS Section 7 Consultation and Biological Opinion
- Regional Water Quality Control Board Section 401 Certification
- State Water Resources Control Board Section 402

2.6 Relationship to Local Plans

PG&E's public utility projects are not subject to local planning ordinances because the location, design, and construction of the projects are under the exclusive jurisdiction of the California Public Utilities Commission. However, the IS/MND provided a brief discussion regarding applicable local policies for each discipline in Chapter 3.

2.7 Public Notice

For electronic access to the Final MND and other information, see CDFW's website at: https://www.wildlife.ca.gov/Notices.

Hardcopies of the Final MND will be available for review at the following location:

California Department of Fish and Wildlife
Bay Delta Region
2825 Cordelia Road, Suite 100
Fairfield, CA 94534
(707) 428-2002

Hours: 8:00 AM – 5:00 PM, Monday-Friday

Chapter 3
Initial Study Checklist and Environmental Analysis

The impact analysis in this section is based on the State CEQA Guidelines for the evaluation of impacts on the environment.

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

3.1 Aesthetics

3.1.1 Introduction

This section describes the project area and analyzes potential impacts on aesthetic resources.

3.1.1.1 Methodology

Visual or aesthetic resources are the natural and cultural features of the environment that can be seen and that contribute to the public's enjoyment of the environment. Visual resource or aesthetic impacts are generally defined in terms of a project's physical characteristics and potential visibility, and the extent that the project's presence would change the visual character and quality of the environment in which it would be located.

Visual resources and potential project activities were evaluated. The evaluation of potential changes in the area's visual character is presented in the following paragraphs.

The *Alameda County General Plan* and lists of State Scenic Highways (California Department of Transportation 2016, 2015), National Scenic Byways (Federal Highway Administration 2016), and Wild and Scenic Rivers (Interagency Wild & Scenic Rivers Coordinating Council 2016) were reviewed for designated scenic resources at or near the project site. The General Plan's *Scenic Route Element* and *East County Area Plan* were reviewed for county-designated scenic vistas or scenic resources. The closest identified aesthetic resources to the project site are the ridgelines above Doolan Canyon east of Dublin, considered a sensitive viewshed under Policy 105 of the *East County Area Plan* (Alameda County Community Development Agency Planning Department 2002, 1994).

3.1.2 Regulatory Setting

The Alameda County General Plan and East County Area Plan are local planning documents that address visual resources in the project area. Because the California Public Utilities Commission (CPUC) has jurisdiction over the design, construction, and operation of utilities and associated facilities, the project is not subject to local discretionary regulations; however, these plans were reviewed as noted below.

3.1.3 Environmental Setting

The project area is located on a private Preserve in north-central unincorporated Alameda County. The project viewshed consists of rolling hills, a small valley at the base of the project site where the West Branch of Cayetano Creek flows towards the southeast, and grasslands covering the project site. Native trees and shrubs, some planted as part of Preserve restoration, are located outside of the project construction footprint along the creek.

Existing man-made features consist of the North Dublin Transmission Terminal (Terminal), electrical transmission tower, access road, culverts, two constructed mitigation ponds. The area is also used for cattle grazing. The nearest house is approximately 1,600 feet away.

3.1.4 Impacts

Checklist items a, b, and c: Have a substantial adverse effect on a scenic vista? Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings along a scenic highway? Substantially degrade the existing visual character or quality of the site and its surroundings?

The Project site is not on the "ridgelines above Doolan Canyon east of Dublin," which are a scenic resource. Doolan Canyon is located approximately 2 miles west of the Project site. Although the Project site has an existing terminal and electrical transmission tower at the top of a hill, it is part of baseline conditions and, in any event, is not visible from Doolan Canyon. The transmission building currently exists at the project site and the proposed project would not alter the existing terminal or electrical transmission tower. Construction activities such as excavation and the use of equipment and materials may be noticeable from Manning Road. However, after the project is complete, all temporary work areas would be restored, including existing hillside erosion. No new vertical structures or elements would be constructed. The access road would be rehabilitated along the existing alignment, and the erosional improvements would be limited to the sinkholes and gully areas. No trees, rock outcroppings, or historic buildings are at the project site. No county scenic highways, state scenic highways, National Scenic Byways, or Wild and Scenic Rivers are visible from the project site. Since visual impacts from construction would be temporary and limited and there would be no net increase in permanent above-ground infrastructure, the proposed project would have a less-than-significant impact on scenic vistas, scenic resources, or the visual character of the area.

Checklist item d: Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?

The proposed project would not add permanent new lighting to the PG&E facility or access road. New glare is not anticipated because there would be no new permanent lighting and the access road would be rehabilitated within the same alignment, and the asphalt would look similar to the existing road. There would be no impact.

II. Agricultural and Forestry Resources	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
In determining whether impacts on 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 on forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project, and forest carbon measurement methodology provided in the 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 nonagricultural use?	☐	☐	☐	☒
b. Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract?	☐	☐	☐	☒
c. Conflict with existing zoning for, or cause rezoning of forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	☒
d. Result in the loss of forest land or conversion of forest land to nonforest use?	☐	☐	☐	☒
e. Involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to nonagricultural use or conversion of forest land to nonforest use?	☐	☐	☒	☐

3.2 Agricultural and Forestry Resources

3.2.1 Introduction

This section describes agricultural and forestry resources in the project area, agricultural uses, and zoning and analyzes potential impacts to these resources from construction and operation of the project.

3.2.1.1 Methodology

Evaluation of potential impacts on agricultural and forestry resources is based on information from the Alameda County Important Farmland 2014 map (California Department of Conservation, Division of Land Resources Protection 2016), Alameda County Williamson Act FY 2014/2015 map (California Department of Conservation, Division of Land Resource Protection, Conservation Program Support 2015), the *East County Area Plan* (Alameda County Community Development Agency Planning Department 2002), and the *Long-Term Resource Management Plan for the Eagle Ridge Preserve Property* (Olberding Environmental 2013).

3.2.2 Regulatory Setting

Federal and State

Farmland Protection Policy Act. The purpose of the Farmland Protection Policy Act (FPPA) is to minimize the extent to which federal programs contribute to the unnecessary conversion of farmland to nonagricultural uses. The FPPA also stipulates that federal programs be compatible with state, local, and private efforts to protect farmland. The U.S. Department of Agriculture (USDA) National Resources Conservation Service (NRCS) is charged with oversight of the FPPA.

California Land Conservation Act (Williamson Act). In 1965, the California State Legislature enacted the California Land Conservation Act (Williamson Act) to encourage the preservation of the state's agricultural lands and to prevent their premature conversion to nonagricultural uses. In order to preserve agricultural uses, the Williamson Act program established an agricultural preserve contract procedure by which any local jurisdiction within the state would tax landowners at a reduced rate, based on the value of the land for its current use as opposed to its unrestricted market value. In return, the landowners sign a Williamson Act contract with the local jurisdiction, agreeing to keep their land in agricultural production or another approved compatible use for at least a 10-year period. The contract is renewed automatically each year unless the owner files a notice of nonrenewal with the county clerk. In addition, a landowner has the option to file for immediate cancellation of the contract as long as the proposed immediate cancellation application is consistent with the cancellation criteria provided in the Williamson Act and those adopted by the applicable county or city. Lands that qualify as Class I and Class II in the Soil Capability Classification System or lands that qualify for a rating of 80 to 100 in the Storie Index Rating are considered to be Prime Agricultural Land under the Williamson Act.

An "agricultural preserve," as defined by the California Department of Conservation (CDC), defines the boundary of an area within which a city or county will enter into a Williamson Act contract with landowners (CDC, 2007). The Williamson Act states that a board or council by resolution shall adopt rules governing the administration of agricultural pre-serves. The rules of each agricultural preserve state the allowed uses. Generally, any commercial agricultural use will be permitted within any agricultural preserve. In addition, local governments may identify compatible uses permitted with a use permit.

California Government Code§ 51238, states that, unless otherwise decided by a local board or council, the erection, construction, alteration, or maintenance of gas facilities, as well as other facilities, are determined to be compatible uses within any agricultural preserve.

Local

County General Plan Open Space Element. All areas indicated as agriculture on the County General Plan are considered as Agricultural Open Space in the Open Space Plan and are designated for preservation. Certain areas, indicated on the General Plan for future urban uses, will be designated or used as interim agricultural open space as a means of preservation prior to the need for urban development.

3.2.3 Environmental Setting

The project area is in the Agricultural ("A") zoning district in unincorporated Alameda County. The A zoning district is intended to promote agricultural and other nonurban uses, conserve and protect existing agricultural uses, and provide open space in areas where urban development is not desirable (Alameda County Code 17.06.010). According to Alameda County Williamson Act FY 2014/2015 map, the project would be located in an area mapped as Williamson Act Non-Prime Agricultural Land, and it is under an existing contract.

According to the Alameda County Important Farmland 2014 map, the project area is located in an area mapped as Grazing Land. The project area is within the Eagle Ridge Preserve, a conservation easement. The Preserve has been traditionally used for seasonal cattle grazing and will be preserved and managed under the Conservation Easement and the Long-Term Resource Management Plan for the property as grazed wildlife habitat.

3.2.4 Impacts

Checklist item 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 nonagricultural use?

The project would not be located in an area designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. As shown in the Alameda County Important Farmland 2014 map, the project would be located in an area mapped as Grazing Land. There would be no impact.

Checklist item b: Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract?

The project would not conflict with existing zoning for agricultural use or conflict with a Williamson Act Contract. The project is in an area designated for Resource Management land uses (as part of the Open Space/Agricultural land use category), consistent with the *Long-Term Resource Management Plan for the Eagle Ridge Reserve Property*. By implementing erosion and road repair and improvement in Preserve habitat, the project would be consistent with the Long-Term Resource Management Plan. Although the property is under a Williamson Act Contract on Non-Prime Agricultural Lands, the project would be consistent with the contract and would not change the existing zoning or land uses, nor would it eliminate the use of any agriculture lands. There would be no impact.

Checklist item c: Conflict with existing zoning for, or cause rezoning of forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

There is no forest land, timberland, or timberland zoned Timberland Production in the project area, and, thus, the project would not conflict with existing forest land zoning. There would be no impact.

Checklist item d: Result in the loss of forest land or conversion of forest land to nonforest use?

There is no forestland in the project area, and so the project would not result in the loss or conversion to non-forest use of forest land. There would be no impact.

Checklist item e: Involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to nonagricultural use or conversion of forest land to nonforest use?

The project would not involve other changes in the existing environment that could result in conversion of Farmland to nonagricultural use or conversion of forest land to non-forest use. The project would not add new roads or connections that could potentially open new access to such areas. The access road improvements would be along the existing access road alignment, and access to the area would be limited to PG&E and Preserve personnel. Additionally, because there is no forest land in the project area, there is no potential for changes that would convert forest land to nonforest uses.

Temporary impacts to agricultural land could include disturbance to livestock or other short term interruption of ranching operations from the presence or use of construction equipment and project vehicles on farm roads. On completion of the work, the project site would be returned to pre-project conditions and there would be no permanent impacts or conversion of agricultural land. Impacts would be less than significant.

III. Air Quality	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
When 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?	☐	☐	☒	☐
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐
c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d. Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e. Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

3.3 Air Quality

3.3.1 Introduction

Project construction has the potential to create air quality impacts through the use of heavy-duty construction equipment, construction worker vehicle trips, and truck hauling trips. In addition, fugitive dust emissions would result from removal of existing structures and site grading.

3.3.1.1 Methodology

The Road Construction Emissions Model (RCEM) (version 8.1.0), developed by the Sacramento Metropolitan Air Quality Management District (SMAQMD), was used to quantify criteria pollutant emissions generated by project-related sources. The RCEM is used throughout the state and was designed to estimate construction activity and associated emissions from linear projects, including roadways. While the proposed project would not exclusively involve roadway work, the filling of and stabilization of sinkhole areas, dredging of two wetlands, and restoring of the project site would require construction activities to take place along the roadway, and as such, the RCEM can be used to estimate air quality emissions and impacts for the entire project. RCEM defaults were reviewed and revised based on project information provided by the project applicant (Liles pers. comm.). The proposed project would not result in a change to current operations. Thus, an increase in operational or maintenance emissions, relative to existing conditions, would not be anticipated. As such, operations are not discussed further.

3.3.2 Regulatory Setting

This section summarizes federal, state, and local air quality regulations that apply to the project. The air quality management agencies of direct importance in the project area are the Environmental Protection Agency (EPA), California Air Resources Board (ARB), and Bay Area Air Quality Management District

(BAAQMD). EPA has established federal air quality standards for which ARB and BAAQMD have primary implementation responsibility. ARB and BAAQMD are also responsible for ensuring that state air quality standards are met.

3.3.2.1 Federal Clean Air Act

The Clean Air Act (CAA) was first enacted in 1963 and has been amended numerous times in subsequent years (1965, 1967, 1970, 1977, and 1990). The CAA establishes federal air quality standards, known as National Ambient Air Quality Standards (NAAQS), and specifies future dates for achieving compliance. The CAA also mandates that the state submit and implement a State Implementation Plan for local areas not meeting those standards. The plans must include pollution control measures that demonstrate how the standards will be met.

3.3.2.2 California Clean Air Act

At the state level, the California CAA establishes a statewide air pollution control program. The California CAA requires all air districts in the state to endeavor to meet the California Ambient Air Quality Standards (CAAQS) by the earliest practical date. Unlike the CAA, the California CAA does not set precise attainment deadlines. Instead, the California CAA establishes increasingly stringent requirements for areas that will require more time to achieve the standards. CAAQS are generally more stringent than the NAAQS and incorporate additional standards for sulfates, hydrogen sulfide, visibility-reducing particles, and vinyl chloride.

The CAAQS and NAAQS are listed together in Table 3-1

Table 3-1. National and State Ambient Air Quality Standards

Criteria Pollutant	Average Time	California Standards	National Standards[a]	
			Primary	Secondary
Ozone	1-hour	0.09 ppm	None	None
	8–hour	0.070 ppm	0.070 ppm	0.070 ppm
Particulate matter (PM10)	24-hour	50 μg/m^3	150 μg/m^3	150 μg/m^3
	Annual mean	20 μg/m^3	None	None
Fine particulate matter (PM2.5)	24-hour	None	35 μg/m^3	35 μg/m^3
	Annual mean	12 μg/m^3	12 μg/m^3	15 μg/m^3
Carbon monoxide	8-hour	9.0 ppm	9 ppm	None
	1-hour	20 ppm	35 ppm	None
Nitrogen dioxide	Annual mean	0.030 ppm	0.053 ppm	0.053 ppm
	1-hour	0.18 ppm	0.100 ppm	None
Sulfur dioxide[b]	Annual mean	None	0.030 ppm	None
	24-hour	0.04 ppm	0.014 ppm	None
	3-hour	None	None	0.5 ppm
	1-hour	0.25 ppm	0.075 ppm	None
Lead	30-day average	1.5 μg/m^3	None	None
	Calendar quarter	None	1.5 μg/m^3	1.5 μg/m^3
	3-month average	None	0.15 μg/m^3	0.15 μg/m^3
Sulfates	24-hour	25 μg/m^3	None	None
Hydrogen sulfide	1-hour	0.03 ppm	None	None
Vinyl chloride	24-hour	0.01 ppm	None	None

Source: California Air Resources Board 2016a, Environmental Protection Agency 2016.

a - National standards are divided into primary and secondary standards. Primary standards are intended to protect public health, whereas secondary standards are intended to protect public welfare and the environment.

b - The final 1-hour sulfur dioxide rule was signed June 2, 2010. The annual and 24-hour standards were revoked in that same rulemaking. However, these standards remain in effect until 1 year after an area is designated for the 2010 standard, except in areas designated nonattainment for the 1971 standards, where the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standard are approved.

$\mu g/m^3$ = micrograms per cubic meter; ppm = parts per million.

3.3.2.3 Bay Area Air Quality Management District

The Bay Area Air Quality Management District (BAAQMD) is responsible for ensuring the NAAQS and CAAQS are met within the San Francisco Bay Area Air Basin. BAAQMD manages air quality through a comprehensive program that includes long-term planning, regulations, incentives for technical innovation, education, and community outreach. The *2010 Clean Air Plan* provides an integrated strategy to reduce ozone, particular matter (PM), toxic air contaminants (TACs), and greenhouse gas (GHG) emissions in a manner that is consistent with federal and state air quality programs and regulations. BAAQMD is currently in the process of updating the *2010 Clean Air Plan*. The *Draft 2017 Clean Air Plan* was recently released on January 13, 2017 for public review and comment. The *Draft 2017 Clean Air Plan* includes a wide range of proposed control measures to reduce combustion-related activities, decrease fossil fuel combustion, improve energy efficiency, and decrease emission of GHGs (Bay Area Air Quality Management District 2017).

The BAAQMD's *CEQA Guidelines* (2017) provide guidance for evaluating project-level air quality impacts. The guidelines also contain thresholds of significance for ozone (reactive organic gases [ROG]), nitrogen oxide (NOx), carbon monoxide (CO), PM less than or equal to 2.5 microns in diameter (PM2.5), PM less than or equal to 10 microns in diameter (PM10), TACs, and odors. As stated in Appendix G of the State CEQA Guidelines, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the checklist determinations. BAAQMD's significance thresholds have been challenged in litigation and currently are not in effect.[1] However, pursuant to CEQA Guidelines Section 15064.7, lead agencies have the discretion to select significance thresholds that are supported by substantial evidence. In developing its criteria, BAAQMD conducted extensive analysis (see the BAAQMD *CEQA Guidelines* (2010) and the administrative record for the 2010 guidelines adoption). In 2012 the BAAQMD released updated basic strategies to mitigate construction phase air quality impacts and in 2017 released updated guidelines to address recent court rulings. BAAQMD's *CEQA Guidelines* (2017) are incorporated into this project as APMs (see Section 2.4.9 above). Accordingly, the BAAQMD's thresholds, as outlined in their current *CEQA Guidelines* and summarized in Table 3-2, are supported by substantial evidence and are used to evaluate the significance of air quality impacts associated with the proposed project.

[1] In August 2013, the Court of Appeal upheld the BAAQMD CEQA Guidelines (2010), ruling that adoption of guidelines and significance thresholds was not itself a project subject to CEQA review and was not arbitrary and capricious. The Court of Appeal's decision was subsequently appealed to the California Supreme Court, which granted limited review to the issue of whether CEQA requires "an analysis of how existing environmental conditions will impact future residents or users (receptors) of a proposed project." This challenge relates to the applicability of TAC standards based on the effect of existing pollutant sources on new development. In light of the litigation regarding the 2010 CEQA Guidelines, BAAQMD is no longer recommending their use. In December 2015, the Supreme Court ruled in favor of the plaintiff, finding that "CEQA generally does not require an analysis of how existing environmental conditions will impact a project's future users or residents." BAAQMD at present has no recommendation to local lead agencies on the use of its guidelines (revised in 2017). However, there is no court order constraining their use, and they are frequently employed by lead agencies when conducting CEQA reviews because the evidence in the BAAQMD 2011 guidelines still provides a substantial evidence-based approach to air quality impact analyses and BAAQMD-recommended significance thresholds

Table 3-2. BAAQMD Thresholds of Significance

Pollutant	Construction	Operations
ROG	54 pounds/day	54 pounds/day or 10 tons/year
NO_X	54 pounds/day	54 pounds/day or 10 tons/year
CO	—	Violation of CAAQS
PM10 (exhaust)	82 pounds/day	82 pounds/day or 15 tons/year
PM2.5 (exhaust)	54 pounds/day	54 pounds/day or 10 tons/year
PM10 /PM2.5 (dust)	Best management practices	—
TACs (project-level)	Increased cancer risk of 10 in 1 million; increased non-cancer risk of greater than 1.0 HI; PM2.5 increase of greater than 0.3 micrograms per cubic meter	Same as construction
TACs (cumulative)	Increased cancer risk of 100 in 1 million; increased non-cancer risk of greater than 10.0; PM2.5 increase of greater than 0.8 microgram per cubic meter at receptors within 1,000 feet	Same as construction
Odors	—	Five complaints per year averaged over 3 years

Source: Bay Area Air Quality Management District 2017.
CAAQS = California Ambient Air Quality Standards; CO = carbon monoxide; HI = hazard index; NO_X = nitrogen oxide; PM 2.5 = particulate matter no more than 2.5 microns in diameter; PM10 = particulate matter no more than 10 microns in diameter; ROG= reactive organic gases; TACs = toxic air contaminants.

3.3.3 Environmental Setting

The primary factors that determine air quality are the locations of air pollutant sources and the amount of pollutants emitted from those sources. Meteorological and topographical conditions are also important factors. Atmospheric conditions, such as wind speed, wind direction, and air temperature gradients interact with the physical features of the landscape to determine the movement and dispersal of air pollutants. Air quality is indicated by ambient concentrations of criteria pollutants: ozone, CO, nitrogen dioxide (NO_2), sulfur dioxide (SO_2), lead, PM10, and PM2.5.

The project site is located approximately three miles north of the City of Livermore, in unincorporated north-central Alameda County, which is within the SFBAAB. The SFBAAB has a Mediterranean climate characterized by hot, dry summers and cool, rainy winters. During the year, average temperatures in Livermore range from 37°F during the night to 87°F during the day. Average annual rainfall is approximately 14 inches, with roughly 80% of the total precipitation falling during the rainy season (generally from November through March) (Western Regional Climate Center 2009). The SFBAAB region lies in the semi-permanent high-pressure zone of the eastern Pacific, resulting in a mild climate tempered by cool sea breezes with light average wind speeds.

The mountains surrounding the SFBAAB create a barrier to airflow, which can trap air pollutants under certain meteorological conditions. The highest frequency of air stagnation occurs in early winter. The lack of surface wind during these periods combined with the reduced vertical flow caused by less surface heating results in a lower influx of outside air and allows air pollutants to become concentrated in a stable volume of air. The surface concentrations of pollutants are highest when these conditions are combined with smoke or when temperature inversions trap cool air, fog, and pollutants near the ground.

3.3.3.1 Existing Air Quality Conditions

Existing air quality conditions in the project area can be characterized in terms of the federal and state air quality standards by monitoring data collected in the region. The EPA and ARB maintain an extensive network of monitoring stations throughout California. Table 3-3 presents pollutant concentrations measured at the

Livermore-Rincon monitoring station for data are available (2013–2015). The Livermore-Rincon monitoring station is located approximately 4.5 miles southeast of the project site. Data for CO was unavailable from the Livermore-Rincon Monitoring Station so data was taken from the next nearest monitoring station at the Oakland-9925 International Boulevard Station, located approximately 20 miles west of the project site.

As shown in Table 3-3, the monitoring station has experienced exceedances of the state 1-hour ozone standard and state and federal 8-hour ozone standards.

Table 3-3. Pollutant Concentrations Measured at the Livermore-Rincon Monitoring Station

Pollutant Standards	2014	2015	2016
Ozone			
Maximum 1-hour concentration (ppm)	0.093	0.105	0.102
Maximum 8-hour concentration (ppm)	0.080	0.082	0.085
Number of days standard exceeded[a]			
CAAQS 1-hour (>0.09 ppm)	0	1	2
NAAQS 8-hour (>0.070 ppm)	6	7	4
CAAQS 8-hour (>0.070 ppm)	7	7	6
CO[b]			
Maximum 8-hour concentration (ppm)	1.7	1.4	1
Maximum 1-hour concentration (ppm)	2.8	2.4	2.6
Number of days standard exceeded[a]			
NAAQS 8-hour (≥9 ppm)	0	0	0
CAAQS 8-hour (≥9.0 ppm)	0	0	0
NAAQS 1-hour (≥35 ppm)	0	0	0
CAAQS 1-hour (≥20 ppm)	0	0	0
PM10			
No stations monitor PM10 in Alameda County			
PM2.5			
National maximum 24-hour concentration (μg/m^3)[c]	42.9	31.1	22.3
National second-highest 24-hour concentration (μg/m^3)[c]	33.2	31.0	19.6
State maximum 24-hour concentration (μg/m^3)[d]	42.9	31.1	22.3
State second-highest 24-hour concentration (μg/m^3)[d]	33.2	31.0	19.6
National annual average concentration (μg/m^3)	7.6	8.8	7.4
State annual average concentration (μg/m^3)[e]	—	8.8	7.5
Number of days standard exceeded[a]			
NAAQS 24-hour (>35 μg/m^3)[f]	1	0	0

Source: California Air Resources Board 2016b, California Air Resources Board 2017, U.S. Environmental Protection Agency 2017.
a - An exceedance is not necessarily a violation.
b - Data for carbon monoxide (CO) was unavailable from the Livermore-Rincon Monitoring Station so data was taken from the Oakland-9925 International Boulevard Station.
c - National statistics are based on standard conditions data. In addition, national statistics are based on samplers using federal reference or equivalent methods.
d - State statistics are based on local conditions data. In addition, state statistics are based on California-approved samplers.
e - State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.
f - Mathematical estimate of how many days' concentrations would have been measured as higher than the level of the standard had each day been monitored. Values have been truncated.
CAAQS = California ambient air quality standards; NAAQS = national ambient air quality standards; ppm = parts per million; μg/m^3 = micrograms per cubic meter; – = insufficient data available to determine the value.

Table 3-4 summarizes the attainment status of Alameda County with regard to the NAAQS and CAAQS.

Table 3-4. Federal and State Attainment Status of Alameda County

Pollutant	National Ambient Air Quality Standards	California Ambient Air Quality Standards
8-hour ozone CO	Marginal Nonattainment[a] Maintenance (P)	Nonattainment Attainment
PM2.5	Moderate Nonattainment	Nonattainment
PM10	Attainment	Nonattainment

Sources: California Air Resources Board 2016c; U.S. Environmental Protection Agency 2016b.

a - The attainment status of the revised 2015 standard is not yet available. This attainment status reflects the attainment status of the 2008 standard.

PM2.5 = particulate matter less than or equal to 2.5 microns; PM10 = particulate matter less than or equal to 10 microns; CO = carbon monoxide; (P) designation applies to a portion of the county

Sensitive Receptors

Sensitive land uses are defined as locations where human populations, especially children, seniors, and sick persons, are located and where there is reasonable expectation of continuous human exposure according to the averaging period for the air quality standards (i.e., 24-hour, 8-hour). Typical sensitive receptors are residences, hospitals, and schools. The project area is located within the privately owned Eagle Ridge Preserve and is relatively undeveloped. The nearest sensitive receptor is a residence along the eastern site of Collier Canyon Road, approximately 0.30-mile (1,600 feet) west of the proposed project construction areas. There are no hospitals and schools within 0.25-mile of the project area.

3.3.4 Applicant-Proposed Measures

The following control measures are based on BAAQMD's 2017 CEQA Air Quality Guidelines for reducing emissions form equipment exhaust during construction (BAAQMD, 2017). PG&E has incorporated these APMs into the project to minimize the project's air quality emissions.

APM AQ-1: Minimize Fugitive Dust

The project applicant shall require its contractors, as a condition of contract, to reduce construction-related fugitive dust by implementing BAAQMD's basic control measures at all construction and staging areas. The following measures are based on BAAQMD's current CEQA guidelines for reducing equipment emission during construction.

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) will be watered two times per day during dry conditions. This does not apply to temporary overland access routes.
- All haul trucks transporting soil, sand, or other loose material offsite will be covered.
- All visible mud or dirt track-out onto adjacent public roads will be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 mph.
- All roadways, driveways, and sidewalks to be paved will be completed as soon as possible. Building pads will be laid as soon as possible after grading unless seeding or soil binders are used.
- Post a publicly visible sign with the telephone number and the name of the person to contact at the lead agency regarding dust complaints. This person will respond and take corrective action within 48 hours. The phone number of the District will also be visible to ensure compliance.

APM AQ-2: Minimize Exhaust Emissions

The following measures will be implemented during construction to minimize construction vehicle exhaust emissions:

- Minimize construction equipment exhaust by using low-emissions or electric construction equipment where feasible.
- Minimize unnecessary construction vehicle idling time. The ability to limit construction vehicle idling time is dependent on the sequence of construction activities and when and where vehicles are needed or staged. Certain vehicles, such as large diesel-powered vehicles, have extended warm-up times following start-up that limit their availability for use following start-up, and may require more idling time for repetitive construction tasks. The project will apply a "common sense" approach to vehicle use, such that idling is reduced as far as possible below the maximum of 5 consecutive minutes required by regulation (13 CCR 2485). If a vehicle is not required for use immediately or continuously for construction activities or other safety- related reasons, its engine will be shut off.
- Minimize welding and cutting by using compression or mechanical applications where practical and within standards.

3.3.5 Impacts

The proposed project involves repairing a 0.55-mile stretch of an existing paved access road; collapsing and filling existing hillside sinkholes; dredging a seasonal pond; and restoring habit value to the project site. The proposed project would not increase operational or maintenance emissions, relative to existing conditions. In addition, as described in Section 3.16, *Transportation/Traffic,* the proposed project would neither generate a significant number of new vehicles trips nor add additional capacity to area roadways. The following assessment therefore focuses exclusively on an estimate of daily construction-related emissions because there would be no impact related to proposed project operations.

According to the State CEQA Guidelines, the significance criteria established by the applicable air quality management or air pollution control district may be relied on to make significance determinations for potential impacts on environmental resources. As discussed earlier in this section, BAAQMD is responsible for ensuring that state and federal ambient air quality standards are not violated within Alameda County. Emissions thresholds for construction were discussed in *Regulatory Setting* and are shown in Table 3-5.

Checklist item a: Conflict with or obstruct implementation of the applicable air quality plan?

The project will not conflict with or obstruct an applicable air quality plan. A project is deemed inconsistent with air quality plans if it would result in population and/or employment growth that exceeds estimates used to develop applicable air quality plans. Projects that propose development that is consistent with the growth anticipated by the relevant land use plans would be consistent with the current BAAQMD air quality plans. Likewise, projects that propose development that is less dense than anticipated within a general plan (or other governing land use document) would be consistent with the air quality plans because emissions would be less than estimated for the region.

The proposed project consists of road repair, filling of and stabilization of sinkhole areas, and dredging of a seasonal pond. The proposed project does not propose land use changes and proposed project activities would not result in land use changes. As discussed in Section 3.10, *Land Use and Planning*, and Section 3.13, *Population and Housing*, the proposed project would be consistent with current land use plans, natural community conservation plans, and policies or regulations applicable to the project site and would not induce growth or employment in the area. Accordingly, the proposed project would be consistent with recent

growth projections for the region and would not conflict with the current BAAQMD air quality plans. Accordingly, the proposed project would not conflict with or obstruct implementation of any applicable air quality plan or policy. Therefore, the impact would be less than significant.

Checklist item b: Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Construction emissions for the proposed project were estimated using SMAQMD's RCEM and are summarized in Table 3-3. It was assumed that construction would occur between June and July of 2018. Because construction phases would not overlap, construction emissions are shown separately for each construction phase. Since activities occur sequentially, emissions associated with each phase are compared individually to BAAQMD thresholds. Please refer to Appendix B for modeling assumptions.

Table 3-5. Estimated Criteria Pollutant Emissions from Proposed Project Construction (pounds per day)[a]

				PM10		PM2.5	
Construction Phase	**ROG**	**NO_X**	**CO**	**Dust**	**Exhaust**	**Dust**	**Exhaust**
Grubbing/land clearing	2.6	33.4	20.1	5.0	1.5	1.0	1.3
Grading/excavation	3.3	41.0	23.2	5.0	1.8	1.0	1.5
Utilities/sub-grade	2.9	33.5	23.1	5.0	1.5	1.0	1.3
Paving	2.5	30.5	16.6	0.0	1.5	0.0	1.3
BAAQMD Threshold	54	54	—	BMPs	82	BMPs	54
Exceed Threshold?	No	No	—	—	No	—	No

BAAQMD = Bay Area Air Quality Management District; BMPs = best management practices; CO = carbon monoxide; NOX = nitrogen oxide; PM 2.5 = particulate matter no more than 2.5 microns in diameter; PM10 = particulate matter no more than 10 microns in diameter; ROG= reactive organic gases.

a - Emissions were estimated using assumptions provided for a 2017 construction start year. With a construction start year of 2018, and with all other assumptions the same, emissions would be the same or potentially lower than what is presented in this table due to presumed use of newer, less polluting equipment during construction and declining equipment emission factors over time.

As shown in Table 3-5, the phases of construction activities would not generate daily emissions of ROG, NO_X, or PM exhaust in excess of BAAQMD's numeric thresholds. The BAAQMD *CEQA Guidelines* consider dust impacts to be less than significant through the application of best management practices (BMPs). Therefore, with implementation of APM AQ-1, the impact of construction-related fugitive dust emissions would be less than significant.

Checklist item c: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard?

The project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard. BAAQMD has identified daily emissions rate thresholds to evaluate nonattainment pollutant impacts (see Table 3-2). In developing these thresholds, BAAQMD considered levels at which project emissions would be cumulatively considerable. As noted in their *CEQA Guidelines* (2017):

> *In developing thresholds of significance for air pollutants, BAAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions. Therefore, additional analysis to assess cumulative impacts is unnecessary.*

The criteria pollutant thresholds presented in Table 3-2 therefore represent the maximum daily emissions a project may generate before contributing to a cumulative impact on regional air quality. Consequently, exceedances of the project-level thresholds would be cumulatively considerable. For the proposed project, emissions would cease after the construction is complete. As discussed above, criteria pollutant emissions for each phase of construction activity associated with implementation of the project would be substantially below BAAQMD's quantitative thresholds for construction with APM AQ-1 and AQ-2. As a result, the impact of related fugitive dust and exhaust emissions would be less than significant.

Checklist item d: Expose sensitive receptors to substantial pollutant concentrations?

BAAQMD considers ultra-fine (PM2.5) particle emissions to be the diesel particulate matter (DPM) of greatest health concern. The BAAQMD has determined that construction activities occurring at distances greater than 1,000 feet from a sensitive receptor are unlikely to pose a significant health risk. As discussed above, the closest receptor is a residence along the eastern site of Collier Canyon Road, which is approximately 1,600 feet west of the proposed project. Construction-related PM2.5 exhaust emissions would be minor and would not exceed 1.8 pounds per day during the grading/excavation phase. These emissions would dissipate as a function of distance and would be lower at the nearest sensitive receptor. Implementation of APM AQ-2 would also reduce PM2.5 exhaust emissions by limiting vehicle idling times. Estimated construction emissions would be short-term and occur for less than two months. This is significantly lower than the 30-year exposure period typically associated with chronic cancer health risks.

Given the distance to the nearest receptor (greater than 1,000 feet), limited magnitude of construction emissions, and short-duration of construction activities, the proposed project would not result in an elevated cancer or non-cancer risk to exposed sensitive receptors. Consequently, emissions of DPM are not expected to exceed the BAAQMD's health risk thresholds. This impact would be less than significant.

Checklist item e: Create objectionable odors affecting a substantial number of people?

While offensive odors rarely cause any physical harm, they can be unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and air districts. Project-related odor emissions would be limited to construction activities when emissions from equipment may be evident in the immediately surrounding area. These activities would be intermittent and temporary in duration (approximately 1.5 months) and, therefore, odors would dissipate as a function of distance and would be lower at the nearest sensitive receptor, which is well over 1,000 feet west of the project site. Impacts would be less than significant.

IV. Biological Resources	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f. Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

3.4 Biological Resources

3.4.1 Introduction

This section describes biological resources in the project area and vicinity, and it identifies potential impacts on those resources. The section also identifies APMs that PG&E would implement to avoid and minimize impacts.

3.4.1.1 Methodology

This section summarizes the methods used to identify and analyze potential impacts to biological resources, including waters and wetlands, sensitive habitat, and special-status species in the proposed project area (see Figure 1.3 in the Project Description). Pertinent life history and distribution information for each listed species addressed was reviewed and compiled in the preparation of this section. In addition to general species information, known species occurrence data and information on existing conditions were obtained from biological databases, other information sources, and reports prepared for other projects in the vicinity of the proposed project.

On July 24, 2015 PG&E's consulting biologists used aerial photograph interpretation and a reconnaissance-level field survey to describe and document vegetation communities, wetlands, and biological resources occurring within the project area. An additional site visit was made by PG&E's consulting biologist on December 21, 2016 and February 1, 2017 to update the field survey results. CDFW, Aspen Environmental Group, PG&E and their consulting staff did a reconnaissance visit on April 13, 2017, and CDFW staff conducted further visits in July and December 2017.

Vegetation Mapping

Vegetation communities and habitat types were mapped during the reconnaissance-level field survey conducted by PG&E's consultant wetland ecologist/soil scientist and a botanist. The biologists walked the entire project area. All vegetation communities observed during the survey were recorded and a list of plant species observed during the survey was compiled.

Waters of the United States

Waters of the Unites States, including wetlands, were delineated within the project area during the field survey conducted by an PG&E's consulting wetland ecologist/soil scientist and a botanist on July 24, 2015. The delineation was conducted in accordance with guidance provided in the U.S. Army Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987) and incorporating the supplemental procedures and wetland indicators provided in the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (U.S. Army Corps of Engineers 2008a). Non-wetland waters were delineated based on the Clean Water Rule (U.S. Environmental Protection Agency 2015) and A Field Guide to the Identification of the Ordinary High Water Mark in the Arid West Region of the Western United States (U.S. Army Corps of Engineers 2008b).

Special-Status Species Habitat Assessment

Plant and wildlife species that meet one or more of the following criteria are considered "special-status species."

- Species listed, proposed for listing, or candidate for listing, as rare, threatened or endangered under the California Endangered Species Act (CESA) or federal Endangered Species Act (California Department of Fish and Wildlife 2016c).
- Species listed on the CDFW endangered, threatened and rare plants list (California Department of Fish and Wildlife, 2016d).
- Species listed by the California Native Plant Society (CNPS) in the online version of its Inventory of Rare, Threatened, and Endangered Plants of California (2016).
- Designated as rare under the Native Plant Protection Act (NPPA).
- Species designated as species of special concern or a fully protected species by the CDFW.
- Species listed on the CDFW "Special Animals" list (California Department of Fish and Wildlife 2016b) and species that otherwise meet the definition of rare, threatened or endangered under CEQA Guidelines, Section 15380.

Prior to conducting a reconnaissance-level field survey of the project area, a target list of special-status species with potential to occur in the project area was prepared. Sources of information, which have since been updated, consisted of the CNPS's Inventory of Rare and Endangered Vascular Plants of California (California Native Plant Society 2016), the California Natural Diversity Database (CNDDB) (California Department of Fish and Wildlife 2016a), and the U.S. Fish and Wildlife Service's (USFWS's) Information for Planning and Conservation (IPaC) website (U.S. Fish and Wildlife Service 2016a).

During the July 24, 2015 reconnaissance-level field survey, vegetation communities and habitat types in the project area were assessed to determine their suitability for special-status botanical and wildlife species. Suitable habitat was then described based on the results of habitat assessment and field survey effort. The survey effort was focused on potentially suitable habitats for federal and state-listed species in the project area that could be disturbed by the proposed project. Potential habitat for nonlisted special-status wildlife species was also assessed.

All potential upland and aquatic habitats for special-status species were assessed within the proposed project construction footprint[2] and potential breeding sites were evaluated within 1.25 miles of the project area using aerial imagery. The dominant habitat characteristics and factors affecting local habitats, general soil characteristics, slope, and drainage were recorded. Accessible boundaries of seasonal wetlands, two seasonal ponds, and waterways were surveyed.

To address potential indirect effects on special-status wildlife species, the biologist assessed all habitat within 300 feet of the construction footprint to determine if any suitable habitats (i.e., vernal pools, seasonal wetlands, and upland habitat) were present. The survey was conducted by walking 50- to 75-foot-wide meandering transects within the proposed project area. The survey area and transect spacing were modified at some locations due to steep topography and inaccessible areas due to fences or locked gates; these areas were visually surveyed using binoculars.

In addition to conducting surveys, PG&E's consultant reviewed the following biological databases and other information sources.

- USFWS IPaC website (U.S. Fish and Wildlife Service 2016a).
- USFWS online Critical Habitat Mapper (U.S. Fish and Wildlife Service 2016b).
- USFWS online National Wetlands Inventory v.2 (2016c).
- CNPS online Inventory of Rare and Endangered Vascular Plants of California (California Native Plant Society 2016).
- CDFW RareFind 5 CNDDB and Biogeographic Information and Observation System 5 viewer (California Department of Fish and Wildlife 2016a).
- CDFW 2016 Special Animal List (California Department of Fish and Wildlife 2016b).
- CDFW list of State and Federally Listed Endangered and Threatened Animals of California (California Department of Fish and Wildlife 2016c).
- CDFW list of State and Federally Listed Endangered & Threatened, and Rare Plants of California (California Department of Fish and Wildlife 2016d).
- CDFW online California Wildlife Habitat Relationships Program Life History Accounts and Range Maps (California Department of Fish and Wildlife 2016e).
- East Alameda County Conservation Strategy Chapter 3, Conservation Strategy, Section 3.5.3, Focal Species Goals and Objectives (ICF International 2010).
- USFWS programmatic biological opinion for the East Alameda County Conservation Strategy (U.S. Fish and Wildlife Service 2012).
- Draft Pacific Gas and Electric Company Bay Area Operation & Maintenance Habitat Conservation Plan (Pacific Gas & Electric Company 2016a).

[2] Construction footprint is defined as all temporary construction easements, equipment staging areas, and work areas required for construction of the proposed project. The construction footprint is identified in the Project Description.

- Long-Term Resource Management Plan for the Eagle Ridge Preserve (Olberding 2013).
- Biological Resources Analysis for the Eagle Ridge Preserve (Olberding 2010).
- Resource documents prepared for other projects in the vicinity (California Environmental Services 2014).
- Aerial imagery.

3.4.2 Regulatory Setting

3.4.2.1 Federal

This section discusses the laws and regulations that influence the management of biological resources in the project vicinity. The section provides context for determining which biological resources are considered sensitive for the purposes of this analysis and for identification of potential project-related impacts.

Federal Endangered Species Act of 1973

The federal ESA protects plants and wildlife that are listed as endangered or threatened by USFWS and the National Marine Fisheries Service. Section 9 of the ESA prohibits the take of listed fish and wildlife, where "take" is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct" (50 Code of Federal Regulations (CFR) 17.3). 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 nonfederal land in knowing violation of the law. Under Section 7 of the ESA, federal agencies are required to consult with USFWS if their actions, including permit approval, could adversely affect a listed species or its critical habitat. Through consultation and the issuance of a Biological Opinion, USFWS may issue an incidental take statement allowing take of the species that is incidental to an otherwise authorized activity, provided the action does not jeopardize the continued existence of the species.

Federal Clean Water Act Sections 401 and 404

The purpose of the Clean Water Act (CWA) is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." Under the CWA, "waters of the United States" consist of rivers, streams, estuaries, the territorial seas, ponds, lakes, and wetlands. Wetlands are defined as those areas "that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 Code of Federal Regulations 328.3 7b). The U.S. Army Corps of Engineers (USACE) issues permits based on guidelines established under Section 404 of the CWA. Section 404 of the CWA prohibits the discharge of dredged or fill material into waters of the United States, including wetlands, without a permit from USACE.

To implement the proposed project activities, PG&E is requesting permission from USACE, Regulatory Division, pursuant to Section 404 of the CWA for regulation of dredged or fill material in jurisdictional waters of the United States. To issue the Section 404 permit, USACE must consult with USFWS pursuant to Section 7(a)(2) of the ESA. A biological assessment (BA) has been prepared to support USACE's consultation with USFWS; it documents the potential effects of the proposed project on any species federally listed as threatened, endangered, or proposed for listing as threatened or endangered, that may occur in the project area and on designated or proposed critical habitat for these species. As of February 2018, the USFWS was preparing a Biological Opinion that will regulate the nature of the anticipated take on the federally listed (threatened) species California tiger salamander *Ambystoma californiense* (USFWS tracking number 2017-F-0791).

The San Francisco Bay Regional Water Quality Control Board (San Francisco Bay Water Board) is responsible for the administration of Section 401 of the CWA in the project vicinity. Generally, areas subject to San Francisco Bay Water Board jurisdiction coincide with those of the USACE (i.e., waters of the United States, including wetlands). The San Francisco Bay Water Board also asserts authority over waters of the state under waste discharge requirements pursuant to the Porter-Cologne Water Quality Control Act (see Section 3.9, *Hydrology and Water Quality*).

Migratory Bird Treaty Act of 1918

The Migratory Bird Treaty Act (MBTA) protects all migratory birds. 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, including their body parts (e.g. feathers and plumes), active nests, and eggs. Enforcement of the provisions of the MBTA is the responsibility of USFWS. The regulations governing migratory bird permits can be found in 50 CFR Part 13 General Permit Procedures and 50 CFR Part 21 Migratory Bird Permits. California incorporates the protection of migratory birds and birds of prey in Sections 3800, 3513, and 3503.5 of the California Fish and Game Code (CFGC).

3.4.2.2 State

California Endangered Species Act (CESA)

Fish and Game Code Sections 2050-2098 prohibit the take of state-listed endangered and threatened species unless specifically authorized by CDFW. The state definition of "take" is to hunt, pursue, catch, capture, or kill a member of a listed species or a species formally proposed for listing ("candidate species"), or attempt to do so. CDFW administers CESA and authorizes take through incidental take permits (ITPs) issued under Fish and Game Code Section 2081, or through a consistency determination issued under Section 2080.1. Fish and Game Code Section 2090 requires state agencies to comply with threatened and endangered species protection and recovery and to promote conservation of these species. PG&E has applied for an incidental take permit for California tiger salamander, No. 2081-2016-038-03).

Fully Protected Species

Under the Fish and Game Code (Sections 3511 [birds], 4700 [mammals], 5050 [reptiles and amphibians], and 5515 [fish]), certain animal species are classified as "fully protected." These statutes provide that take authorization is available for these species only if they are covered under a Natural Community Conservation Plan (Section 2835), or only in very limited circumstances, such as those necessary for scientific research. The white-tailed kite, a fully protected bird species, has potential to nest in the project area.

Native Plant Protection Act of 1977

Fish and Game Code Sections 1900–1913 includes provisions that prohibit the take of endangered and rare native plants from the wild and a salvage requirement for landowners. CDFW administers the Native Plant Protection Act. CDFW, jointly with the CNPS, assigns a California Rare Plant Rank (CRPR) to plants considered rare, threatened, or endangered in California. Plants constituting CRPRs 1A, 1B, 2A, and 2B generally meet the criteria of a CESA listed species and should be considered a as an endangered, rare or threatened species for the purposes of CEQA analysis; i.e. impacts to species from these classifications should be analyzed and, if necessary, mitigated to the same extent that CESA listed species would be In the case of this project, a CRPR 1.B.1 plant is present (see Section 3.5.4 Impact Analysis), and impact to several hundred individuals, or the plant's seed bank, is anticipated. CRPR 1.B.1 indicates is rare throughout its range, seriously threatened in California (because over 80% of occurrences are threatened and the immediacy of threat) and eligible for state listing. CNPS Impacts to 1B.1 species or their habitat should therefore typically be analyzed during CEQA review, as they potentially meet the definition of Rare or Endangered under CEQA

Guidelines §15125 (c) and/or §15380. §15380 (b)(2) definition of "Rare" includes: (A)Although not presently threatened with extinction, the species is existing in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens. The applicant has proposed mitigation measures (Applicant Proposed Measures, APMs) to bring impacts to this plant to a less than significant level.

California Fish and Game Code Sections 3503 and 3513

These sections state that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by the code or any regulation made pursuant thereto. Section 3513 makes it unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of birds protected under the MBTA. Section 3503.5 makes it unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds of prey), or to take, possess, or destroy the nest or eggs of such birds.

California Lake and Streambed Alteration Notification and Agreement

Section 1602 of the California Fish and Game Code requires that a Streambed Alteration Notification be submitted to CDFW for "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake." CDFW reviews the proposed actions and, if necessary, submits to the applicant a proposal for measures to protect affected fish and wildlife resources. PG&E has applied for a streambed alteration agreement for proposed work within or near jurisdictional waters, No. 1600-2017-0175-R3).

3.4.2.3 Local

This section includes a summary of local or regional plans, policies, or regulations that identify sensitive or special-status species in the project area, as well as local polices or ordinances that protect biological resources. PG&E has indicated to CDFW that the CPUC has exclusive jurisdiction over the siting, design, and construction of the project, and therefore PG&E's project is not subject to local discretionary regulations related to biological resources. CDFW is not opining on the accuracy of PG&E's position. The following summary is provided for informational purposes and to assist with CEQA review.

East Alameda County Conservation Strategy

The East Alameda County Conservation Strategy (EACCS) is intended to provide a framework for the long-term conservation and management of 19 focal species, including nine state and/or federal species and the habitats that support them. The EACCS is also intended to streamline and improve the environmental permitting process for infrastructure and development projects, establish priorities for mitigation and conservation, and help maintain biological and ecological diversity in eastern Alameda County. The EACCS aims to standardize avoidance, minimization, mitigation, and compensation requirements to comply with federal, state, and local laws and regulations relating to biological and natural resources in the study area. The general Avoidance and Minimization Measures (AMMs) to reduce effects on focal species and species-specific AMMs of the EACCS have been incorporated into the proposed project where possible to facilitate local government and resource agencies with project permitting and developing favorable mitigation strategies, reducing project delays and costs, while facilitating conservation of biological resources.

Alameda County General Plan

The Alameda County General Plan and East County Area Plan are local planning documents that address biological resources in the project area. As noted above, because the California Public Utilities Commission

(CPUC) has jurisdiction over the design, construction, and operation of utilities and associated facilities, the project is not subject to local discretionary regulations. This section includes a description of local plans and policies related to biological issues generally and is provided for informational purposes to assist CEQA review.

The proposed project would be located in an area covered by the East County Area Plan (Alameda County Community Development Agency, Planning Department 2002), which is part of the Alameda County General Plan (Alameda County 1994). The goals, objectives, and policies pertaining to the comprehensive and long-range management, preservation, and conservation of open-space lands, including wildlife, vegetation, and wetland resources, most relevant to the project are listed below for the general plan and the East County Area Plan.

Goal: To protect and enhance wildlife habitats and natural vegetation areas in Alameda County.

Goal: To preserve a variety of plant communities and wildlife habitat.

Policy 125: The County shall encourage preservation of areas known to support special-status species.

Policy 126: The County shall encourage no net loss of riparian and seasonal wetlands.

Policy 127: The County shall encourage the preservation of East County's oak woodland plant communities.

3.4.3 Environmental Setting

The project area is in north-central Alameda County, north of Interstate 580, approximately 3 miles north of the city of Livermore (Figure 1.2). The project area is located within the northwestern corner of the Eagle Ridge Preserve, owned by the Eagle Ridge Preserve, LLC, and managed by Olberding Environmental, Inc. The land was designated to provide mitigation for unavoidable impacts to wetlands, riparian habitat and special-status species habitat, including California tiger salamander, California red-legged frog, burrowing owl, and San Joaquin kit fox for several local development projects, as detailed in the Long-Term Resource Management Plan for the Eagle Ridge Preserve Property (Olberding 2013). The Eagle Ridge Preserve property is 535 acres, 508.88 acres of which has been placed in a Conservation Easement that is held by the Wildlife Heritage Foundation. Third party beneficiaries of the Conservation Easement include USFWS, CDFW and Regional Water Quality Control Board (RWQCB). The obligations of the Conservation Easement holder include "preserving and protecting the Conservation Values of the Preserve, preventing any activity that is inconsistent with the purposes of the Conservation Easement, performing annual compliance monitoring inspections of the Preserve, and preparing reports on the results of the compliance monitoring inspections and providing these reports to the Land Manager and Resource Agencies on an annual basis" (Olberding 2013). Preservation of the special-status species noted above, and their habitats within the Management Area, is the overall goal of the Long-Term Resource Management Plan. The primary goals of the Plan are to:

1. Maintain, at a minimum, the existing habitat conditions in order to maximize the suitability of the riparian, seasonal wetlands and grassland habitat required for the Covered Species;

2. Enhance existing habitat conditions, when feasible, to promote utilization by the Covered Species and other sensitive species of the Management Area; and

3. Manage habitat conditions utilizing an adaptive management approach to benefit biological values existing on the Management Area" (Olberding 2013).

The project would be implemented within approximately 8.0 acres of the Preserve, predominantly in an area consisting of annual grassland grazed by cattle. The project area is characterized by a steeply sloped topography with elevations ranging from approximately 650 to 910 feet above mean sea level. The West

Branch of Cayetano Creek, an intermittent creek, is on the eastern side of the project area. The West Branch of Cayetano Creek flows from north to south and joins Cayetano Creek to the southeast (Figure 1.3). The project area is in the San Joaquin Valley geographic subregion of the California Floristic Province (Baldwin et al. 2012:41–43).

3.4.3.1 Land Cover Types and Associated Wildlife Habitat

Five land cover types were mapped within the project area —Annual Grassland, Ruderal/Disturbed, Seasonal Stream, Seasonal Wetland, and Seasonal Pond. Dominant vegetation and wildlife associations for each cover types are described below.

Annual Grassland

Annual grassland occurs throughout the project area and consists of herbaceous vegetation dominated by grasses and forbs where trees and shrubs compose less than 10% canopy cover. Annual grassland in the project area is dominated by a mix of native and nonnative grass species, such as wild oat (*Avena fatua*), soft brome (*Bromus hordeaceus*), meadow barley (*Hordeum brachyantherum*), soft chess (*Bromus hordeaceus*), ripgut brome (*Bromus diandrus*), and Italian ryegrass (*Festuca perennis*), and native and nonnative forbs, especially Italian thistle (*Carduus pycnocephalus*), yellow star thistle (*Centaurea solstitialis*), yellow mustard (*Brassica juncea*), doveweed (*Croton setigerus*), and black mustard (*Brassica nigra*). Annual grassland occupies an estimated 5.16 acres (79%) of the project area.

Special-status plant species that may be found in annual grassland include large-flowered fiddleneck (*Amsinckia grandiflora*) and palmate-bracted bird's-beak (*Chloropyron palmatum*). Special-status wildlife species that may use annual grasslands include California red-legged frog and California tiger salamander. California red-legged frog and California tiger salamander breed in aquatic habitats (ponds) within annual grassland habitat and use grasslands as movement and underground refugia habitat. Scattered colonies of California ground squirrels (*Otospermophilus beecheyi*) and numerous burrows for small mammals (e.g., pocket gopher, mice) were observed within this habitat type. Burrow complexes were located along the existing access road, in the hillside, and may provide suitable underground upland refugia for frogs and salamanders. Potential badger burrows have also been observed in the project area. Annual grassland provides foraging habitat for migratory birds and dispersal habitat for San Joaquin kit fox (*Vulpes vulpes mutica*).

Ruderal and Disturbed Land

Ruderal and disturbed land occupies 1.25 acres (19%) of the project area. These areas consist of the Preserve's graveled entrance road to the project area, the existing paved access road to the Terminal, and graded dirt access roads that cross through the project area (see Figure 1.3). Access roads are currently used by PG&E staff for management of the Terminal and by the Preserve staff and its contractors to access other areas of the Preserve. A barn area, located southeast of the construction footprint, is used by the Preserve staff and its contractors for storing equipment. A former home site, located within the work staging area, is currently used for vehicle parking and for disposal of mulched material by Preserve staff. The ruderal and disturbed land cover is sparsely vegetated and dominated by a mixture of nonnative annual grasses and weedy species, nonnative eucalyptus trees (*Eucalyptus globulus*), and ornamental fruit trees (Pomegranate; *Punica granatum*); annual grasses, such as bromes (*Bromus* spp.) and wild oat; and nonnative forbs such as black mustard and yellow star-thistle. Although this habitat type is disturbed, it contains small scattered patches of annual grassland habitat that would provide foraging habitat for special-status species, such as migratory nesting birds. Ruderal and disturbed land generally would not provide habitat for special-status species, however, migratory birds may use the barn structure for nesting or roosting areas.

Cayetano Creek

The West Branch of Cayetano Creek occurs within the eastern portion of project area. The vegetation in the creek is most closely related to the iris-leaved rush seep community type, although the creek does not have seep hydrology and is only intermittently wet. Dominant species in the creek include iris-leaved rush (*Juncus xiphioides*), Mexican rush (*Juncus mexicanus*), rabbitsfoot grass (*Polypogon monspeliensis*), beardless wildrye (*Elymus triticoides*), and Italian ryegrass. On the benches above the creek, riparian trees and shrubs have been planted as part of the restoration of the creek area, and include coast live oak (*Quercus agrifolia*), Arroyo willow (*Salix lasiolepis*), cottonwood (*Populus fremontii*), red willow (*Salix laevigata*), valley oak (*Q. lobata*), California blackberry (*Rubus ursinus*), California rose (*Rosa californica*), coyote brush (*Baccharis pilularis*), and toyon (*Heteromeles arbutifolia*) (Olberding pers. comm.). California red-legged frog could use the sparse riparian corridor adjacent to the stream habitat for movement corridors, and migratory nesting birds may use this habitat type for foraging and nesting. The West Branch of Cayetano Creek runs through a culvert below the paved access road and a riparian restoration area is fenced and outside of the construction footprint. No direct impacts on the West Branch of Cayetano Creek would result from the proposed project because no construction activities would take place in the creek. Additionally, AMMs would be implemented to prevent potential indirect effects on the creek. For these reasons, the creek is not further discussed in the analysis.

Seasonal Wetland and Swale

A seasonal wetland and a seasonal swale occur within the project area. The swale drains into two artificially created seasonal wetland ponds (discussed further below) (see Figure 1.3). At high water levels during the winter, the two ponds are hydrologically connected at surface water levels. The seasonal wetlands and the seasonal swale are features that support saturated soil conditions during winter and spring and are dry through summer and fall until the first substantial rainfall.

- The seasonal wetland habitat type is located in the northeastern corner of the project area and covers 0.123 acre (approximately 2%) of the project area. The seasonal wetland and swale occur near to the West Branch of Cayetano Creek, a seasonal stream with perennial pools, but are not hydrologically connected to it and are separated by a dirt access road and topography. Vegetation surrounding the seasonal wetland and swale is of the perennial ryegrass field community type and is dominated by Italian ryegrass and Mediterranean barley (*Hordeum marinum* var. *gussoneanum*), with soft chess (*Bromus hordeaceus*) a common associate species. In the winter and spring of 2016-2017 California tiger salamander larvae and adults were seined during spring survey by Preserve staff (Olberding, 2017), and an individual Pacific (western) pond turtle (*Actinemys marmorata*) was observed. The seasonal wetland and swale may provide suitable foraging habitat for California red-legged frog and some migratory nesting birds.

Seasonal Ponds

Two artificially created seasonal ponds are located within the project area and occupy an estimated 0.121 acre (approximately 2%) of the project area. The seasonal ponds are primarily unvegetated; however, scattered turkey-mullein (*Croton setigerus*) and black mustard were observed growing in the larger of the two features. A rock rip-rap outfall is present at the southeastern end of the larger pond and allows water to drain into the smaller pond that is several feet lower in elevation than the larger pond (Figure 1.3).

The artificially created seasonal ponds hold water on the surface for extended durations during winter and spring and typically dry completely during the late spring and summer. In 2014, the seasonal ponds filled in October and dried in late June 2015 and held approximately 5 feet of water (Olberding pers. comm.; in 2017, however, water was present until August. During a December 2016 site visit, a PG&E consulting biologist noted that the larger of the two seasonal ponds held approximately 2 feet of water and the smaller, lower

pond was dry. In early December 2017, the ponds were dry. The seasonal ponds provide suitable aquatic habitat for breeding amphibians, including California tiger salamander (Olberding pers. comm.) and, possibly, California red-legged frog.

As of February 2017, a natural seasonal pond (0.023 acre) had formed in the project area. The natural seasonal pond is located east and upslope of the erosion repair area (see Figure 1.3). No construction activities are proposed in or near this feature, which is located more than 100 feet from proposed work areas. This feature was dry in December 2017.

3.4.3.2 Waters of the United States

Waters of the Unites States, including wetlands, were delineated within the project area during a field survey conducted by a PG&E consulting wetland ecologist/soil scientist and a botanist on July 24, 2015. The delineation was conducted in accordance with guidance provided in the U.S. Army Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987) and incorporating the supplemental procedures and wetland indicators provided in the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (U.S. Army Corps of Engineers 2008a). Nonwetland waters were delineated based on the Clean Water Rule (U.S. Environmental Protection Agency 2015) and Field Guide to the Identification of the Ordinary High Water Mark (U.S. Army Corps of Engineers 2008b).

A total of 0.266 acre of potential wetlands and nonwetland waters was identified in the 23.5-acre delineation area. Nonwetland resources in the delineation area consist of an intermittent stream with perennial pools (West Branch of Cayetano Creek), two artificial ponds, and two culverts. Wetland resources consist of a seasonal wetland, a wetland swale, and an iris-leaved rush seep located in the intermittent stream. Nonwetland resources comprise 0.135 acre and wetland resources comprise 0.131 acre (Table 3-6).

Table 3-6. Summary of Wetlands and Nonwetland Waters in the Delineation Area

Wetlands and Nonwetland Waters	Acreage in Delineation Area
Wetlands	
Palustrine Emergent Wetland (PEW) (perennial ryegrass field)	0.041
Palustrine Emergent Wetland (PEW) (iris-leaved rush seep in West Branch of Cayetano Creek)	0.090
Wetlands subtotal	0.131
Nonwetland Waters	
Palustrine Unconsolidated Bottom (PUB) (Created Seasonal Pond)	0.121
Culverted stream (West Branch of Cayetano Creek)	0.014
Nonwetland Waters subtotal	0.135
Total	0.266

Nonwetland waters in the delineation area include two seasonal ponds that are classified as Palustrine Unconsolidated Bottom; one seasonal pond measures 0.078 acre and another pond measures 0.043 acre. Of the Palustrine Emergent Wetland in the delineation area, the perennial ryegrass field is a seasonal wetland that connects to a 2-foot wide, 321-foot-long wetland swale. Only the closest 50 linear feet of the wetland swale would be affected by the project (0.002 acre).

Based on a Preliminary Delineation of Waters of the United States, including Wetlands, for the PG&E Eagle Ridge Access Road Repair Project (ICF International 2015a), the seasonal wetland, seasonal swale, and seasonal ponds are assumed to be subject to regulations under Section 404 of the CWA.

3.4.3.3 Special-Status Species

The likelihood of special-status species occurrence (none, low, moderate, high) is discussed in the analysis below and is based on habitat requirements (such soils, hydrology, vegetation types, and disturbance factors) and known habitat range:

- None: Suitable habitat does not exist in the project area, the project area is located outside of the geographic range of the species, the species is restricted to or known to be present only within a specific area outside of the project area, or surveys did not detect the species.
- Low: Habitat within the project area or project vicinity satisfies very few of the species' requirements and the range of the species overlaps with the project vicinity, but not within the project area itself. The species' presence or potential to occur within the project area is unlikely.
- Moderate: Habitat within the project area or project vicinity meets some of the species' requirements, and known locations for the species are found in the project vicinity. Presence or potential for occurrence of the species within the project area is moderately likely.
- High: Habitat within the project area or project vicinity meets most or all of the species' requirements, and known locations for the species are found within the project area. Presence of the species within the project area is highly likely or the species is known to occur within the project area.

Special-status plant and wildlife species with the potential to occur in the project area are described in Table 3-7 (Special-Status Plants) and Table 3-8 (Special-Status Wildlife.).

Based on the above criteria, literature and database reviews, four special-status plant species and 14 special-status wildlife species have low potential to occur within 5 miles of the project area. Additionally, one special-status plant species and four special-status wildlife species have moderate or higher potential to occur within 5 miles of the project area.

- Special-status plant and wildlife species with low potential to occur:
- Alkali milk-vetch (*Astragalus tener* var. *tener*)
- Brittlescale (Atriplex depressa)
- California alkali grass (*Puccinellia simplex*)
- Round-leaved filaree (*California macrophylla*)
- Vernal pool fairy shrimp (*Branchinecta lynchi*)
- Alameda whipsnake (Masticophis lateralis euryxanthus)
- American peregrine falcon (*Falco peregrinus anatum*)
- Golden eagle (Aquila chrysaetos)
- Grasshopper sparrow (*Ammodramus savannarum*)
- Loggerhead shrike (*Lanius ludovicianus*)
- Northern harrier (*Circus cyaneus*)
- Tricolored blackbird (*Aeglaius tricolor*)
- White-tailed kite (*Elanus leucurus*)
- American badger (*Taxidea taxus*)

- San Joaquin kit fox (*Vulpes vulpes mutica*)
- Hoary bat (Lasiurus cinereus)
- Pallid bat (Antrozous pallidus)
- Yuma myotis (Myotis yumanensis)
- Special-status plant and wildlife species with moderate or higher potential to occur, or known occurrence:
- San Joaquin spearscale (*Extriplex joaquinana*)
- Congdon's tarplant (*Centromadia parryi* subsp. *Congdonii*)
- California tiger salamander, Central California Distinct Population Segment (*Ambystoma californiense*)
- California red-legged frog (*Rana draytoni*)
- Pacific (western) pond turtle (*Actinemys marmorata*)
- Burrowing owl (Athene cunicularia)

3.4.3.4 Avian Species

Several species, including western bluebird (*Sialia mexicana*), Anna's hummingbird (*Calypte anna*), western meadowlark (*Sturnella neglecta*), American goldfinch (*Carduelis tristis*), red-tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), and red-shouldered hawk (*Buteo lineatus*), could nest in and adjacent to the project area. The breeding season for these species is generally from February 1 to August 31. The nests and eggs of these birds are protected by federal and state laws, specifically the Migratory Bird Treaty Act (MBTA) and Sections 3503 and 3503.5 of the California Fish and Game Code. Within the project area, suitable nesting habitat for migratory birds and raptors occurs in the eucalyptus grove, annual grasslands, and a barn in the southeastern part of the project area.

Table 3-7. Special Status Plant Species

Common and Scientific Name	Legal Status Code[a] Federal/State/CRPR	Geographic Distribution/ California Floristic Province[c]	Habitat Requirements[b]	Blooming Period[b]	Potential for Occurrence within 5 miles of Project Area
Alkali milk-vetch *Astragalus tener var. tener*	—/—/1B.2	Southern Sacramento Valley, northern San Joaquin Valley, east San Francisco Bay Area.	Playas, on adobe clay in valley and foothill grassland, vernal pools on alkaline soils; below 200 feet.	Mar–Jun	**Low.** Suitable habitat present within the project area. One historical (from 1958) CNDDB occurrence at the east end of Livermore Valley. Possibly extirpated in project vicinity (Olberding 2010).
Brewer's western flax *Hesperolinon breweri*	—/—/1B.2	Southern north inner Coast Range, northeast San Francisco Bay region, especially Mount Diablo: Contra Costa, Napa, and Solano Counties.	Chaparral, cismontane woodland, valley and foothill grassland, usually on soils derived from serpentinite; 100–2,950 feet.	May–Jul	**None**. Suitable habitat absent in the project area. Presumed absent in project vicinity (Olberding 2010). Five CNDDB occurrences with closest occurrence approximately 3.26 miles from the project area.
Brittlescale *Atriplex depressa*	—/—/1B.2	Western and eastern Central Valley and adjacent foothills on west side of Central Valley.	Alkaline clay soils in chenopod scrub, playas, valley and foothill grasslands; below 1,050 feet.	Apr–Oct	**Low**. Suitable habitat present in the general project area, although grazing may hinder the species' germination potential (Olberding 2010). Species was not observed during its blooming period during surveys of the Preserve (Olberding 2010). Five CNDDB occurrences with closest occurrence approximately 3.7 miles southeast.
California alkali grass *Puccinellia simplex*	—/—/1B.2	Central Valley from Butte and Glenn Counties to Fresno, Kings, and Merced Counties. Eastern Bay Area and Central Coast including Solano, Alameda, Contra Costa, Santa Clara, Santa Cruz, and San Luis Obispo Counties.	Alkaline, vernally mesic; sinks, flats, and lake margins. Chenopod scrub, meadows and seeps, valley and foothill grassland, vernal pools; 6–3,050 feet.	Mar–May	**Low**. Suitable habitat present in the general project vicinity. Three CNDDB occurrences, with closest occurrence approximately 2.85 miles from the project area.
Caper-fruited tropidocarpum *Tropidocarpum capparideum*	—/—/1B.1	Historically known from the northwest San Joaquin Valley and adjacent Coast Range foothills; currently known from Fresno, Monterey, and San Luis Obispo Counties.	Grasslands on alkaline hills; below 1,500 feet.	Mar–Apr	**None**. Although suitable habitat present in the general project vicinity, the species is presumed extirpated throughout Alameda, Contra Costa, Glenn, Monterey, Santa Clara and San Joaquin Counties (Olberding 2010). One historical (from 1897) CNDDB occurrence (#11) approximately 0.60 mile from the project area.

Table 3-7. Special Status Plant Species

Common and Scientific Name	Legal Status Code[a] Federal/State/CRPR	Geographic Distribution/ California Floristic Province[c]	Habitat Requirements[b]	Blooming Period[b]	Potential for Occurrence within 5 miles of Project Area
Congdon's tarplant *Centromadia parryi subsp. congdonii*	—/—/1B.1	Occurs in Alameda, Contra Costa, Monterey, Santa Clara, Santa Cruz, San Luis Obispo, San Mateo, and Solano Counties.	Alkaline valley and foothill grassland; below 750 feet.	May–Nov	**High**. Suitable habitat present in the project area. Fourteen CNDDB occurrences with closest occurrence in the southeastern corner of the project area (#80). The species has been observed in the Preserve during 2009 and 2010 surveys (Olberding 2010).
Diablo helianthella (Diablo rock rose) *Helianthella castanea*	—/—/1B.2	San Francisco Bay Area: Alameda, Contra Costa, Marin,* San Francisco,* and San Mateo Counties.	At chaparral/oak woodland ecotone, often in partial shade, on rocky soils, also coastal scrub, riparian woodland, broadleaved upland forest, valley and foothill grassland; 195–3,850 feet.	Mar–Jun	**None**. Alkaline annual grassland in the project area represents only marginally suitable conditions for the species. The species prefers woodland and coniferous forest habitat. Species presumed absent from the Preserve due to lack of observation on survey during its blooming period (Olberding 2010). Six CNDDB occurrences, with closest occurrence approximately 3.25 miles from the project area.
Hairless popcornflower *Plagiobothrys glaber*	—/—/1A	Coastal valleys from Marin County to San Benito County.	Alkaline meadows and seeps, coastal salt marsh and swamps; 50–600 feet.	Mar–May	**None**. No suitable habitat present in the project area. One CNDDB occurrence (from 1942) approximately 4 miles from the project area.
Heartscale *Atriplex cordulata var. cordulata*	—/—/1B.2	Western Central Valley and valleys of adjacent foothills.	Saline or alkaline area in chenopod scrub, meadows and seeps, sandy soils in valley and foothill grassland; below 1,850 feet.	Apr–Oct	**None**. Alkaline annual grassland in the project area represents only marginally suitable conditions for the species and sandy soil conditions are absent. The species is presumed absent from the Preserve (Olberding 2010). Four CNDDB occurrences with closest occurrence approximately 4.8 miles from the project area.
Hispid bird's-beak *Chloropyron molle ssp. hispidum*	—/—/1B.1	Central Valley: Alameda, Fresno, Kern, Merced, Placer, and Solano Counties.	Meadow and seeps, valley and foothill grassland, playa, on alkaline soils; below 510 feet.	Jun–Sep	**None**. Preferred alkali sink-scrub habitat is absent from the project area. One CNDDB occurrence (from 2003) approximately 3.27 miles from the project area.

Table 3-7. Special Status Plant Species

Common and Scientific Name	Legal Status Code[a] Federal/State/CRPR	Geographic Distribution/ California Floristic Province[c]	Habitat Requirements[b]	Blooming Period[b]	Potential for Occurrence within 5 miles of Project Area
Large-flowered fiddleneck *Amsinckia grandiflora*	E/E/1B.1	Historically known from Mount Diablo foothills in Contra Costa, Alameda, and San Joaquin Counties; currently known from three natural occurrences.	Annual herb found in cismontane woodland, valley and foothill grassland slopes in various soil types; 900–1,800 feet.	Apr–May	**None**. One CNDDB occurrence (from 1997) within 5 miles. The nearest records of the plant are from Livermore Valley (Consortium of California Herbaria 2015) and the foothills of Mount Diablo (Calflora 2015). Suitable habitat for the species occurs within the general vicinity of the project area and the Preserve, but the species is believed to possibly be extirpated in the area (Olberding 2010). Floristic surveys of the project vicinity were conducted in May 2014 by Olberding Environmental, Inc. (Olberding pers. comm.). The species was not found during blooming period surveys (Olberding pers. comm.). This species is considered to be absent from the project area. Project would not be implemented within designated critical habitat.
Lesser saltscale *Atriplex minuscula*	—/—/1B.1	Sacramento and San Joaquin Valley, Butte County and from Merced County to Kern County.	Sandy alkaline soils in chenopod scrub, playas, valley and foothill grassland; 50–650 feet.	May–Oct	**None**. Preferred sandy soil in suitable habitat is absent from the project area. Two CNDDB occurrences, with closest occurrence approximately 3 miles from the project area.
Livermore tarplant *Deinandra bacigalupii*	E/C/1B.2	Restricted to eastern portion of the Livermore Valley within the City of Livermore and unincorporated Alameda County (California Department of Fish and Wildlife 2016).	Poorly drained, seasonally dry alkaline meadows in the vicinity of barren alkali scalds, alkali vernal pools and playa-like pools, also associated with Solano fine sandy loam soil; 500–605 feet.	Jun–Oct	**None**. Suitable habitat is absent from the project area. All known Livermore tarplant populations occur in the Upper Arroyo Las Positas Watershed (California Department of Fish and Wildlife 2016). There are four CNDDB occurrences of the species; none is located in the project area. Two closest occurrences are approximately 3.5 miles from the project area. The species is presumed absent from the Preserve (Olberding 2010).

Table 3-7. Special Status Plant Species

Common and Scientific Name	Legal Status Code[a] Federal/State/CRPR	Geographic Distribution/ California Floristic Province[c]	Habitat Requirements[b]	Blooming Period[b]	Potential for Occurrence within 5 miles of Project Area
Mount Diablo fairy-lantern *Calochortus pulchellus*	—/—/1B.2	Alameda, Contra Costa, and Solano Counties.	Cismontane woodland, chaparral, riparian woodland, valley and foothill grassland; 100–2,750 feet.	Apr–Jun	**None**. Preferred habitat is absent from the project area. One CNDDB occurrence (from 2003) approximately 4 miles from the project area. Species presumed absent from the Preserve due to lack of suitable habitat and lack of recent occurrences (Olberding 2010).
Palmate-bracted bird's-beak *Chloropyron palmatum*	E/E/1B.1	Livermore Valley and scattered locations in the Central Valley from Colusa County to Fresno County.	Annual herb found on alkaline sites in annual grassland and chenopod scrub and is restricted to seasonally flooded saline-alkali soils in lowland plains and basins. Within this habitat, the species grows along edges of drainages; 15–500 feet.	May–Oct	**None**. Although suitable habitat is present and an occurrence was documented within 5 miles of the Preserve in September 2008 at the Springtown Wetlands Reserve in Livermore (California Department of Fish and Wildlife 2015), floristic surveys of the project vicinity conducted in June 2010 by Olberding Environmental, Inc. did not detect the species during blooming period surveys (Olberding pers. comm.). The species is considered to be absent from the project area.
Prostrate vernal pool navarretia *Navarretia prostrata*	—/—/1B.1	Western San Joaquin Valley, interior South Coast Ranges, central South Coast, Peninsular Ranges: Alameda, Los Angeles, Merced, Monterey, Orange, Riverside, San Bernardino, San Diego, and San Luis Obispo Counties.	Vernal pools and mesic areas in coastal scrub and alkali grasslands; 50–4,000 feet.	Apr–Jul	**None**. Preferred suitable habitat for the species is absent from the project vicinity. One CNDDB occurrence (from 2010) approximately 3.8 miles from the project area.
Round-leaved filaree *California macrophylla*	—/—/1B.2	Scattered occurrences in the Great Valley, southern North Coast Ranges, San Francisco Bay area, South Coast Ranges, Channel Islands, Transverse Ranges, and Peninsular Ranges.	Cismontane woodland, valley and foothill grassland on clay soils; 50–3,930 feet.	Mar–May	**Low**. Although suitable habitat is present in the general project vicinity, the species is not likely to occur in the Preserve due to regular grazing. One CNDDB occurrence (from 2010) approximately 4.8 miles from the project area.

Table 3-7. Special Status Plant Species

Common and Scientific Name	Legal Status Code[a] Federal/State/CRPR	Geographic Distribution/ California Floristic Province[c]	Habitat Requirements[b]	Blooming Period[b]	Potential for Occurrence within 5 miles of Project Area
Saline clover *Trifolium hydrophilum*	—/—/1B.2	Sacramento Valley, central western California.	Salt marsh, mesic alkaline areas in valley and foothill grasslands, vernal pools, marshes and swamps; below 1,000 feet.	Apr–Jun	**None**. Alkaline annual grassland habitat represents marginally suitable habitat conditions, although the species prefers more moist conditions. Two CNDDB occurrences, with closest occurrence approximately 4 miles from the project area. The species was not observed during the blooming period and is unlikely to occur in the Preserve (Olberding 2010).
San Joaquin spearscale *Extriplex joaquinana*	—/—/1B.2	Northern Sacramento Valley, Alameda, Contra Costa, Monterey, Napa, Solano, Santa Clara, San Luis Obispo, San Benito Counties.	Alkaline areas in chenopod scrub, meadows and seeps, playas, valley and foothill grassland; below 2,750 feet.	Apr–Oct	**Moderate.** Alkaline annual grassland habitat represents suitable habitat for the species. Fifteen CNDDB occurrences, with closest occurrence approximately 0.25 miles from the project area near the gate to Manning Road. Although the species was not observed during the blooming period during resource survey (Olberding 2010), it has potential to occur.

a - Status explanations:
Federal
E = listed as endangered under the federal Endangered Species Act.
T = listed as threatened under the federal Endangered Species Act.
State
E = listed as endangered under the California Endangered Species Act.
T = listed as threatened under the California Endangered Species Act.
R = listed as rare under the California Native Plant Protection Act (this category is no longer used for newly listed plants, but some plants previously listed as rare retain this designation)
– = no listing.
California Native Plant Society
1B = List 1B species: rare, threatened, or endangered in California and elsewhere.
2 = List 2 species: rare, threatened, or endangered in California but more common elsewhere
0.1 = seriously endangered in California
0.2 = fairly endangered in California
– = no listing.
* = known populations believed extirpated from that county
b - As reported in the California Native Plant Society Rare Plant Program, Inventory of Rare and Endangered Plants of California (California Native Plant Society 2016).
c - As indicated in the Jepson Manual (Baldwin et al. 2012) and the California Native Plant Society's Inventory of Rare and Endangered Plants of California (California Native Plant Society 2016).

Table 3-8. Special-Status Wildlife Species

Common and Scientific Name	Legal Status Federal/State	Geographic Distribution	Habitat Requirements	Potential for Occurrence in the Project Area
Invertebrates				
Conservancy fairy shrimp *Branchinecta conservatio*	E/—	Found in northern two-thirds of the Central Valley floor. Disjunct occurrences in Solano, Yolo, Merced, Stanislaus, Tehama, Butte, Glenn, and Ventura Counties.	Inhabits large cool-water vernal pools with moderately turbid water.	**None**. Suitable habitat (large playa-type vernal pools) absent from the project area, no CNDDB reported occurrences within 5 miles. Recently constructed seasonal ponds (September 2014) unlikely to be colonized by the closest known occurring population source (approximately 24 miles north of the project area) within a short timeframe. Project area is outside of designated critical habitat.
Longhorn fairy shrimp *Branchinecta longiantenna*	E/—	Eastern margin of the Central Coast mountains. Four known populations in San Luis Obispo, Merced, and Contra Costa Counties, and Brushy Peak Preserve in Alameda County.	Inhabits clear to turbid vernal pools; generally in sandstone and grass-bottomed pools in shallow swales.	**None**. Constructed seasonal pond provides marginally suitable habitat; however, site is grazed and the species prefers relatively undisturbed habitats. No CNDDB reported occurrences within 5 miles; closest occurrence is approximately 7.5 miles northeast. Recently constructed seasonal ponds (September 2014) unlikely to be colonized the closest known occurring population source within a short timeframe. Species presumed absent (Olberding 2010). Project area is outside of designated critical habitat.
Valley elderberry longhorn beetle *Desmocerus Californicus dimorphus*	T/—	Found in streamside habitats below 3,000 feet throughout the Central Valley. Largest known populations are associated with the Sacramento River, American River, San Joaquin River, and Putah Creek watersheds.	Highly associated with host plant, red or blue elderberry (*Sambucus* species), along rivers and streams. Elderberry stems need to be at least 1 inch in diameter.	**None**. Suitable habitat (riparian forest with elderberry shrubs) is absent from the project area. Species not known to occur within project vicinity. No CNDDB occurrences reported within 5 miles of the project area. Project area is outside of designated critical habitat.
	T/–	Central Valley and central and south Coast Ranges from Tehama County to Santa Barbara County. Isolated populations also in Riverside County.	Common in vernal pools and other ephemeral wetlands in annual grassland; also found in sandstone rock outcrop pools, stock ponds, roadside ditches, swales, and ephemeral drainages.	**Low**. Suitable marginal habitat present. Two CNDDB reported occurrences 2.6 miles southeast of the project area. Recently constructed seasonal ponds (September 2014) has low potential to be colonized by the closest reported population source within a short timeframe. Project area is outside of designated critical habitat.

Table 3-8. Special-Status Wildlife Species

Common and Scientific Name	Legal Status Federal/State	Geographic Distribution	Habitat Requirements	Potential for Occurrence in the Project Area
Amphibian				
California tiger salamander, Central California DPS *Ambystoma californiense*	T/T	Lowland species restricted to grasslands and low foothill regions where suitable breeding habitat occurs. Central Valley, including Sierra Nevada foothills, up to approximately 3,200 feet. Occurs from near Sonoma County east through Central Valley to Yolo and Sacramento Counties and south to Tulare County; also coastal region from San Francisco Bay south to Santa Barbara County.	Inhabits both aquatic and terrestrial habitats at different stages in its life cycle. Although larvae develop in small ephemeral ponds, lakes, or vernal pools in grasslands and oak woodlands, the species is otherwise a terrestrial salamander that spends most of its life in widely dispersed underground retreats (Trenham et al. 2001). Utilizes rodent burrows, rock crevices, fallen logs, and leaf litter or soil cracks as refugia and for summer dormancy (Loredo et al 1996). Adults move from burrow sites to breeding pools from November to February (Jennings and Hayes 1994). Breeding habitat consists of temporary ponds or pools, slower portions of streams, and some permanent waters (Stebbins 2003). To be suitable, aquatic sites must retain water for a minimum of 10 weeks in the winter, lasting into April (U.S. Fish and Wildlife Service and California Department of Fish and Game 2003).	**High (Present)**. Seasonal ponds provide suitable aquatic breeding habitat and upland annual grassland habitat provides suitable dispersal and summer dormancy habitat for this species. Species has been documented on the Preserve and in Eagle Ridge Preserve North (Olberding 2013, 2014, 2017); however, all California tiger salamander observed were documented in aquatic habitat. Numerous CNDDB occurrences in the project vicinity. Larvae were detected in the seasonal pond in April 2015 and 2016 (Olberding 2017, pers. comm.).

Table 3-8. Special-Status Wildlife Species

Common and Scientific Name	Legal Status Federal/State	Geographic Distribution	Habitat Requirements	Potential for Occurrence in the Project Area
California red-legged frog *Rana draytoni*	T/SSC	Found along the coast and coastal mountain ranges of California from Marin County to San Diego County, and in the Sierra Nevada from Tehama County to Fresno County.	Uses a variety of habitats, including various aquatic systems and riparian and upland habitats (U.S. Fish and Wildlife Service 2002). Adults are highly aquatic when active but depend less on permanent water bodies than do other frog species (Brode and Bury 1984). Utilizes permanent and semi-permanent aquatic habitats, such as creeks and cold-water ponds, with emergent and submerged vegetation (Hayes and Jennings 1988; Jennings and Hayes 1994). May estivate in rodent burrows, leaf litter in riparian habitat, or cracks during dry periods. Although the species can inhabit either ephemeral or permanent streams or ponds, populations probably cannot be maintained in ephemeral streams that do not provide some nearby aquatic feature for retreat as the stream dries down (Jennings and Hayes 1994). Lays eggs around aquatic vegetation from December to early April.	**Moderate**. Suitable upland habitat for this species is present in the project area, and suitable aquatic habitat is present at the West Branch of Cayetano Creek. Recent CNDDB occurrences northwest and southeast of the project area along West Branch of Cayetano Creek. Focused surveys in the Preserve identified the species in the adjacent creek, but not in the seasonal pond in the project area (Olberding 2010, 2013). Project area is located within designated critical habitat.
Foothill yellow-legged frog *Rana boylii*	—/C	Most of northern California, west of Cascade and Sierra Nevada mountain ranges and south to Kern County. Isolated population in San Joaquin County.	Found in or near rocky, permanent streams in various habitats. Lays egg clusters attached to gravel or rocks in moving water near stream margin from mid-March to May.	**None.** Suitable permanent stream habitat is absent from the project area. One CNDDB occurrence (from 1973) in the City of Livermore is approximately 5 miles south of the project area.

Table 3-8. Special-Status Wildlife Species

Common and Scientific Name	Legal Status Federal/State	Geographic Distribution	Habitat Requirements	Potential for Occurrence in the Project Area
Reptile				
Alameda whipsnake (=striped racer) *Masticophis lateralis euryxanthus*	T/T	Found in the inner coast range of California with most populations in Contra Costa and Alameda Counties. Some have been found in San Joaquin and Santa Clara Counties.	Inhabits chaparral and northern coastal sage scrub interspersed with native shrub vegetation and rock outcrops. May utilize grassland habitat for foraging and rock crevices and mammal burrows for shelter.	**Low**. Multiple CNDDB occurrences in the project vicinity and one occurrence (from 1982, #99) reported in the project area. Suitable habitat (chaparral and scrub and rock outcrops) is absent from the project area and the project area is not located in the five identified areas inhabited by the species (U.S. Fish and Wildlife Service 2016). No incidental observation of the species during other wildlife surveys conducted throughout Eagle Ridge Preserve (Olberding pers. comm.) Project area is outside of designated critical habitat.
Pacific (western) pond turtle *Actinemys marmorata*	—/SSC	Throughout California, west of the Sierra-Cascade crest and absent from desert regions, except Mojave River. From sea level to 4,690 feet.	Quiet waters of ponds, lakes, streams, and marshes. Typically the deepest parts with an abundance of basking sites. May use upland areas within 0.3 miles of aquatic areas for cover, basking and nesting.	**High (Present)**. Suitable upland habitat is present in the project vicinity. West Branch of Cayetano Creek, an intermittent stream, may provide marginal suitable habitat for this species when water is present. A single individual was observed in one of the artificial ponds in a June 5, 2017 survey by Preserve biologist (Olberding, 2017)
Birds				
American peregrine falcon *Falco peregrinus anatum*	D/FP	Range includes most of California during migration and in winter. Nesting sites known along coast north of Santa Barbara, in the Sierra Nevada, and in other mountains of northern California.	Nests typically on ledges of large cliff faces. Sometimes nests in tree cavities of coastal redwoods and on city buildings. Nesting and wintering habitats vary, and include wetlands, woodlands, other forested habitats, cities, agricultural areas, and coastal habitats.	**Low**. No suitable nesting habitat in the project area. Suitable foraging habitat is present. One CNDDB occurrence in the project vicinity.

Table 3-8. Special-Status Wildlife Species

Common and Scientific Name	Legal Status Federal/State	Geographic Distribution	Habitat Requirements	Potential for Occurrence in the Project Area
Burrowing owl *Athene cunicularia*	—/SSC	In appropriate habitat throughout the state except in humid northwest, coastal forests, and high mountains. Year round in the Central Valley, parts of the Bay Area, and southeastern southern California. On breeding grounds from mid-March through September.	Utilizes small mammal burrows and burrow surrogates in grasslands, rangelands, agricultural areas, deserts, and other open, dry areas with low vegetation, bare ground, and gentle slopes.	**High**. Suitable nesting and foraging habitat in project area. The species has been observed in Eagle Ridge Preserve (Olberding 2010), and one CNDDB occurrence reported in the project area in 2006 (Occurrence #873). Breeding season surveys conducted in 2017 did not detect burrowing owls (ICF 2017).
Golden eagle *Aquila chrysaetos*	—/FP	Common in southern California and center of Central Valley.	Utilizes rolling foothills and mountain terrain, sage-juniper flats, and desert. Uses ledges and trees for cover and nesting.	**Low.** Although the species has been observed foraging in Eagle Ridge Preserve (Olberding 2010), no suitable nesting habitat occurs within the project area. Two CNDDB occurrence reported within 5 miles of the project area, with the closest occurrence approximately 3.2 miles west.
Grasshopper sparrow *Ammodramus savannarum*	—/SSC	Summer California resident from March to September along the entire coastline and in the Central Valley	Prefers short to middle-height open grasslands and prairies with patches of shrubs and bare ground.	**Low.** Although suitable habitat is present for the species, there is only one reported CNDDB occurrence within 5 miles of the project area.
Loggerhead shrike *Lanius ludovicianus*	—/SSC	Common resident in lowland and foothills throughout California. Rare on coastal slope north of Mendocino County. Lower density population from Inyo County. north.	Utilizes open habitat with shrubs, trees, fences, and other perches. Nests in open-canopied valley foothill forests, riparian habitat, open cropland, and juniper and some desert tree habitat.	**Low.** Suitable nesting and foraging habitat present. No CNDDB occurrence reported within 5 miles of the project area.
Northern harrier *Circus cyaneus*	—/SSC	Occurs throughout lowland California. Has been recorded in fall at high elevations.	Ground-nester that breeds and forages in a variety of open habitats with vegetative cover such as freshwater, brackish, and salt marshes, wet meadows, grasslands, and agricultural land. Utilizes tall vegetation for nest cover.	**Low.** Suitable nesting and foraging habitat present in the project vicinity. One CNDDB occurrence within 5 miles of the project area, approximately 2.75 miles west.
Tricolored blackbird *Aeglaius tricolor*	—/C	Mostly a California resident. Locally common in the Central Valley and in coastal districts from Sonoma County south. Locally breeds in northeastern California. In winter, widespread along Central Coast and San Francisco Bay Area.	Preferred habitats include annual grasslands, vernal pools, and other seasonal freshwater wetlands with tall, dense tules, thickets of blackberry, and wild rose. Found in large colonies. Feeds in grassland and cropland habitats.	**Low.** Seasonal ponds in the project area do not provide suitable nesting habitat for this species; however, suitable habitat is present within the project vicinity and along portions of West Branch of Cayetano Creek. Four CNDDB occurrence within 5 miles of the project area, with the closest occurrence approximately 1 mile west.

Table 3-8. Special-Status Wildlife Species

Common and Scientific Name	Legal Status Federal/State	Geographic Distribution	Habitat Requirements	Potential for Occurrence in the Project Area
White-tailed kite *Elanus leucurus*	—/FP	Yearlong resident in coastal and valley lowland, generally associated with agricultural areas.	Found in herbaceous and open stages of most habitats in cismontane California. Forages in open grasslands and utilizes trees with dens canopies for cover.	**Low**. Suitable nesting and foraging habitat present in the project area and one CNDDB occurrence in the general project vicinity, approximately 3.2 miles west.
Mammals				
American badger *Taxidea taxus*	—/SSC	Uncommon resident throughout California, except northern North Coast area.	Utilizes drier open stages of shrub, forest, and herbaceous habitats, with friable soils; needs open uncultivated grounds; digs burrows.	**Low**. The species was not observed during wildlife surveys (Olberding 2010), but suitable denning habitat is present in the project area. One potentially suitable burrow observed in the project area (ICF International 2015). Six CNDDB occurrences within 5 miles of the project area, with the closest occurrence approximately 2.5 miles west.
San Joaquin kit fox *Vulpes vulpes mutica*	E/T	Arid regions of the southern half of California and may occur in eastern Lassen County.	Occurs in a variety of habitats, including grasslands, scrublands, vernal pool areas, alkali meadows and playas, and an agricultural matrix of row crops, irrigated pastures, orchards, vineyards, and grazed annual grasslands). Prefers habitats with loose-textured soils that are suitable for digging, sites that are relatively flat, and well-drained terrain. Primarily found in annual grasslands or grassy open stages of vegetation dominated by scattered brush, shrubs, and scrub (U.S. Fish and Wildlife Service 1998).	**Low**. Suitable denning habitat occurs within the general project vicinity, although there are no recent reported CNDDB occurrences. Two closest occurrences of the species in 1975 (Occurrence #1031), approximately 4 miles southwest of the project area, and in 1989 (Occurrence #571), approximately 3.4 miles northeast of the project area. A recent occurrence of the species was observed in July 2015 approximately 17.4 miles southeast of the project area (Alvarez pers. comm.). No observation of kit fox have been documented in the project area (Olberding pers. comm.). Although Eagle Ridge Preserve is located within a USFWS-designated San Joaquin kit fox dispersal corridor linking Mount Diablo with the Altamont range (U.S. Fish and Wildlife Service 1998), it does not represent the most preferred habitat available due to its heavier clay soil type (Olberding 2013).

Table 3-8. Special-Status Wildlife Species

Common and Scientific Name	Legal Status Federal/State	Geographic Distribution	Habitat Requirements	Potential for Occurrence in the Project Area
Pallid bat *Antrozous pallidus*	—/SSC	Occurs throughout California except the high Sierra from Shasta to Kern County and the northwest coast, primarily at lower and mid elevations. Resident in most of its range.	Found in a variety of habitats from desert to coniferous forest, including grasslands, and woodlands. Most common in open, dry habitats with rocky areas for roosting. Day roosts in caves, crevices, mines and occasionally in hollow trees and buildings (Zeiner et al. 1988). Night roost are in more open sites. Hibernations sites ae likely rock crevices.	**Low** Suitable day, night, and hibernation roosts are not present in the project area. Nearby barn provides roosting habitat. No CNDDB reported occurrence within 5 miles of the project area.
Hoary bat *Lasiurus cinereus*	—/SSC	Widespread throughout California. Winters along California coast and in southern California. Breeds inland and north of winter range. Found from sea level to 13,200 feet.	Roosts in dense foliage of medium to large trees, typically within forests.	**Low.** Marginal roosting habitat is present in the project area at a stand of eucalyptus adjacent to the staging area. No CNDDB reported occurrence within 5 miles of the project area.
Yuma myotis *Myotis yumanensis*	—/SSC	Common and widespread throughout California. Found from sea level to 11,000 feet, but uncommon and rare above 8,000 feet.	Open forests and woodlands near water sources are preferred habitat. Roosts in buildings, mines, caves, crevices, abandoned swallows nests, and under bridges. Night roosts are located in more open habitat.	**Low.** Suitable day, night, and hibernation roosts are not present in the project area, but nearby barn provides daytime roosting habitat, and Project area itself provides foraging habitat. No CNDDB reported occurrence within 5 miles of the project area.

Status explanations:

Federal
E = listed as endangered under the federal Endangered Species Act.
T = listed as threatened under the federal Endangered Species Act.
D = delisted under the federal Endangered Species Act.

State
E = listed as endangered under the California Endangered Species Act.
T = listed as threatened under the California Endangered Species Act.
C = listed as candidate under the California Endangered Species Act.
FP = fully protected under the California Fish and Game Code.
SSC = species of special concern in California.
– = no listing.

3.4.4 Applicant-Proposed Measures

The following APMs would be implemented to minimize the effects of the proposed project on biological resources within the project area. The following measures have been designed to be consistent with the EACCS and the USFWS *Programmatic Biological Opinion for U.S. Army Corps of Engineers Permitted Projects Utilizing the East Alameda County Conservation Strategy* (U.S. Fish and Wildlife Service 2012).

APM BIO-1: Implement general avoidance measures to protect biological resources

- **Environmental awareness training.** Environmental awareness training shall be conducted for all project personnel prior to the start of construction activities and training provided by persons knowledgeable in the sensitive environmental resources described in this IS/MND. Environmental tailgate training sessions shall take place at project kick-off and on an as-needed basis in the field. The training shall be conducted in reference to all sensitive environmental resources potentially onsite (e.g., air quality, biological resources, cultural resources, hydrology and water quality, hazardous materials) and the measures associated with their protection (i.e., APMs, MMs, applicable laws and regulations). For biological resources, the program shall include a description of local and special-status species and their habitat needs, any reports of occurrences in the project area, an explanation of the status of each special-status species and their protection under CESA and ESA, and a list of measures being taken to reduce effects during construction and implementation. Fact sheets conveying this information and an educational brochure with color photos or illustrations of sensitive resources shall be prepared for distribution to anyone who may enter the project area. The environmental compliance supervisor shall maintain a resource map showing the location of sensitive resource, any special-status species identified during the biological surveys of the project site, and relevant buffer areas. Maps shall be updated as needed to show the location of any newly identified biological resource. As needed, in-field training shall be provided to new on-site construction personnel by a qualified biological monitor who shall be identified by PG&E's biologist. The training shall include guidelines that must be followed by all personnel to reduce or avoid impacts on protected biological resources during construction activities. Directors, managers, superintendents, and the crew supervisors shall be responsible for ensuring that crewmembers comply with the guidelines. If guidelines are not met, the construction monitor shall document the non-compliance, report the non-compliance to the PG&E project manager, and corrective actions shall be discussed and implemented. Contractor training shall be incorporated into construction contracts and shall be a component of weekly project meetings.
- **Restrict work to daylight hours.** All construction activities must cease one half hour before sunset and shall not begin prior to one half hour after sunrise. If nighttime construction is required, additional avoidance measures shall be developed.
- **Flag sensitive habitat or resource areas**. Sensitive habitat or resources identified during the reconnaissance-level field surveys or preconstruction surveys and that are in or adjacent to project work areas, such as potential or occupied burrowing owl burrows, occupied bird nests, location of special-status plants, and mammal dens, shall be either clearly marked or the limits of an adjacent work area shall be clearly marked (i.e. a no disturbance buffer area shall be established). Project resource maps may be updated to reflect active nest buffers or changes to the resources adjacent to work areas based on preconstruction survey findings. Areas with sensitive resources shall be avoided during construction, and additional measures (described below) shall be implemented to further avoid impacts.

- **Delineate construction areas.** Prior to any ground-disturbing activities, PG&E or its contractors shall install high-visibility flagging around the perimeter of the work and access areas to prevent encroachment of construction personnel and equipment outside of the designated work area depicted on Figure 1.3.
- **Minimize Work Area.** Ground disturbance and vegetation clearing (e.g. mowing, blading, grubbing) shall be limited to the extent necessary to safely complete construction. Grading shall be restricted to the minimum area necessary to safely complete the construction.
- **Prohibited Activities.**
    - Plastic monofilament or similar material shall not be used at the project. Acceptable substitutes include, but are not limited to: coconut coir matting or tackified hydroseeding compounds.
    - Trash dumping, firearms, open fires or barbecues, hunting, and pets shall not be allowed at or near work sites.
- **Vehicle best management practices.** Vehicles and equipment shall be parked on pavement, existing roads, and previously disturbed or developed areas or work areas as identified in this document. Off-road vehicle travel shall be minimized and parking shall only be permitted in previously identified and designated work areas. Vehicles shall not exceed a speed limit of 10 miles per hour on unpaved roads within natural land-cover types or during off-road travel. Vehicles shall be washed only at approved areas (i.e. designated car washes or contractor yards in established wash stations where wastewater shall not enter any stream). The exception to this is washing of vehicles and equipment to remove potentially contaminated soil with soil or plant pathogens, including *Phytophthora spp.* At designated wash stations within the project area (see MM BIO-11). Internal combustion engines, stationary and mobile, shall be equipped with spark arresters. Spark arresters shall be maintained in good working order.
- **Route and work area limitations.** Vehicles shall be confined to established roadways and pre-approved overland routes, and access areas. The extent of access routes and construction work areas shall be limited to the minimum necessary to achieve the project goals. Off-road parking shall only be permitted in previously identified and designated work areas approved by the biological monitor after determining wildlife or habitat resources would not be adversely affected.
- **Maintenance and refueling.** All equipment shall be maintained such that there shall be no leaks of automotive fluids such as fuels, solvents, or oils. All refueling and maintenance of vehicles and other construction equipment shall be restricted to designated staging areas located at least 150 feet from any down gradient aquatic habitat. Proper spill prevention and cleanup equipment shall be maintained in all refueling areas.
- **Containment and Cleanup Materials.** Containment and cleanup materials shall be maintained onsite while work is underway. All food scraps, wrappers, food containers, cans, bottles, and other trash from the project area shall be deposited in closed trash containers. Trash containers shall be removed from the project area at the end of each working day.

APM BIO-2: Protect aquatic resources and habitat for special-status wildlife

Construction activities shall be designed to minimize disturbance of seasonal wetlands (including seasonal ponds) and regulated waters in the project area. PG&E shall implement the following measures.

- No waters under the jurisdiction of USACE, CDFW or the San Francisco Bay Water Board shall be impacted before obtaining permits from the respective agency and receiving a wetland delineation verification from USACE prior to ground disturbance.
- No project activity shall take place in the West Branch of Cayetano Creek.
- Within wetlands, equipment shall only be allowed within the palustrine emergent wetland pond area that is proposed for sediment removal.
- The duration of construction activities shall be minimized within any potential wetland or regulated waters and only the required minimum number of construction personnel and equipment shall be allowed in regulated waters.
- Buffer distances or setbacks and other protective measures (e.g. erosion control BMPs) shall be implemented to prevent impacts on aquatic habitat for special-status species.
- If preconstruction wildlife surveys identify that seasonal wetlands and seasonal ponds are occupied by special-status species and these species would be affected by construction activities, additional consultation with CDFW and USFWS shall be required, and larger no disturbance buffer areas may be necessary.

APM BIO-3: Provide wildlife escape ramps and inspect trenches

All excavations in excess of 6 inches deep shall be sloped and have escape ramps installed that are suitable for the escape of wildlife or trenches shall be thoroughly covered at the end of the day. Escape ramps may be earthen ramps or constructed out of other suitable materials, such as plywood. with a maximum 45-degree angle. Escape ramps shall be installed at intervals as recommended by a qualified biologist. All trenches and excavations shall be inspected for wildlife at the beginning of the work day and prior to backfilling. In the event that an excavation would be left unattended for a period of more than 24 hours, metal or wooden covering shall be placed over the excavation prior to the departure of the biological monitor in order to completely seal the excavation and prevent longer-term wildlife entrapment, except for larger excavations that cannot easily be covered. Large excavations that cannot be covered must be checked at intervals of no less than 24 hours. If any wildlife is observed to be trapped, construction will cease until the animal has been relocated to an appropriate location. If a special-status species is discovered in a trench or excavation, work in the area shall be redirected, and the special-status species shall be allowed to leave the trench and the area of its own accord. In the event a California tiger salamander is trapped in a trench or an excavation and unable to leave on its own accord, it shall be relocated according to Mitigation Measures MM BIO-5, MM BIO-6 and MM BIO-8. In the event any other special-status species is trapped in a trench or an excavation and unable to leave on its own accord, USFWS and CDFW may be contacted by the PG&E biologist, unless the PG&E biologist identifies an individual with appropriate approval (e.g., a CDFW collecting permit or approval from USFWS) to relocate the special-status species. Trenches shall be backfilled as soon as possible.

APM BIO-4: Cover and inspect open-ended pipes prior to moving

Open-ended project-related pipes shall be capped if left overnight and inspected for wildlife prior to being moved, buried or capped. If animals are discovered or trapped in a pipe, the pipe shall not be moved and the protocols for APM BIO-3 shall be used.

APM BIO-5: Implement timing restriction during construction

Consistent with the USFWS Biological Opinion for the EACCS, ground-disturbing activities may be restricted to the dry season (April 15 to October 15) to avoid the period when listed amphibians

could be actively dispersing through upland habitats or in suitable aquatic habitat. Limited non-ground-disturbing construction activities may occur between March 1 and April 14 if authorized by the USFWS or CDFW project permits, provided that other AMMs are in place to ensure impacts on California tiger salamander and California red-legged frog do not occur. If rainfalls starts before October 15 and PG&E has not yet finished construction, PG&E shall contact the USFWS and CDFW about measures that may be required to avoid and minimize impacts on California tiger salamander and California red-legged frog. Should work need to be extended beyond October 15, PG&E shall request authorization from the USFWS and CDFW at least 30 days prior of the date of the proposed extension, for intervals of up to one (1) week. Work shall only be conducted in accordance with CDFW and USFWS approval.

APM BIO-6: Dust Suppression

A water truck shall be used to control dust from disturbed soils, stockpiles, and unpaved access roads. Watering shall be done in such a manner that no puddles are formed and impacts to wetlands and waters are avoided. Chemical additives used for dust suppression must be reviewed and approved by CDFW and shall not cause harm to sensitive species or habitats.

APM BIO-7: Contracts

Contracts with contractors, construction management firms, and subcontractors shall obligate all contractors to comply with all project APMs and MMs.

APM BIO-8: Vehicle and Equipment Inspections

All equipment and vehicles shall be inspected at the beginning of every work day, prior to beginning work activities to avoid crushing wildlife. Prior to movement or use, the area beneath all vehicles and equipment that have remained stationary for ten minutes or longer shall be inspected for the presence of wildlife. If a special-status species is discovered, equipment shall not be moved until the animal has left voluntarily or is removed by a biologist authorized to do so. When equipment is being moved out of work areas, the biological monitor or trained representative shall check to ensure that no animals are inadvertently crushed.

APM BIO-9: Permit Copies

PG&E shall ensure that readily available copies of any permits or authorizations issued by CDFW, USFWS, and USACE for this project are maintained by the biological monitor on the project site whenever earthmoving and/or construction is taking place. The name and telephone number of the PG&E Land Planner and on-site biological monitor shall be provided to permitting agencies prior to groundbreaking.

3.4.5 Environmental Impacts and Mitigation Measures

Potential impacts to vegetation, wildlife, and aquatic resources are discussed in the following sections.

Checklist item a. Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Special-Status Plants

If special-status plants are present within the project area, they could be directly impacted by removal of vegetation or trampling or crushing during construction activities (both by foot traffic and vehicular traffic). Indirect impacts on special-status plants could result from alterations in existing topography and hydrology, sedimentation and erosion, soil compaction, accumulation of fugitive dust (which could impact plant photosynthesis and respiration), exposure to hazardous substances through accidental release by vehicles or other equipment, disruptions to seed banks from ground disturbance, or the colonization of nonnative, invasive plant species.

There is low potential for four special-status plant species to occur in the project area (see Table 3-7). There is moderate potential for San Joaquin spearscale to occur in the project area.

There is high potential for Congdon's tarplant to be present. The alkaline annual grassland habitat and alkaline soils on the Preserve provide suitable conditions for the tarplant and spearscale to be present (the latter can be found near the gate to the Preserve 0.25 miles away). Mowing or heavy grazing can impact this species, although Congdon's tarplant has been documented in areas were both mowing and grazing occur (Olberding 2010).

The proposed project would require temporary ground disturbance at staging areas and work areas, including the erosion repair area and the gully repair areas. The road repair area would be in a developed area that currently does not provide habitat for any special-status plants noted in Table 3-7. The sinkhole repair area and the work areas for the gully repair provide suitable and marginally suitable habitats for some of these special-status plants, respectively. Although the temporary staging areas as shown in Figure 1.3 would be located in a previously disturbed area, the staging area contains patches of annual grassland habitat, and Congdon's tarplant has been documented in the southeast corner of the project area (see Figure 3.1). Approximately 4.72 acres of annual grassland habitat for special-status plants may be impacted by project construction activities through the use of the temporary work staging areas and grading activities. The direct take of a special-status plant species through habitat loss or modification would be a potentially significant impact.

With the implementation of APM BIO-1: Implement general avoidance measures to protect biological resources, PG&E commits to environmental awareness training for all personnel, flagging sensitive resource areas and clearly marking work areas, vehicle best management practices, and fully avoiding any construction activities on or adjacent to special status plants. Additionally, APM BIO-1 specifies that all equipment refueling and maintenance must be in designated staging areas at least 150 feet from any down gradient aquatic habitat. APM AQ-1: Minimize fugitive dust, would minimize any potential impacts on special-status plants from fugitive dust; APM GEO-1: Implement erosion control measures, and APM-HYDRO-1: Implement waterway best management practices, would reduce potential water quality impacts that could affect special-status plants. MM BIO-10: Invasive plant and plant pathogen abatement would reduce potential impacts on special-status plants from the introduction of invasive weeds. Implementation of MM BIO-1: Conduct preconstruction plant surveys and MM BIO-2: Conduct biological monitoring, would further reduce

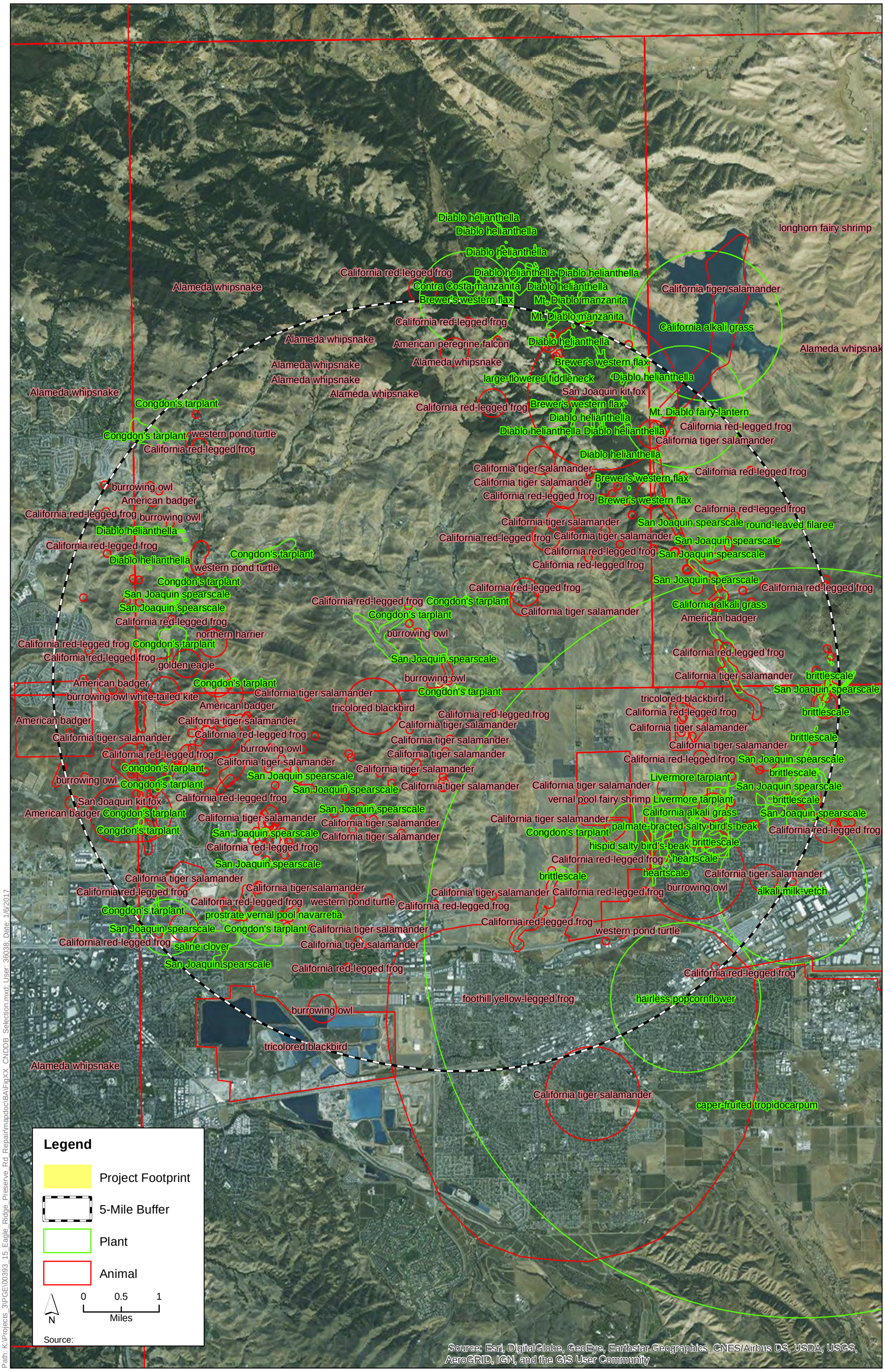

Figure 3.1
CNDDB Occurrence within 5-mile for the Eagle Ridge Access Road Repair Project

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potential impact on special-status plants by requiring preconstruction plant surveys prior to any grading activity, establishment of buffers to prevent direct and indirect impacts on plants, and biological monitoring of construction activities near sensitive biological resources. The results of biological resource surveys and monitoring would be incorporated into a project resource map, including identification of all relevant buffer areas. With the implementation of these APMs and MMs, potential impacts on special-status plants would be less than significant.

MM BIO-1. Rare and Special-Status Botanical Surveys and Avoidance.

Prior to project implementation, a Qualified Biologist or Botanist shall conduct a survey for rare and special-status plants that have moderate or higher potential to occur at the project area (i.e., San Joaquin spearscale and Congdon's tarplant). The botanical survey shall be consistent with CDFW's **Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities**. The survey shall be seasonally appropriate and conducted at the appropriate time of year when botanicals are both evident and identifiable (blooming, flowering, or fruiting). If a rare or special-status botanical species are found within the construction disturbance footprint, they shall be flagged and appropriate buffers shall be established in consultation with the Qualified Biologist or Botanist and CDFW. CDFW shall be notified of the occurrence of special-status plants within five (5) days of discovery.

MM BIO-2. Biological Monitoring

A qualified USFWS- and CDFW-approved biological monitor ("approved biologist")_shall be onsite during all construction activities and shall monitor implementation and compliance with APMs, MMs, and permit requirements relating to the sensitive resources. The approved biologist shall have the authority to stop any work that may violate permit conditions and/or result in the take of a listed species. Also, the approved biologist shall have the authority to suggest alternative work practices after consultation with construction personnel, as appropriate, if construction activities are likely to impact sensitive biological resources, and to make those suggestions known to CDFW. If the approved biologist exercises this authority, the PG&E project biologist shall be notified immediately and PG&E shall notify, by telephone or electronic mail, USFWS and CDFW within 1 working day. The approved biologist shall be the contact for any employee or contractor who might inadvertently kill or injure a special-status species or anyone who finds a dead, injured, or entrapped individual. The approved biologists shall possess a working wireless/mobile phone. This phone number, in addition to the PG&E project biologist's phone number, shall be provided to the CDFW and USFWS.

The biological monitor shall document all APM, MM, and permit condition compliance and any corrective actions and include these records in daily monitoring logs, which will be regularly reported to CDFW.

MM BIO-3: Work in Dry Weather

During the dry season (April 15 – October 14), Permittee shall limit Covered Activities to periods of low rainfall (less than 0.10 inch per 24-hour period). Ground disturbing activities may resume 48 hours after the rain ceases when there is a less than 40% change of precipitation in the 24-hour forecast.

Special-Status Wildlife

Four special-status wildlife species have moderate or higher potential to occur in the project area: California tiger salamander, California red-legged frog, western pond turtle and burrowing owl. Fourteen special-status wildlife species have low potential to occur in the project area: vernal pool fairy shrimp, Alameda whipsnake,

American peregrine falcon, golden eagle, grasshopper sparrow, loggerhead shrike, northern harrier, tricolored blackbird, white-tailed kite, American badger, San Joaquin kit fox, hoary bat, pallid bat and Yuma myotis. Additionally, although not considered a special-status species, and thus not included in Table 3-8, red-tailed hawk is a raptor afforded protection under Fish and Game Code Section 3503.5 and the MBTA and was observed in the project vicinity during reconnaissance surveys; the species has high potential to nest in the nearby eucalyptus grove or near the project area.

Although the project work areas would be located largely in previously disturbed areas and actively grazed areas, direct mortality of special-status wildlife could occur during project construction as a result of vehicular and foot traffic, use of heavy construction equipment, excavation of underground refugia, entombment during movement of soil, and other project activities. There could also be impacts on special-status wildlife species or their habitat related as a result of construction noise, exposure to hazardous substances accidentally released by vehicles or other equipment, sedimentation in aquatic habitat, or temporary displacement from foraging or breeding sites. These project impacts would be considered potentially significant because they could adversely affect a species designated as threatened, endangered, or rare.

Potentially significant impacts on special-status wildlife species would be reduced to a less-than-significant level with the implementation of APM BIO-1: Implement general avoidance measures to protect biological resources, APM BIO-2: Protect aquatic resources and habitat for special-status wildlife, APM BIO-3: Provide wildlife escape ramps and inspect trenches, APM BIO-4: Cover and inspect open-ended pipes prior to moving, APM BIO-5: Implement timing restriction during construction (work in dry season), APM BIO-6: Dust suppression, APM BIO-8: Vehicle inspection, and the following mitigation measures- MM BIO-2: Biological monitoring, MM BIO-3: Conduct work in dry weather, MM BIO-4: preconstruction wildlife surveys, MM BIO-5: Amphibian capture best practices, MM BIO-6: Restraint and handling of live amphibians, MM BIO-7: Conduct preconstruction surveys for special-status amphibians and avoid impacts to burrows, MM BIO-8: Covered species relocation, MM BIO-9: Implement wildlife barriers, MM BIO-10: Prepare and implement Vegetation Restoration Plan, MM BIO-11: Invasive plant and plant pathogen abatement, MM BIO-12: Provide habitat compensation, MM BIO-13: Financial security, MM BIO-14: Conduct preconstruction nesting bird surveys, and MM BIO-15: Conduct preconstruction surveys for burrowing owl and implement impact avoidance, minimization and mitigation. .

MM BIO-4: Conduct preconstruction wildlife surveys

Within 14 days prior to any construction or staging activities, a qualified USFWS- and CDFW-approved biologist shall conduct a preconstruction survey for special-status wildlife species (except CTS and CRLF, covered by MM BIO7 below) in the active construction work areas. Survey results may be documented in a brief memo or monitoring form and shall note the occurrence and location of any sensitive habitat (e.g. active nest, occupied burrow) or wildlife species observed during the preconstruction survey. No additional measures shall be implemented if protected wildlife species are not observed. If a protected wildlife species is observed, work shall not begin until the species departs the construction area or are moved out of the construction area to a CDFW- and USFWS-approved relocation site. If at any point construction activities cease for more than 7 days, additional surveys shall be conducted prior to the resumption of these actions.

Vernal Pool Fairy Shrimp and Western Pond Turtle. The implementation of MM BIO-2 and MM BIO-4 would supplement the protection measures of APM BIO-1 and APM BIO-2 and ensure the project area is searched for wildlife species that may be taking refuge in the project area, provide biological monitoring of construction activities near sensitive resources, and provide additional specificity regarding protection of aquatic resources and wetlands that provide habitat for aquatic wildlife species. With the implementation of MM BIO-4 which requires the establishment of a no disturbance buffer around the individual until the

individual would no longer be impacted by project activities, potential impacts on aquatic wildlife would be reduced to a less-than-significant level.

Alameda whipsnake, American Badger and San Joaquin Kit Fox. Implementation of general environmental awareness training, work area delineation, and habitat and resource flagging as required by APM BIO-1, and implementation of APM BIO-3 and APM BIO-4 would prevent these species from entrapment and prevent wildlife from using project features as temporary refuge. Conducting preconstruction wildlife surveys and biological monitoring as required by MM BIO-2 and MM BIO-3 would ensure impacts on Alameda whipsnake, American badger and San Joaquin kit fox would be reduced to a less-than-significant level.

California Tiger Salamander and California Red-Legged Frog. California tiger salamander has high potential to occur in the project area and presence/absence surveys detected larvae in one of the two seasonal ponds in 2015 and 2017. The two artificially created seasonal ponds provide suitable aquatic breeding habitat, and the surrounding upland annual grassland habitat also provides suitable dispersal and summer dormancy habitat for the species. Numerous small burrows created by rodents (e.g., ground squirrel, pocket gopher, and field mouse), soil cracks, and crevices within the project area, all of which were observed during reconnaissance field surveys, could be used by the salamanders for subterranean refugia.

California red-legged frog has moderate potential to occur in the project area. The species has been observed in remnant riparian habitat located upstream and downstream of the West Branch of Cayetano Creek (Olberding 2010, 2013) and the artificially created seasonal ponds in the project area provide suitable aquatic habitat for the species. To support successful reproduction, breeding sites must be inundated long enough to allow for tadpole or larvae development and metamorphosis (at least 4 months). The optimal inundation period is from December through September; however, an inundation period ending in July would allow some successful breeding (Ford et al. 2013). During a site assessment on July 24, 2015, the two seasonal ponds were dry. During a field visit on December 21, 2016, the upper pond had approximately 2 feet of water and the lower pond was dry. However, in previous years, water within these features was present from October 2014 until late June 2015 (Olberding pers. comm.). Annual grassland habitat within the project area represents suitable dispersal habitat for California red-legged frog and California tiger salamander, and small mammal burrows in the area could be used for cover by the frog and salamander.

The project area is located in USFWS-designated critical habitat for California red-legged frog (CCS-2B). The primary constituent elements (PCEs) for California red-legged frog that occur within the project area are aquatic breeding habitat (West Branch of Cayetano Creek, PCE 1), nonbreeding aquatic habitat (seasonal ponds, PCE 2), upland habitat (surrounding annual grassland, PCE 3), and dispersal habitat (surrounding annual grassland, PCE 4) (U.S. Fish and Wildlife Service 2006). The proposed project would not impact PCE 1 because no work is proposed in the West Branch of Cayetano Creek. Project activities would temporarily modify PCE 2, 3, and 4. Approximately 0.043 acre of nonbreeding aquatic habitat (PCE 2) and approximately 4.719 acres of upland and dispersal habitat (PCEs 3 and 4) would be temporarily disturbed. Although 0.006 acre of upland habitat would be permanently modified, the project seeks to restore the ponding depth of the nonbreeding aquatic habitat and repair the site's erosional issues and hillslope topography. Implementation of the project activities could restore the aquatic resource function and restore the habitat value for PCEs 2, 3, and 4. Because the acreage of permanent impact would be small and the proposed project activities could restore biological resource function and services to the Preserve, the impacts on California-red legged frog critical habitat are not considered a substantial adverse effect.

Potential impacts on these special-status amphibian species would include direct crushing from construction equipment, entombment from slope or road repair activities, or asphyxiation from water quality degradation related to erosion or contamination during construction activities. Construction activities in grassland habitat may degrade and decrease upland habitat quality for these species by decreasing the availability of

underground refugia or prey items and lead to indirect impacts. These impacts would be potentially significant.

APM BIO-1 would commit PG&E to environmental awareness training, flagging sensitive resources, delineation of the work area, and minimization of the area required for access routes and construction work areas. APM BIO-2 would protect aquatic resources that could provide habitat for California tiger salamander and California red-legged frog. APMs BIO-4 and BIO-5 would further minimize the potential for special-status amphibians to be trapped and killed in trenches or pipes in the project area. Erosion control and stormwater avoidance measures (APM GEO-1) would minimize the potential for impacts related to accidental releases of hazardous materials and minimize impacts related to erosion and water quality. Additionally, MM BIO-2 and MM BIO-7 would supplement the requirements in APM BIO-1 with the addition of biological monitoring and preconstruction special-status amphibian surveys.

To avoid the period when special-status amphibians could be actively dispersing through upland habitats or in suitable aquatic habitat, APM BIO-5 would limit ground-disturbing activities to the dry season (between April 15 and October 15), when there is less potential for special-status amphibians to be present in the project area. If California tiger salamander or California red-legged frog are found in the construction or staging areas during preconstruction wildlife surveys or the species would be harmed by construction activities, implementation of MM B-4, MM BIO-5, MM BIO-7, and MM BIO-8 would be required. MM BIO-8 requires that a qualified biologist (i.e. be USFWS- and CDFW-approved) capture and relocate the wildlife species to nearby suitable habitat. To compensate for unavoidable impacts on listed species habitat, PG&E shall implement MM BIO-10, MM BIO-12, and MM BIO-13. Under MM BIO-12, PG&E would provide compensatory mitigation approved by all permitting agencies, which may include acquiring mitigation credits at an approved conservation area that supports the species in accordance with the USFWS Biological Opinion and CDFW ITP for the project. With the implementation of these applicant proposed measures and mitigation measures, impacts on California red-legged frog and California tiger salamander would be less than significant.

MM BIO-5: Amphibian Capture Best Practices

CDFW/USFWS approved biologists shall use their bare hands to capture California tiger salamander and California red-legged frog, CDFW/USFWS-approved biologists shall not use soaps, oils, creams, lotions, repellents, or solvents of any sort on their hands within 2 hours before and during periods when they are capturing and relocating individual California tiger salamander/California red-legged frog. To avoid transferring disease or pathogens from handling of the amphibians, CDFW/USFWS-approved biologists shall follow the Declining Amphibian Populations Task Force's Code of Practice. Captured California tiger salamanders shall be placed individually into a dark, clean plastic container of suitable size with enough room so the animal can move freely and shall keep the container moist with damp paper towels, soft foam rubber, or natural or synthetic sponge free of soaps and antibacterial/antifungal treatments. Containers used for holding or transporting shall not contain any standing water. The lids of the containers shall have small air holes for ventilation. Sponges shall not be reused and all other housing materials shall be disinfected between occupants according to the Task Force's Code of Practice.

MM BIO-6: Restraint and Handling of Live Amphibians

California tiger salamander and California red-legged frog shall be handled and assessed according to the Restraint and Handling of Live Amphibians USGS, National Wildlife Health Center (D. Earl Greene, ARMI SOP No. 100; 16 February 2001). CDFW/USFWS-approved biologist shall move special-status species to appropriate locations within 300 feet of the project boundary pursuant to the Relocation Plan. If an injured California tiger salamander or California red-legged frog is found during the project term, the individual shall be evaluated by the approved biologist who shall then immediately contact

the PG&E project biologist who shall then contact the CDFW and USFWS, via email and telephone, to discuss the next steps. If the representatives cannot be contacted immediately, the injured amphibian shall be placed in a shaded container and kept moist. If the representatives are not available or do not respond within 2 hours of initial attempts, then the following steps shall be taken:

a. If the injury is minor or healing and the amphibian is likely to survive, the amphibian shall be released immediately as follows. The approved biologist shall relocate any California tiger salamander and California red-legged frog found within the work area to an active rodent burrow or burrow system located no more than 300 feet outside of the work area. California tiger salamander and California red-legged frog shall be monitored until it is determined that it is not imperiled by predators or other dangers. Relocation areas shall be identified by the approved biologist based on best suitable habitat available and approved by the agencies prior to the start of project activities. The approved biologist shall document the release location by photograph and GPS position. The California tiger salamander and California red-legged frog shall be photographed and measured (snout-vent and total length) for identification purposes prior to relocation. All documentation shall be provided by PG&E to CDFW and the USFWS within 24 hours of relocation.

b. If it is determined that the California tiger salamander or California red-legged frog has major or serious injuries as a result of project-related activities, the CDFW/USFWS-approved biologist shall immediately take it to the Lindsay Wildlife Experience or another agency-approved facility. The circumstances of the injury, procedure followed, and final disposition of the injured animal shall be documented in a written incident report, as described above.

MM BIO-7: Conduct Preconstruction Surveys for Special-Status Amphibians and Avoid Impacts to Burrows

A CDFW- and USFWS-approved biologist shall survey the project area with potential habitat for California tiger salamander and California red-legged frog immediately prior to ground-disturbing activities. Surveys shall include all potentially suitable upland habitat such as rodent burrows, cracks, ruts, holes near root structures, foundations, abutments, and leaf litter within the project area that contain potential habitat for these species. If any California tiger salamander or California red-legged frog are found, the approved biologist shall contact CDFW and the USFWS to determine if moving any of these life stages is appropriate. In making this determination, CDFW and USFWS shall consider if an appropriate relocation site exists as provided in the Relocation Plan. If CDFW and the USFWS approve moving animals, the CDFW- and USFWS- approved biologist would be allowed sufficient time to move California tiger salamander and California red-legged frog from the project area before work activities begin. Only CDFW- and USFWS-approved biologists shall participate in activities associated with the capture, handling, and monitoring of California red-legged frog and California tiger salamander.

The qualified biologist shall mark all visible and obvious burrows within the project disturbance footprint (i.e. excavation areas, gully repair areas, staging area etc.), including a 10-foot buffer around the disturbance footprint, no less than 7 days prior to earthmoving activities in those areas. All burrows shall be avoided to the maximum extent practicable during earthmoving activities. Areas with high concentrations of burrows shall be avoided by earthmoving activities to the maximum extent possible. In addition, when concentrations of burrows or large burrows are observed within the site, and if it is possible to avoid these burrows during construction activities, these areas shall be staked and/or flagged to ensure construction personnel are aware of their location and to facilitate avoidance of these areas when possible.

MM BIO-8: Covered Species Relocation

A Relocation Plan for California tiger salamander and California red-legged frog shall be submitted to and approved by CDFW prior to the start of construction. The Relocation Plan shall include relocation site selection criteria. When California tiger salamander are observed within work areas, the qualified biologist shall relocate any individuals found to an active rodent burrow system located no more than 300 feet outside of the project area, or the nearest suitable burrow beyond that distance. California tiger salamander shall be released as soon as possible. A suitable burrow should be at least 3" in depth and have moist and cool conditions. If burrow density allows, the qualified biologist shall only release one animal per burrow. If the animal repeatedly walks away from the burrow, or partially enters it and then turns around, the qualified biologist shall remove it and find another burrow.

The qualified biologist shall document occurrence and relocation sites by photographs and GPS positions. When handled, California tiger salamander and California red-legged frog shall be photographed and measured (snout-vent and total length) for identification purposes prior to relocation. The individual shall be monitored until it is determined that it is not imperiled by predators or other dangers. The qualified biologist shall release individuals one at a time rather than as a group. All documentation shall be provided to CDFW and USFWS within 48 hours of relocation.

Only CDFW/USFWS-approved biologists shall conduct surveys and move special-status species. A qualified biologist possessing a valid ESA Section 10(a)1(A) permit or CDFW/USFWS-approved under an active biological opinion, shall be contracted to trap and to move amphibians to nearby suitable habitat if amphibians are found inside fenced area.

MM BIO-9: Implement Wildlife Barriers

At least 15 days prior to commencing any Project Activities, Permittee shall submit to CDFW a barrier proposal that shall address the level of need for additional barriers at all project areas within suitable CTS/CRLF habitat for CDFW approval. The Designated Biologist shall evaluate site and planned work activities to determine the wildlife exclusion barrier proposal and consider season of work, special-status species occurrence to date, time duration of site activity, and implications for wildlife movement in the proposal. A recommendation not to install fencing may be made if the effects of fencing installation could be greater in extent or duration than those associated with planned work activities.

The barrier design shall include the elements that follow. To avoid potential entanglement of wildlife, PG&E shall not use plastic monofilament netting. The barrier shall include multiple escape funnels, ramp, or another method if approved by CDFW to allow wildlife to leave the project area. PG&E shall maintain and repair the barrier immediately to ensure that it is functional and without defects. Any California tiger salamander and California red-legged frog found along the barrier shall be relocated in accordance with the Relocation Plan. Location and design of the barriers shall be included within the proposal. The barrier shall be installed under the supervision of a qualified biologist. The bottom six inches of the barrier shall be buried, if feasible, or otherwise adequately secured to prevent California tiger salamander and California red-legged frog movement into the project area. Following fence installation, the qualified biologist(s) shall block holes or burrows entrances within project area, of burrows avoided by construction activities, if any, that appear to extend under the barrier to minimize California tiger salamander and California red-legged frog movement into the project area. The barrier shall be checked regularly (not less than three times per week) to look for California tiger salamander and California red-legged frog and to ensure barrier integrity. Inspection intervals shall be based upon the planned construction activities at each site, recent and forecasted weather events, and the results of preconstruction surveys and previous

inspections. The barriers shall be continuously maintained until all construction activities are completed, and then removed as soon as possible, but no later than 7 days after activities have ceased, unless required to remain longer to ensure SWPPP compliance. The barrier shall continue to be checked regularly until it is removed.

MM BIO-10: Prepare and Implement Vegetation Restoration Plan

PG&E shall restore on-site all of the native vegetation that shall be temporarily disturbed during construction to as close to pre-project conditions as possible. The table below describes the proposed restoration success criteria for grassland habitat beginning in "Year 1," the first year upon completion of construction. Upon CDFW approval, the Vegetation Restoration Plan shall be implemented to restore temporary impact areas to pre-project or better conditions.

Restoration Success Criteria and Reporting for Grassland Habitat

Overall Success Criteria	Year 1*	Year 2 and Year 3, if applicable
▪ A minimum of 70% vegetation cover relative to adjacent reference site or baseline conditions, and less than 5% absolute cover of invasive plants listed as high or moderate in the Cal-IPC database and mapped in the work area during the baseline conditions assessment.	Take photos from designated photo stations. ▪ In Year 1, an annual restoration monitoring report shall be submitted to CDFW with a qualitative assessment of vegetation cover and a comparison to the baseline conditions assessment or adjacent reference site for the work areas. Annual monitoring report shall document restoration success and shall be submitted to the permitting agencies by September 1. ▪ The first report shall provide a species list of the seed mix used at each restoration area. If success criteria, are met in Year 1, no additional monitoring or reporting is required and restoration is considered complete.	Take photos from designated photo stations ▪ If success criteria are not met in Year 1, a Year 2 annual restoration monitoring report shall be submitted to CDFW by September 1, containing the same information as the Year 1 report. ▪ If success criteria are not met in Year 2, a final report shall be submitted to CDFW by September 1, containing the same information as the Year 1 and 2 reports.

* Year 1 is first year of post-construction operation.

The Vegetation Restoration Plan shall include detailed specifications for restoring all temporarily disturbed areas, such as seed mixes, timing, and application methods. Non-native invasive species shall not account for the absolute cover for restoration success. The California Invasive Plant Council (Cal-IPC) database (http://www.cal-ipc.org/paf/) shall be consulted when determining noxious and invasive plants. The Vegetation Restoration Plan shall contain the following components:

- PG&E shall remove and stockpile separately, the top six (6) to twelve (12) inches of soils within the project area and within CDFW and/or USACE jurisdictional drainages. This stockpiled top soil material shall be placed back so as to replicate the original soil stratigraphy at the end of construction.
- Prior to initiating ground disturbance, PG&E shall identify appropriate adjacent vegetation community site(s) adjacent to the project area to be used as a reference site (i.e. a site that will be used as a comparison for restoration criteria). The slope, aspect, and hydrological conditions shall be similar for both the reference site and site to be restored. PG&E will evaluate species composition at the reference site, which shall be similar to the site to be

restored. Documentation shall identify: (1) the vegetation species; (2) an estimate of average ground cover density; (3) an overall estimate of the density of native and non-native species composition and (4) weed mapping of all Cal-IPC's California Invasive Plants listed as high or moderate.

- Restoration of temporary impacts shall occur prior to the beginning of the rainy season (generally October 31) to the extent possible. Restoration work may occur year-round but shall be completed within the same season of project impact to the extent possible.
- A seed mix shall be identified considering species found in the baseline conditions assessment and at the reference site and include only native species, with an emphasis on native bunchgrasses and other grassland species.
- In the baseline conditions assessment PG&E shall perform preconstruction weed mapping of all Cal-IPC's California Invasive Plants listed as high or moderate to document baseline Cal-IPC invasive plants present in the project area prior to construction. The restored project area shall consist of no more than 5% of the existing baseline Cal-IPC invasive plants observed in the same project area. If the presence of invasive species exceeds this threshold, PG&E is responsible for conducting appropriate control activities during monitoring, up to three years after implementation of restoration.
- To ensure that site restoration and erosion control measures are successful, PG&E shall be required to monitor site conditions for up to three years following project completion or until success criteria are satisfied prior to the end of three years. Site visits shall be conducted at least once after the first significant rain event after project completion to evaluate site stability and during the spring and summer to evaluate revegetation efforts. If PG&E or CDFW determines there is an increase in erosion or bank instability, PG&E shall consult with CDFW on corrective actions.
- To discourage the introduction and establishment of invasive plant species, seed mixtures/ used within natural vegetation shall be either rice straw or weed-free straw.
- Prior to commencement of work, PG&E shall identify representative views of the project area that will be identified in the CDFW Streambed Alteration Agreement and Incidental Take Permit for this project or would impact California tiger salamander or California red-legged frog upland habitat. PG&E shall photograph the project area from each of the flagged points, noting the direction and magnification of each photo. Upon completion of construction, PG&E shall photograph post-project conditions from the flagged photo points using the same direction and magnification as pre-project photos. Labeled digital copies of pre- and post-project photographs shall be sent to CDFW within forty-five (45) days of completion of the project.

MM BIO-11: Invasive Plant and Plant Pathogen Abatement

A CDFW/USFWS-approved biologist shall ensure that the spread or introduction of invasive exotic plant species shall be avoided to the maximum extent possible. When practicable, invasive exotic plants in the construction disturbance footprint shall be removed. To minimize the unintended movement of host material, soil, and water from areas infested with *Phytophthora spp.* or other plant pathogens the following BMPs shall be implemented:

- Prior to commencement of construction, Permittee shall evaluate the level of currently known *Phytophthora* infestations (e.g., viewable in Sudden Oak Death map at: http://www.suddenoakdeath.org/maps-media/maps/) in areas where equipment had previously been operating and along the entirety of the project area, and subsequently take extra precautions when moving equipment out of contaminated areas.

- In the event that it appears that there is a risk of infestation in the project area, establish a vehicle and equipment power wash station to remove potentially contaminated accumulations of soil, mud, and organic debris. The station should be located within the generally infested area, paved or rocked, well-drained so that vehicles exiting the station do not become contaminated by the wash water, and sited where wash water and displaced soil does not have the potential to carry fines to a watercourse.
- Prior to entry to any project area for the first time, equipment must be free of soil and debris on tires, wheel wells, vehicle undercarriages, and other surfaces (a high pressure washer and/or compressed air may be used to ensure that soil and debris are completely removed).
- Compliance with the provision is achieved by demonstrating that the vehicle or equipment has been cleaned at a commercial vehicle or appropriate truck washing facility.
- The interior of equipment (cabs, etc.) must be free of mud, soil, gravel and other debris (interiors may be vacuumed or washed).
- Footwear and small tools must be thoroughly cleaned and sanitized before moving to a new job site. Shoe soles must be free of debris and soil. (Water, a stiff brush, screwdriver or similar tool can be used to remove soil from shoe treads). Once soil or debris have been removed, an appropriate sanitizing agent of ethyl or isopropyl alcohol (at least 70% concentration) must be used to kill pathogen spores which may be present on boot soles or tools (sanitizing agent may be applied by using spray bottles filled with alcohol to thoroughly wet the surface). Boot soles and hand tools must be sprayed with enough alcohol that surfaces are fully coated and wet. (brushes and other implements used to help remove soil shall be cleaned after use with alcohol.)

MM BIO-12: Provide Habitat Compensation

Prior to construction, or no later than 18 months from issuance of an Incidental Take Permit by CDFW, assuming financial assurance is provided to CDFW (see MM BIO-13), PG&E shall purchase credits at a USFWS/CDFW-approved Conservation Bank to compensate for unavoidable effects to California tiger salamander and California red-legged frog. Alternatively, PG&E may propose and implement an alternative compensation strategy that would meet East Alameda Conservation Strategy goals by preserving, restoring, or improving habitat for California tiger salamander and California red-legged frog in the project vicinity. CDFW or USFWS may require additional mitigation if reseeding is not completed by October 31 of the year in which impacts occurred as required in MM BIO-10 (Prepare and Implement a Vegetation Restoration Plan). If available, multi-species credits can be used. Proof of payment shall be submitted to the USFWS and CDFW.

MM BIO-13: Financial Security

Prior to initiating project activities, and if proof of payment has not been submitted to CDFW and USFWS, PG&E shall provide CDFW with a form of performance security, approved in advance in writing, in an amount comprised of funds necessary for: a) onsite restoration, and b) offsite mitigation credits.

Alternatively, PG&E may provide, prior to initiating project activities, habitat compensation through the acquisition and commitment for management in perpetuity of suitable habitat, approved by CDFW. Such a purchase would then be subject to a Fee Title/Conservation Easement transfer to CDFW pursuant to terms approved in writing by CDFW.

Migratory Nesting Birds. Migratory nesting birds have potential to occur in the project area. For example, there is low potential for foraging by peregrine falcon, golden eagle, and white-tailed kite (a fully-protected

species). Based on recent occurrences and suitable habitat, there is moderate or higher potential for red-tailed hawk and burrowing owl to occur in the project area. Red-tailed hawk, protected as a raptor species, has been documented in the project area (Olberding 2010) and the species was observed by PG&E's consulting biologist during July 2015 and December 2016 site visits. The eucalyptus grove in the work staging area could provide suitable nesting habitat, and annual grassland habitat provides suitable foraging habitat for the species. Although burrowing owl generally uses flat or gently sloped grassland, the species has been observed in the Preserve (Olberding 2010) and there is one CNDDB occurrence reported in the project area from 2006 (see Table 3-8). Burrowing owl breeding season surveys performed following CDFW's 2012 Staff Report on Burrowing Owl in 2017 by PG&E's consulting biologist; no burrowing owls or signs of burrowing owl were detected. California ground squirrel burrows, which can be enlarged to be suitable as nesting sites, were also present in the project area. Peregrine falcon, golden eagle, Northern harrier, and tricolored blackbird could forage in the project area; however, suitable nesting habitat is absent. Although the species has been observed foraging in the Preserve (Olberding 2010), there is limited suitable nesting habitat present for white-tailed kite in the project area. Foraging birds would be expected to leave the immediate vicinity of the project area during construction activities, and these species would likely use unaffected foraging or nesting habitat nearby. Given the small amount of habitat temporarily lost relative to the availability of suitable habitat near the project, impacts on foraging special-status birds would be adverse but less than significant.

Project activities during the avian nesting season could adversely affect nesting burrowing owl or other breeding migratory bird species through direct take, or indirectly though disruption of breeding efforts or harassment. There is suitable nesting habitat in the project area for red-tailed kite and burrowing owl. Other species of nesting birds may utilize the trees along the West Branch of Cayetano Creek and various man-made structures in the project area, such as the barn located in the southeast corner of the project (see Figure 1.3). Construction noise and human presence could disturb nesting birds and lead to egg or chick abandonment. Construction equipment, vehicles, and foot traffic could crush ground nests. Disturbance of annual grassland habitat could decrease the availability of prey items, which, in turn, could affect the reproductive success of nesting birds. These impacts would be potentially significant.

The potential for impacts on nesting birds from project activities would be reduced by implementing APM BIO-1, APM BIO-4. MM BIO-2, MM BIO-7, MM BIO-14 and MMB BIO-15. The applicant proposed measures and mitigation measures require implementation of general avoidance measures to protect nesting birds, preconstruction nesting bird surveys, the establishment of nest buffers to minimize impacts on nesting birds if active nests are found, and prevention of birds from taking refuge or establishing a nest in open-ended pipes. With the implementation of these measures, impacts on nesting birds would be less than significant.

MM BIO-14: Conduct preconstruction nesting bird surveys

If construction activities are scheduled to occur between February 1 and August 31, preconstruction nesting bird surveys shall be conducted by a qualified biologist no more than 7 days prior to the start of construction, covering a radius of 0.5 mile for golden eagles, 500 feet for raptors and 250 feet for passerines at all project area locations. If any active nests containing eggs or young are found, an appropriate nest exclusion zone shall be established by the qualified biologist in accordance with PG&E's Avian Conservation Plan and nesting bird buffers and in coordination with CDFW. No project vehicles, or heavy equipment shall be operated in this exclusion zone until the biologist has determined that the nest is no longer active and or the young have fledged.

MM BIO-15: Conduct Preconstruction Surveys for Burrowing Owl and Implement Impact Avoidance, Minimization and Mitigation

Prior to construction at any time of the year, a qualified biologist shall conduct *Take Avoidance* (pre-construction) surveys consistent with CDFW's Staff Report on Burrowing Owl Mitigation (Mitigation

Guidelines; CDFW, 2012) in areas with suitable habitat for WBO to determine the presence/absence of active burrowing owl nesting or wintering burrows within 250 feet of any ground disturbance. Results of nest surveys and planned no-disturbance set-backs. If necessary, shall be submitted to CDFW.

- If burrowing owls are present within 250 feet of the project area, work shall not commence or resume in this zone until one of the following occurs:

    1. An **Avoidance Plan** shall be approved by CDFW and implemented by PG&E. The objective of the PG&E-prepared Avoidance Plan shall be to identify what, if any, level of work can begin or resume without disruption of nesting activity or burrow occupancy. The Avoidance Plan shall consider the type and extent of the proposed activity, the duration and timing of the activity, the nesting status of the owls, the sensitivity and habituation of the owls, and the dissimilarity of the proposed activity with background activities, significant aspects of site such as topography or prevailing wind direction etc. to minimize the potential to affect the reproductive success of the owls. Further steps shall be coordinated with CDFW. The Plan shall include monitoring to be conducted prior to, during, and after initiation or re-initiation of project activity sufficient to ensure take is avoided. The biologist shall monitor all work activities in these zones daily when construction is occurring and assess their effect on the nesting birds. If the biologist observes any indication that behaviors are changing relative to baseline behaviors observed prior to project activity (e.g. female flapping of wings in an agitated manner, extended concentrated staring at project activities, distress calls, continuous circling over the area of disturbance), or otherwise determines that particular activities pose a risk of disturbing an active nest, project activity shall cease immediately. Permittee efforts to minimize nest abandonment does not eliminate or reduce the risk of prosecution in case nest abandonment occurs. The biologist may then recommend additional measures to minimize the risk of nest disturbance and those measures shall be implemented. If work cannot proceed without disturbing the nesting birds, or signs of disturbance are observed by the monitor, work shall be halted or redirected to other areas until the nesting is completed.

    2. A PG&E Biologist submits a **Burrowing Owl Exclusion Plan** (see Appendix E of the Staff Report on Burrowing Owl Mitigation, Department of Fish and Game, March 2012) and a Burrowing Owl Impact Mitigation Plan based on Appendix F of the Staff Report on Burrowing Owl Mitigation (Department of Fish and Game, March 2012) to CDFW and the plans are approved by CDFW prior to project commencement or re-initiation. Exclusion of nesting burrowing owls is not allowed.

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

PG&E has applied for a Lake and Streambed Alteration Agreement (LSAA #1600-2017-0175-R3) from the CDFW for temporary impacts to one of the two seasonal ponds (0.043 acre) during sediment removal activities.

Pursuant to the Biological Resources and Water Quality APMs (APMs BIO-1, BIO-2, BIO-5 and BIO-6, supplemented by MM BIO-3 and APM HYDRO-1), resource avoidance measures would be taken and work would be conducted during the dry season when the ponds and wetland swales are dry. A SWPPP would be

developed and implemented to avoid and minimize impacts to water quality. Implementation of MM BIO-10 (Vegetation Restoration Plan) would reduce impacts to areas subject to the CDFW LSAA to less than significant.

The restoration area around the West Branch of Cayetano Creek is the closest riparian habitat to the project area. No construction activities would take place in the creek; therefore, the proposed project would have no impact on riparian habitat. Potential impacts on federally protected wetlands and water of the United States are addressed under CEQA checklist item c.

Checklist item c: Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) either individually or in combination with the known or probable impacts of other activities through direct removal, filling, hydrological interruption, or other means?

In February 2017, a natural seasonal pond (0.023 acre) had formed within the project area (see Figure 1.3) however this had not formed in the drier winter of 2017-2018. No construction activities are proposed in this feature, which is located more than 100 feet from proposed work areas; therefore, there would be no direct impacts to it from this project.

The proposed project would temporarily affect wetlands and waters of the United States through the removal of sediment. Approximately 0.043 acre of Palustrine Unconsolidated Bottom nonwetland waters (i.e. the created seasonal ponds) would be temporarily impacted during sediment removal activities. No impacts on the other wetlands and nonwetland waters in the project area would result from project implementation.

Because the affected acreage of the artificial pond would be small, and the proposed project activities would likely result in the restoration of aquatic resource function and value to the Preserve, the impacts on waters of the Unites States are not considered a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA. Therefore, this impact would be less than significant.

PG&E would obtain permits from state and federal agencies prior to project initiation and would implement APMs (see Section 3.4.4) and MMs (see Section 3.4.5) (including preparation of a stormwater pollution prevention plan [SWPPP]) as part of the project. PG&E would obtain the following permits to support this project and to minimize potential impacts on the jurisdictional features in the project area that would be impacted by project activities: USACE NWP 27 authorization, USFWS Biological Opinion, San Francisco Bay Water Board CWA Section 401 certification, CDFW ITP under Fish and Game Code Section 2081b, CDFW Lake and Streambed Alteration Agreement, and State Water Resources Control Board NPDES permits. All conditions that are attached to the state and federal permits would be implemented as part of the project. The conditions would be clearly identified in the construction plans and specifications and monitored during construction to ensure compliance.

Pursuant to MM BIO-10, PG&E would prepare and implement a Vegetation Restoration Plan. Also, MM BIO-12 would require PG&E to provide habitat compensation for the temporary loss of wetland and aquatic habitat. With the implementation of applicant proposed and mitigation measures, this impact would be less than significant.

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

The project does not include any new permanent features that would interfere with wildlife, including California tiger salamander and California red-legged frog, from moving from one area to another. Temporary

wildlife barriers, pursuant to MM BIO-9, would be established as needed for short intervals at some work areas during construction.

The Preserve is located within the USFWS-designated San Joaquin kit fox dispersal corridor linking Mount Diablo with the Altamont range (Olberding 2010; U.S. Fish and Wildlife Service 1998); however, there have been no recent observations of the species within 5 miles of the project area and no suitable dens were observed during field reconnaissance surveys conducted by PG&E's consulting biologist. The species has low potential to occur. The project activities would take place in approximately 8 acres of the total 535-acre Preserve. Although construction activities would temporarily interfere with some wildlife movement within a small portion the overall Preserve (1.5%), these impacts would be temporary and no permanent structures would be installed that would limit wildlife movement. Wildlife would continue to be able to move through the rest of the Preserve unimpeded. The project would not interfere with wildlife connectivity or impede access to nursery sites. Therefore, this impact is not considered a substantial adverse effect on wildlife movement. The project would result in a less-than-significant impact on the movement of wildlife.

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

The project is compatible with the Alameda County General Plan and the East County Area Plan goals addressing protection of biological resources. Alameda County has an oak woodland preservation policy; however, this policy is not applicable to this project because there are no oak woodlands in the project area.

The EACCS is a guide for the long- term habitat protection and conservation of natural resources in east Alameda County. The General Avoidance and Minimization Measures to Reduce Effects on Focal Species from Table 3.2 and Species-Specific AMMs from Table 3.3 of the EACCS (ICF International 2010 have been incorporated in the proposed project where feasible and appropriate. Project activities, specifically reconstructing the road, restoring hill topography, restoring gully areas, dredging seasonal pond, filling sinkholes, and constructing a stormwater drainage structure, would improve the habitat characteristics of the project area and would not conflict with the EACCS. Post-construction restoration measures, including reseeding of natural areas disturbed by project activities with native grasses, and removing construction debris for disposal, would reduce project construction impacts and would not conflict with the EACCS. Because project activities would not conflict with any local policies or ordinances, there would be no impact.

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

The project area is located within the area covered by the Pacific Gas and Electric Company Bay Area Operations & Maintenance Habitat Conservation Plan (Pacific Gas & Electric Company 2016a). The proposed project activities of sinkhole repair and pond dredging are not covered activities under the PG&E Bay Area O&M HCP, therefore the proposed project is not eligible to seek coverage under the HCP. The ultimate result of the project would be a net improvement of habitat attributes within the Preserve, and there would be no conflict with any of the provisions of the HCP and no impact would occur.

V. Cultural Resources, Tribal Cultural Resources, and Paleontological Resources	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	☐	☐	☒	☐
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☐	☒	☐
c. Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☐	☒	☐
d. Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:	☐	☐	☒	☐
1) listed or eligible for listing on the California Register of Historical Resources, or on a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or				
2) a resource determined by a lead agency, in its discretion and supported by substantial evidence, to be significant according to the historical register criteria in Public Resources Code Section 5024.1 (c), and considering the significance of the resource to a California Native American tribe.	☐	☐	☒	☐
e. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐

3.5 Cultural Resources, Tribal Cultural Resources, and Paleontological Resources

This section describes the existing cultural resources and tribal cultural resources and paleontological resources in the project area and discusses potential impacts associated with the project. Cultural resources are historic and prehistoric archaeological sites, historic architectural and engineering features and structures, and places and resources of traditional cultural significance to Native Americans and other groups. Prehistoric archaeological resources are associated with the human occupation and use of California prior to prolonged European contact. These resources may include sites and deposits, structures, artifacts, rock art, trails, and other traces of Native American human behavior. In California, the prehistoric period began over 12,000 years ago and extended through the eighteenth century until 1769, when the first Europeans settled in California. Ethnographic resources represent the heritage of a particular ethnic or cultural group, such as Native Americans or African, European, Latino, or Asian immigrants. They may include traditional resource collecting areas, ceremonial sites, topographic features, cemeteries, shrines, or ethnic neighborhoods and structures. Historic-period resources, both archaeological and architectural, are associated with Euro-American exploration and settlement of an area and the beginning of a written historical record. They may include archaeological deposits, sites, structures, traveled ways, artifacts, or other evidence of human activity.

Tribal Cultural Resources (TCRs) are a newly defined class of resources under Assembly Bill 52 (AB 52). TCRs include sites, features, places, cultural landscapes, and sacred places or objects that have cultural value or significance to a Tribe. Some resources may be both cultural resources and tribal cultural resources.

Information presented in this section was compiled from *Cultural Resources Report for the Pacific Gas and Electric Company Eagle Ridge Access Road Repair Project, Alameda County*, prepared by PG&E's consultants in March 2016 and updated in March 2017 and the AB 52 consultation process.

3.5.1 Introduction

The project area is located on private property (Eagle Ridge Preserve), north of the City of Livermore in the Altamont Hills, Alameda County. The CEQA study area (study area) for cultural resources, tribal cultural resources, and paleontological resources consists of all areas where repair work and staging for construction areas are proposed. The study area may be horizontal (areas having surface disturbance) or vertical (areas subject to excavation and subsurface earthmoving). The study area includes the entire proposed road work area, a seasonal pond and a 40-foot construction staging buffer around the pond, two gully repair areas, and the sinkhole stabilization and slope repair area. The study area also includes the work staging area east of the graveled preserve entrance road. More details regarding the extent of project components and proposed work may be found in Chapter 2, *Project Description*.

3.5.1.1 Analysis of Cultural Resources

To identify cultural resources within the study area, PG&E's consulting cultural resources specialist conducted a background records search for previously recorded resources, contacted the California Native American Heritage Commission (NAHC) and local Native American representatives, and conducted a pedestrian survey of the entire project area . A cultural resources pedestrian survey was conducted for Gully Repair Area 2, the details and results of which are presented below.

Record Search Methods and Results

A records search and literature review was completed at the Northwest Information Center (NWIC) of the California Historic Resources Information System, located at Sonoma State University, Rohnert Park, on July 28, 2015 in support of the first draft of the cultural resources technical report (ICF 2016). A search of the project area and a 1-mile search radius was researched to determine if previous cultural resources surveys had been conducted, and to identify the presence of previously recorded cultural resources, in and within the vicinity of the project area. Although project components have been added since the first draft (2016) of the cultural resources technical report, the project area is still wholly encompassed within the 1-mile search radius, and, therefore, a supplemental records search was not warranted. Maps depicting specific study locations may be found in the cultural resources technical report (ICF 2016). The search consisted of a review of the following records and databases.

- Copies of all site records within a 1-mile search radius of the project area.
- A bibliographic reference of survey reports for studies conducted within a 1-mile search radius of the project area.
- Copies of General Land Office plats, historical topographic maps and historical aerial photographs.
- The Office of Historic Preservation's Historic Property data file.
- The California Register of Historical Resources (CRHR).
- Local historical maps for Alameda and Contra Costa Counties.

No resources were identified within the project area, but one resource was identified approximately 1 mile northwest of the project area. P-07-000852 consists of the remains of a historic-era homestead, with several features (a barn, a garage, a small shed, a possible septic tank, and associated pens and corrals). This homestead dates to the early 20th century and has not been evaluated for NRHP or CRHR eligibility. It is well outside of the project study area and would not be impacted by project activities.

Two previous studies have been previously conducted within the project area and six studies are outside of but within one mile of the project area. Only one resource was identified during these studies, P-07-000852, described above.

PG&E Native American Outreach

The Native American Heritage Commission (NAHC) maintains two databases to assist in the identification of cultural resources of concern to Native Americans, referred to by NAHC staff as tribal cultural resources. The NAHC Sacred Lands File (SLF) database has records for places and objects that Native Americans consider sacred or otherwise important, such as cemeteries and gathering places for traditional foods and materials. The NAHC Contacts database has the names and contact information for individuals, representing a group or themselves, who have expressed an interest in being contacted about development projects in specified areas.

PG&E's consultant contacted NAHC on July 15, 2015 and January 27, 2017, to identify any areas of concern within the project area that may be listed in the NAHC's Sacred Land File. NAHC responded to the July 15, 2015 request on August 5, 2015 and to the January 27, 2017 request on February 6, 2017 stating that a search of its files failed to indicate the presence of Native American cultural resources in the immediate project vicinity (Appendix C).

In its August 5, 2015 response, NAHC also provided a list of 12 Native American contacts that might have information pertinent to, or concerns regarding, this project. A letter explaining the proposed project, along with a map depicting the project area, was sent to the contacts listed by NAHC on September 1, 2015. The letters solicited responses from each of the contacts, should they have any questions, comments, or concerns regarding the proposed project. Follow-up correspondence was also performed, and a record of this communication may be found in the cultural resources technical report (see ICF 2016 and Appendix C).

In its February 6, 2017 response, NAHC provided a list of six Native American contacts that might have information pertinent to, or concerns regarding, this project. Outreach letters were sent on February 3, 2017 to these six Native American contacts. Follow-up communication was completed and a record of this communication may be found in (Appendix C). These same six contacts were contacted again by CDFW as part of the AB52 process described below.

3.5.1.2 Analysis of Tribal Cultural Resources

Information presented in this section was gathered through AB 52 government-to-government consultation between the California Department of Fish and Wildlife (CDFW) and California Native American Tribes that were identified by the NAHC as having information pertinent to, or concerns regarding, this project. CDFW also reviewed supplementary information from the cultural resources literature and records search, cultural resources field survey, ethnographic summary, and tribal outreach performed by PG&E prior to the filing of the application and summarized above.

AB 52 Native American Tribal Consultation

Project Notification. Within 14 days of deciding to undertake a project or determining that an application for a project is complete, the CEQA lead agency must formally notify all tribes that have requested this

notification. Notification usually takes the form of a letter and should be followed with a phone call confirming that the appropriate representative has received the project information.

AB 52 requires that after the lead agency determines that a project application is complete, a formal notice of project undertaking or completed application, and an invitation to consult about the proposed project, should be sent to all tribal representatives who have requested in writing to be notified of projects that may have a significant effect on TCRs located within the project area (PCR § 21080.3.1(d)).

CDFW sent a letter was sent to the Native American Heritage Commission (NAHC) on December 18, 2017 requesting a current AB 52 Tribal Consultation List of any tribal groups or tribal persons who may have traditional or cultural ties to the geographic area in and around the proposed project. The NAHC responded on December 28, 2017 with six tribal contacts. As described above, previous searches of the Sacred Land File by PG&E's consultant found no sacred sites in the immediate project vicinity.

On January 30, 2018, the CDFW sent emails to 7 tribal representatives who were identified by the NAHC as potentially having traditional or cultural ties to the proposed project's area and followed this with written correspondence. On February 7, 2018 CDFW emailed another tribe that had previously submitted a written request to the CDFW to receive notification of proposed projects and followed this with written correspondence. The letters included a brief description of the proposed project, information on how to contact the lead agency Project Manager, and project location and. a project location map. . The letters noted that requests for consultation needed to be received within 30 days of the date of mailing.

No responses were received from any of contacted tribes.

AB 52 Native American Tribal Consultation. AB 52 states that once California Native American tribes have received the project notification letter, the tribe then has 30 days to submit a written request to consult (PCR § 21080.3.1(d)). Upon receiving a Tribe's written request to consult, the lead agency then has 30 days to begin tribal consultation. Consultation must include discussion of specific topics or concerns identified by tribes. Any information shared between the Tribes and the lead agency representatives is protected under confidentiality laws and (GC §6254(r); GC §6254.10) and can be disclosed only with the written approval of the Tribes who shared the information (PCR §21082.3(c)(1-2)).

Consultation as defined in AB 52 consists of the good faith effort to seek, discuss, and carefully consider the views of others. Consultation between the lead agency and a consulting Tribe concludes when either of the following occurs: 1) the parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists on a TCR; or 2) a consulting party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached (PCR §21080.3.2(b)).

No responses had been received from any of contacted tribes and no TCRs were identified.

Field Survey

An intensive cultural resources pedestrian field survey was conducted on July 24, 2015. The survey encompassed the entire study area (as depicted in the cultural resources technical report and Attachment D), including the work staging area, the access road, the sediment removal work area (the wetlands), and the sinkhole repair work area.

During the field survey, all areas were inspected for indications of human activity, such as stained midden soils, stone artifacts, historic artifacts, dietary shell and bone, and unnatural depressions or mounds. Boot and shovel scrapes were randomly employed to better observe the ground surface. No cultural resources were identified during the field survey.

On February 1, 2017, a supplemental pedestrian field survey was conducted in order to inspect the revised project components at Gully Repair Area 2. The area is a small rocked drainage with low vegetation and was thoroughly inspected for any indicators of cultural deposits. Recent storms resulted in much of the vegetation in the immediate vicinity of Gully Repair Area 2 having been washed away, thereby exposing the soil below. No cultural resources were identified during pedestrian survey.

3.5.1.3 Analysis of Paleontological Resources

Paleontology is a natural science focused on the study of ancient animal and plant life as it is preserved in the geologic record as fossils. Information on site paleontology was derived from published scientific literature. In addition, the database of the University of California Museum of Paleontology (UCMP) was searched for records of fossil finds in the geologic units of interest.

Paleontological sensitivity is a qualitative assessment based on the paleontological potential of the stratigraphic units present, the local geology and geomorphology, and other factors relevant to fossil preservation and potential yield. According to the Society of Vertebrate Paleontology (2010), standard guidelines for sensitivity are 1) the potential for a geological unit to yield abundant or significant vertebrate fossils or to yield a few significant fossils, large or small, vertebrate, invertebrate, or paleobotanical remains and 2) the importance of recovered evidence for new and significant taxonomic, phylogenetic, paleoecologic, or stratigraphic data (Table 3-9).

Table 3-9. Paleontological Sensitivity Ratings

Potential	Definition
High	Rock units from which vertebrate or significant invertebrate, plant, or trace fossils have been recovered are considered to have a high potential for containing additional significant paleontological resources. Paleontological potential consists of both (a) the potential for yielding abundant or significant vertebrate fossils or for yielding a few significant fossils, large or small, vertebrate, invertebrate, plant, or trace fossils and (b) the importance of recovered evidence for new and significant taxonomic, phylogenetic, paleoecologic, taphonomic, biochronologic, or stratigraphic data.
Undetermined	Rock units for which little information is available concerning their paleontological content, geologic age, and depositional environment are considered to have undetermined potential. Further study is necessary to determine if these rock units have high or low potential to contain significant paleontological resources.
Low	Reports in the paleontological literature or field surveys by a qualified professional paleontologist may allow determination that some rock units have low potential for yielding significant fossils. Such rock units will be poorly represented by fossil specimens in institutional collections, or based on general scientific consensus, will only preserve fossils in rare circumstances and the presence of fossils is the exception not the rule.
No	Some rock units, such as high-grade metamorphic rocks (such as gneisses and schists) and plutonic igneous rocks (such as granites and diorites), have no potential to contain significant paleontological resources. Rock units with no potential require neither protection nor impact mitigation measures relative to paleontological resources.

Source: Society of Vertebrate Paleontology 2010.

3.5.2 Regulatory Setting

3.5.2.1 Cultural Resources and Tribal Cultural Resources

The project would require both federal and state permits, necessitating compliance with CEQA and Section 106 (36 Code of Federal Regulations Part 800) of the National Historic Preservation Act (NHPA). CEQA and Section 106 regulations require that effects on significant cultural resources be considered as part of the environmental analysis of a proposed project. Compliance with the following regulations is required.

Federal

Section 106 of the National Historic Preservation Act (NHPA). Under Section 106 of the 1966 NHPA (16 US Code [USC] 470 et seq., as amended 2006), a federal agency is required to take into consideration the effects of a proposed undertaking on historic properties. An undertaking includes all projects, activities, or programs funded in whole or in part under the direct or indirect jurisdiction of a federal agency, including those carried out by or on behalf of a federal agency, those carried out by federal financial assistance, and those requiring a federal permit, license, or approval. Per 36 Code of Federal Regulations (CFR) Part 800.16(l)(1)a historic property is any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places.

Eligibility for inclusion in the NRHP is determined by applying the following criteria:

The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and

A) That are associated with events that have made a significant contribution to the broad patterns of our history; or

B) That are associated with the lives of persons significant in our past; or

C) That embody distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D) That have yielded, or may be likely to yield, information important in prehistory or history.

Any prehistoric or historic period district, site, building, structure, or object that meets one or more of the criteria above and possesses sufficient integrity may be eligible for inclusion in the NRHP as a historic property.

CEQA and the California Register of Historical Resources

Under Section 21083.2 of CEQA, an important archaeological or historical resource is an object, artifact, structure, or site that is listed on, or eligible for listing on, the CRHR. Eligible resources are those that can be clearly shown to meet any of the following criteria.

- *Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.*
- *Is associated with the lives of persons important in our past.*
- *Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic value.*
- *Has yielded, or may be likely to yield, information important in prehistory or history.*

Automatic listings include properties that are listed on the National Register of Historic Places. In addition, Points of Historical Interest nominated from January 1998 onward are to be jointly listed as Points of Historical Interest and in the CRHR.

Resources listed in a local historical register or deemed significant in a historical resources survey, as provided under Public Resources Code Section 5024.1(g), are presumed to be historically or culturally significant unless the preponderance of evidence demonstrates that they are not. A resource that is not listed on or

determined to be ineligible for listing on the CRHR, not included in a local register of historical resources, or not deemed significant in a historical resources survey may nonetheless be historically significant, as determined by the lead agency (Public Resource Code Section 21084.1 and Section 21098.1).

Assembly Bill 52

Assembly Bill (AB) 52 (Public Resources Code Section 21080.3.1 (b)(d)) requires the lead agency on a proposed project to consult with any California Native American tribes affiliated with the geographic area. AB 52 creates a distinct category for tribal cultural resources, requiring a lead agency to not only consider the resource's scientific and historical value, but also whether it is culturally important to a California Native American tribe. AB 52 defines tribal cultural resources as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe" that are included in or determined to be eligible for inclusion in the CRHR or the local register of historical resources.

AB 52 also sets up a tribal consultation process. As of July 1, 2015, lead agencies are required to provide notice of proposed projects to any tribe traditionally and culturally affiliated with the geographic area. If, within 30 days, a tribe requests consultation, the consultation process must begin before the lead agency can release a draft environmental document. Consultation with the tribe may include discussion of the type of review necessary, the significance of tribal cultural resources, the significance of the project's impacts on the tribal cultural resources, and alternatives and mitigation measures recommended by the tribe. The consultation process will be deemed concluded when either (a) the parties agree to mitigation measures or (b) any party concludes, after a good faith effort, that an agreement cannot be reached. Any mitigation measures agreed to by the tribe and lead agency must be recommended for inclusion in the environmental document. If a tribe does not request consultation, or otherwise assist in identifying mitigation measures during the consultation process, a lead agency may still consider mitigation measures if the agency determines that a project will cause a substantial adverse change to a tribal cultural resource.

3.5.2.2 Paleontological Resources

California Public Resources Code

Public Resources Code Section 5097.5 prohibits "knowing and willful" excavation, removal, destruction, injury, and defacement of any paleontological feature on public lands (lands under state, county, city, district, or public authority jurisdiction, or the jurisdiction of a public corporation), except where the agency with jurisdiction has granted express permission. Section 30244 requires reasonable mitigation for impacts on paleontological resources resulting from development on public lands.

3.5.3 Environmental Setting

3.5.3.1 Cultural Resources and Tribal Cultural Resources

Natural Setting

The project area is located north of the City of Livermore within the Eagle Ridge Preserve in northcentral Alameda County. The proposed project is located in an area consisting of open, annual grassland and is characterized by a steeply sloped topography with elevations ranging from approximately 650 to 910 feet above mean sea level. The West Branch of Cayetano Creek, an intermittent creek, is located on the east side of the project area and flows from north to south, generally paralleling the Preserve entrance road. The natural vegetation community supports mostly natural vegetation and is grazed by cattle. The areas east of the intermittent creek, along the access road, and near the graveled entrance road, contain a former

residence, of undetermined date. The residence is no longer in use and all associated structures have been removed and cleared.

Prehistoric Setting

Cultural chronologies developed for Central California have gone through several permutations. Most recently, Milliken et al. (2007:99-123) developed what they term a "hybrid system" for the San Francisco Bay Area, combining an Early-Middle-Late Period temporal sequence with a pattern-aspect-phase cultural sequence. Milliken et al.'s (2007) San Francisco Bay Area Cultural Sequence includes:

- Early Holocene (Lower Archaic) from 8000 to 3500 B.C.
- Early Period (Middle Archaic) from 3500 to 500 B.C.
- Lower Middle Period (Initial Upper Archaic) from 500 B.C. to A.D. 430
- Upper Middle Period (Late Upper Archaic) from A.D. 430 to 1050
- Initial Late Period (Lower Emergent) from A.D. 1050 to 1550
- Terminal Late Period, post-A.D. 1550

No archaeological evidence dating to pre-8000 B.C. has been located in the Bay Area. Milliken et al. (2007:99-123) posit that this dearth of archaeological material may be related to subsequent environmental changes that submerged sites, buried sites beneath alluvial deposits, or destroyed sites through stream erosion.

A "generalized mobile forager" pattern marked by the use of milling slabs and handstones and the manufacture of large, wide-stemmed and leaf-shaped projectile points emerged around the periphery of the Bay Area during the Early Holocene Period (8000 to 3500 B.C.). Beginning around 3500 B.C., evidence of sedentism, interpreted to signify a regional symbolic integration of peoples, and increased regional trade emerged. This Early Period lasted until ca. 500 B.C. (Milliken et al., 2007:114, 115).

Milliken et al. identify "a major disruption in symbolic integration systems" ca. 500 B.C., marking the beginning of the Lower Middle Period (500 B.C. to A.D. 430). Bead Horizon M1, dating from 200 B.C. to A.D. 430, is described by Milliken et al. as marking a 'cultural climax' within the San Francisco Bay Area (Milliken et al., 2007:115).

The Upper Middle Period (A.D. 430 to 1050) is marked by the collapse of the Olivella saucer bead trade in central California, abandonment of many Bead Horizon M1 sites, an increase in the occurrence of sea otter bones in those sites that were not abandoned, and the spread of the extended burial mortuary pattern characteristic of the Meganos complex into the interior East Bay. Bead Horizons M2 (A.D. 430 to 600), M3 (A.D. 600 to 800), and M4 (A.D. 800 to 1050) were identified within this period (Milliken et al., 2007:116).

The Initial Late Period, dating from A.D. 1050 to 1550, is characterized by increased manufacture of status objects. In lowland central California during this period, Fredrickson (1973, 1994) noted evidence for increased sedentism, the development of ceremonial integration, and status ascription. The beginning of the Late Period, (ca. A.D. 1000) is marked by the Middle/Late Transition bead horizon. The Terminal Late Period began circa A.D. 1550 and continued until European settlement of the area.

Ethnographic Setting

The project area is located within the ancestral territory of the Ohlone. Historically, the Ohlone were called the Costanoan Indians, a name assigned to the group by the Spanish and derived from the word *costaños*, meaning "people of the coast." A linguistically defined group speaking eight different but related languages

and comprising several autonomous tribelets, the Ohlone, together with the Miwok, comprise the Utian language family of the Penutian stock. The term *Ohlone* is preferred by the present-day members of the group (ICF 2016).

The Ohlone are believed to have inhabited the area since A.D. 500 or earlier, and their territory extended along the coast from San Francisco Bay in the north to just beyond Carmel in the south, and as much as 60 miles inland. The Ohlone were hunter-gatherers and relied on acorns and seafood and also exploited a wide range of other foods, including various seeds, berries, land and sea mammals, waterfowl, and reptiles. The Ohlone used tule balsas for watercraft, as well as bow and arrow, cordage, bone tools, and twined basketry to procure and process their foodstuffs (ICF 2016).

Seven Spanish missions were founded in Ohlone territory between 1777 and 1797. While living within the mission system, the Ohlone commingled with other groups, including Esselen, Yokuts, Miwok, and Patwin. The Mission system was ultimately devastating to the Ohlone population. It has been estimated that the Native American population in the region numbered around 10,000 in 1770, when the first mission was established in Ohlone territory, and that population rapidly declined to fewer than 2,000 by 1832 because of introduced disease, harsh living conditions, and reduced birth rates (ICF 2016).

Historic Setting

As early as 1769, the Spanish explorer José Francisco Ortega led an expedition through present-day Alameda County. Seven years later, Juan Bautista de Anza and Pedro Font traveled through the region. In the early 1800s, Spain established the Misión del Gloriosísimo Patriarca Señor San José, currently referred to as Mission San Jose, 15 miles northeast of the present-day City of San Jose.

Under the direction of Father Fermín Lasuen, Mission San Jose prospered as an agricultural and educational center for the surrounding rural area (ICF 2016).

Since its establishment in 1796, the Mission San Jose used the land now known as the Livermore Valley as grazing land for sheep and cattle. Santa Rita, Rancho El Valle de San Jose, and Rancho Las Positas comprise the Livermore Valley. In 1848, the United States defeated Mexico in the Mexican-American War, and Mexico surrendered its Alta California land through the Treaty of Guadalupe Hidalgo. That same year, the Gold Rush brought hundreds of immigrants to Alameda County on their way to the gold fields in California. Attracted by the fertile land and mild climate of the East Bay, many chose to stay to start a new life. The area quickly became one of the leading agricultural hubs of California, with agriculture, dairy farming, and livestock grazing serving as the principal industries of the period (ICF 2016).

The City of Livermore and the Livermore Valley are located in Alameda County. The county, formed by state officials in 1853, incorporated the western and southern sections of Contra Costa Country and a portion of Santa Clara County. The town of Alvarado served as the original county seat until officials relocated it to San Leandro in 1856, finally settling in Oakland in 1873; the seat remains there currently (ICF 2016).

3.5.3.2 Paleontological Resources

As explained in Section 3.5.1.3, standards of practice for paleontological resources assessments include the development of paleontological sensitivity ratings for geological units potentially affected by a project, in order to provide a means by which the significance of impacts on paleontological resources can be assessed. Paleontological sensitivity is a qualitative assessment of paleontological potential made by a professional paleontologist taking into account the paleontological productivity of the stratigraphic units present based on prior fossil records, the local geology and geomorphology, and any other local factors that may be germane. (see Table 3-9).

As described under Section 3.6 *Geology and Soils*, the project area is immediately underlain by two geologic units: Holocene alluvium and the Pliocene Orinda Formation (Dibblee and Minch 2006). The western two-thirds of the project area is immediately underlain by the Orinda Formation, and the eastern portion third is immediately underlain by Holocene alluvium (Dibblee and Minch 2006).

The Holocene alluvium is unlikely to contain fossils because of its young age. A Holocene plant fossil is known from Alameda County (University of California Museum of Paleontology 2016a), but no vertebrate fossils are known from this geologic unit. Because of its young age and the absence of known vertebrate fossils, the Holocene alluvium is considered to have a low sensitivity for paleontological resources.

The Orinda Formation is known for both plant and vertebrate fossils, which is unusual because depositional environments tend to favor the preservation of either plant or vertebrate fossils, not both (Smith 2013). The University of California Museum of Paleontology database contains 133 records of vertebrate fossils and 198 records of plant fossils in this formation (University of California Museum of Paleontology 2016b). These fossils indicate the Orinda Formation was a terrestrial deposit that formed on a floodplain. At that time the area was lush and heavily wooded. Fossils found in this formation include early horses, rhinoceros, camels, and deer; the elephant-like Gomphotherium; and birds. Most of these fossils were uncovered during construction of the Caldecott Tunnel's fourth bore, a deep highway tunnel constructed through the Berkeley Hills between Oakland and Orinda (Smith 2013; University of California Museum of Paleontology 2016b) approximately 25 miles to the northwest of the project area. Five vertebrate fossils from the Orinda Formation are known from Alameda County (University of California Museum of Paleontology 2016b). Because of the abundance of vertebrate fossils known from the Orinda Formation, this formation is considered to have a high sensitivity for paleontological resources.

3.5.4 Applicant-Proposed Measures

The following APMs would be implemented.

APM CR-1: Implement Measures to Protect Previously Unidentified Cultural Resources

In the event that previously unidentified cultural resources, including TCRs, are uncovered during construction of the project, all ground-disturbing work will be temporarily halted or diverted away from the discovery to another location. If signs of a cultural resource site, such as any unusual amounts of stone, bone, shell, ceramics, glass, or metal, are uncovered during grading or other construction activities, work will be halted within 100 feet of the find.

PG&E's cultural resources specialist or his/her designated representative will inspect the discovery and determine whether further investigation is required. If the discovery is significant, but can be avoided and no further impacts would occur, the resource will be documented in the appropriate cultural resource records; no further effort would be required. If the resource is significant, but cannot be avoided and may be subject to further impact, PG&E will evaluate the significance of the resources and implement data recovery excavation or other appropriate treatment measures, in coordination with the Lead Agency, and as recommended by a qualified archaeologist.

APM CR-2: Implement Measures if Construction Activities Inadvertently Discover or Disturb Human Remains

Section 7050 of the California Health and Safety Code states that it is a misdemeanor to knowingly disturb a human burial site. If human remains are encountered during any project-related activity, the following will be implemented:

- Stop all work within 100 feet;
- Immediately contact a PG&E Cultural Resource Specialist, who would then notify the County coroner;
- Secure location, but do not touch or remove remains and associated artifacts;
- Do not remove associated spoils or pick through them;
- Record the location and keep notes of all calls and events;
- Inform the Lead Agency and
- Treat the find as confidential and do not publicly disclose the location.

If the human remains are of Native American origin, the Coroner must notify the NAHC within 24 hours of such identification. The NAHC must notify the Most Likely Descendant (MLD), once human remains are determined likely to be Native American by the Coroner, as required by California Health and Safety Code Section 7050.5. The MLD (i.e., the Native American Group the NAHC determines is the most likely descendent) will work with the PG&E Cultural Resource Specialist to develop a program for re-interment or other disposition of the human remains and any associated artifacts. No additional work will take place within the immediate vicinity of the find until the appropriate actions have been implemented.

APM CR-3: Educate construction personnel in recognizing fossil material

The applicant will ensure that all construction personnel receive training provided by a qualified professional paleontologist experienced in teaching nonspecialists to ensure that they can recognize fossil materials in the event any are discovered during construction.

APM CR-4: Inadvertent discovery of fossils

If substantial fossil remains (particularly vertebrate remains) are discovered during earth-disturbing activities, activities within 100 feet of the find will stop immediately until a PG&E paleontological resource specialist or designated professional representative paleontologist can assess the nature and importance of the find and can recommend appropriate treatment. If the discovery is significant, but can be avoided, and no further impacts would occur, the resource will be documented in the appropriate paleontological resource records and no further effort would be required. If the discovery is significant, but cannot be avoided and may be subject to further impacts, PG&E will evaluate the significance of the resource, and implement data recovery excavation or other appropriate treatment measures. Treatment may include preparation and recovery of fossil materials so that they can be housed in an appropriate museum or university collection and may also include preparation of a report for publication describing the finds. The applicant will be responsible for ensuring that recommendations regarding treatment and reporting are implemented.

3.5.5 Impacts

Checklist item a. Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?

A thorough inventory failed to identify the presence of historical resources with the project area. However, there remains the potential that previously unidentified and unrecorded historical resources may be present.

Project construction could result in the exposure or destruction of as-yet undiscovered historical resources. If any archaeological resources are encountered and damaged during construction, the destruction of the

resource would be a potentially significant impact. Implementation of APM CR-1 would reduce this impact to a less-than-significant level.

Checklist item b. Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to Section 15064.5?

A thorough inventory failed to identify the presence of archaeological resources on the project site. However, there remains the potential that previously unidentified and unrecorded archaeological resources may be present within the project area.

Project construction could result in the exposure or destruction of as-yet undiscovered archaeological resources. If any archaeological resources are encountered and damaged during construction, the destruction of the resource would be a potentially significant impact. Implementation of APM CR-1 would reduce this impact to a less-than-significant level.

Checklist item c. Disturb any human remains, including those interred outside of formal cemeteries?

A thorough inventory failed to identify the presence of archaeological resources on the project site that are likely to contain human remains. However, the potential to uncover Native American human remains exists in locations throughout California. Although not anticipated, human remains could be identified during site-preparation and grading activities, which would be a potentially significant impact to Native American cultural resources. Implementation of APM CR-2 would reduce potential adverse impacts to a less-than-significant level.

Checklist Item d. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is

(1) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)

There are no known TCRs that are listed in, or are known to be eligible for listing in, the California Register of Historical Resources or other local registers of historical resources within the Proposed Project or the 1-mile surrounding area. However, it is possible that previously unidentified TCRs that may be eligible for inclusion in the CRHR or local registers could be discovered and damaged, or destroyed, during ground disturbance. Implementation of APM CR-1 and CR-2 would evaluate and protect unanticipated TCR discoveries, thereby ensuring that any impacts are less than significant.

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

There are no known TCRs identified by a California Native American tribe or determined by the lead agency to be significant, pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. However, it is possible that previously unidentified TCRs that may be eligible for inclusion in the CRHR or local registers could be discovered and damaged, or destroyed, during ground disturbance. Implementation of APM CR-1 and CR-2 would evaluate and protect unanticipated TCR discoveries, thereby ensuring that any impact is less than significant.

Checklist item e: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

If fossils are present in the project area, they could be damaged by earth-disturbing activities (i.e., excavation and grading) during construction. The more extensive and deeper the earth-disturbing activity, the greater the potential for damage to paleontological resources. The primary earth-disturbing activities are excavation for road repair and excavation for sinkhole repair.

The road repair work would involve grinding and removing the existing asphalt and excavating the subgrade down to a specified depth under the current road location to stabilize and re-contour the area. The depth of excavation is expected to be less than 3 feet for the road repair and only previously disturbed material is expected to be excavated and graded. This work would extend from the eastern portion of the project area underlain by the Holocene alluvium and across the western portion of the project area underlain by the Orinda Formation. However, because of the presence of previously disturbed material (i.e., road base and asphalt) and the shallow depth of excavation, no excavation is expected in undisturbed material. It is therefore unlikely that fossils would be encountered during work in the area underlain by the Orinda Formation, which has a high sensitivity for paleontological resources. If excavation does occur in undisturbed material, it would be very shallow (i.e., less than 1 foot).

The sink hole repair work would involve excavation in the sediment removal work area between 2 and 8 feet deep and 1 foot deep for the work staging area. The sinkhole repair area, where excavation would be greater than 3 feet, is underlain by the Holocene alluvium, which has a low sensitivity for paleontological resources. Although the Holocene alluvium is underlain by the Orinda Formation (which has a high sensitivity for paleontological resources) and its depth is not known, any excavation that extends to the depth of the Orinda Formation would be shallow.

If excavation did occur in undisturbed material and fossils were encountered, substantial damage to or destruction of significant paleontological resources as defined by the Society of Vertebrate Paleontology (2010) would be reduced to a less-than-significant level by implementation of APM CR-3 and APM CR-4 .

VI. Geology and Soils	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
1. 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.	☐	☐	☐	☒
2. Strong seismic ground shaking?	☐	☐	☒	☐
3. Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
4. Landslides?	☐	☐	☒	☐
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c. Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☒	☐
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒

3.6 Geology and Soils

3.6.1 Introduction

This section describes the existing conditions regarding geology, soils, potential impacts, and APMs that PG&E would implement to avoid and minimize impacts.

3.6.1.1 Methodology

Evaluation of the geology and soil impacts in this section is based on information from published maps, reports, and other documents that describe the geologic, seismic, and soil resource conditions of the project area, and on professional judgment. The analysis assumes that the project proponents would conform to the latest California Building Standards Code (CBSC) (24 California Code of Regulations) standards, county general plan seismic safety standards, county grading ordinance, and NPDES requirements.

3.6.2 Regulatory Setting

3.6.2.1 Federal

No federal regulations apply to geologic hazard in the project area.

3.6.2.2 State

California Environmental Quality Act

CEQA encourages the protection of all aspects of the environment by requiring state and local agencies to prepare multidisciplinary environmental impact analyses about the environmental impacts of a proposed project and to make decisions based on the findings of those analyses. The state CEQA Guidelines require that the CEQA lead agency evaluate whether the proposed project would have a significant impact on the environment, including impacts associated with geology, soils, and seismicity.

Alquist-Priolo Earthquake Fault Zoning Act

California's Alquist-Priolo Earthquake Fault Zoning Act (Alquist-Priolo Act) (Public Resources Code Section 2621 et seq.) is intended to reduce risks to life and property from surface fault rupture during earthquakes. The Alquist-Priolo Act prohibits the location of most types of structures intended for human occupancy[3] across the traces of active faults and strictly regulates construction in the corridors along active faults (earthquake fault zones). It also defines criteria for identifying active faults, giving legal weight to terms such as "active," and establishes a process for reviewing building proposals in and adjacent to earthquake fault zones.

Under the Alquist-Priolo Act, faults are zoned, and construction along or across them is strictly regulated if they are "sufficiently active" and "well defined." A fault is considered sufficiently active if one or more of its segments or strands shows evidence of surface displacement during Holocene time (the last 11,000 years). A fault is considered well-defined if its trace can be identified clearly by a trained geologist at the ground surface or in the shallow subsurface using standard professional techniques, criteria, and judgment (Bryant and Hart 2007).

Seismic Hazards Mapping Act

Like the Alquist-Priolo Act, the Seismic Hazards Mapping Act of 1990 (Public Resource Code Sections 2690–2699.6) is intended to reduce damage resulting from earthquakes. While the Alquist-Priolo Act addresses surface fault rupture, the Seismic Hazards Mapping Act addresses other earthquake-related hazards, including strong ground shaking, liquefaction, and seismically induced landslides. Its provisions are similar in concept to those of the Alquist-Priolo Act: the state is charged with identifying and mapping areas at risk of strong ground shaking, liquefaction, landslides, and other corollary hazards; and cities and counties are required to regulate development within mapped seismic hazard zones.

Under the Seismic Hazards Mapping Act, permit application review is the primary mechanism for local regulation of development. Specifically, cities and counties are prohibited from issuing development permits for sites within seismic hazard zones until appropriate site-specific geologic and geotechnical investigations have been carried out and measures to reduce potential damage have been incorporated into the development plans.

Construction Activities Stormwater General Permit (2010-0014-DWQ Permit)

Section 402 of the Clean Water Act mandates that certain types of construction activity comply with the requirements of the U.S. Environmental Protection Agency's (EPA's) National Pollutant Discharge Elimination System (NPDES) program. The EPA has delegated to the State Water Resources Control Board (State Water

[3] With reference to the Alquist-Priolo Act, a "structure for human occupancy" is defined as one "used or intended for supporting or sheltering any use or occupancy, which is expected to have a human occupancy rate of more than 2,000 person-hours per year" (California Code of Regulations, Title 14, Div. 2, Section 3601[e]).

Board) the authority for the NPDES program in California, where it is implemented by the state's nine Regional Water Quality Control Boards. Dischargers whose projects disturb 1 or more acres of soil, or whose projects disturb less than 1 acre but are part of a larger common plan of development that in total disturbs 1 or more acre, are required to obtain coverage under NPDES General Permit For Storm Water Discharges Associated with Construction and Land Disturbance Activities, Order No. 2010-0014-DWQ (General Permit). Construction activity subject to the General Permit includes clearing, grading, vegetation removal and grubbing, and disturbances to the ground such as stockpiling or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of a facility.

Coverage under the General Permit is obtained by submitting permit registration documents to the State Water Board that includes a risk level assessment and a site-specific SWPPP identifying an effective combination of erosion control, sediment control, and nonstormwater BMPs. The General Permit requires that the SWPPP define a program of regular inspections of the BMPs and, in some cases, sampling of water quality parameters. The San Francisco Bay Water Board administers the NPDES stormwater permit program in Alameda County. The 14 cities, the unincorporated area, and the two flood control districts of Alameda County share one NPDES permit that is managed through a consortium of agencies called the Alameda Countywide Clean Water Program.

A SWPPP describes proposed construction activities, receiving waters, stormwater discharge locations, and BMPs that will be used to reduce project construction effects on receiving water quality. The components of the SWPPP most relevant to geology and soils are erosion and sediment control measures. More information on the NPDES and SWPPP is provided Section 3.9, *Hydrology and Water Quality*.

2016 California Building Standards Code

The CBSC provides the minimum standards for structural design and construction. The CBSC is based on the International Building Code, which is used widely throughout the United States (generally adopted on a state-by-state or district-by-district basis) and has been modified for California conditions with numerous, more detailed or more stringent regulations. The CBSC requires that "classification of the soil at each building site will be determined when required by the building official" and that "the classification will be based on observation and any necessary test of the materials disclosed by borings or excavations." In addition, the CBSC states that "the soil classification and design-bearing capacity will be shown on the (building) plans, unless the foundation conforms to specified requirements." The CBSC provides standards for various aspects of construction, including excavation, grading, and earthwork construction; fills and embankments; expansive soils; foundation investigations; and liquefaction potential and soil strength loss. In accordance with California law, certain aspects of the program would be required to comply with all provisions of the CBSC.

The CBSC requires extensive geotechnical analysis and engineering for grading, foundations, retaining walls, and other structures, including criteria for seismic design.

3.6.2.3 Local

Alameda County General Plan

Although the project is not subject to local discretionary regulations and is not subject to the Grading, Erosion and Sediment Control Ordinance (Alameda County General Ordinance Code, Chapter 15.36), was reviewed for informational purposes to assist CEQA review.

Alameda County Stormwater Management Plan

The Alameda Countywide Clean Water Program's Stormwater Management Plan for unincorporated Alameda County is discussed in Section 3.9, *Hydrology and Water Quality*.

3.6.3 Environmental Setting

3.6.3.1 Geology

Regional

The project area is in the central portion of California's Coast Ranges geomorphic province (California Geological Survey 2002: 3). The Coast Ranges province is characterized by echelon (i.e., parallel to subparallel) northwest-trending mountain ranges formed by active uplift related to complex tectonics of the San Andreas fault and plate boundary system (Norris and Webb 1990: 359–380).

Local

The site is immediately underlain by two geologic units. The western two-thirds of the project area are underlain by the Orinda Formation, which is gray, interbedded pebble conglomerate, sandstone, and claystone. This formation is of Pliocene age, but its age may range from as far back as the Miocene to as recent as the Pleistocene. It occurs throughout the hills in the project vicinity (Dibblee and Minch 2006).

The eastern portion of the project area, which is lower in elevation and in a valley, is immediately underlain by alluvial pebble, sand, and clay deposits of Holocene age. This unit occurs in drainages throughout the project vicinity (Dibblee and Minch 2006).

3.6.3.2 Seismicity

Primary Seismic Hazards

The State of California considers two aspects of earthquake events as primary seismic hazards: surface fault rupture (i.e., visually evident disruption of the Earth's surface as a result of fault activity) and seismic ground shaking.

Surface Fault Rupture

Although many active faults occur in the project vicinity, no known active faults occur in the project area. Alameda County is in a seismically active region and the project area is situated between the Calaveras fault zone to the west and the Greenville fault zone to the east. However, no active faults have been mapped in the area (California Geological Survey 2010).

Seismic Ground Shaking

Unlike surface rupture, ground shaking is not confined to the trace of a fault. Rather, ground shaking propagates into the surrounding areas during an earthquake. The intensity of ground shaking typically diminishes with distance from the fault, but ground shaking may be locally amplified or prolonged by some types of substrate materials. These factors are used to map the probabilistic shaking hazards throughout the state.

Based on the California Geological Survey probabilistic seismic hazard map, which depicts the peak horizontal ground acceleration values exceeded at a 10% probability in 50 years (California Geological Survey 2008a; Cao et al. 2003), the probabilistic peak horizontal ground acceleration value for the project area is approximately 0.5g (where 1 g equals the acceleration of gravity). As a point of comparison, probabilistic peak horizontal ground acceleration values for the San Francisco Bay Area range from 0.4g to more than 0.8g. The acceleration value for the project area indicates a moderate ground-shaking hazard (California Geological Survey 2008b).

Secondary Seismic Hazards

Secondary seismic hazards are seismically induced landslide, liquefaction, and related types of ground failure events. As discussed under *Regulatory Setting*, the State of California maps areas that are subject to secondary seismic hazards pursuant to the Seismic Hazards Mapping Act. Two types of seismic hazard zones occur in the project area: earthquake-induced landslide and liquefaction. These areas have been designated as Zones of Required Investigation by CGS (California Geological Survey 2008c).

Landslide and Other Slope Stability Hazards

Much of the project area is in an area designated as an earthquake-induced landslide hazard zone. The factors that make landslides (both seismically and nonseismically induced) a concern in the project area are the steep topography, the potential for moderate ground shaking, and the presence of existing landslides. The landslide hazard zones are shown in the seismic hazard zone map of the Livermore area (California Geological Survey 2008c and d). A landslide is also shown just south of the project area in the more detailed erosion report prepared for the project (Salem Engineering Group 2016a).

Liquefaction and Related Ground Failure

Liquefaction is the process in which soils and sediments lose shear strength and fail during seismic ground shaking. The vibration caused by an earthquake can increase pore pressure in saturated materials. If the pore pressure is raised to be equivalent to the load pressure, this causes a temporary loss of shear strength, allowing the material to flow as a fluid. This temporary condition can result in severe settlement of foundations and slope failure. The susceptibility of an area to liquefaction is determined largely by the depth to groundwater and the properties (e.g., grain size, density, degree of consolidation) of the soil and sediment in and above the groundwater. The locations most susceptible to liquefaction are areas underlain by saturated, unconsolidated sand and silt within 50 feet of the ground surface. Quaternary sediments, in particular, are often susceptible to liquefaction. Improperly compacted artificial fill may also be susceptible to liquefaction (California Geological Survey 2008c).

The California Geological Survey has designated the eastern portion of the project area as a liquefaction hazard zone (California Geological Survey 2008c and d). The eastern portion of the project area is in a drainage and underlain by Holocene alluvium.

Another type of ground failure related to liquefaction is lateral spreading. Lateral spreading is a failure of soil/sediment within a nearly horizontal zone that causes the soil to move toward a free face (such as a streambank or canal) or down a gentle slope. Lateral spreading can occur on slopes as gentle as 0.5%. Even a relatively thin layer of liquefiable sediment can create planes of weakness that could cause continuous lateral spreading over large areas (California Geological Survey 2008e: 36).

The potential for lateral spreading in the project area is unknown.

3.6.3.3 Soils

The soil map units present in the project area are Diablo clay, 15% to 30% slopes, and Diablo clay, 30% to 45% slopes, in the western two-thirds of the project area, and Linne clay loam, 3% to 15% slopes, in the eastern portion of the project area, which is in the lower elevation of the valley drainage.

The soil erosion report prepared for the project describes the soils as having a high shrink-swell potential (i.e., the clay in the soil expands when wet and shrinks as it dries, causing a substantial change in volume). In addition, the soils are prone to slaking (i.e., disaggregating when suddenly immersed in water) and dispersion

(i.e., individual clay particles go into suspension) (Salem Engineering Group 2016a). The report described the effects of these characteristics:

> *Surface exposures were often broken by a network of cracks approximately 1 to 4 inches wide at the surface (see Figure 4a). When probed with a 4-foot soil probe, the cracks were commonly found to extend to depths of about 2 feet but cracks greater than 4 feet deep were not uncommon.*

The pavement report prepared for the project also describes the soils as being "highly expansive fat clay with sand, silty clayey sand, and silty sandy clay" and notes that the soils "have poor subgrade support characteristics under dynamic traffic loads" (Salem Engineering Group 2016b).

These soils are also noted in by the Natural Resources Conservation Service as being poorly suited for road construction. The data on the Web Soil Survey note the soils' high shrink-swell potential and low strength (Natural Resources Conservation Service 2016).

3.6.4 Applicant-Proposed Measure

The following APM would be implemented to minimize impacts on geology and soils.

APM GEO-1: Implement Erosion and Sedimentation Control Measures

Erosion, sediment, and other control measures, as identified in the site-specific SWPPP, will be implemented to reduce related impacts within and adjacent to the construction footprint when construction activities are the source of potential erosion, sediment, and non-stormwater discharge. Of the selected SWPPP Best Management Practices (BMPs), erosion, sediment, and material stockpile BMPs will be employed between work areas and adjacent wetlands or waterways, so that no fill or runoff may be allowed to enter wetland areas or waterways. At the completion of project activities, final BMPS will be implemented to ensure disturbed areas are stabilized.

Qualified personnel will routinely inspect and maintain compliance for the prescribed BMPs throughout project construction, restoration, and final stabilization.

Examples of BMPs include:

- Preparation and training of all project personnel on the maintenance of work site practices, tracking controls, and excavated material management to minimize work impacts on soil and erosion;
- Installation of temporary fencing and other containment features surrounding work areas to prevent the loss of soils during rain events and other disturbances. Containment features include gravel or sand bags and fiber rolls.
- Utilization of storm drain inlet protection.
- Inspection of stockpiles as part of the routine stormwater inspection. PG&E or PG&E's construction contractor will repair or replace perimeter controls and covers to ensure proper function.
- Materials will be stockpiled away from drainage courses, drain inlets or concentrated flows of storm water, and such that direct impacts on special-status species are avoided.

- For aeolian erosion control, water or other dust palliative approved for use in wildlife habitat will be applied as needed to stockpiles. Stockpiles may also be tarped and secured with sandbags.
- Non-active stockpiles will be covered as needed and contained with temporary perimeter sediment barriers, such as berms, dikes, silt fences, or sandbag barriers. A soil stabilization measure may be used in lieu of cover.
- A water truck will be used to control dust from disturbed soils, stockpiles, and unpaved access roads as needed. Watering will be done in such a manner that no puddles are formed.
- Implementation of soil erosion controls, including preservation of existing vegetation and temporary soil stabilization (e.g. hydroseeding, mulching, etc.). All bare soils created as a result of the project shall be stabilized with vegetative cover to prevent discharges of sediment-laden water to Waters of the US or Waters of the State. Stabilization will be achieved either through natural revegetation, or using a combination of sediment and erosion control measures such as seeding with an appropriate seed mix and installation of fiber rolls, erosion control blankets, or similar products, when necessary.

3.6.5 Impacts

Checklist item a: Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

1) 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?

2) Strong seismic ground shaking?

3) Seismic-related ground failure, including liquefaction?

4) Landslides?

1. There are no known active faults in or near the project area. There would be no impact related to surface fault rupture.

2. The project area is in a seismically active area with the potential for moderate ground shaking from sources such as the Greenville fault, Pleasanton fault, and the Calaveras fault. Moderate ground shaking could result in potential damage and harm to the road and construction or operation workers. The road repair work would involve grinding and removing the existing asphalt and excavating the subgrade down to a specified depth under the current road location to stabilize and re-contour the area. The grading and ripping of the subgrade would be conducted in accordance with engineering specifications to achieve appropriate soil compaction and avoid future problems with clay swelling. These specifications would be in accordance with 2015 California Department of Transportation (Caltrans) Standard Specifications, Section 39 regarding asphalt concrete and would reduce the effects of the potential ground shaking. In addition, the recommendations of the pavement evaluation report (Salem Engineering Group 2016b) would be implemented, including installation of geogrid reinforcement. Because the road engineering would adhere to existing standards and engineering recommendations, this impact would be less than significant.

3. The project area is in a region known to be susceptible to liquefaction, and the eastern portion of the project area is in a designated zone of required investigation under the Seismic Hazards Mapping Act for liquefaction hazard. In addition, because of the hilly topography, there may also be a risk of lateral

spread. Liquefaction, lateral spread, or differential spread could result in potential damage and harm to the road and construction or operation workers. The road repair work would involve grinding and removing the existing asphalt and excavating the subgrade down to a specified depth under the current road location to stabilize and re-contour the area. The grading and ripping of the subgrade would be conducted in accordance with engineering specifications to achieve appropriate soil compaction and avoid future problems with clay swelling. The specification also would be in accordance with Caltrans Standard Specifications, Section 39 regarding asphalt concrete and would reduce the effects of the potential for liquefaction, lateral spread, or differential spread. In addition, the recommendations of the pavement evaluation report (Salem Engineering Group 2016b) would be implemented, including installation of geogrid reinforcement. Because the road engineering would adhere to existing standards and engineering recommendations, this impact would be less than significant.

4. The project area is in steep, hilly terrain in a designated zone of required investigation under the Seismic Hazards Mapping Act for landslide hazard. Landslides could result in potential damage and harm to the road and construction or operation workers. The road repair work would involve grinding and removing the existing asphalt and excavating the subgrade down to a specified depth under the current road location to stabilize and re-contour the area. The grading and ripping of the subgrade would be conducted in accordance with engineering specifications to achieve appropriate soil compaction and avoid future problems with clay swelling. The specification would be in accordance with 2015 Caltrans Standard Specifications, Section 39 regarding asphalt concrete and would reduce the effects of landslides. In addition, the recommendations of the pavement evaluation report (Salem Engineering Group 2016b) would be implemented, including installation of geogrid reinforcement. Because the road engineering would adhere to existing standards and engineering recommendations, this impact would, therefore, be less than significant.

Checklist item b: Result in substantial soil erosion or the loss of topsoil?

Ground-disturbing earthwork associated with road grading and construction could increase soil erosion rates and loss of topsoil. The potential for erosion is increased because of fragility of the soils (i.e., low strength and prone to slaking and dispersion) and the steep topography. The project will be required to comply with the erosion-related regulations of the General Permit to ensure that the construction activities do not result in significant erosion. In addition, as part of the project, a new subsurface drainage structure would be installed to transport surface runoff downhill to an area with more stable soil conditions. The project would also implement APM GEO-1: Implement Erosion and Sedimentation Control Measures to further reduce erosion. With implementation of the erosion control BMPs required in the General Permit and in APM GEO-1, this impact would be less than significant.

Checklist item c: Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?

Improper grading or construction associated with road construction could result in ground failure. The project area is in steep, hilly terrain in a designated zone of required investigation under the Seismic Hazards Mapping Act for both liquefaction and landslide hazards. Liquefaction, landsliding, and lateral spread would result in potential damage and harm both onsite or offsite. The road repair work would involve grinding and removing the existing asphalt and excavating the subgrade down to a specified depth under the current road location to stabilize and re-contour the area. The grading and ripping of the subgrade would be conducted in accordance with engineering specifications to achieve appropriate soil compaction and avoid future problems with clay swelling. The specification would be in accordance with 2015 Caltrans Standard Specifications, Section 39 regarding asphalt concrete and would reduce the effects of the potential for onsite or offsite landslide, lateral spreading, and liquefaction. In addition, the recommendations of the pavement evaluation

report (Salem Engineering Group 2016b) would be implemented, including installation of geogrid reinforcement. Because the road engineering would adhere to existing standards and engineering recommendations, this impact would, therefore, be less than significant.

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

The project area is located on soils known to be expansive that have contributed to the erosion and poor condition of the existing road. Without proper engineering, any new road would be susceptible to erosion and collapse creating risk to operation workers. The pavement evaluation report (Salem Engineering Group 2016b) makes specific recommendations for use of road construction materials that are engineered for these soil conditions, such as geogrid reinforcement to avoid future deterioration of the road. The road would be constructed in accordance with 2015 Caltrans Standard Specifications, Section 39 regarding asphalt concrete. In addition, the new subsurface drain would transport surface runoff downhill to an area with more stable soil conditions. Because the road engineering would adhere to existing standards and engineering recommendations, this impact would, therefore, be less than significant.

Checklist item e: Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?

The proposed project would not include a septic system. There would be no impact.

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

3.7 Greenhouse Gas Emissions

3.7.1 Introduction

This section describes existing conditions and regulations related to GHG emissions, and it identifies potential impacts.

3.7.1.1 Methodology

The analysis of GHG emissions and impacts was completed using the SMAQMD Road Construction Emissions Model (RCEM) (version 8.1.0), as described in detail in Section 3.3, *Air Quality*.

3.7.2 Regulatory Setting

Climate change has only recently been widely recognized as an imminent threat to the global climate, economy, and population. Therefore, the climate change regulatory setting—nationally, statewide, and locally—is complex and evolving. The following section identifies key current legislation relevant to the environmental assessment of project GHG emissions.

3.7.2.1 Federal

Climate change is widely recognized as an imminent threat to the global climate, economy, and population. The U.S. Environmental Protection Agency (EPA) (2017a) acknowledged the threats posed by climate change in an Endangerment Finding and a Cause or Contribute Finding, made on December 7, 2009, which found that the GHG emissions from new motor vehicles contribute to pollution that threatens public health and welfare. The findings were necessary prior to adopting new vehicle emissions standards that reduce GHG emissions. Federal climate change regulation under the federal Clean Air Act (CAA) is also currently under development for both existing and new sources. Standards for carbon dioxide (CO_2) emissions from new and existing fossil-fuel-fired electricity power plants were promulgated in 2015. Federal vehicle emission standards have been established that take into account the need for GHG emissions reductions. Despite these actions, there is still no comprehensive federal overarching law specifically related to the reduction of GHG emissions.

3.7.2.2 State

California has adopted statewide legislation addressing various aspects of climate change and GHG mitigation. Most of this legislation establishes a broad framework for the State's long-term GHG reduction and climate change adaptation program. The former and current governors of California have also issued several executive

orders (EOs) related to the State's evolving climate change policy. Summaries of key policies, EOs, regulations, and legislation at the state level that are relevant to the project are provided below.

Executive Order S-3-05 (2005)

EO S-3-05 asserted that California is vulnerable to the effects of climate change. To combat this concern, the order established the following GHG emissions reduction targets:

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

California EOs are legally binding for only state agencies. Accordingly, EO S-3-05 guides state agencies' efforts to control and regulate GHG emissions, but has no authority over local government or private actions. The secretary of the California Environmental Protection Agency (CalEPA) is required to report to the governor and State legislature biannually on the impacts of global warming on California, mitigation and adaptation plans, and progress made toward reducing GHG emissions to meet the targets established in this EO.

Executive Order S-01-07, Low Carbon Fuel Standard (2007)

California EO S-01-07 mandates (1) that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020, and (2) that a low-carbon fuel standard for transportation fuels be established in California. The executive order initiates a research and regulatory process at ARB.

Assembly Bill 32, Global Warming Solutions Act (2006)

Assembly Bill (AB) AB 32 codified the State's GHG emissions target by requiring that the State's global warming emissions be reduced to 1990 levels by 2020. Since this target was adopted, ARB, California Energy Commission, California Public Utilities Commission, and the Building Standards Commission have been developing regulations that will help meet the goals of AB 32. ARB prepared its plan for implementing AB 32, called the "AB 32 Scoping Plan," which identifies specific measures to reduce GHG emissions to 1990 levels by 2020. The plan requires ARB and other state agencies to develop and enforce regulations and other initiatives for reducing GHGs. The AB 32 Scoping Plan was first developed in 2008, and the first update was completed in 2013. The *Proposed 2017 Climate Change Scoping Plan Update* was recently released on January 20, 2017 for public review and comment. The *Proposed 2017 Climate Change Scoping Plan Update* proposes to build upon programs under the 2013 Scoping Plan to achieve emission targets set forth by Senate Bill (SB) 32, as described further below.

Senate Bill 32 and Assembly Bill 197 (2016)

Senate Bill (SB) 32 requires the ARB to ensure that statewide GHG emissions are reduced to at least 40 percent below 1990 levels by 2030. The companion bill, AB 197, creates requirements to form a Joint Legislative Committee on Climate Change Policies, requires the ARB to prioritize direct emission reductions and consider social costs when adopting regulations to reduce GHG emissions beyond the 2020 statewide limit, requires ARB to prepare reports on sources of GHGs and other pollutants, establishes 6-year terms for voting members of ARB, and adds two legislators as nonvoting members of ARB.

State CEQA Guidelines

The State CEQA Guidelines require lead agencies to describe, calculate, or estimate the amount of GHG emissions that would result from a project. Moreover, the guidelines emphasize the necessity to determine

potential climate change effects of a project and propose mitigation as necessary. The guidelines confirm the discretion of lead agencies to determine appropriate significance thresholds, but require the preparation of an EIR if "there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with adopted regulations or requirements" (Section 15064.4).

State CEQA Guidelines Section 15126.4 includes considerations for lead agencies related to feasible mitigation measures to reduce GHG emissions, which may include measures in an existing plan or mitigation program for the reduction of emissions that are required as part of the lead agency's decision; implementation of project features, project design, or other measures that are incorporated into the project to substantially reduce energy consumption or GHG emissions; offsite measures, including offsets that are not otherwise required, to mitigate a project's emissions; and measures that sequester carbon or carbon-equivalent emissions.

3.7.2.3 Local

Bay Area Air Quality Management District

As disused in Section 3.3, *Air Quality*, the BAAQMD has primary responsibility for air quality management within Alameda County. The BAAQMD directs lead agencies to quantify and disclose GHG emissions and make a determination on the significance of GHG impacts in relation to meeting AB 32 GHG reduction goals. The BAAQMD's (2017) *CEQA Guidelines* outline advisory thresholds for stationary source and land use development projects. The mass emissions threshold for stationary source projects is 10,000 metric tons per year of carbon dioxide equivalent (CO_2e). For land use development projects, the guidelines establish three potential analysis criteria for determining project significance: compliance with a qualified climate action plan (CAP), a mass emissions threshold of 1,100 metric tons per year of CO_2e, and a GHG efficiency threshold of 4.6 metric tons CO_2e per service population (project jobs + projected residents). The BAAQMD's *CEQA Guidelines*[4] do not identify a GHG emission threshold for construction-related emissions, but they recommend that GHG emissions from construction be quantified and disclosed.

Alameda County (Unincorporated Areas) Community Climate Action Plan

Alameda County adopted a CAP for its unincorporated areas in 2014. The plan outlines a variety of strategies to reduce GHG emissions generated by community activities by 15% below 2005 levels by 2020 (Alameda County 2014). The CAP and its reduction measures are primarily applicable to operational emissions sources. As the proposed project would not result in operational changes, the CAP and its reduction measures cannot be used for CEQA tiering purposes for the proposed project.

[4] In August 2013, the Court of Appeal upheld the BAAQMD CEQA Guidelines, ruling that adoption of guidelines and significance thresholds was not itself a project subject to CEQA review and was not arbitrary and capricious. The Court of Appeal's decision was subsequently appealed to the California Supreme Court, which granted limited review to the issue of whether CEQA requires "an analysis of how existing environmental conditions will impact future residents or users (receptors) of a proposed project." This challenge relates to the applicability of TAC standards based on the effect of existing pollutant sources on new development. In light of the litigation regarding the 2010 CEQA Guidelines, BAAQMD is no longer recommending their use. In December 2015, the Supreme Court ruled in favor of the plaintiff, finding that "CEQA generally does not require an analysis of how existing environmental conditions will impact a project's future users or residents." BAAQMD at present has no recommendation to local lead agencies on the use of the 2011 guidelines. However, there is no court order constraining their use, and they are frequently employed by lead agencies when conducting CEQA reviews because the evidence in the BAAQMD 2011 guidelines still provides a substantial evidence-based approach to air quality impact analyses and BAAQMD-recommended significance thresholds

3.7.3 Environmental Setting

Climate change is a complex phenomenon that has the potential to alter local climatic patterns and meteorology. Increases in anthropogenic GHG emissions have been unequivocally linked to recent warming and climate shifts (Intergovernmental Panel on Climate Change 2014). Although modeling indicates that climate change will result globally and regionally, there remains uncertainty with regard to characterizing the precise local climate characteristics and predicting precisely how various ecological systems will react to any changes in the existing climate at the local level. Regardless of this uncertainty in precise predictions, it is widely understood that some degree of climate change is expected as a result of past and future GHG emissions.

The most common GHGs resulting from human activity are CO_2, methane (CH_4), and nitrous oxide (N_2O). State CEQA Guidelines also define GHGs to include perfluorinated carbons (PFCs), sulfur hexafluoride (SF_6), and hydrofluorocarbons (HFCs), although these would not be generated by the proposed project. Unlike criteria air pollutants, which occur locally or regionally, the long atmospheric lifetimes of these GHGs allow them to be well-mixed in the atmosphere and transported over distances. Within California, transportation is the largest source of GHG emissions (37% of emissions in 2014), followed by industrial sources (24%) and in-state electricity generation (12%) (California Air Resources Board 2016).

3.7.4 Impacts

As discussed in Section 3.3, *Air Quality*, the proposed project would not increase operational or maintenance activities or generate a significant number of new vehicles trips in the project area, relative to existing conditions. The following assessment therefore focuses exclusively on construction-related emissions because there would be no impact related to existing operations.

Checklist item a. Generate of greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Construction of the proposed project would generate emissions of CO_2, CH_4, and N_2O from mobile and stationary construction equipment exhaust and employee and haul truck vehicle exhaust. Emissions were estimated using SMAQMD's RCEM and are summarized in Table 3-10. Please refer to Appendix B for modeling assumptions.

Table 3-10. Estimated Greenhouse Gas Emissions From Project Construction (Metric Tons)[a]

Construction Year	CO_2	CH_4	N_2O	CO_2e[b]
2018	69.13	0.01	0.0	69.8

a - Emissions were estimated using assumptions provided for a 2017 construction start year. With a construction start year of 2018, and with all other assumptions the same, emissions would be the same or potentially lower than what is presented in this table due to presumed use of newer, less polluting equipment during construction and declining equipment emission factors over time.

b - Refers - to carbon dioxide equivalent, which includes the relative warming capacity (i.e., global warming potential) of each GHG.

CH_4 = methane; CO_2 = carbon dioxide; CO_2e = carbon dioxide equivalent; N_2O = nitrous oxide.

It was assumed that construction would occur in June and July of 2018. As shown in Table 3-10, project construction would generate approximately 70 metric tons of CO_2e. The construction emissions are primarily the result of diesel powered construction equipment (e.g., excavators, loaders). Because construction emissions would cease once construction is complete, they are considered short-term.

As discussed above, BAAQMD's *CEQA Guidelines* do not identify a GHG emission threshold for construction-related emissions. While not established as a construction threshold, construction-related emissions associated with the proposed project are below BAAQMD's 1,100 metric ton CO_2e operational threshold. Because construction emissions are temporary, as opposed to annual, comparing construction emissions to

BAAQMD's operational threshold represents a conservative assessment of potential impacts. This impact would be less than significant.

Although not required as mitigation for GHG emissions, implementation of APM AQ-1, described in detail in Section 3.3, *Air Quality*, would also help reduce construction-related GHG emissions by limiting vehicle idling times.

Checklist item b: Conflict with applicable plans, policies, or regulations adopted for the purpose of reducing the emissions of greenhouse gases?

AB 32 establishes a statewide goal to reduce GHG emissions back to 1990 levels by 2020. The ARB adopted the AB 32 Scoping Plan as a framework for achieving AB 32 goals. The Scoping Plan outlines a series of technologically feasible and cost-effective measures to reduce statewide GHG emissions. SB 32 establishes a statewide goal to reduce GHG emissions to at least 40 percent below 1990 levels by 2030. An update to the AB 32 Scoping Plan is underway and includes additional direction from SB 32. Similarly, the Alameda County CAP for unincorporated areas identifies several implementation actions to guide the City in reducing GHG emissions.

Both the AB 32 Scoping Plan (and its proposed update) and Alameda County (Unincorporated Areas) Community CAP target sources with the greatest GHG emissions potential, including transportation, land use, building energy consumption, and waste generation. Construction activities such as those caused by the project are not specifically considered within either plan, and as such, none of the measures outlined in the ARB Scoping Plans or Alameda County (Unincorporated Areas) Community CAP are directly applicable to the construction activities of the project. Accordingly, implementation of the project would not conflict with adopted plans for reducing GHG emissions. This impact would be less than significant.

VIII. Hazards and Hazardous Materials	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c. Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d. Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e. Be located within an airport land use plan area or, where such a plan has not been adopted, be within two miles of a public airport or public use airport, and result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f. Be located within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
h. Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☒	☐

3.8 Hazards and Hazardous Materials

3.8.1 Introduction

This section describes existing conditions and potential impacts related to hazards and hazardous materials.

3.8.1.1 Methodology

Evaluation of hazards and hazardous materials is based on a review of information from published maps, literature, aerial photographs, Alameda County general plan documents, and online government databases of known hazardous materials sites (Cortese List). This evaluation was performed to determine the potential for hazards and hazardous materials occurrence in the project vicinity. No fieldwork was conducted.

3.8.2 Regulatory Setting

3.8.2.1 Federal

Resource Conservation and Recovery Act of 1976

The Resource Conservation and Recovery Act (RCRA) of 1976 established a program administered by the EPA for the regulation of the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA was amended in 1984 by the Hazardous and Solid Waste Amendments (40 Code of Federal Regulations 260), which affirmed and extended the "cradle to grave" system of regulating hazardous wastes. Hazardous waste is regulated under the RCRA subtitle C. The RCRA established the system for controlling hazardous waste from its point of origin to its final disposal, specifically the handling, storage and disposal requirements.

Occupational Safety and Health Standards

Occupational safety standards exist in federal and state laws to minimize worker safety risks from both physical and chemical hazards in the workplace. The Occupational Safety and Health Administration (OSHA) is responsible for ensuring worker safety in the workplace.

OSHA assumes primary responsibility for developing and enforcing standards for safe workplaces and work practices within the state. At sites known to be contaminated, a site safety plan must be prepared to protect workers. The site safety plan establishes policies and procedures to protect workers and the public from exposure to potential hazards at the contaminated site.

3.8.2.2 State

California hazardous materials and wastes regulations are equal to or more stringent than federal regulations. The U.S. Environmental Protection Agency (EPA) has granted the state primary oversight responsibility to administer and enforce hazardous waste management programs. State regulations require planning and management to ensure that hazardous materials are handled, stored, and disposed of properly to reduce risks to human health and the environment.

Hazardous Wastes and Substances Site List

The California Environmental Protection Agency (Cal-EPA) maintains the Hazardous Wastes and Substances Site (Cortese) List, a planning document used by state and local agencies and developers to comply with CEQA requirements for providing information about the location of hazardous materials release sites. Government Code Section 65962.5 requires that the list be updated at least once per year. The California Department of Toxic Substances Control (DTSC), the State Water Resources Control Board, and the California Department of Resources Recycling and Recovery all contribute to the site listings.

The Cortese List includes Superfund sites, a Cal-EPA designation for any land that has been contaminated by hazardous waste that poses a risk to human health or the environment. These sites are placed on the National Priorities List (NPL). The NPL is the list of national priorities among the known releases or threatened releases of hazardous substances, pollutants, or contaminants throughout the United States. The NPL is intended primarily to guide the EPA in determining which sites warrant further investigation.

Worker Safety

Occupational safety standards exist in federal and state laws to minimize worker safety risks from both physical and chemical hazards in the work place. The California Division of Occupational Safety and Health (Cal/OSHA) and the federal OSHA are the agencies responsible for assuring worker safety in the workplace.

Cal/OSHA assumes primary responsibility for developing and enforcing standards for safe workplaces and work practices within the state. At sites known to be contaminated, a site safety plan must be prepared to protect workers. The site safety plan establishes policies and procedures to protect workers and the public from exposure to potential hazards at the contaminated site.

California Public Resources Code Sections 4201–4204

These sections of the California Public Resources Code require the California Department of Forestry and Fire Protection (Cal Fire) to classify Fire Hazard Severity Zones within State Responsibility Areas (SRAs). Cal Fire classifies lands within SRAs by severity of fire hazard present to identify measures to retard the rate of spreading and reduce the potential intensity of uncontrolled fires that threaten to destroy resources, life, or property.

3.8.2.3 Local

Because CPUC has exclusive jurisdiction over project siting, design, and construction, the project is not subject to local discretionary regulations. The existing North Dublin Transmission Terminal was originally approved by the CPUC. The following summary of local regulations and regulatory agencies relating to hazards is provided for informational purposes and to assist with the CEQA review.

Alameda County General Plan

The Safety Element of the *Alameda County General Plan* contains goals, policies, and actions the County might take related to nonnatural hazards and fire hazards (Alameda County 2013, amended 2014). Many of the principles and actions refer to new development. Those relating to the proposed project as an existing facility are excerpted below.

> ***Goal 2.*** *To reduce the risk of urban and wildland fire hazards.*
>
> ***P3.*** *Development should generally be discouraged in areas of high wildland fire hazard where vegetation management programs, including the creation and maintenance of fuel breaks to separate urban uses would result in unacceptable impacts on open space, scenic and ecological conditions.*
>
> ***Goal 4.*** *Minimize residents' exposure to the harmful effects of hazardous materials and waste.*
>
> ***P1.*** *Uses involving the manufacture, use or storage of highly flammable (or toxic) materials and highly water reactive materials should be located at an adequate distance from other uses and should be regulated to minimize the risk of on-site and off-site personal injury and property damage. The transport of highly flammable materials by rail, truck, or pipeline should be regulated and monitored to minimize risk to adjoining uses.*
>
> ***P9.*** *The safe transport of hazardous materials through the unincorporated areas shall be promoted by implementing the following measures:*
>
> - *Maintain formally-designated hazardous material carrier routes to direct hazardous materials away from populated and other sensitive areas.*
> - *Prohibit the parking of empty or full vehicles transporting hazardous materials on County streets.*
> - *Require new pipelines and other channels carrying hazardous materials avoid residential areas and other immobile populations to the extent possible.*
> - *Encourage businesses to ship hazardous materials by rail. (Source: Eden Area Plan, pg. 8-24)*

East County Area Plan – A Portion of the Alameda County General Plan

The Safety Element of the *East County Area Plan* presents statements of the County's intent concerning future development and resource conservation within East County. The following goals and policies, are related to nonnatural hazards and hazardous materials (Alameda County 1994, amended Nov. 2000). The majority of the goals and actions refer to new development. Those relating to the proposed project as an existing facility are excerpted below.

Program 107: The county shall include evaluation of hazardous air pollutant emissions in development review procedures of proposed land uses which may handle, store or transport lead, mercury, vinyl chloride, benzene asbestos, beryllium, and other hazardous materials.

Policy 300: The County shall review proposed projects for their potential to generate hazardous air pollutants.

Alameda County Department of Environmental Health

The Alameda County Department of Environmental Health (ACDEH) is the Certified Unified Program Agency (CUPA) for Alameda County. This certification by the California Secretary of Environmental Protection authorizes ACDEH to implement the Unified Hazardous Waste and Hazardous Materials Management Regulatory Program specified in Health and Safety Code Chapter 6.11 of Division 20 (beginning with Section 25404). As the CUPA, ACDEH oversees the regulatory programs for Hazardous Materials Business Plans, underground and aboveground storage tanks, onsite treatment of hazardous waste, hazardous waste generators, and California Accidental Release Prevention.

Alameda County Construction and Debris Management Ordinance

The Alameda County Construction and Debris Management Ordinance specifies how project-related construction and demolition waste must be handled. The ordinance covers any project requiring a demolition permit and specifies the minimum requirements for diversion or salvage of waste. Projects covered under this ordinance are required to submit a debris management plan to the Alameda County Building Department.

Standard Avoidance and Minimization Measures

As discussed under Section 3.6, *Geology and Soils*, any project that would disturb 1 or more acres of soil, or that would disturb less than 1 acre but is part of a larger common plan of development, must obtain coverage under General Permit Order (No. 2009-0009-DWQ, as amended by 2010-0014-DWQ and 2012-006-DWQ). Coverage under the General Permit requires development and implementation of a SWPPP. The SWPPP must include plans for erosion and sediment control and adhere to the County's grading ordinance and standard AMMs. In accordance with APM GEO-1, PG&E will prepare and comply with measures in a project-specific SWPP.

3.8.3 Environmental Setting

A database search, compiled pursuant to Government Code Section 65962.5, was conducted for the project vicinity. No evidence of the potential for recognized environmental conditions or activity and use limitations was found as a result of review of this information. No sites of concern listed in federal, state, or local databases were identified within the project vicinity (California Department of Toxic Substances Control 2016; State Water Resources Control Board 2016).

Historical topographic maps of the project vicinity were reviewed. Few land use changes are apparent over the course of the study period (1938 to 2010). Other than the addition of improved (i.e., paved) roads and a few structures, the project vicinity appears to be relatively unchanged.

Aerially deposited lead is attributed to the historic use of leaded gasoline. Areas of primary concern are soils along routes that have had high vehicle emissions from large traffic volumes or congestion during the time when leaded gasoline was in use (generally prior to 1986). According to historical topographic maps, the existing road within the project area did not appear as an improved (i.e., paved) road until after the mid-1980s (United States Geographic Survey 1968 and 1991), when leaded gasoline was no longer used.

No schools are located within a mile of the proposed project site nor along the access route to the site. The nearest school to the project area is the Highland Riding School located at 5900 Highland Road, approximately 2.69 miles west of the project area.

The closest public airport to the project is the Livermore Municipal Airport, approximately 3.84 miles south of the project area, and the nearest private airstrip is Meadowlark Airport, approximately 8.47 miles southeast of the project area.

Fire protection for the project area is provided by Cal Fire because the project area is located within an SRA. SRAs include much of the wildlands in unincorporated Alameda County. The proposed project would be located in an area that has a moderate to high risk for wildland fire hazards (California Department of Forestry and Fire Protection 2007). The Cal Fire station closest to the project area is Sunol Fire Station 14, located at 11345 Pleasanton Sunol Road, Sunol, approximately 11.5 miles southwest of the project site.

The Alameda County Fire Department (ACFD) is a consolidated department with 28 fire stations serving the unincorporated areas of Alameda County; the cities of San Leandro, Dublin, Newark, and Union City; the Lawrence Berkeley National Laboratory; and the Lawrence Livermore National Laboratory. Services include fire suppression, arson investigation, hazardous materials mitigation, paramedic services, urban search and rescue, fire prevention, and public education.

The closest ACFD station to the project site is Station 18, located at 4800 Fallon Road in Dublin, approximately 3.7 miles southwest from the project. Station 18 employs two crews consisting of an engine company, a wildland engine, one patrol, and a bulldozer. Its response area covers the easternmost portions of Dublin. Station 18 is primarily responsible for residential areas, high density housing, urban wildland interface areas, and the Interstate 580 corridor.

3.8.4 Applicant-Proposed Measures

The following APMs would be implemented.

APM HAZ-1: Implement Fire Hazard Best Management Practices.

- PG&E and PG&E contractors will keep all construction sites and staging areas free of grass taller than 18”, and other flammable materials. When grass mowing is necessary, grass shall not be mowed to a height of less than six inches.
- All project personnel will be trained in the practices of the fire safety plan relevant to their duties. Construction and maintenance personnel shall be trained and equipped to extinguish small fires.
- Work crews shall have fire-extinguishing equipment on hand, as well as emergency numbers and cell phone or other means of contacting the Fire Department.

- Smoking will be prohibited while operating equipment and shall be limited to paved or graveled areas or areas cleared of all vegetation. Smoking will be prohibited within 30 feet of any combustible material storage area (including fuels, gases, and solvents). Smoking will be prohibited in any location during a Red Flag Warning issued by the National Weather Service for the project area.
- A temporary onsite water truck would be made available for fire water support, dust suppression, and construction needs.

3.8.5 Impacts

Checklist item a: Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Construction of the proposed project would involve small quantities of commonly used materials, such as fuels and oils, to operate construction equipment. However, because APM HAZ-1: Implement Fire Hazard Best Management Practices would be implemented to reduce potential fire hazards during construction of the proposed project, this impact would be less than significant. Once construction is complete, there would be no further use of hazardous materials or potential exposure associated with the project. Therefore, this impact would be less than significant.

Checklist item 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?

Without standard precautions, the proposed project could create a hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. Small quantities of potentially toxic substances, such as petroleum and other chemicals used to operate and maintain construction equipment, would be used in the project area and transported to and from the area during construction. Accidental releases of small quantities of these substances could contaminate soils and degrade the quality of surface water and groundwater, resulting in a public safety hazard. However, the handling and disposal of these materials would be compliant with regulations enforced by CUPA and Cal-OSHA. In addition, APM GEO-1: Implement Erosion and Sedimentation Control Measures would further reduce the potential for an accidental release. Based on the regulatory requirements, this impact would be less than significant.

Checklist item c: Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

There are no schools within 0.25 mile of the project area. The nearest school to the project is Highland Riding School located at 5900 Highland Road, more than two miles west. It is unlikely that hazardous materials would be emitted or released within 0.25 mile of any schools as a result of the project. Also, implementation of APM GEO-1: Implement Erosion and Sedimentation Control Measures and APM HAZ-1: Implement Fire Hazard Best Management Practices by contractors would reduce the potential of a hazardous spill incident. There would be no impact.

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

The project area is not included on a list of hazardous materials sites complied pursuant to Government Code Section 65962.5; therefore, project implementation would not result in a significant hazard to the public or the environment through exposure to such sites. There would be no impact.

Checklist item e: Be located within an airport land use plan area or, where such a plan has not been adopted, be within two miles of a public airport or public use airport, and result in a safety hazard for people residing or working in the project area?

The closest public airport to the project is the Livermore Municipal Airport, approximately 3.84 miles south of the project area. The project is not within any airport land-use plan or safety zone. Therefore, there would be no impact.

Checklist item f: Be located within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the project area?

The closest private airport to the project area is the Meadowlark Airport, approximately 8.47 miles southeast of the project area. Because the project area is not located within 2 miles of a private airstrip and because no people live in the project area, the project would not result in a safety hazard for people residing or working in the project area. Therefore, there would be no impact.

Checklist item g: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Existing vehicular traffic is associated with operations and maintenance of project facilities (i.e., the Terminal). After construction, vehicular traffic would be sparse and would not interfere with an adopted emergency response plan or emergency evacuation plan. During construction, there could be a small increase in vehicles transporting workers, equipment, and materials but not to the extent that construction activities would interfere with emergency vehicles or operations. The proposed project would not conflict with any adopted emergency response plan or emergency evacuation plan. Therefore, the impact would be less than significant.

Checklist item 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?

The project vicinity consists primarily of annual grassland and grazing land. The surrounding area is lightly populated, used primarily for cattle grazing and has few structures. Dry climate conditions create a local environmental setting rich with fire fuels, although active grazing provides some fuel reduction. These conditions, together with the potential for vehicle- or construction equipment-related ignitions, make wildland fires a concern, especially during the summer months. Human activities are the primary reason wildfires start, although lightning strikes do occasionally occur. The most likely ignition source from the project would be during construction.

However, APM HAZ-1: Implement Fire Hazard Best Management Practices would reduce the potential for a fire to start. The project would not increase the risk for wildfires in the area. Additionally, Cal Fire and ACFD already provide fire protection services to the project area, so fire protection facilities and infrastructure to protect the area are in place. Consequently, the potential for exposure of people or structures to a significant risk of loss, injury, or death involving wildland fires, including threats to urbanized areas or residences intermixed with wildlands, would be less than significant.

IX. Hydrology and Water Quality	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in 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 that would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation onsite or offsite?	☐	☐	☒	☐
d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite?	☐	☐	☐	☒
e. Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
f. Otherwise substantially degrade water quality?	☐	☐	☒	☐
g. Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h. Place within a 100-year flood hazard area structures that would impede or redirect floodflows?	☐	☐	☐	☒
i. Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j. Contribute to inundation by seiche, tsunami, or mudflow?	☐	☐	☒	☐

3.9 Hydrology and Water Quality

3.9.1 Introduction

This section describes existing hydrological conditions and identifies potential project impacts on hydrology and water quality.

3.9.1.1 Methodology

Evaluation of the hydrology and water quality impacts is based on information from published maps, reports, and other documents that describe the surface water hydrology, groundwater, water quality, and flood plain conditions of the project vicinity, and on professional judgment. The analysis assumes that the project proponents will conform to current San Francisco Bay Water Board requirements, Alameda County general

plan stormwater standards, the county grading ordinance, and National Pollutant Discharge Eliminations System (NPDES) requirements.

3.9.2 Regulatory Setting

3.9.2.1 Federal

The CWA makes the addition of pollutants to waters of the United States from any point source unlawful unless the discharge is in compliance with an NPDES permit. The CWA also directs dischargers of stormwater from municipal, industrial and construction point sources to comply with the NPDES permit scheme. In California, the State Water Board and the Regional Water Quality Control Boards (Regional Water Boards) are responsible for ensuring implementation and compliance with the provisions of the CWA. The following are important CWA sections.

- Sections 303 and 304 require states to issue water quality standards, criteria, and guidelines for all surface water of the United States.
- Section 401 requires an applicant for a federal license or permit to conduct any activity that may result in a discharge to waters of the United States to obtain certification from the state that the discharge will comply with other provisions of the CWA. This certification is most frequently required in tandem with a Section 404 permit request (see below).
- Section 402 establishes the NPDES, a permitting system for the discharges (except for dredge or fill material) of any pollutant into waters of the United States. Regional Water Boards administer this permitting program in California. Section 402(p) requires permits for discharges of stormwater from industrial and construction sources and municipal separate storm sewer systems (MS4s).
- Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the United States. This permit program is administered by the U.S. Army Corps of Engineers (USACE).

3.9.2.2 State

Porter-Cologne Water Quality Control Act

California's Porter-Cologne Act provides the legal basis for water quality regulation within California. This act requires a Report of Waste Discharge for any discharge of waste (liquid, solid, or gaseous) to land or surface waters that may impair beneficial uses for State surface or groundwater resources. Waters of the state include groundwater and surface waters not considered waters of the United States. Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements, which may be required even when the discharge is already permitted or exempt under the CWA. The State Water Board and Regional Water Boards are responsible for establishing the water quality standards (objectives and beneficial uses) required by the CWA and are included in the applicable Regional Water Board Basin Plan. In California, Regional Water Boards designate beneficial uses for all water body segments in their jurisdictions and then set criteria necessary to protect these uses.

Water quality in surface and groundwater bodies is regulated by the State Water Board and the Regional Water Boards. The project site is under the jurisdiction of the San Francisco Bay Water Board. The San Francisco Bay Water Board implements the Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan), a master policy document for managing water quality in the region. The Basin Plan specifies the beneficial uses that apply to the project area. Once beneficial uses are designated, appropriate water quality objectives can be established, and programs that maintain or enhance water quality can be implemented to ensure the protection of beneficial uses (State Water Resources Control Board 2015).

NPDES Construction General Permit

Construction General Permit (Order No. 2009-009-DWQ as amended by 2012-0006-DWG) issued by the State Water Board regulates stormwater discharges from construction sites that have a disturbed soil area of 1 acre or greater. Construction activity that results in soil disturbances of less than 1 acre is subject to this Construction General Permit if there is potential for significant water quality impairment resulting from the activity, as determined by the Regional Water Board. Operators of regulated construction sites are required to develop a SWPPP; to implement sediment, erosion, and pollution prevention control measures; and to obtain coverage under the Construction General Permit.

NPDES General Municipal Stormwater Permit

CWA Section 402 mandates permits for municipal stormwater discharges, which are regulated under the NPDES General Permit for MS4s. Phase I MS4 regulations cover municipalities with more than 100,000 residents, certain industrial processes, and construction activities that disturb an area of 5 acres or more. Phase II "small" MS4 regulations require stormwater management plans to be developed by municipalities with fewer than 100,000 residents and for construction activities that disturb 1 or more acres of land. The State Water Board adopted a Statewide Phase II Small MS4 General Permit in 2013 to efficiently regulate discharges from numerous qualifying small MS4s under a single permit. Small MS4s are categorized as either "traditional" or "nontraditional." Traditional MS4s operate throughout a community. Nontraditional MS4s are similar to traditional MS4s but operate as a distinct facility. Most nontraditional MS4s in California are not designated as having to comply with the Statewide Phase II Small MS4 General Permit, although the State Water Board reserves the right to allow the Regional Water Boards to regulate through due process any single nontraditional MS4 if it deemed necessary.

3.9.2.3 Local

Because CPUC has exclusive jurisdiction over project siting, design, and construction, the project is not subject to local discretionary regulations. The existing North Dublin Transmission Terminal was originally approved by the CPUC. The following summary of local regulations and regulatory agencies relating to hydrogeology and water quality is provided for informational purposes and to assist with the CEQA review.

In Alameda County, each of the 14 cities, the unincorporated area, and the two flood control districts share one NPDES permit through the ACCWP. Measures in the Alameda County Municipal NPDES permit address stormwater treatment and control, source control and site design, and hydromodification management. The Alameda County C.3 Stormwater Technical Guidance (2016) identifies post-construction stormwater controls for projects to meet local municipal requirements. The municipalities in Alameda County require post-construction stormwater controls or permanent features to be included in a project to reduce pollutants in stormwater and/or erosive flows during the life of the project.

The Alameda County General Plan contains water resource objectives that include sound design of drainage systems throughout the County to control soil erosion caused by water; in addition, the General Ordinances of Alameda County administered by the Alameda County Public Works Agency are related to grading and construction, including those that may directly or indirectly affect surface water quality by contributing to erosion or siltation or alter existing drainage patterns. Chapter 13.08 of the General Ordinances of Alameda County, Supp. No. 84, Stormwater Management and Discharge Control Ordinance regulates discharges into the County storm drain system, including the provisions for stormwater permits. Ordinance Chapter 15.36 Grading, Erosion and Sediment Control controls the construction of cuts and fills on private property, particularly with regard to limiting sedimentation of the County storm drain and flood control systems.

PG&E would secure any applicable local ministerial permits.

3.9.3 Environmental Setting

3.9.3.1 Surface Hydrology

The project is located within the San Francisco Bay watershed (Hydrologic Unit Code 18050004). The natural hydrology in the project vicinity has not been greatly altered except for construction of the roads and several culverts. The only natural stream in the project vicinity is the West Branch of Cayetano Creek, which joins Cayetano Creek east of the project site. Cayetano Creek flows south via Arroyo Las Positas and Arroyo de la Laguna and ultimately flows into Alameda Creek before draining to San Francisco Bay. One natural seasonal pond, two manmade seasonal ponds, and three, shallow, 1-foot wide seasonal swales that join to form one shallow 2-foot seasonal swale are present on site (ICF 2016). The seasonal swale conveys stormwater runoff from the hillside south toward the manmade seasonal ponds.

3.9.3.2 Groundwater

The project vicinity is steeply sloping, with the exception of the West Branch of Cayetano Creek, which is east of the project area and has a gentle gradient. Elevations range from approximately 650 to 910 feet above mean sea level. The project vicinity generally slopes downward to the east (ICF 2016). The project area is not located within a recognized groundwater basin (California Department of Water Resources 2016). The primary sources of hydrologic input are incident precipitation and sheet flow from the surrounding annual grassland areas. Recharge in the area occurs through infiltration of precipitation.

3.9.3.3 Water Quality

Water quality in a typical surface water body is influenced by past and current land uses within the watershed, and by the composition of local geologic materials. The project vicinity is relatively undeveloped and within the Eagle Ridge Preserve. Water quality is affected primarily by discharges from point sources such as roadside ditches, and pipes, and nonpoint sources, including winter storms, overland flow, exposed soil, and roads.

Arroyo Las Positas is listed under CWA Section 303(d) as impaired for diazinon (an insecticide) and nutrient/ eutrophication biological indicators. Arroyo de la Laguna and Alameda Creek are both on the CWA 303(d) list as impaired for diazinon. The 303(d)-listed impairments are based on the *2012 California Integrated Report* (State Water Resources Control Board 2015). The U.S. Environmental Protection Agency established a Total Maximum Daily Loads (TMDL) for diazinon on May 16, 2007 for Arroyo Las Positas, Arroyo de la Laguna and Alameda Creek.

3.9.3.4 Flooding

The project is within Federal Emergency Management Agency (FEMA) Zone X (unshaded), which is outside the 500-year floodplain and not within the FEMA Special Flood Hazard Area. These areas are of minimal flood hazard, outside of the 0.2% annual chance floodplain (Federal Emergency Management Agency 2009).

3.9.4 Applicant-Proposed Measures

The following APMs would be implemented.

APM HYDRO-1: Implement Waterway Best Management Practices

- Vehicle and equipment fueling and maintenance operations will be conducted in designated areas only outside of waterways; these areas will be equipped with appropriate spill control materials and containment.

- Grading and construction will be conducted between April 15 and October 15 unless otherwise authorized by USFWS and CDFW. Should work need to be extended beyond October 15, PG&E will request authorization from the USFWS and CDFW at least 30 days prior of the date of the proposed extension, for intervals of up to 1 week. Work will only be conducted in accordance with CDFW and USFWS approval.
- PG&E shall monitor the National Weather Service (NWS) 72-hr forecast for the Project Area. If a 30% or more chance of rain is predicted within 72 hours during Covered Activities, PG&E shall cease construction activities until no further rain is forecast. Ground disturbing activities may resume 48 hours after the rain ceases when there is a less than a 30% chance of precipitation in the 24-hour forecast.

3.9.5 Impacts

Checklist item a: Violate any water quality standards or waste discharge requirements?

1. Project construction activities, such as grinding and removing the existing asphalt, site clearing, grading, and paving of an asphalt road surface, could result in short-term impacts that could temporarily affect water quality. Runoff could contain nonpoint pollution. Sediments, turbidity, and pollutants associated with sediments and potential accidental discharge of pollutants associated with construction equipment and materials may be introduced into drainages or other water bodies.
2. With the implementation of APMs BIO-1 and GEO-1, ground disturbance would be limited to the minimum amount necessary to complete the work and standard sediment and erosion control practices would be in place. Additionally, APM HYDRO-1 would ensure that no sedimentation or hazardous material enters watercourses during the project. All project construction activities would be subject to existing regulatory requirements. The proposed project would be required to meet all applicable water quality objectives for surface waters and groundwater contained in the Basin Plan. The project is applying for a 401 certification and 404 permit and would act in accordance with related regulatory agencies guidelines. Therefore, the project would not violate water quality standards or waste discharge requirements. Impacts on water quality would be less than significant.

Checklist item 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?

The project area is not located within a recognized groundwater basin. Recharge in the area would continue to occur through infiltration into streambeds and through infiltration of precipitation. Although the project would repair the existing asphalt road, it would not increase the non-permeable surface area and would not result in a decrease of infiltration of precipitation compared to existing conditions.

Water supply for construction activities would come from existing municipal supplies or would be trucked to the site from municipal or recycled water supplies from the City of Livermore Water Resources Department. No on-site surface water resources would be utilized. The City's Livermore Municipal Water system purchases its potable water supply for its service area from the Zone 7 Water Agency. The City does not pump groundwater to meet any water demands of the municipal water service area and has no adjudicated/ unadjudicated basins (City of Livermore 2015). No groundwater pumping is anticipated to be required for construction activities. The City of Livermore Water Reclamation Plant (LWRP) treats all wastewater collected within the city limits , and provides 100 recycled water fire hydrants available for contractors to use during construction (City of Livermore 2015). Recycled water is currently provided for several uses including landscape and agricultural irrigation, fire protection, construction, street sweeping and toilet and urinal flushing. Project construction activities would use recycled water to the maximum extent practicable. In

addition, the project construction activities would be limited in duration to approximately three months. Construction use of water would be limited to dust suppression and restoration purposes. The project's temporary use of recycled and/or municipal water supplies for short-term construction purposes would not deplete or interfere substantially with groundwater supply or recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. No groundwater pumping is required. The project's minimal use of water would not deplete or interfere with groundwater supply or recharge. Therefore, there would be no impact on groundwater supplies or recharge.

Checklist item c: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or sedimentation onsite or offsite?

Currently, the access road has many cracks along the road surface, contains numerous small mammal burrows, and appears to have poor drainage. PG&E proposes removing and replacing the existing road and roadside drainage structures. Work activities would include reshaping and repairing hill slope topography, collapsing and filling in erosional features (i.e., sinkholes), and installing of an underground drainage structure and outfall collection box.

To prevent future sinkhole development and hillside erosion, the outfall of the uppermost cross drain pipe would be extended through the sinkhole repair area to a position lower on the hillside. Once the sinkhole repair area is filled, the hillside would be re-contoured to ensure proper drainage. Although drainage patterns on the project site could be altered, the goal of the project is to improve the drainage systems and minimize the potential for erosion by repairing the stormwater runoff issue from the failing road. No work is proposed in a stream and therefore would not alter the course of a stream or river. Therefore, the impact of altering the existing drainage pattern would be less than significant.

Checklist item d: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding onsite or offsite?

PG&E proposes removing and replacing the existing roadside drainage structures and installing an underground drainage structure and outfall collection box. Although drainage patterns could be altered, the project would not result in changes in stormwater volume and flow rates, and would ultimately improve drainage systems by repairing the currently defective runoff regimen of the existing road. BMPs such as soil stabilization measures would be implemented during construction to prevent substantial surface runoff or localized flooding, as described in APM GEO-1. The outfall type would be designed to minimize flow velocities and dissipate energy at the outfall to the extent possible, thereby decreasing the potential for erosion and scour in the flow path to the adjacent grassland habitat. Two gully areas would be filled to offset the effects of dispersal of road runoff. The project would not alter the course of a stream or river. There would be no impact related to altering the existing drainage pattern or rate or amount of surface runoff in a manner which would result in flooding.

Checklist item e: Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provides substantial additional sources of polluted runoff?

Currently, the access road is asphalt and most of the project site is pervious. Existing asphalt would be removed and replaced. Following completion of all proposed construction activities, the disturbed area would be re-seeded, as needed, providing water quality treatment for stormwater runoff through biological uptake; plant materials filter pollutants through their sandy loam substrate and allow for soil infiltration. In addition, an above-ground collection box will be installed to facilitate drainage. The implementation of erosion control measures and waterway AMPs (see APMs GEO-1 and HYDRO-1) would further reduce

additional sources of polluted runoff from entering waterways. Following construction, the project site would not create or contribute runoff water that will exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. The impact would be less than significant.

Checklist item f: Otherwise substantially degrade water quality?

A constructed seasonal pond in the project area has accumulated sediment. The California tiger salamander, which is listed as threatened under the California Endangered Species Act (CESA) and under the federal ESA, uses the pond for breeding. PG&E proposes to dredge sufficient sediment (approximately 2 feet) from the seasonal pond to restore the habitat value. The dredged sediment would be transported to the sinkhole repair area. To ensure that impacts on the seasonal pond are minimized during the dredging, activities would occur during the dry season (generally May 15 to October 15; APM HYDRO-1) or when water is not present in the pond and the potential for amphibian presence is minimal. Therefore, the project would not substantially degrade water quality and the impact would be less than significant.

Checklist item g: Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map?

No housing is proposed as part of the project and the project area is not within the 100-year flood hazard area. Therefore, there would be no impact.

Checklist item h: Place within a 100-year flood hazard area structures that would impede or redirect flood flows?

Above ground structures include an outfall collection box and energy dissipater. However, the project area is not within the 100-year flood hazard area. Therefore, there would be no impact.

Checklist item 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?

The project area is not located within a dam inundation area and there are no levees within the project area; accordingly, people and structures would not be subject to a significant risk of loss, injury, or death involving flooding and there would be no impact.

Checklist item j: Contribute to inundation by seiche, tsunami, or mudflow?

The project site is located approximately 40 miles east of the Pacific Ocean, and, therefore, is not subject to flooding from tsunami. There are no large bodies of water near the project site, and, therefore it is not subject to seiche (i.e., sloshing of a confined water body due to seismic shaking). Because of steeply sloping terrain, the project area is subject to the risk of mudflows and landslides. However, all construction would be designed in accordance with 2015 Caltrans Standard Specifications, Section 39. Recommendations of the pavement evaluation report (Salem Engineering Group 2016) would be implemented, including installation of geogrid reinforcement to reduce the risks due to landslides. Because the project is located in a designated zone of required investigation under the Seismic Hazards Mapping Act, a geotechnical report addressing the landslide hazard must be submitted to the County Engineer for approval. Therefore, this impact would be less than significant.

X. Land Use and Planning	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Physically divide an established community?	☐	☐	☐	☒
b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c. Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☒	☐

3.10 Land Use and Planning

3.10.1 Introduction

This section describes existing land uses and regulations and identifies potential project impacts.

3.10.1.1 Methodology

Evaluation of potential impacts on land uses and planning is based on information from the *Alameda County General Plan*, including the *East County Area Plan*, and the EACCS.

3.10.2 Regulatory Setting

Because the CPUC has jurisdiction over the design, construction and operation of utilities and associated facilities, the project is not subject to local discretionary regulations. This section includes a description of local plans and policies related to land use and planning issues generally and is provided for informational purposes to assist CEQA review.

3.10.2.1 Alameda County General Plan

The *Alameda County General Plan* is a long-range policy document intended to guide future development in the county. The plan consists of several documents: countywide elements governing housing, conservation, open space, noise, seismic and safety, and scenic routes, and area plans governing land use, circulation, open space, noise, conservation, and safety for Castro Valley, Eden, and the East County.

The *East County Area Plan* covers the project area and designates the site for Resource Management land use, which is part of the Open Space/Agricultural land use category (Alameda County Community Development Agency, Planning Department 2002). The County's Resource Management designation is intended mainly for long-term preservation of open space but also permits low-intensity agriculture, grazing, and very low-density residential use. Allowable uses for the land include agriculture, grazing, recreational, and open spaces (ICF International 2010; Alameda County Community Development Agency, Planning Department 2002).

3.10.2.2 Alameda County Zoning Ordinance

The project area is in an Agricultural (A) zoning district in unincorporated Alameda County.

3.10.2.3 East Alameda County Conservation Strategy

The EACCS is intended to provide an effective framework to protect, enhance, and restore natural resources in eastern Alameda County, while improving and streamlining the environmental permitting process for infrastructure and development projects. The EACCS identifies the project area as within mitigation areas for California red-legged frog, California tiger salamander, burrowing owl, and San Joaquin kit fox. As discussed in Section 3.4.2.3, the conservation goals and objectives for EACCS focal species are pertinent to the project. The general AMMs to reduce effects on focal species and species-specific AMMs of the EACCS have been incorporated into the proposed project where possible to facilitate local government and resource agencies with project permitting and developing favorable mitigation strategies, reducing project delays and costs, while facilitating conservation of biological resources.

3.10.3 Environmental Setting

The project site is located in a conservation easement that was established by the landowner, Eagle Ridge Preserve LLC, to compensate for unavoidable impacts on wetlands, riparian habitat, and special-status species habitat resulting from development projects (Olberding Environmental 2013). The Preserve is managed for the conservation benefit of California red-legged frog, California tiger salamander, burrowing owl, and San Joaquin kit fox. Land management is primarily related to the creation, preservation, and management of breeding, dispersal, and foraging habitat for these species. The Preserve is managed as grazed wildlife habitat and the annual grassland habitat located in the project area has traditionally been used for seasonal livestock grazing (Olberding Environmental 2013).

According to the Alameda County Assessor's Office Parcel Viewer and Property Assessment Information (Alameda County Assessor's Office 2017), the project site is located on parcels with uses "rural property used for agriculture, 10+ acres" and a segment of the access road off of Manning Road leading to the site is described as "vacant rural land, not usable even for agriculture" uses (Alameda County Assessors' Office, 2016). Parcels contiguously adjacent to the project parcels also have the use, "rural property used for agriculture, 10+ acres" except for three parcels to the southwest of the facility which have "improved rural-residential homesite" uses.

The closest noise and air quality-sensitive land use to the project site is a residence along the eastern side of Collier Canyon Road, approximately 1,600 feet west of the proposed project construction areas.

The property that directly abuts the project to the north is Eagle Ridge Preserve North, another conservation easement managed by Olberding Environmental Inc. Eagle Ridge Preserve North is an extension of the Eagle Ridge Preserve and is for the conservation of the same species as Eagle Ridge Preserve.

3.10.4 Impacts

Checklist item a: Physically divide an established community?

The project site is not located within or adjacent to an established community, and there are no residences currently located on the project site. Nearby land uses do not support an established community. In addition, the project would not include the construction of any new structures or features that would physically divide an established community. Therefore, there would be no impact.

Checklist item b: Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

The project would consist of dredging of a seasonal pond, filling of and stabilization of sinkhole areas, and road repair. As stated previously, the project is not subject to local discretionary regulations. However, project construction activities would not conflict with the Resource Management land use designation and the site's designation as a conservation easement would not change. By implementing erosion and road repair and improvements to the Preserve habitat, the project would be consistent with the *Long-Term Resource Management Plan for the Eagle Ridge Reserve Property*.

Per the *East County Area Plan* and the Alameda County Zoning Ordinance, the project area is designated for Resource Management land uses (as part of the Open Space/Agricultural land use category) and it is in the Agricultural zoning district. The project would not conflict with the allowed uses for the Agricultural zoning district. Grazing activities would not be changed in the long-term. Construction activities may temporarily limit the use of the site for grazing, but this would only last for the construction period, up to approximately 3 months. There would be no conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project. There would be no impact.

Checklist item c: Conflict with any applicable habitat conservation plan or natural community conservation plan?

The project area is within the PG&E Bay Area Operation and Maintenance habitat conservation plan area, but the proposed project activities are not covered activities, therefore the habitat conservation plan is not applicable to the proposed project. The ultimate result of the project would be a net improvement of habitat attributes within the Preserve, and there would be no conflict with any of the provisions of the HCP.

The project area is located within the area covered by the EACCS. Although the EACCS is neither a habitat conservation plan (HCP)[5] nor a natural community conservation plan (NCCP),[6] the EACCS is intended to coordinate biologically sound approaches to mitigation that support conservation and the recovery of wildlife and plant species, including those protected by the ESA. Project activities, specifically reconstructing the road, restoring hill topography, restoring gully areas, dredging a seasonal pond, filling sinkholes, and constructing new stormwater drainage structures, would improve the habitat characteristics of the project area and would not conflict with the EACCS. Post-construction restoration measures, including re-seeding of natural areas disturbed by project activities with native grasses, and removing construction debris for disposal, would reduce project construction impacts and would not conflict with the EACCS. There would be no impact to any HCP or NCCP.

[5] A conservation strategy is not the same as a formal habitat conservation plan (HCP). An HCP is a planning document that identifies regionally coordinated mitigation strategies aimed at conserving endangered or threatened species and habitat under the federal ESA and results in a programmatic incidental take permit that allows the permit-holder to legally proceed with activities that would otherwise result in unlawful take of listed species. The EACCS does not automatically allow local agencies to approve permits for projects that could adversely impact threatened or endangered species.

[6] A natural community conservation plan (NCCP) is the state counterpart to the federal HCP. An NCCP provides a means of complying with the Natural Community Conservation Planning Act and a way to secure authorization of take of state-listed authorization at the state level.

XI. Mineral Resources	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
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?	☐	☐	☐	☒
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

3.11 Mineral Resources

3.11.1 Introduction

This section discusses existing conditions and regulations regarding mineral resources and identifies potential project impacts on mineral resources.

3.11.1.1 Methodology

The evaluation of impacts related to mineral is based on review of mineral information on the California Geological Survey (CGS) website and the Alameda County General Plan.

3.11.2 Regulatory Setting

3.11.2.1 Federal

There are no specific federal regulations applicable to mineral resources.

3.11.2.2 State

Surface Mining and Reclamation Act. The principal legislation addressing mineral resources in California is the Surface Mining and Reclamation Act of 1975 (SMARA) (Public Resources Code Sections 2710–2719), which was enacted in response to land use conflicts between urban growth and essential mineral production.

SMARA provides for the evaluation of an area's mineral resources using a system of Mineral Resource Zone (MRZ) classifications that reflect the known or inferred presence and significance of a given mineral resource. The MRZ classifications are based on available geologic information, including geologic mapping and other information on surface exposures, drilling records, and mine data, and on socioeconomic factors such as market conditions and urban development patterns. The MRZ classifications are defined as follows.

- **MRZ-1**—areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.
- **MRZ-2**—areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood for their presence exists.
- **MRZ-3**—areas containing mineral deposits, the significance of which cannot be evaluated from available data.
- **MRZ-4**—areas where available information is inadequate for assignment into any other MRZ.

3.11.2.3 Local

Because the CPUC has jurisdiction over the design, construction and operation of utilities and associated facilities, the project is not subject to local discretionary regulations. This section includes a description of local plans and policies related to quarries and aggregate resource areas generally, and is provided for informational purposes to assist CEQA review.

The *East County Area Plan* contains goals and policies and implementation programs regarding quarries and regionally significant aggregate resource areas. The goals and policies and implementation programs discuss reviewing and permitting or approval of quarries, conditions for new Surface Mining Permits and Reclamation Plans, ensuring compatibility of quarries with neighboring land uses, environmental goals and considerations regarding quarry reclamation and operations and conditions for new Petroleum Resource Exploration and Extraction. These policies do not directly apply to the project site because the project site does not contain quarries or aggregate resources areas.

3.11.3 Environmental Setting

There are no known mineral resources in the project area. According to the California Division of Mines and Geology land classification map prepared for the South San Francisco Bay Production-Consumption Region, which includes Alameda County, there no areas designated as MRZ-2 (California Division of Mines and Geology 1996). No mining is known to occur in the area. In addition, the general plan does not identify mineral resources in the project area vicinity.

3.11.4 Impacts

Checklist item 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?

There are no known mineral resources that would be impacted by the project and there are no designated Mineral Resource Zones in the project vicinity. There would be no impact on mineral resources of value to the region and residents.

Checklist item 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?

As discussed above, there are no known mineral resources that would be impacted by the project and there are no designated Mineral Resource Zones in the project vicinity. Therefore, there would be no impact to mineral resources recovery sites.

XII. Noise	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Expose persons to or generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?	☐	☐	☒	☐
b. Expose persons to or generate excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c. Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒
d. Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
e. Be located within an airport land use plan area, or, where such a plan has not been adopted, within two miles of a public airport or public use airport and expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f. Be located in the vicinity of a private airstrip and expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

3.12 Noise

3.12.1 Introduction

3.12.1.1 Noise Terminology

Noise is commonly defined as unwanted sound that annoys or disturbs people and potentially causes an adverse psychological or physiological effect on human health. Because noise is an environmental pollutant that can interfere with human activities, evaluation of noise is necessary when considering the environmental impacts of a proposed project.

Sound is mechanical energy (vibration) transmitted by pressure waves over a medium such as air or water, and noise is generally defined as unwanted sound that annoys or disturbs people. 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 is the most common descriptor used to characterize the loudness of an ambient (existing) sound level. Although the decibel (dB) scale, a logarithmic scale, is used to quantify sound intensity, it does not accurately describe how sound intensity is perceived by human hearing. The human ear is not equally sensitive to all frequencies in the entire spectrum, so noise measurements are weighted more heavily for frequencies to which humans are sensitive in a process called "A-weighting," written as "dBA" and referred to as "A-weighted decibels." Table 3-11 provides definitions of sound measurements and other terminology used in this section, and Table 3-12 summarizes typical A-weighted sound levels for different noise sources.

In general, human sound perception is such that a change in sound level of 1 dB cannot typically be perceived by the human ear, a change of 3 dB is barely noticeable, a change of 5 dB is clearly noticeable, and a change of 10 dB is perceived as doubling or halving the sound level.

Different types of measurements are used to characterize the time-varying nature of sound. These measurements include the equivalent sound level (L_{eq}), the minimum and maximum sound levels (L_{min} and L_{max}), percentile-exceeded sound levels (such as L_{10}, L_{20}), the day-night sound level (L_{dn}), and the community noise equivalent level (CNEL). L_{dn} and CNEL values differ by less than 1 dB. As a matter of practice, L_{dn} and CNEL values are considered to be equivalent and are treated as such in this assessment.

For a point source such as a stationary compressor or construction equipment, sound attenuates based on geometry at rate of 6 dB per doubling of distance. For a line source such as free flowing traffic on a freeway, sound attenuates at a rate of 3 dB per doubling of distance (California Department of Transportation 2013a). Atmospheric conditions including wind, temperature gradients, and humidity can change how sound propagates over distance and can affect the level of sound received at a given location. The degree to which the ground surface absorbs acoustical energy also affects sound propagation. Sound that travels over an acoustically absorptive surface such as grass attenuates at a greater rate than sound that travels over a hard surface such as pavement. The increased attenuation is typically in the range of 1 to 2 dB per doubling of distance. Barriers such as buildings and topography that block the line of sight between a source and receiver also increase the attenuation of sound over distance.

Table 3-11. Definition of Sound Measurements

Sound Measurements	Definition
Decibel (dB)	A unitless measure of sound on a logarithmic scale, which indicates the squared ratio of sound pressure amplitude to a reference sound pressure amplitude. The reference pressure is 20 micro-pascals.
A-Weighted Decibel (dBA)	An overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear.
Maximum Sound Level (L_{max})	The maximum sound level measured during the measurement period.
Minimum Sound Level (L_{min})	The minimum sound level measured during the measurement period.
Equivalent Sound Level (L_{eq})	The equivalent steady state sound level that in a stated period of time would contain the same acoustical energy.
Percentile-Exceeded Sound Level (L_{xx})	The sound level exceeded "x" percent of a specific time period. L_{10} is the sound level exceeded 10 percent of the time.
Day-Night Level (L_{dn})	The energy average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the A-weighted sound levels occurring during the period from 10:00 p.m. to 7:00 a.m.
Community Noise Equivalent Level (CNEL)	The energy average of the A-weighted sound levels occurring during a 24-hour period with 5 dB added to the A-weighted sound levels occurring during the period from 7:00 p.m. to 10:00 p.m. and 10 dB added to the A-weighted sound levels occurring during the period from 10:00 p.m. to 7:00 a.m.
Peak Particle Velocity (Peak Velocity or PPV)	A measurement of ground vibration defined as the maximum speed (measured in inches per second) at which a particle in the ground is moving relative to its inactive state. PPV is usually expressed in inches/sec.
Frequency: Hertz (Hz)	The number of complete pressure fluctuations per second above and below atmospheric pressure.

Table 3-12. Typical A-weighted Sound Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	110	Rock band
Jet flyover at 1,000 feet		
	100	
Gas lawnmower at 3 feet		
	90	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	80	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawnmower, 100 feet	70	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	60	
		Large business office
Quiet urban daytime	50	Dishwasher in next room
Quiet urban nighttime	40	Theater, large conference room (background)
Quiet suburban nighttime		
	30	Library
Quiet rural nighttime		Bedroom at night, concert hall (background)
	20	
		Broadcast/recording studio
	10	
	0	

Source: California Department of Transportation 2013a

3.12.1.2 Vibration Terminology

Operation of heavy construction equipment, particularly the types used for pile driving and pavement breaking, create seismic waves that radiate along the surface of the earth and downward into the earth. These surface waves can be felt as ground vibration. Vibration from operation of this equipment can result in effects ranging from annoyance of people to damage of structures. Varying geology and distance will result in different vibration levels containing different frequencies and displacements. In all cases, vibration amplitudes will decrease with increasing distance.

Perceptible ground-borne vibration is generally limited to areas within a few hundred feet of construction activities. As seismic waves travel outward from a vibration source, they excite the particles of rock and soil through which they pass and cause them to oscillate. The actual distance that these particles move is usually only a few ten-thousandths to a few thousandths of an inch. The rate or velocity (in inches per second) at which these particles move is the commonly accepted descriptor of the vibration amplitude, referred to as the peak particle velocity (PPV).

Table 3-13 summarizes typical vibration levels generated by construction equipment (Federal Transit Administration 2006).

Vibration amplitude attenuates over distance and is a complex function of how energy is imparted into the ground and the soil conditions through which the vibration is traveling. The following equation can be used to estimate the vibration level at a given distance for typical soil conditions (Federal Transit Administration 2006). PPV_{ref} is the reference PPV from Table 3-13:

$$PPV = PPV_{ref} \times (25/Distance)^{1.5}$$

Tables 3.14 and 3.15 summarize guidelines developed by Caltrans for damage and annoyance potential from transient and continuous vibration that is usually associated with construction activity. Equipment or activities typical of continuous vibration include: excavation equipment, static compaction equipment, tracked vehicles, traffic on a highway, vibratory pile drivers, pile-extraction equipment, and vibratory compaction equipment. Equipment or activities typical of single-impact (transient) or low-rate repeated impact vibration include: impact pile drivers, blasting, drop balls, "pogo stick" compactors, and crack-and-seat equipment (California Department of Transportation 2013b).

Table 3-13. Vibration Source Levels for Construction Equipment

Equipment	Peak Particle Velocity at 25 feet
Pile driver (impact)	0.644 to 1.518
Pile drive (sonic/vibratory)	0.170 to 0.734
Vibratory roller	0.210
Hoe ram	0.089
Large bulldozer	0.089
Caisson drilling	0.089
Loaded trucks	0.076
Jackhammer	0.035
Small bulldozer	0.003

Source: Federal Transit Administration 2006

Table 3-14. Guideline Vibration Damage Potential Threshold Criteria

Structure and Condition	Maximum PPV (inch/second)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

Source: California Department of Transportation 2013b
Note: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Table 3-15. Guideline Vibration Annoyance Potential Criteria

Structure and Condition	Maximum PPV (inch/second)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.9	0.10
Severe	2.0	0.4

Source: California Department of Transportation 2013b
Note: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

3.12.1.3 Methodology

This noise impact analysis evaluates the noise effects associated with project construction activities. Because there would be no operational noise sources (noise-generating stationary equipment, or an increase in operational vehicles resulting from the project), the project would not increase operational noise in the project area.

Noise impacts associated with construction activities were evaluated using the noise calculation method and construction equipment noise data in the Federal Highway Administration roadway construction noise model. The noise data include the A-weighted L_{max}, measured at a distance of 50 feet from the construction equipment and the utilization factors for the equipment. The utilization factor is the percentage of time each piece of construction equipment is typically operated at full power over the specified time period and is used to estimate L_{eq} values from L_{max} values. For example, the L_{eq} value for a piece of equipment that operates at full power over 50 percent of the time is 3 dB less than the L_{max} value (Federal Highway Administration 2006).

Noise from construction equipment at various distances from the project site was estimated using point-source attenuation of 6 dB per doubling of distance and ground attenuation of 1.5 dB per doubling of distance, for a total of 7.5 dB of attenuation per doubling of distance.

3.12.2 Regulatory Setting

3.12.2.1 Alameda County Noise Ordinance

Because the CPUC has jurisdiction over the design, construction and operation of utilities and associated facilities, the project is not subject to local discretionary regulations. This section includes a description of local plans and policies related to noise issues generally, and is provided for informational purposes to assist CEQA review.

The Alameda County Noise Ordinance, as contained in Chapter 6.60 of the County Code, establishes regulations to control unnecessary, excessive and annoying noise in the county, and to maintain quiet in areas which exhibit low noise levels currently. The noise ordinance contains programs to reduce noise levels in areas where noise levels are above acceptable levels. Noise level standards for noise-sensitive properties (including residential) are shown in Table 3-16.

Table 3-16. Alameda County Noise Ordinance, Noise Level Standards in Dba

Noise Level Category (L_{xx})	Cumulative Number of Minutes in any 1-hour time period	Daytime 7 a.m. to 10 p.m. (dBA)	Nighttime 10 p.m. to 7 a.m. (dBA)
1 (L_{50})	30	50	45
2 (L_{25})	15	55	50
3 ($L_{8.33}$)	5	60	55
4 ($L_{1.67}$)	1	65	60
5 (L_{max})	0	70	65

Source: Alameda County Code of Ordinances, Chapter 6.60, Table 6.60.040A.
Note: Standards apply to the noise level measured at any following receiving land uses: Single- or Multiple-Family Residential, School, Hospital, Church, or Public Library Property

Note that the noise standards shown in Table 3-16 do not apply to noise sources associated with construction, provided that the construction activities do not take place before 7:00 a.m. or after 7:00p.m. on weekdays, or before 8:00 a.m. or after 5:00 p.m. on Saturday or Sunday.

3.12.3 Environmental Setting

As discussed in Chapter 2, *Project Description*, the project area is located in north-central Alameda County, approximately 3 miles north of the City of Livermore. The project involves repairing a 0.55-mile stretch of existing paved access road, collapsing and filling existing sinkholes in order to repair the site and restore the habitat value for the Preserve, dredging a seasonal pond, and repairing two gully areas. The project would be implemented within approximately 8.0 acres of the Preserve.

The nearest residence is located approximately 1,600 feet west of the proposed project construction areas, along Collier Canyon Road. Collier Canyon Road or Manning Road are potential access routes from the City of Livermore and are currently used by the public to travel through the area. Both roads could be used by construction personnel to drive to the project site. No construction activity will take place on these roads or on roads with residences.

The existing noise environment is consistent with a rural area. Ambient noise levels in rural or quiet suburban residential areas are typically in the range of 40 to 50 dBA L_{dn} (Hoover & Keith 2000). The proposed project would be in a rural area, so ambient noise levels would generally be expected to be in the range of 40 to 50 dBA L_{dn}.

3.12.4 Applicant-Proposed Measure

PG&E would implement the following measures to ensure that noise impacts are less than significant.

APM NOI-1: Implement construction noise control

To ensure construction-period noise levels do not go above Alameda County noise limits, the following construction noise control would be implemented:

- Noise-generating activities at the construction site should be restricted to the exempt hours of 7:00 a.m. to 7:00 p.m. on weekdays and 8:00 a.m. to 5:00 p.m. on weekends, when feasible.
- If it is not feasible to limit construction to the hours exempted in the County Noise Ordinance, construction shall comply with the specific noise restrictions (for both daytime and nighttime work, as applicable) outlined in the County Noise Ordinance (refer to Table 3-16). Measures to help reduce construction noise during nonexempt hours to the allowable levels may include the following:
    - Reduce the duration of noise-generating construction activity during nonexempt hours.
    - Limit the concurrent use of multiple pieces of noise-generating equipment.
    - Equip internal combustion engine-driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.
    - Locate stationary noise generating equipment as far as possible from nearby sensitive receptors (the closest residential land uses to the west).
    - Utilize "quiet" air compressors and other stationery noise sources where technology exists.
    - The contractor shall prepare a construction plan identifying the schedule for major noise-generating construction activities expected to occur during nonexempt hours. The construction plan shall identify a procedure for coordination with adjacent noise

sensitive residences so that construction activities can be scheduled to minimize noise disturbance.

- Designate a "disturbance coordinator" who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., starting too early, bad muffler) and will require that reasonable measures warranted to correct the problem be implemented. The disturbance coordinator shall conspicuously post the coordinator's telephone number at the construction site and include it in the notice sent to neighbors regarding the construction schedule.
- Control noise from construction workers' radios to a point where they are not audible at existing residences bordering the project site.

3.12.5 Impacts

Checklist item a: Expose persons to or generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?

The nearest residence is located approximately 1,600 feet west of the proposed project construction areas, along Collier Canyon Road. Collier Canyon Road is a potential access route from the City of Livermore and could be used by construction personnel to drive to the project site. No construction activity will take place on Collier Canyon Road. To model worst-case construction for project construction activities, three of the loudest pieces of equipment proposed for use during a given construction phase (e.g. grubbing/land clearing, grading/excavating/dredging, draining/utilities/subgrade, and paving) were assumed to be operating simultaneously and in close proximity to one another.

Modeling assumed that a bulldozer, grader, and excavator would all be used simultaneously during the grading/excavation/ dredging phase of project construction.

The combined noise level (both L_{max} and L_{eq}) from the operation of these pieces of construction equipment was calculated. L_{eq} values were calculated from L_{max} values using estimated utilization factors (the fraction of time that equipment is anticipated to be operate). Anticipated construction noise levels at receptors located at various distances from the project site are provided in Table 3-17.

Table 3-17. Project Construction Noise Levels at Various Distances from the Project Site

Individual L_{max} Noise Levels for Each Source			**Utilization Factor[a]**	**L_{eq} Sound Level (dBA)**
Bulldozer sound level at 50 feet from the project site = 82 dBA L_{max}			0.4	78
Grader sound level at 50 feet from the project site = 85 dBA L_{max}			0.4	81
Excavator sound level at 50 feet from the project site = 81 dBA L_{max}			0.4	77
Combined Noise Levels for Both Sources				
L_{max} sound level at 50 feet from the project site			—	88
L_{EQ} sound level at 50 feet from the project site			—	84
Distance Between Noise Source and Receptor (feet)	**Geometric Attenuation (dB)[b]**	**Ground Effect Attenuation (dB)[c]**	**Calculated L_{max} Sound Level (dBA)**	**Calculated L_{eq} Sound Level (dBA)**
50	0	0.0	88	84
100	–6	–1.5	80	76
200	–12	–3.0	73	69

Table 3-17. Project Construction Noise Levels at Various Distances from the Project Site

Distance Between Noise Source and Receptor (feet)	Geometric Attenuation (dB) [b]	Ground Effect Attenuation (dB) [c]	Calculated L_{max} Sound Level (dBA)	Calculated L_{eq} Sound Level (dBA)
266	–15	–3.6	70	66
300	–16	–3.9	68	64
400	–18	–4.5	65	61
500	–20	–5.0	63	59
600	–22	–5.4	61	57
685	–23	–5.7	59	55
700	–23	–5.7	59	55
800	–24	–6.0	58	54
900	–25	–6.3	56	52
1000	–26	–6.5	55	51
1200	–28	–6.9	53	49
1400	–29	–7.2	52	48
1600	–30	–7.5	50	46
1800	–31	–7.8	49	45
2200	–33	–8.0	48	44
2500	–34	–8.5	45	41

Source: Federal Highway Administration 2006.

dBA = A-weighted decibels, dB = decibels, L_{max} = worst-case maximum noise levels, and L_{EQ} = average noise levels.

a - Utilization factor refers to the percentage of time the equipment is used during a given period of time. For example, a 0.4 utilization factor means that this piece of equipment is being used 40% of a given construction day.

b - Geometric attenuation is based on 6 dB per doubling of distance.

c - This calculation includes the effects of ground absorption, because the area is considered a soft site with very limited paved surfaces. This calculation does not include attenuation effects of local shielding from walls, topography, or other barriers that may reduce sound levels further.

The closest noise-sensitive land use to the project site is the residence along the eastern side of Collier Canyon Road, approximately 1,600 feet west of the proposed project construction areas. As shown in Table 3-17, combined noise levels from the three loudest pieces of equipment at a distance of 1,600 feet could be up to 50 dBA L_{max} and 46 dBA L_{eq} (refer to Table 3-17).

Note that the noise limits shown in Table 3-16 do not apply to noise sources associated with construction, provided that the construction activities do not take place before 7:00 a.m. or after 7:00 p.m. on weekdays, or before 8:00 a.m. or after 5:00 p.m. on Saturday or Sunday. As described in APM NOI-1, noise-generating activities would be restricted to these exempted hours, when feasible. As such, most if not all construction work would occur during exempted hours. However, should a rare circumstance occur where it is infeasible to limit construction to these exempt hours, APM NOI-1 states that construction shall comply with the specific noise restrictions outlined in the County Noise Ordinance.

Construction that occurs before 7:00 a.m. or after 7:00 p.m. on weekdays, or before 8:00 a.m. or after 5:00 p.m. on Saturday or Sunday would be subject to compliance with the County Noise Ordinance sound level limits. Table 3-16 identifies the noise ordinance standards. Noise from construction at the site could be in the range of 50 dBA Lmax at the nearby residence, which would be less than the nighttime standard of 65 dBA Lmax for residential uses shown in Table 3-16. As such, the construction noise level would be in compliance with the County Noise Ordinance.

Further, if construction should occur between the nighttime hours of 10:00 p.m. and 7:00 a.m., the project would be subject to compliance with the County Noise Ordinance's nighttime standards. During these hours, noise must not exceed 45 dBA for 30 minutes out of the hour, or (L_{50}) L50 dBA for 15 minutes out of the hour (L_{25}). As the peak noise level was modeled to be approximately 50 dBA L_{max} at the nearby residence, the nighttime standards could only be exceeded if the peak construction noise level is continuously sustained, which is theoretically possible but not likely.

As stated above, most if not all construction for the proposed project would occur during the day (7 a.m. to 7 p.m.) and would be exempt from the noise limits in the County Noise Ordinance. Although it is possible in a rare circumstance that construction could occur outside of the exempted hours, implementation of APM NOI-1 requires construction noise generated during nonexempt hours be minimized to comply with the applicable Noise Ordinance standards. As such, with implementation of APM NOI-1, this impact would be less than significant.

Checklist item b: Expose persons to or generate excessive groundborne vibration or groundborne noise levels?

No impact equipment, such as pile drivers or hoe rams, would be necessary for project construction, and none of the equipment types proposed for use would cause substantial vibration levels. The piece of equipment proposed for use that has the potential to generate the greatest vibration levels is a small bulldozer. A small bulldozer creates a vibration level of approximately 0.003 inch/second PPV at 25 feet. Vibration amplitude attenuates over distance. This vibration level is already below the "barely perceptible" vibration criterion of 0.01 inch/second PPV (shown in Table 3-15) at a distance of 25 feet, and below the damage criterion level for older residences of 0.3 inch/second PPV for continuous/frequent intermittent sources (shown in Table 3-14). The closest residence is located approximately 1,600 feet from project construction areas, so vibration at this distance would be even further below these criteria. Because vibration levels from construction would be less than the barely perceptible criteria and below the damage threshold for older residential buildings at the nearest sensitive receptor, impacts related to excessive ground-borne would be less than significant.

Checklist item c: Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

Because the project does not involve the installation of any new stationary equipment that could generate noise and would not result in the addition of vehicles accessing the project site after the completion of project construction, the project would not result in a permanent increase in ambient noise levels in the project area. There would be no impact related to a substantial permanent increase in ambient noise levels.

Checklist item d: Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

As described in the Environmental Setting section, the existing noise environment in the Project area is consistent with a rural area. Ambient noise levels in rural or quiet suburban residential areas are typically in the range of 40 to 50 Ldn (Hoover & Keith 2000). As discussed above, construction noise is predicted to be as high about 50 dBA at the nearest residence under reasonable worst-case conditions. Although construction will typically occur between the hours 7 a.m. and 7 p.m., construction noise at the highest level (50 dBA) would not occur throughout this entire time. Conservatively assuming that construction noise occurs at the level of 50 dBA during 8 hours between 7 a.m. and 7 p.m., the corresponding Ldn value is 45 Ldn. With the ambient noise level in the range of 40 to 50 Ldn, the increase in noise from construction would be as follows:

40 Ldn ambient + 45 Ldn construction = 46 Ldn or a 6 dB increase above 40 Ldn

50 Ldn ambient + 45 Ldn construction = 51 Ldn or a 1 dB increase above 50 Ldn

Given the short-term and temporary nature of construction noise, a 10 dB increase is considered to be the threshold for a substantial temporary increase in noise. This impact is therefore considered to be less than significant.

Checklist item e: Be located within an airport land use plan area, or, where such a plan has not been adopted, within two miles of a public airport or public use airport and expose people residing or working in the project area to excessive noise levels?

The public airport nearest the project area is the Livermore Municipal Airport, which is located approximately 3.7 miles south of the project site. The next closest public airports are the Byron Airport, located 10.4 miles to the east, the Hayward executive airport, located 18 miles to the west, and Oakland International Airport, located 22 miles to the west. Because all public airports are located more than 2 miles from the project site, there would be no impact related to noise from public airports.

Checklist item f: Be located in the vicinity of a private airstrip and expose people residing or working in the project area to excessive noise levels?

The closest private airstrip to the project area is the Meadowpark airfield (a small airfield with only six aircraft using it as a base) located more than 8 miles to the southeast of the project site. At this distance, no effects related to airport noise would result. Because there are no private airstrips located in the vicinity of the project site, there would be no impact related to noise from private airstrips.

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

3.13 Population and Housing

3.13.1 Introduction

This section describes the existing conditions and potential impacts to population and housing. The project would neither impact the regional or local population nor require the displacement of existing housing.

3.13.2 Environmental Setting

The proposed project would be implemented at an existing PG&E transmission terminal in a rural area of north-central Alameda County about three miles north of the City of Livermore. No housing is at the facility. The nearest house is approximately 1,600 feet to the west.

The majority of construction workers for the project are expected to come from the local area or commute from neighboring counties and cities. Over the course of the project, there will be approximately four to six workers on-site daily. Because the local Bay Area workforce is anticipated to be sufficient, it is not expected that the construction workforce would relocate to the area and, therefore, would not cause a displacement of housing or people.

3.13.3 Impacts

Checklist item a: Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?

The objective of the project is to repair an existing access road to a utility installation. Although the project would improve access to the existing power infrastructure the project will not increase the capacity of the system. The project does not include new housing or businesses or land use changes that would induce population growth in the area. Therefore, no impact would result.

Checklist item b: Displace a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere?

Project construction, operation, and maintenance would not displace existing housing. No temporary housing would need to be constructed. No impact would result.

Checklist item c: Displace a substantial number of people, necessitating the construction of replacement housing elsewhere?

The proposed project would not induce population growth or displace housing or people because PG&E would only rehabilitate an existing access road and provide erosion improvements on a private hillside. No housing is within or adjacent to the project area. There would be no impact.

XIV. Public Services	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:				
Fire protection?	☐	☐	☒	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

3.14 Public Services

3.14.1 Introduction

This section describes the existing conditions and potential impacts to public services. Public services include fire and police protection and maintenance of public facilities, such as schools and hospitals.

3.14.2 Environmental Setting

The nearest fire stations are Fire Station #18 of the Alameda County Fire Department and Fire Station #30 of the San Ramon Valley Fire Protection District. Fire Station #18 is in the City of Dublin and is approximately 3.5 miles to the southwest of the project area. Fire Station #30 is in the City of San Ramon and is approximately 5.5 miles to the west of the project area. Further information on fire stations is included in Section3.8, *Hazards and Hazardous Materials*.

The nearest police station is the Livermore Police Department in downtown Livermore, approximately 6 miles to the south-southeast of the project area.

The nearest school is Jose Maria Amador Elementary School, approximately 3 miles to the southwest in Dublin, and the nearest park is Positano Hills Park, approximately 3 miles to the southwest and is also in Dublin. No schools, parks, or other public facilities are in the project vicinity.

3.14.3 Impacts

Checklist item a: Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services: Fire protection, police protection, schools, parks, other public facilities?

Fire protection: The proposed project would not have long-term impacts on fire protection because PG&E would only rehabilitate and improve an existing PG&E facility. The project would not require new governmental facilities such as a fire station. Although construction equipment would need to use Manning Road to get to the project site in the short-term, the number of vehicles would be minimal and activities would be temporary. As a result, the proposed project would have a less-than-significant impact on fire protection.

Police protection: The proposed project would not have long-term impacts on police protection because PG&E would rehabilitate and improve an existing access road to a PG&E facility. The project would not require new governmental facilities such as a police station. Although construction equipment would need to use Manning Road to get to the project site, the number of vehicles would be minimal and activities would be temporary. As a result, the proposed project would have a less-than-significant impact on police protection.

Schools, parks, or other public facilities: No schools, parks, or other public facilities are in the project vicinity. Although it is possible that construction, maintenance, or operation workers traveling to the area may use existing public services or amenities such as medical facilities, this potential increase in demand would be minimal and temporary. Consequently, no new or expanded public services would be required; no impacts would result from the project.

XV. Recreation	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b. Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☐	☒

3.15 Recreation

3.15.1 Introduction

This section identifies recreation facilities in the project vicinity and concludes that the project would have no impact on those facilities.

3.15.1.1 Methodology

Evaluation of potential impacts on recreation is based on review of published maps, literature, aerial photographs, and recreation sections of the East Bay Regional Park District's *Master Plan 2013* and the *Alameda County General Plan*, including the *East County Area Plan*.

3.15.2 Regulatory Setting

3.15.2.1 East County Area Plan

Although the *East County Area Plan* contains policies relating to the County's support of the existing regional park system, regional trails, and recreational facilities for residents, these policies do not directly apply to the project site because the project site does not contain public parks or recreational facilities. Additionally, the project is not subject to local discretionary regulations. General plan information is provided for informational purposes to assist CEQA review.

3.15.2.2 East Bay Regional Park District Master Plan 2013

The East Bay Regional Park District maintains and operates public parks and recreational facilities throughout Alameda and Contra Costa Counties. The district has policies that regulate public parks and recreational facilities. The recreational facility in the East Bay Regional Park District closest to the project area is Doolan Canyon Regional Preserve, which is 1 mile west of the project area. Because the Doolan Canyon Regional Preserve is outside the project area, polices in the district's *Master Plan 2013* are not applicable to this project.

3.15.3 Environmental Setting

The project site is located on private property and does not contain any public park or recreational facility. The nearest public park, Doolan Canyon Regional Preserve, is approximately 1 mile west of the project area and is the only public park or recreational facility within 3 miles of the project.

3.15.4 Impacts

Checklist item 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?

The project would not result in an increase in population that would result in increased use of or need to expand existing recreational facilities. The Terminal is used only by PG&E personnel and does not provide housing. Construction workers may use nearby park facilities during project construction, but any increase associated with such use will be negligible and temporary as approximately four to six construction workers would work on-site on a daily basis during construction. This minor use would not contribute to substantial physical deterioration of existing facilities. The project would not affect or displace any recreational facilities. There would be no impact.

Checklist item b: Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

The project would not include recreational facilities and it would not result in the need to expand existing recreational facilities or construct new recreation facilities that may affect the environment. There would be no impact.

XVI. Transportation/Traffic	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
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 nonmotorized travel and relevant components of the circulation system, including, but not limited to, intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☒	☐
b. Conflict with an applicable congestion management program, including, but not limited to, level-of-service standards and travel demand measures or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☒	☐
c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d. Substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e. Result in inadequate emergency access?	☐	☐	☐	☒
f. Conflict with adopted policies, plans, or programs regarding public transit, bicycle or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒

3.16 Transportation/Traffic

3.16.1 Introduction

This section describes existing traffic and transportation conditions in the project area. Traffic would be generated by construction workers traveling to and from the work area, delivery of heavy equipment and construction materials, and travel within the work area itself.

3.16.2 Regulatory Setting

PG&E's public utility projects are not subject to local planning ordinances because the location, design, and construction of the projects are under the exclusive jurisdiction of the California Public Utilities Commission. Although local planning ordinances do not apply, the East County Area Plan and Alameda County Code of Ordinances were reviewed for traffic impact thresholds. Based on review of policies in the *East County Area Plan* (Alameda County 1994), a traffic impact study would not be needed to determine compliance with Level of Service standards; the project is not a development and it also is not a major project as defined by the East County Area Plan.

Ordinances in the Alameda County Code of Ordinances, Title 10 – Vehicles and Traffic and Title 12 – Public Roadways and Parks refer to parking, traffic control, and encroachments within public roadways. The nearest public roadway, Manning Road, is outside of the construction site.

Caltrans weight and load limitations for state highways apply to all California state and local roadways. The weight and load limitations are specified in the California Vehicle Code Sections 35550 to 35559. The provisions from the California Vehicle Code discussed below apply to all roadways and, therefore, are applicable to this project.

3.16.2.1 California Vehicle Code

The Caltrans weight and load limitations are specified in the California Vehicle Code Sections 35550 to 35559. The provisions from the California Vehicle Code discussed below apply to all roadways and, therefore, are applicable to this project.

- The gross weight imposed on the highway by the wheels on any axle of a vehicle would not exceed 20,000 pounds (lb) and the gross weight on any one wheel, or wheels, supporting one end of an axle, and resting on the roadway, would not exceed 10,500 lbs.
- The maximum wheel load is the lesser of the following: a) the load limit established by the tire manufacturer; or b) a load of 620 lbs per lateral inch of tire width, as determined by the manufacturer's rated tire width.
- Vehicles with Trailers or Semi-trailers: The gross weight imposed on the highway by the wheels on any one axle of a vehicle would not exceed 18,000 lbs and the gross weight on any one wheel, or wheels, supporting one end of an axle and resting on the roadway, would not exceed 9,500 lbs, except that the gross weight imposed on the highway by the wheels on any front-steering axle of a motor vehicle would not exceed 12,500 lbs.

3.16.2.2 Local

Although local planning ordinances do not apply, the East County Area Plan and Alameda County Code of Ordinances were reviewed for traffic impact thresholds. Based on review of policies in the East County Area Plan (Alameda County 1994), a traffic impact study would not be needed to determine compliance with Level of Service standards; the project is not a development and it also is not a major project as defined by the East County Area Plan.

Ordinances in the Alameda County Code of Ordinances, Title 10 – Vehicles and Traffic and Title 12 – Public Roadways and Parks refer to parking, traffic control, and encroachments within public roadways. The nearest public roadway, Manning Road, is outside of the construction site.

3.16.3 Environmental Setting

Transportation and traffic features in the project site consist of an asphalt paved access road leading up to the Terminal on private property. A private, gated, graveled road connects the access road to Manning Road, a two-lane country road, north of the project site. The approximately 12-foot wide graveled road is the only existing access road to the project site and is currently used by Preserve personnel, the Preserve's contractors (including cattle ranchers and honeybee keepers), and utility companies to access the area. No other transportation features are present in the project area.

3.16.4 Impacts

Checklist items a and b: 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 nonmotorized 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?

Use of the access road is private and generally limited to PG&E and Preserve personnel; the project would not change this use. Construction equipment would travel to the project site via Manning Road, and would consist of 4x4 work trucks, light-duty pickup trucks and trailers or lowbed trailers to haul equipment, tracked excavator, tracked backhoe, loader, grader, small bulldozer, and a water truck. Construction equipment would be staged on site and would not use Manning Road on a regular basis. As such, the number of vehicles using this road would be minimal and any effect would be temporary.

Although local planning ordinances do not apply, the East County Area Plan and Alameda County Code of Ordinances were reviewed for traffic impact thresholds for informational purposes. Policy 193 of the *East County Area Plan* requires that traffic volumes on intercity arterials significantly affected by a project "not exceed Level of Service D on major arterial segments within unincorporated areas." Policy 194 requires "traffic impact studies for all detailed development plans (e.g., specific plans) and major projects to determine compliance with Level of Service standards." "Major Projects" are defined in the *East County Area Plan* as "residential projects containing 500 housing units or more or nonresidential projects containing 500,000 square feet or more of building space." The proposed project would not be a development and would not be a major project as defined by the East County Area Plan because it does not include 500,000 square feet of building space.

Ordinances in the Alameda County Code of Ordinances, Title 10 – Vehicles and Traffic and Title 12 – Public Roadways and Parks refer to parking, traffic control, and encroachments within public roadways. The nearest public roadway, Manning Road, is outside of the construction site and no encroachments by the project would be needed.

As a result, the proposed project would have a less-than-significant impact regarding plans, ordinances, or policies establishing measures of effectiveness for the performance of the circulation system. It would also have less-than-significant impacts on congestion management programs, including level-of-service standards and travel demand measures or other standards established by the county congestion management agency for designated roads or highways.

Checklist item 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?

The project does not include new vertical features that would require a change in air traffic or a change in location of the facility. Therefore, the proposed project would not result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in safety risks. There would be no impact.

Checklist item d: Substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Rehabilitation of the access road would be along the same alignment of the road currently used by PG&E personnel and would comply with Caltrans Standard Specifications and other standards and engineering recommendations. Therefore, the proposed project would not increase hazards because of a design feature or incompatible uses. There would be no impact.

Checklist item e: Result in inadequate emergency access?

The nearest road that would typically be used by emergency service vehicles is Manning Road. Although construction equipment would need to use Manning Road to get to the project site, the number of vehicles would be minor and activity temporary. The proposed project would not result in inadequate emergency access. There would be no impact.

Checklist item 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?

There are no public transit, bicycle, or pedestrian facilities at or near the project site. The nearest public road is Manning Road, which is a two-lane road with no formalized bicycle facility or sidewalks. As a result, the proposed project 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 features. There would be no impact.

XVIII. Utilities and Service Systems	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c. Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed?	☐	☐	☐	☒
e. Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g. Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

3.17 Utilities and Service Systems

3.17.1 Introduction

This section evaluates the potential impacts of the project on utilities and service systems including waste-water, solid waste, stormwater drainage facilities, and water supplies. The project would not result in impacts to utilities or service systems.

3.17.2 Regulatory Setting

3.17.2.1 Federal

Occupational Safety and Health (OSH) Act of 1970. The OSH Act is a federal law aimed at providing workers with safe and healthful working conditions. The Act also created the Occupational Safety and Health Administration (OSHA), which oversees and enforces worker safety. Job site conditions will be maintained in accordance with this law.

3.17.2.2 State

California Occupational Safety and Health Act of 1973. This Act establishes regulations for a safe working environment. The Division of Occupational Safety and Health (known as Cal/OSHA) is responsible for enforcing California laws and regulations pertaining to workplace safety and health and for providing assistance to

employers and workers regarding workplace safety and health issues. Job site conditions will be maintained in accordance with this law.

Title 14 California Code of Regulations Sections 1250-1258, Fire Prevention Standards for Electric Utilities. 14 CCR 1250–1258 provide clearance standards for electric poles and tower firebreaks and electric conductors.

The California Public Utilities Commission (CPUC) General Order 95, Rules for Overhead Electric Line Construction. In Section 35 of this Order, the CPUC rule covers all aspects of design, construction, operation, and maintenance of electrical power lines and fire safety hazards.

3.17.2.3 Local

Because the CPUC has exclusive jurisdiction over the siting, design, and construction of the project, the project is not subject to local discretionary regulations.

3.17.3 Environmental Setting

Utilities at the project site consist of the PG&E Terminal, tower, and power lines.

3.17.3.1 Water

The project site is located in the Zone 7 Water Agency's (also known as the Alameda County Flood Control and Water Conservation District, Zone 7) service area. If water is not available from an on-site facility, it would be brought to the project area by truck for dust control and soil compaction during road construction. Water quality and drainage control measures are discussed in Section 3.9 Hydrology and Water Quality.

3.17.3.2 Wastewater

The project site is located within parcels with onsite wastewater treatment systems (Zone 7 Water Agency, 2016). During construction, portable toilets would be used in the project area and wastes would be disposed of at a local wastewater treatment plant.

3.17.3.3 Landfills

General types of solid nonhazardous waste that could be produced during construction would include food, glass, paper, or plastic materials that would be recycled or disposed of appropriately. According to the County website, there are three landfills, including Altamont Landfill and Resource Recovery Facility, Tri-Cities Landfill, and Vasco Road Landfill. Altamont Landfill, Resource Recovery Facility, and Tri-Cities Landfill are operated by Waste Management, while Vasco Road Landfill is operated by Republic Services, Inc.

3.17.4 Impacts

Checklist item a: Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

PG&E does not propose new land uses or new facilities that would require additional wastewater treatment. There would be no impact on wastewater treatment requirements of the San Francisco Bay Water Board. There would be no impact.

Checklist item 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?

PG&E does not propose new land uses or new facilities. It would not require construction of new water or wastewater treatment facilities or expansion of existing facilities. Wastewater service would be provided by portable toilets, and waste would be disposed at appropriately licensed facilities offsite. The minimal amount of effluent generated by construction workers would not cause a wastewater treatment plant to exceed its treatment capacity. There would be no impact.

Checklist item c: Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

To address erosion issues, onsite stormwater drainage would be improved. The outlet of the uppermost cross drain pipe would be extended underground via a pipe through the sinkhole repair area, as depicted in Figure 1.3. The gully repair areas would be restored by reshaping the area with native soil and reseeded. Where practicable, road segments would be outsloped and undulated to encourage dispersed road drainage. The project would improve access to PG&E's utility installation and thereby facilitate operation and maintenance efforts. Impacts on utilities and service systems would be less than significant.

Checklist item d: Have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed?

PG&E does not propose new land uses or new facilities and, as a result, would not require new water supplies. Existing water supplies are sufficient to provide water for dust control. No new or expanded entitlements would be needed. There would be no impact.

Checklist item e: Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

PG&E does not propose new land uses or new facilities and, as a result, would not require new wastewater treatment. Portable toilets would be used during construction and waste would be disposed at appropriately licensed facilities offsite. The minimal amount of effluent generated by construction workers would not cause a wastewater treatment plant to exceed its treatment capacity. There would be no impact.

Checklist item f: Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

The proposed project would be accommodated by existing landfills. Waste would be minimal because the existing roadway asphalt would be reused onsite as a base for the rehabilitated access road. The impact would be less than significant.

Checklist item g: Comply with federal, state, and local statutes and regulations related to solid waste?

General types of solid nonhazardous waste produced during construction activities would include food, glass, paper, plastic, and materials that would be recycled and/or disposed of appropriately. Disposal of waste would comply with all applicable regulations and, therefore, no impacts would occur.

XIX. Mandatory Findings of Significance	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
The proposed project would be consistent with federal, state, and local statutes and regulations related to solid waste. There would be no impact.				
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b. Does the project have impacts that are individually limited but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☐	☐	☒	☐
c. Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

3.18 Mandatory Findings of Significance

3.18.1 Background

The analysis of potential impacts was based on CEQA Guidelines for the evaluation of impacts on the environment from a proposed project.

3.18.2 Impacts

Checklist item a: Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?

The proposed project would not result in a substantial reduction in habitat of a fish or wildlife species, nor would it cause a fish or wildlife population to drop below self-sustaining levels, with implementation of APMs BIO-1, 2, 3, 4, 5, 6, 8 and MMs BIO-2, 3, 4, 5,6, 7, 8, 9 , 14 and 15. The same APMs and MMs would address migratory nesting birds and special status wildlife including vernal pool fairy shrimp, Alameda whipsnake, Western pond turtle, American badger, San Joaquin kit fox, California tiger salamander, California red-legged frog, and burrowing owls. The potential impact would be less-than-significant with mitigation incorporated.

The proposed project would not threaten to eliminate a plant community or substantially reduce the number or restrict the range of a rare or endangered plant with implementation of APM BIO-1, APM AQ-1, APM BIO-2, MM BIO-1, and MM BIO-2. APM BIO-1, APM AQ-1, APM BIO-2, MM BIO-1, and MM BIO-2 would address special-status plant species and potential introduction of noxious weeds. The potential impact would be less-than-significant with mitigation incorporated.

The proposed project would not threaten to eliminate an animal community or substantially reduce the number or restrict the range of a rare or endangered animal with implementation of APMs BIO-1, 3, 4, 5, 6, and MMs BIO-2, 3, 4, 5, and 6. APMs BIO-1, 3, 4, 5, 6, and MMs BIO-2, 3, 4, 5, and 6 would address special status wildlife including vernal pool fairy shrimp, Alameda whipsnake, Western pond turtle, American badger, San Joaquin kit fox, California tiger salamander, California red-legged frog, and burrowing owls. The potential impact would be less-than-significant with mitigation incorporated.

The proposed project would not eliminate important examples of the major periods of California history or prehistory with the implementation of APM CR-1 and APM CR-2. As discussed in Section 3.5, Cultural Resources of this Initial Study, no historical resources or archaeological resources have been identified within the project area. There remains the potential that previously unidentified and unrecorded resources may be present within the project area. Regarding examples of California history or prehistory, the impact is less-than-significant because APM CR-1 and APM CR-2 would be implemented.

Checklist item b: Does the project have impacts that are individually limited but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)

Consistent with the CEQA Guidelines (Section 15065), a project could have a significant cumulative impact if the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, effects of present projects, and effects of probable future projects. Cumulative impacts can result from individually minor, but collectively significant, effects occurring over a period of time.

The project would result in either no impacts, less-than-significant impacts, or less-than significant impacts with the implementation of mitigation measures in all resource areas. No development projects are proposed in the immediate vicinity of the project area and the project is located within the Eagle Ridge Preserve. As a result, the project is unlikely to have any cumulative impacts.

The potential impact to biological resources and habitat would not result in a cumulative loss of habitat. As discussed in Section 3.4, *Biological Resources*, MM BIO-12 requires PG&E to provide compensatory mitigation for unavoidable impacts on listed species habitat.

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

The project would not have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly. APM AQ-1 would address dust during construction. MM NOI-1 would help reduce construction noise levels during normally nonexempt hours. No residents are located directly at the project area.

Chapter 4
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Chapter 5
Mitigation Monitoring Plan

PG&E proposes to repair an electric transmission access road, dredge a seasonal pond, and fill and stabilize a sinkhole area on the Eagle Ridge Preserve Property (Preserve) in north-central Alameda County, north of Interstate 580 and south of Manning Road, approximately 3 miles north of the City of Livermore. An Initial Study was prepared to assess the proposed project's potential environmental effects. PG&E included Applicant-Proposed Measures (APMs) to reduce potentially significant adverse impacts related to project construction and operation. Additional mitigation measures were developed by CDFW (see Table 5-1).

The purpose of this Mitigation Monitoring Plan is to ensure effective implementation of each APM, as well as the Mitigation Measures identified by the Initial Study and imposed by CDFW as part of project approval. This Mitigation Monitoring Plan includes:

- The Applicant Proposed Measures and Mitigation Measures that PG&E shall implement as part of the proposed project;
- The actions required to implement these measures;
- The monitoring requirements; and
- The timing of implementation for each measure.

CDFW will use this MMP as the framework for a Mitigation Monitoring, Compliance, and Reporting Program (MMCRP). The MMCRP will be created by CDFW to formalize protocols to be followed prior to and during construction by PG&E project staff (including CDFW-approved monitors) and by CDFW staff during construction phase site visits. The MMCRP will include, but will not be limited to, the following topics:

- Agency Jurisdiction
- Roles/Responsibilities
- Communication
- Compliance Verification and Reporting
- Project Changes

A CDFW-approved monitor will carry out construction field monitoring to ensure full implementation of all measures. In all instances where non-compliance occurs, PG&E's CDFW-approved environmental monitor will issue a notice to the construction foreman and PG&E's project manager. Continued non-compliance shall be reported to CDFW's designated project manager. PG&E's CDFW-approved environmental monitor shall have authority to stop work if sensitive resources are threatened and will keep a record of any incidents of non-compliance with mitigation measures, APMs, or other conditions of project approval. Copies of these documents shall be supplied to PG&E and CDFW. During site visits, CDFW staff shall also have the authority to stop work if necessary and shall issue non-compliance notices as appropriate.

Final language of the MMCRP will be developed in consultation with PG&E. Drafted language for the project variance and dispute resolution protocols are provided below.

Minor Project Changes or Variances

CDFW Project Manager will ensure that any process to consider minor project changes that may be necessary due to final engineering or variances or deviations from the procedures identified under the monitoring program are consistent with CEQA requirements. No minor project changes or variances will be approved by CDFW if they are located outside of the geographic boundary of the project study area or create new or substantially more severe significant impacts. A variance should be strictly limited to minor project changes that will not trigger other permit requirements unless the appropriate agency has approved the change, that does not increase the severity of an impact or create a new impact without appropriate agency approval, and that clearly and strictly complies with the intent of the mitigation measure or applicable law or policy. PG&E shall seek any other project refinements by a petition to modify.

A proposed project change that has the potential for creating significant environmental effects will be evaluated to determine whether a petition to modify and/or supplemental California Environmental Quality Act (CEQA) review is required. Any proposed deviation from the approved project, adopted mitigation measures, APMs, and correction of such deviation, will be reported immediately to CDFW Project Manager for review. The CDFW Project Manager will review the variance request to ensure that all of the information required to process the minor project change is included. The CDFW Project Manager may request a site visit or may need additional information to process the variance. In some cases, project refinements may also require approval by jurisdictional agencies. In general, a minor project change request must include the information listed below.

- Detailed description of the location, including maps, photos, and/or other supporting documents;
- How the variance request deviates from a project requirement;
- Biological resource surveys or verification that no biological resources would be significantly impacted;
- Cultural resource surveys or verification that no cultural resources would be significantly impacted; and
- Agency approval (if necessary).

Table 5-1. Mitigation Monitoring Plan for the IS/MND

Impact	Applicant Proposed Measure or Mitigation Measure	Monitoring Requirement	Timing of Action
	Air Quality		
Construction phase fugitive dust	**APM AQ-1: Minimize Fugitive Dust.** The project applicant shall require its contractors, as a condition of contract, to reduce construction-related fugitive dust by implementing BAAQMD's basic control measures at all construction and staging areas. The following measures are based on BAAQMD's current CEQA guidelines for reducing equipment emission during construction. ▪ All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) will be watered two times per day. This does not apply to temporary overland access routes ▪ All haul trucks transporting soil, sand, or other loose material offsite will be covered. ▪ All visible mud or dirt track-out onto adjacent public roads will be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. ▪ All vehicle speeds on unpaved roads shall be limited to 15 mph. ▪ All roadways, driveways, and sidewalks to be paved will be completed as soon as possible. Building pads will be laid as soon as possible after grading unless seeding or soil binders are used. ▪ Post a publicly visible sign with the telephone number and the name of the person to contact at the lead agency regarding dust complaints. This person will respond and take corrective action within 48 hours. The phone number of the District will also be visible to ensure compliance.	PG&E to ensure implementation of measure. CDFW to confirm.	During construction.
Construction phase exhaust emissions	**APM AQ-2: Exhaust Emissions.** The following measures would be implemented during construction to minimize the construction vehicle exhaust emissions: ▪ Minimize construction equipment exhaust by using low-emissions or electric construction equipment where feasible. ▪ Minimize unnecessary construction vehicle idling time. The ability to limit construction vehicle idling time is dependent on the sequence of construction activities and when and where vehicles are needed or staged. Certain vehicles, such as large diesel-powered vehicles, have extended warm-up times following start-up that limit their availability for use following start-up, and may require more idling time for repetitive construction tasks. The project will apply a "common sense" approach to vehicle use, such that idling is reduced as far as possible below the maximum of 5 consecutive minutes required by regulation (13 CCR 2485). If a vehicle is not required for use immediately or continuously for construction activities or other safety- related reasons, its engine will be shut off. ▪ Minimize welding and cutting by using compression or mechanical applications where practical and within standards.	PG&E to ensure implementation of measure. CDFW to confirm.	During construction.

Table 5-1. Mitigation Monitoring Plan for the IS/MND

Impact	Applicant Proposed Measure or Mitigation Measure	Monitoring Requirement	Timing of Action
	Biological Resources		
Construction phase biological resources impacts	**APM BIO-1: Implement general avoidance measures to protect biological resources.** ▪ **Environmental awareness training.** Environmental awareness training shall be conducted for all project personnel prior to the start of construction activities and training provided by persons knowledgeable in the sensitive environmental resources described in this IS/MND. Environmental tailgate training sessions shall take place at project kick-off and on an as-needed basis in the field. The training shall be conducted in reference to all sensitive environmental resources potentially onsite (e.g., air quality, biological resources, cultural resources, hydrology and water quality, hazardous materials) and the measures associated with their protection (i.e., APMs, MMs, applicable laws and regulations). For biological resources, the program shall include a description of local and special-status species and their habitat needs, any reports of occurrences in the project area, an explanation of the status of each special-status species and their protection under CESA and ESA, and a list of measures being taken to reduce effects during construction and implementation. Fact sheets conveying this information and an educational brochure with color photos or illustrations of sensitive resources shall be prepared for distribution to anyone who may enter the project area. The environmental compliance supervisor shall maintain a resource map showing the location of sensitive resource, any special-status species identified during the biological surveys of the project site, and relevant buffer areas. Maps shall be updated as needed to show the location of any newly identified biological resource. As needed, in-field training shall be provided to new on-site construction personnel by a qualified biological monitor who shall be identified by PG&E's biologist. The training shall include guidelines that must be followed by all personnel to reduce or avoid impacts on protected biological resources during construction activities. Directors, managers, superintendents, and the crew supervisors shall be responsible for ensuring that crewmembers comply with the guidelines. If guidelines are not met, the construction monitor shall document the non-compliance, report the non-compliance to the PG&E project manager, and corrective actions shall be discussed and implemented. Contractor training shall be incorporated into construction contracts and shall be a component of weekly project meetings. ▪ **Restrict work to daylight hours.** All construction activities must cease one half hour before sunset and shall not begin prior to one half hour after sunrise. If nighttime construction is required, additional avoidance measures shall be developed. ▪ **Flag sensitive habitat or resource areas.** Sensitive habitat or resources identified during the reconnaissance-level field surveys or preconstruction surveys and that are in or adjacent to project work areas, such as potential or occupied burrowing owl burrows, occupied bird nests, location of special-status plants, and mammal dens, shall be either clearly marked or the limits of an adjacent work area shall be clearly marked (i.e. a no disturbance buffer area shall be established). Project resource maps may be updated to reflect active nest buffers or changes to the resources adjacent to work areas based on preconstruction survey findings. Areas with sensitive resources shall be avoided during construction, and additional measures (described below) shall be implemented to further avoid impacts. ▪ **Delineate construction areas.** Prior to any ground-disturbing activities, PG&E or its contractors shall install high-visibility flagging around the perimeter of the work and access areas to prevent	PG&E to submit environmental training materials to CDFW for review prior to construction. PG&E to submit documentation to CDFW of worker environmental awareness training. CDFW to confirm sensitive habitat/resource staking, work area delineation, and access routes prior to start of construction. PG&E to ensure implementation of measure. CDFW to confirm.	Prior to and during construction.

Table 5-1. Mitigation Monitoring Plan for the IS/MND

Impact	Applicant Proposed Measure or Mitigation Measure	Monitoring Requirement	Timing of Action
	encroachment of construction personnel and equipment outside of the designated work area depicted on Figure 1.3. ▪ **Minimize Work Area.** Ground disturbance and vegetation clearing (e.g. mowing, blading, grubbing) shall be limited to the extent necessary to safely complete construction. Grading shall be restricted to the minimum area necessary to safely complete the construction. ▪ Prohibited Activities. – Plastic monofilament or similar material shall not be used at the project. Acceptable substitutes include, but are not limited to: coconut coir matting or tackified hydroseeding compounds. – Trash dumping, firearms, open fires or barbecues, hunting, and pets shall not be allowed at or near work sites. ▪ **Vehicle best management practices.** Vehicles and equipment shall be parked on pavement, existing roads, and previously disturbed or developed areas or work areas as identified in this document. Off-road vehicle travel shall be minimized and parking shall only be permitted in previously identified and designated work areas. Vehicles shall not exceed a speed limit of 10 miles per hour on unpaved roads within natural land-cover types or during off-road travel. Vehicles shall be washed only at approved areas (i.e. designated car washes or contractor yards in established wash stations where wastewater shall not enter any stream). The exception to this is washing of vehicles and equipment to remove potentially contaminated soil with soil or plant pathogens, including *Phytophthora spp.* At designated wash stations within the project area (see MM BIO-11). Internal combustion engines, stationary and mobile, shall be equipped with spark arresters. Spark arresters shall be maintained in good working order. ▪ **Route and work area limitations.** Vehicles shall be confined to established roadways and pre-approved overland routes, and access areas. The extent of access routes and construction work areas shall be limited to the minimum necessary to achieve the project goals. Off-road parking shall only be permitted in previously identified and designated work areas approved by the biological monitor after determining wildlife or habitat resources would not be adversely affected. ▪ **Maintenance and refueling.** All equipment shall be maintained such that there shall be no leaks of automotive fluids such as fuels, solvents, or oils. All refueling and maintenance of vehicles and other construction equipment shall be restricted to designated staging areas located at least 150 feet from any down gradient aquatic habitat. Proper spill prevention and cleanup equipment shall be maintained in all refueling areas. ▪ **Containment and Cleanup Materials.** Containment and cleanup materials shall be maintained onsite while work is underway. All food scraps, wrappers, food containers, cans, bottles, and other trash from the project area shall be deposited in closed trash containers. Trash containers shall be removed from the project area at the end of each working day.		

Table 5-1. Mitigation Monitoring Plan for the IS/MND

Impact	Applicant Proposed Measure or Mitigation Measure	Monitoring Requirement	Timing of Action
Construction phase aquatic resources and special-status wildlife habitat impacts	**APM BIO-2: Protect aquatic resources and habitat for special-status wildlife.** Construction activities shall be designed to minimize disturbance of seasonal wetlands (including seasonal ponds) and regulated waters in the project area. PG&E shall implement the following measures. ▪ No waters under the jurisdiction of USACE, CDFW or the San Francisco Bay Water Board shall be impacted before obtaining permits from the respective agency and receiving a wetland delineation verification from USACE prior to ground disturbance. ▪ No project activity shall take place in the West Branch of Cayetano Creek. ▪ Within wetlands, equipment shall only be allowed within the palustrine emergent wetland pond area that is proposed for sediment removal. ▪ The duration of construction activities shall be minimized within any potential wetland or regulated waters and only the required minimum number of construction personnel and equipment shall be allowed in regulated waters. ▪ Buffer distances or setbacks and other protective measures (e.g. erosion control BMPs) shall be implemented to prevent impacts on aquatic habitat for special-status species. ▪ If preconstruction wildlife surveys identify that seasonal wetlands and seasonal ponds are occupied by special-status species and these species would be affected by construction activities, additional consultation with CDFW and USFWS shall be required, and larger no disturbance buffer areas may be necessary.	CDFW to confirm sensitive habitat/resource staking, work area delineation, and access routes prior to start of construction. PG&E to submit preconstruction wildlife surveys to CDFW for review prior to start of construction. PG&E to ensure implementation of measure. CDFW to confirm.	Prior to and during construction.
Construction phase biological resources and special-status wildlife species impacts	**APM BIO-3: Provide wildlife escape ramps and inspect trenches.** All excavations in excess of 6 inches deep shall be sloped and have escape ramps installed that are suitable for the escape of wildlife or trenches shall be thoroughly covered at the end of the day. Escape ramps may be earthen ramps or constructed out of other suitable materials, such as plywood. with a maximum 45-degree angle. Escape ramps shall be installed at intervals as recommended by a qualified biologist. All trenches and excavations shall be inspected for wildlife at the beginning of the work day and prior to backfilling. In the event that an excavation would be left unattended for a period of more than 24 hours, metal or wooden covering shall be placed over the excavation prior to the departure of the biological monitor in order to completely seal the excavation and prevent longer-term wildlife entrapment, except for larger excavations that cannot easily be covered. Large excavations that cannot be covered must be checked at intervals of no less than 24 hours. If any wildlife is observed to be trapped, construction will cease until the animal has been relocated to an appropriate location. If a special-status species is discovered in a trench or excavation, work in the area shall be redirected, and the special-status species shall be allowed to leave the trench and the area of its own accord. In the event a California tiger salamander is trapped in a trench or an excavation and unable to leave on its own accord, it shall be relocated according to Mitigation Measures MM BIO-5, MM BIO-6 and MM BIO-8. In the event any other special-status species is trapped in a trench or an excavation and unable to leave on its own accord, USFWS and CDFW may be contacted by the PG&E biologist, unless the PG&E biologist identifies an individual with appropriate approval (e.g., a CDFW collecting permit or approval from USFWS) to relocate the special-status species. Trenches shall be backfilled as soon as possible.	PG&E to ensure implementation of measure. CDFW to confirm.	During construction.

Table 5-1. Mitigation Monitoring Plan for the IS/MND

Impact	Applicant Proposed Measure or Mitigation Measure	Monitoring Requirement	Timing of Action
Special-status wildlife species impacts	**APM BIO-4: Cover and inspect open-ended pipes prior to moving.** Open-ended project-related pipes shall be capped if left overnight and inspected for wildlife prior to being moved, buried or capped. If animals are discovered or trapped in a pipe, the pipe shall not be moved and the protocols for APM BIO-3 shall be used.	PG&E to ensure implementation of measure. CDFW to confirm.	During construction.
Special-status species impacts	**APM BIO-5: Implement timing restriction during construction.** Consistent with the USFWS Biological Opinion for the EACCS, ground-disturbing activities may be restricted to the dry season (April 15 to October 15) to avoid the period when listed amphibians could be actively dispersing through upland habitats or in suitable aquatic habitat. Limited non-ground-disturbing construction activities may occur between March 1 and April 14 if authorized by the USFWS or CDFW project permits, provided that other AMMs are in place to ensure impacts on California tiger salamander and California red-legged frog do not occur. If rainfalls starts before October 15 and PG&E has not yet finished construction, PG&E shall contact the USFWS and CDFW about measures that may be required to avoid and minimize impacts on California tiger salamander and California red-legged frog. Should work need to be extended beyond October 15, PG&E shall request authorization from the USFWS and CDFW at least 30 days prior of the date of the proposed extension, for intervals of up to one (1) week. Work shall only be conducted in accordance with CDFW and USFWS approval.	PG&E to ensure implementation of measure. CDFW to confirm.	During construction.
Construction phase biological resources and special-status wildlife impacts	**APM BIO-6: Dust Suppression.** A water truck shall be used to control dust from disturbed soils, stockpiles, and unpaved access roads. Watering shall be done in such a manner that no puddles are formed and impacts to wetlands and waters are avoided. Chemical additives used for dust suppression must be reviewed and approved by CDFW and shall not cause harm to sensitive species or habitats.	PG&E to ensure implementation of measure. CDFW to confirm.	During construction.
Construction phase biological resources impacts.	**APM BIO-7: Contracts.** Contracts with contractors, construction management firms, and subcontractors shall obligate all contractors to comply with all project APMs and MMs.	PG&E to ensure implementation of measure. CDFW to confirm.	Prior to and during construction.
Construction phase biological resources and special-status species impacts	**APM BIO-8: Vehicle and Equipment Inspections.** All equipment and vehicles shall be inspected at the beginning of every work day, prior to beginning work activities to avoid crushing wildlife. Prior to movement or use, the area beneath all vehicles and equipment that have remained stationary for ten minutes or longer shall be inspected for the presence of wildlife. If a special-status species is discovered, equipment shall not be moved until the animal has left voluntarily or is removed by a biologist authorized to do so. When equipment is being moved out of work areas, the biological monitor or trained representative shall check to ensure that no animals are inadvertently crushed.	PG&E to ensure implementation of measure. CDFW to confirm.	During construction.

Table 5-1. Mitigation Monitoring Plan for the IS/MND

Impact	Applicant Proposed Measure or Mitigation Measure	Monitoring Requirement	Timing of Action
Construction phase biological resources and special-status species impacts	**APM BIO-9: Permit Copies.** PG&E shall ensure that readily available copies of any permits or authorizations issued by CDFW, USFWS, and USACE for this project are maintained by the biological monitor on the project site whenever earthmoving and/or construction is taking place. The name and telephone number of the PG&E Land Planner and on-site biological monitor shall be provided to permitting agencies prior to groundbreaking.	PG&E to submit name and telephone number of the PG&E Land Planner and on-site biological monitor to CDFW prior to start of construction. PG&E to ensure implementation of measure. CDFW to confirm.	Prior to and during construction.
Construction phase special-status plant species impacts	**MM BIO-1: Rare and Special-Status Botanical Surveys and Avoidance.** Prior to project implementation, a Qualified Biologist or Botanist shall conduct a survey for rare and special-status plants that have moderate or higher potential to occur at the project area (i.e., San Joaquin spearscale and Congdon's tarplant). The botanical survey shall be consistent with CDFW's Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities. The survey shall be seasonally appropriate and conducted at the appropriate time of year when botanicals are both evident and identifiable (blooming, flowering, or fruiting). If a rare or special-status botanical species are found within the construction disturbance footprint, they shall be flagged and appropriate buffers shall be established in consultation with the Qualified Biologist or Botanist and CDFW. CDFW shall be notified of the occurrence of special-status plants within five (5) days of discovery.	CDFW to review credentials and approve Qualified Biologist/ Botanist. PG&E shall submit surveys to CDFW for review. CDFW to confirm flagging and buffers prior to start of construction if special-status species are found. PG&E to ensure implementation of measure. CDFW to confirm.	Prior to and during construction.
Construction phase biological resources and special-status species impacts	**MM BIO-2: Biological Monitoring.** A qualified USFWS- and CDFW-approved biological monitor ("approved biologist") shall be onsite during all construction activities and shall monitor implementation and compliance with APMs, MMs, and permit requirements relating to the sensitive resources. The approved biologist shall have the authority to stop any work that may violate permit conditions and/or result in the take of a listed species. Also, the approved biologist shall have the authority to suggest alternative work practices after consultation with construction personnel, as appropriate, if construction activities are likely to impact sensitive biological resources, and to make those suggestions known to CDFW. If the approved biologist exercises this authority, the PG&E project biologist shall be notified immediately and PG&E shall notify, by telephone or electronic mail, USFWS and CDFW within 1 working day. The approved biologist shall be the contact for any employee or contractor who might inadvertently kill or injure a special-status species or anyone who finds a dead, injured, or entrapped individual. The approved biologists shall possess a working wireless/mobile phone. This phone number, in addition to the PG&E project biologist's phone number, shall be provided to the CDFW and USFWS. The biological monitor shall document all APM, MM, and permit condition compliance and any corrective actions and include these records in daily monitoring logs, which will be regularly reported to CDFW.	CDFW to review credentials and approve monitors. PG&E to ensure implementation of measure. CDFW to confirm.	Prior to and during construction.

Table 5-1. Mitigation Monitoring Plan for the IS/MND

Impact	Applicant Proposed Measure or Mitigation Measure	Monitoring Requirement	Timing of Action
Construction phase special-status species impacts	**MM BIO-3: Work in Dry Weather.** During the dry season (April 15 – October 14), Permittee shall limit Covered Activities to periods of low rainfall (less than 0.10 inch per 24-hour period). Ground disturbing activities may resume 48 hours after the rain ceases when there is a less than 40% change of precipitation in the 24-hour forecast.	PG&E to submit forecast and weather reports to CDFW when chance of precipitation. PG&E to ensure implementation of measure. CDFW to confirm.	During construction.
Construction phase special-status species impacts	**MM BIO-4: Conduct preconstruction wildlife surveys.** Within 14 days prior to any construction or staging activities, a qualified USFWS- and CDFW-approved biologist shall conduct a preconstruction survey for special-status wildlife species (except CTS and CRLF, covered by MM BIO7 below) in the active construction work areas. Survey results may be documented in a brief memo or monitoring form and shall note the occurrence and location of any sensitive habitat (e.g. active nest, occupied burrow) or wildlife species observed during the preconstruction survey. No additional measures shall be implemented if protected wildlife species are not observed. If a protected wildlife species is observed, work shall not begin until the species departs the construction area or are moved out of the construction area to a CDFW- and USFWS-approved relocation site. If at any point construction activities cease for more than 7 days, additional surveys shall be conducted prior to the resumption of these actions.	PG&E shall submit preconstruction wildlife surveys to CDFW for review. PG&E to ensure implementation of measure. CDFW to confirm.	Prior to and during construction.
Construction phase special-status species impacts	**MM BIO-5: Amphibian Capture Best Practices.** CDFW/USFWS approved biologists shall use their bare hands to capture California tiger salamander and California red-legged frog, CDFW/USFWS-approved biologists shall not use soaps, oils, creams, lotions, repellents, or solvents of any sort on their hands within 2 hours before and during periods when they are capturing and relocating individual California tiger salamander/California red-legged frog. To avoid transferring disease or pathogens from handling of the amphibians, CDFW/USFWS-approved biologists shall follow the Declining Amphibian Populations Task Force's Code of Practice. Captured California tiger salamanders shall be placed individually into a dark, clean plastic container of suitable size with enough room so the animal can move freely and shall keep the container moist with damp paper towels, soft foam rubber, or natural or synthetic sponge free of soaps and antibacterial/antifungal treatments. Containers used for holding or transporting shall not contain any standing water. The lids of the containers shall have small air holes for ventilation. Sponges shall not be reused and all other housing materials shall be disinfected between occupants according to the Task Force's Code of Practice.	PG&E to ensure implementation of measure. CDFW to confirm.	Prior to and during construction.

Table 5-1. Mitigation Monitoring Plan for the IS/MND

Impact	Applicant Proposed Measure or Mitigation Measure	Monitoring Requirement	Timing of Action
Construction phase special-status species impacts	**MM BIO-6: Restraint and Handling of Live Amphibians.** California tiger salamander and California red-legged frog shall be handled and assessed according to the Restraint and Handling of Live Amphibians USGS, National Wildlife Health Center (D. Earl Greene, ARMI SOP No. 100; 16 February 2001). CDFW/ USFWS-approved biologist shall move special-status species to appropriate locations within 300 feet of the project boundary pursuant to the Relocation Plan. If an injured California tiger salamander or California red-legged frog is found during the project term, the individual shall be evaluated by the approved biologist who shall then immediately contact the PG&E project biologist who shall then contact the CDFW and USFWS, via email and telephone, to discuss the next steps. If the representatives cannot be contacted immediately, the injured amphibian shall be placed in a shaded container and kept moist. If the representatives are not available or do not respond within 2 hours of initial attempts, then the following steps shall be taken: a. If the injury is minor or healing and the amphibian is likely to survive, the amphibian shall be released immediately as follows. The approved biologist shall relocate any California tiger salamander and California red-legged frog found within the work area to an active rodent burrow or burrow system located no more than 300 feet outside of the work area. California tiger salamander and California red-legged frog shall be monitored until it is determined that it is not imperiled by predators or other dangers. Relocation areas shall be identified by the approved biologist based on best suitable habitat available and approved by the agencies prior to the start of project activities. The approved biologist shall document the release location by photograph and GPS position. The California tiger salamander and California red-legged frog shall be photographed and measured (snout-vent and total length) for identification purposes prior to relocation. All documentation shall be provided by PG&E to CDFW and the USFWS within 24 hours of relocation. b. If it is determined that the California tiger salamander or California red-legged frog has major or serious injuries as a result of project-related activities, the CDFW/USFWS-approved biologist shall immediately take it to the Lindsay Wildlife Experience or another agency-approved facility. The circumstances of the injury, procedure followed, and final disposition of the injured animal shall be documented in a written incident report, as described above.	PG&E to ensure implementation of measure. CDFW to confirm.	Prior to or during construction.

Table 5-1. Mitigation Monitoring Plan for the IS/MND

Impact	Applicant Proposed Measure or Mitigation Measure	Monitoring Requirement	Timing of Action
Construction phase special-status species impacts	**MM BIO-7: Conduct Preconstruction Surveys for Special-Status Amphibians and Avoid Impacts to Burrows.** A CDFW- and USFWS-approved biologist shall survey the project area with potential habitat for California tiger salamander and California red-legged frog immediately prior to ground-disturbing activities. Surveys shall include all potentially suitable upland habitat such as rodent burrows, cracks, ruts, holes near root structures, foundations, abutments, and leaf litter within the project area that contain potential habitat for these species. If any California tiger salamander or California red-legged frog are found, the approved biologist shall contact CDFW and the USFWS to determine if moving any of these life stages is appropriate. In making this determination, CDFW and USFWS shall consider if an appropriate relocation site exists as provided in the Relocation Plan. If CDFW and the USFWS approve moving animals, the CDFW- and USFWS- approved biologist would be allowed sufficient time to move California tiger salamander and California red-legged frog from the project area before work activities begin. Only CDFW- and USFWS-approved biologists shall participate in activities associated with the capture, handling, and monitoring of California red-legged frog and California tiger salamander. The qualified biologist shall mark all visible and obvious burrows within the project disturbance footprint (i.e. excavation areas, gully repair areas, staging area etc.), including a 10-foot buffer around the disturbance footprint, no less than 7 days prior to earthmoving activities in those areas. All burrows shall be avoided to the maximum extent practicable during earthmoving activities. Areas with high concentrations of burrows shall be avoided by earthmoving activities to the maximum extent possible. In addition, when concentrations of burrows or large burrows are observed within the site, and if it is possible to avoid these burrows during construction activities, these areas shall be staked and/or flagged to ensure construction personnel are aware of their location and to facilitate avoidance of these areas when possible.	PG&E to ensure implementation of measure. CDFW to confirm.	Prior to and during construction.

Table 5-1. Mitigation Monitoring Plan for the IS/MND

Impact	Applicant Proposed Measure or Mitigation Measure	Monitoring Requirement	Timing of Action
Construction phase special-status species impacts	**MM BIO-8: Covered Species Relocation.** A Relocation Plan for California tiger salamander and California red-legged frog shall be submitted to and approved by CDFW prior to the start of construction. The Relocation Plan shall include relocation site selection criteria. When California tiger salamander are observed within work areas, the qualified biologist shall relocate any individuals found to an active rodent burrow system located no more than 300 feet outside of the project area, or the nearest suitable burrow beyond that distance. California tiger salamander shall be released as soon as possible. A suitable burrow should be at least 3" in depth and have moist and cool conditions. If burrow density allows, the qualified biologist shall only release one animal per burrow. If the animal repeatedly walks away from the burrow, or partially enters it and then turns around, the qualified biologist shall remove it and find another burrow. The qualified biologist shall document occurrence and relocation sites by photographs and GPS positions. When handled, California tiger salamander and California red-legged frog shall be photographed and measured (snout-vent and total length) for identification purposes prior to relocation. The individual shall be monitored until it is determined that it is not imperiled by predators or other dangers. The qualified biologist shall release individuals one at a time rather than as a group. All documentation shall be provided to CDFW and USFWS within 48 hours of relocation. Only CDFW/USFWS-approved biologists shall conduct surveys and move special-status species. A qualified biologist possessing a valid ESA Section 10(a)1(A) permit or CDFW/USFWS-approved under an active biological opinion, shall be contracted to trap and to move amphibians to nearby suitable habitat if amphibians are found inside fenced area.	PG&E to submit qualified biologist credentials to CDFW prior to start of construction. PG&E to submit a Relocation Plan for California tiger salamander and California red-legged frog to CDFW for review and approval prior to start of construction. Documentation shall be provided to CDFW and USFWS within 48 hours of relocation of Covered Species. PG&E to ensure implementation of measure. CDFW to confirm.	Prior to and during construction.

Table 5-1. Mitigation Monitoring Plan for the IS/MND

Impact	Applicant Proposed Measure or Mitigation Measure	Monitoring Requirement	Timing of Action
Construction phase special-status species impacts	**MM BIO-9: Implement Wildlife Barriers.** At least 15 days prior to commencing any Project Activities, Permittee shall submit to CDFW a barrier proposal that shall address the level of need for additional barriers at all project areas within suitable CTS/CRLF habitat for CDFW approval. The Designated Biologist shall evaluate site and planned work activities to determine the wildlife exclusion barrier proposal and consider season of work, special-status species occurrence to date, time duration of site activity, and implications for wildlife movement in the proposal. A recommendation not to install fencing may be made if the effects of fencing installation could be greater in extent or duration than those associated with planned work activities. The barrier design shall include the elements that follow. To avoid potential entanglement of wildlife, PG&E shall not use plastic monofilament netting. The barrier shall include multiple escape funnels, ramp, or another method if approved by CDFW to allow wildlife to leave the project area. PG&E shall maintain and repair the barrier immediately to ensure that it is functional and without defects. Any California tiger salamander and California red-legged frog found along the barrier shall be relocated in accordance with the Relocation Plan. Location and design of the barriers shall be included within the proposal. The barrier shall be installed under the supervision of a qualified biologist. The bottom six inches of the barrier shall be buried, if feasible, or otherwise adequately secured to prevent California tiger salamander and California red-legged frog movement into the project area. Following fence installation, the qualified biologist(s) shall block holes or burrows entrances within project area, of burrows avoided by construction activities, if any, that appear to extend under the barrier to minimize California tiger salamander and California red-legged frog movement into the project area. The barrier shall be checked regularly (not less than three times per week) to look for California tiger salamander and California red-legged frog and to ensure barrier integrity. Inspection intervals shall be based upon the planned construction activities at each site, recent and forecasted weather events, and the results of preconstruction surveys and previous inspections. The barriers shall be continuously maintained until all construction activities are completed, and then removed as soon as possible, but no later than 7 days after activities have ceased, unless required to remain longer to ensure SWPPP compliance. The barrier shall continue to be checked regularly until it is removed.	PG&E to submit barrier proposal to CDFW at least 15 days prior to commencing any Project Activities. CDFW to verify proper/approved installation of barrier prior to the start of any Project Activities. PG&E to ensure implementation of measure. CDFW to confirm.	Prior to, during, and post-construction.

Table 5-1. Mitigation Monitoring Plan for the IS/MND

<table>
<tr><th>Impact</th><th>Applicant Proposed Measure or Mitigation Measure</th><th>Monitoring Requirement</th><th>Timing of Action</th></tr>
<tr><td>Construction phase biological resources impacts</td><td>MM BIO-10: Prepare and Implement Vegetation Restoration Plan. PG&E shall restore on-site all of the native vegetation that shall be temporarily disturbed during construction to as close to pre-project conditions as possible. The table below describes the proposed restoration success criteria for grassland habitat beginning in “Year 1,” the first year upon completion of construction. Upon CDFW approval, the Vegetation Restoration Plan shall be implemented to restore temporary impact areas to pre-project or better conditions.

Restoration Success Criteria and Reporting for Grassland Habitat

Overall Success Criteria | Year 1* | Year 2 and Year 3, if applicable
▪ A minimum of 70% vegetation cover relative to adjacent reference site or baseline conditions, and less than 5% absolute cover of invasive plants listed as high or moderate in the Cal-IPC database and mapped in the work area during the baseline conditions assessment. | Take photos from designated photo stations.
▪ In Year 1, an annual restoration monitoring report shall be submitted to CDFW with a qualitative assessment of vegetation cover and a comparison to the baseline conditions assessment or adjacent reference site for the work areas. Annual monitoring report shall document restoration success and shall be submitted to the permitting agencies by September 1.
▪ The first report shall provide a species list of the seed mix used at each restoration area. If success criteria, are met in Year 1, no additional monitoring or reporting is required and restoration is considered complete. | Take photos from designated photo stations
▪ If success criteria are not met in Year 1, a Year 2 annual restoration monitoring report shall be submitted to CDFW by September 1, containing the same information as the Year 1 report.
▪ If success criteria are not met in Year 2, a final report shall be submitted to CDFW by September 1, containing the same information as the Year 1 and 2 reports.

* Year 1 is first year of post-construction operation.

The Vegetation Restoration Plan shall include detailed specifications for restoring all temporarily disturbed a as seed mixes, timing, and application methods. Non-native invasive species shall not account for the absol for restoration success. The California Invasive Plant Council (Cal-IPC) database (http://www.cal-ipc.org/pa consulted when determining noxious and invasive plants. The Vegetation Restoration Plan shall contain the components:</td><td>PG&E to submit Vegetation Restoration Plan to CDFW prior to start of construction for review and approval.

Labeled digital copies of pre- and post-project photographs shall be sent to CDFW within forty-five (45) days of completion of the project.

PG&E to ensure implementation of measure. CDFW to confirm.</td><td></td></tr>
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Table 5-1. Mitigation Monitoring Plan for the IS/MND

Impact	Applicant Proposed Measure or Mitigation Measure	Monitoring Requirement	Timing of Action
	▪ PG&E shall remove and stockpile separately, the top six (6) to twelve (12) inches of soils within the project area and within CDFW and/or USACE jurisdictional drainages. This stockpiled top soil material shall be placed back so as to replicate the original soil stratigraphy at the end of construction. ▪ Prior to initiating ground disturbance, PG&E shall identify appropriate adjacent vegetation community site(s) adjacent to the project area to be used as a reference site (i.e. a site that will be used as a comparison for restoration criteria). The slope, aspect, and hydrological conditions shall be similar for both the reference site and site to be restored. PG&E will evaluate species composition at the reference site, which shall be similar to the site to be restored. Documentation shall identify: (1) the vegetation species; (2) an estimate of average ground cover density; (3) an overall estimate of the density of native and non-native species composition and (4) weed mapping of all Cal-IPC's California Invasive Plants listed as high or moderate. ▪ Restoration of temporary impacts shall occur prior to the beginning of the rainy season (generally October 31) to the extent possible. Restoration work may occur year-round but shall be completed within the same season of project impact to the extent possible. ▪ A seed mix shall be identified considering species found in the baseline conditions assessment and at the reference site and include only native species, with an emphasis on native bunchgrasses and other grassland species. ▪ In the baseline conditions assessment PG&E shall perform preconstruction weed mapping of all Cal-IPC's California Invasive Plants listed as high or moderate to document baseline Cal-IPC invasive plants present in the project area prior to construction. The restored project area shall consist of no more than 5% of the existing baseline Cal-IPC invasive plants observed in the same project area. If the presence of invasive species exceeds this threshold, PG&E is responsible for conducting appropriate control activities during monitoring, up to three years after implementation of restoration. ▪ To ensure that site restoration and erosion control measures are successful, PG&E shall be required to monitor site conditions for up to three years following project completion or until success criteria are satisfied prior to the end of three years. Site visits shall be conducted at least once after the first significant rain event after project completion to evaluate site stability and during the spring and summer to evaluate revegetation efforts. If PG&E or CDFW determines there is an increase in erosion or bank instability, PG&E shall consult with CDFW on corrective actions. ▪ To discourage the introduction and establishment of invasive plant species, seed mixtures/used within natural vegetation shall be either rice straw or weed-free straw. ▪ Prior to commencement of work, PG&E shall identify representative views of the project area that will be identified in the CDFW Streambed Alteration Agreement and Incidental Take Permit for this project or would impact California tiger salamander or California red-legged frog upland habitat. PG&E shall photograph the project area from each of the flagged points, noting the direction and magnification of each photo. Upon completion of construction, PG&E shall photograph post-project conditions from the flagged photo points using the same direction and magnification as pre-project photos. Labeled digital copies of pre- and post-project photographs shall be sent to CDFW within forty-five (45) days of completion of the project.		

Table 5-1. Mitigation Monitoring Plan for the IS/MND

Impact	Applicant Proposed Measure or Mitigation Measure	Monitoring Requirement	Timing of Action
Construction phase biological resources and special-status species impacts	**MM BIO-11: Invasive Plant and Pathogen Abatement.** A CDFW/USFWS-approved biologist shall ensure that the spread or introduction of invasive exotic plant species shall be avoided to the maximum extent possible. When practicable, invasive exotic plants in the construction disturbance footprint shall be removed. To minimize the unintended movement of host material, soil, and water from areas infested with *Phytophthora spp.* or other plant pathogens the following BMPs shall be implemented: ▪ Prior to commencement of construction, Permittee shall evaluate the level of currently known *Phytophthora* infestations (e.g., viewable in Sudden Oak Death map at: http://www.suddenoakdeath.org/maps-media/maps/) in areas where equipment had previously been operating and along the entirety of the project area, and subsequently take extra precautions when moving equipment out of contaminated areas. ▪ In the event that it appears that there is a risk of infestation in the project area, establish a vehicle and equipment power wash station to remove potentially contaminated accumulations of soil, mud, and organic debris. The station should be located within the generally infested area, paved or rocked, well-drained so that vehicles exiting the station do not become contaminated by the wash water, and sited where wash water and displaced soil does not have the potential to carry fines to a watercourse. ▪ Prior to entry to any project area for the first time, equipment must be free of soil and debris on tires, wheel wells, vehicle undercarriages, and other surfaces (a high pressure washer and/or compressed air may be used to ensure that soil and debris are completely removed). ▪ Compliance with the provision is achieved by demonstrating that the vehicle or equipment has been cleaned at a commercial vehicle or appropriate truck washing facility. ▪ The interior of equipment (cabs, etc.) must be free of mud, soil, gravel and other debris (interiors may be vacuumed or washed). ▪ Footwear and small tools must be thoroughly cleaned and sanitized before moving to a new job site. Shoe soles must be free of debris and soil. (Water, a stiff brush, screwdriver or similar tool can be used to remove soil from shoe treads). Once soil or debris have been removed, an appropriate sanitizing agent of ethyl or isopropyl alcohol (at least 70% concentration) must be used to kill pathogen spores which may be present on boot soles or tools (sanitizing agent may be applied by using spray bottles filled with alcohol to thoroughly wet the surface). Boot soles and hand tools must be sprayed with enough alcohol that surfaces are fully coated and wet. (brushes and other implements used to help remove soil shall be cleaned after use with alcohol.)	PG&E to ensure implementation of measure. CDFW to confirm.	Prior to and during construction.

Table 5-1. Mitigation Monitoring Plan for the IS/MND

Impact	Applicant Proposed Measure or Mitigation Measure	Monitoring Requirement	Timing of Action
Construction phase special-status species impacts	**MM BIO-12: Provide Habitat Compensation.** Prior to construction, or no later than 18 months from issuance of an Incidental Take Permit by CDFW, assuming financial assurance is provided to CDFW (see MM BIO-13), PG&E shall purchase credits at a USFWS/CDFW-approved Conservation Bank to compensate for unavoidable effects to California tiger salamander and California red-legged frog. Alternatively, PG&E may propose and implement an alternative compensation strategy that would meet East Alameda Conservation Strategy goals by preserving, restoring, or improving habitat for California tiger salamander and California red-legged frog in the project vicinity. CDFW or USFWS may require additional mitigation if reseeding is not completed by October 31 of the year in which impacts occurred as required in MM BIO-10 (Prepare and Implement a Vegetation Restoration Plan). If available, multi-species credits can be used. Proof of payment shall be submitted to the USFWS and CDFW.	Proof of purchase of Conservation Bank credits payment shall be submitted to the USFWS and CDFW prior to construction, or no later than 18 months from issuance of Incidental Take Permit, assuming financial assurance is provided to CDFW. PG&E to ensure implementation of measure. CDFW to confirm.	Prior to or during construction.
Construction phase special-status species impacts	**MM BIO-13: Financial Security.** Prior to initiating project activities, and if proof of payment has not been submitted to CDFW and USFWS, PG&E shall provide CDFW with a form of performance security, approved in advance in writing, in an amount comprised of funds necessary for: a) onsite restoration, and b) offsite mitigation credits. Alternatively, PG&E may provide, prior to initiating project activities, habitat compensation through the acquisition and commitment for management in perpetuity of suitable habitat, approved by CDFW. Such a purchase would then be subject to a Fee Title/Conservation Easement transfer to CDFW pursuant to terms approved in writing by CDFW.	PG&E to provide CDFW with a form of performance security or habitat compensation through acquisition and commitment for management in perpetuity of suitable habitat. PG&E to ensure implementation of measure. CDFW to confirm.	Prior to construction.
Construction phase nesting birds impacts	**MM BIO-14: Conduct preconstruction nesting bird surveys.** If construction activities are scheduled to occur between February 1 and August 31, preconstruction nesting bird surveys shall be conducted by a qualified biologist no more than 7 days prior to the start of construction, covering a radius of 0.5 mile for golden eagles, 500 feet for raptors and 250 feet for passerines at all project area locations. If any active nests containing eggs or young are found, an appropriate nest exclusion zone shall be established by the qualified biologist in accordance with PG&E's Avian Conservation Plan and nesting bird buffers and in coordination with CDFW. No project vehicles, or heavy equipment shall be operated in this exclusion zone until the biologist has determined that the nest is no longer active and or the young have fledged.	PG&E to submit preconstruction nesting bird surveys to CDFW for review if work occurs between February 1 and August 31. PG&E to ensure implementation of measure. CDFW to confirm.	Prior to and during construction.

Table 5-1. Mitigation Monitoring Plan for the IS/MND

Impact	Applicant Proposed Measure or Mitigation Measure	Monitoring Requirement	Timing of Action
Construction phase burrowing owl impacts	**MM BIO-15: Conduct Preconstruction Surveys for Burrowing Owl and Implement Impact Avoidance, Minimization and Mitigation.** Prior to construction at any time of the year, a qualified biologist shall conduct *Take Avoidance* (pre-construction) surveys consistent with CDFW's Staff Report on Burrowing Owl Mitigation (Mitigation Guidelines; CDFW, 2012) in areas with suitable habitat for WBO to determine the presence/absence of active burrowing owl nesting or wintering burrows within 250 feet of any ground disturbance. Results of nest surveys and planned no-disturbance set-backs. If necessary, shall be submitted to CDFW. ▪ If burrowing owls are present within 250 feet of the project area, work shall not commence or resume in this zone until one of the following occurs: 1. An **Avoidance Plan** shall be approved by CDFW and implemented by PG&E. The objective of the PG&E-prepared Avoidance Plan shall be to identify what, if any, level of work can begin or resume without disruption of nesting activity or burrow occupancy. The Avoidance Plan shall consider the type and extent of the proposed activity, the duration and timing of the activity, the nesting status of the owls, the sensitivity and habituation of the owls, and the dissimilarity of the proposed activity with background activities, significant aspects of site such as topography or prevailing wind direction etc. to minimize the potential to affect the reproductive success of the owls. Further steps shall be coordinated with CDFW. The Plan shall include monitoring to be conducted prior to, during, and after initiation or re-initiation of project activity sufficient to ensure take is avoided. The biologist shall monitor all work activities in these zones daily when construction is occurring and assess their effect on the nesting birds. If the biologist observes any indication that behaviors are changing relative to baseline behaviors observed prior to project activity (e.g. female flapping of wings in an agitated manner, extended concentrated staring at project activities, distress calls, continuous circling over the area of disturbance), or otherwise determines that particular activities pose a risk of disturbing an active nest, project activity shall cease immediately. Permittee efforts to minimize nest abandonment does not eliminate or reduce the risk of prosecution in case nest abandonment occurs. The biologist may then recommend additional measures to minimize the risk of nest disturbance and those measures shall be implemented. If work cannot proceed without disturbing the nesting birds, or signs of disturbance are observed by the monitor, work shall be halted or redirected to other areas until the nesting is completed. 2. A PG&E Biologist submits a **Burrowing Owl Exclusion Plan** (see Appendix E of the Staff Report on Burrowing Owl Mitigation, Department of Fish and Game, March 2012) and a Burrowing Owl Impact Mitigation Plan based on Appendix F of the Staff Report on Burrowing Owl Mitigation (Department of Fish and Game, March 2012) to CDFW and the plans are approved by CDFW prior to project commencement or re-initiation. Exclusion of nesting burrowing owls is not allowed.	PG&E to submit *Take Avoidance* surveys to CDFW for review prior to start of construction. If burrowing owls are present: PG&E to submit **Avoidance Plan** and **Burrowing Owl Exclusion Plan** to CDFW for review and approval prior to start of construction or re-initiation.	Prior to and during construction.

Table 5-1. Mitigation Monitoring Plan for the IS/MND

Impact	Applicant Proposed Measure or Mitigation Measure	Monitoring Requirement	Timing of Action
	Cultural Resources, Tribal Cultural Resources, and Paleontological Resources		
Construction phase cultural resources impacts	**APM CR-1: Implement Measures to Protect Previously Unidentified Cultural Resources.** In the event that previously unidentified cultural resources, including TCRs, are uncovered during construction of the project, all ground-disturbing work will be temporarily halted or diverted away from the discovery to another location. If signs of a cultural resource site, such as any unusual amounts of stone, bone, shell, ceramics, glass, or metal, are uncovered during grading or other construction activities, work will be halted within 100 feet of the find. PG&E's cultural resources specialist or his/her designated representative will inspect the discovery and determine whether further investigation is required. If the discovery is significant, but can be avoided and no further impacts would occur, the resource will be documented in the appropriate cultural resource records; no further effort would be required. If the resource is significant, but cannot be avoided and may be subject to further impact, PG&E will evaluate the significance of the resources and implement data recovery excavation or other appropriate treatment measures, in coordination with the Lead Agency, and as recommended by a qualified archaeologist.	PG&E to ensure implementation of measure. CDFW to confirm.	During construction.
Construction phase cultural resources impacts	**APM CR-2: Implement Measures if Construction Activities Inadvertently Discover or Disturb Human Remains.** Section 7050 of the California Health and Safety Code states that it is a misdemeanor to knowingly disturb a human burial site. If human remains are encountered during any project-related activity, the following will be implemented: ▪ Stop all work within 100 feet; ▪ Immediately contact a PG&E Cultural Resource Specialist, who would then notify the County coroner; ▪ Secure location, but do not touch or remove remains and associated artifacts; ▪ Do not remove associated spoils or pick through them; ▪ Record the location and keep notes of all calls and events; ▪ Inform the Lead Agency and ▪ Treat the find as confidential and do not publicly disclose the location. If the human remains are of Native American origin, the Coroner must notify the NAHC within 24 hours of such identification. The NAHC must notify the Most Likely Descendant (MLD), once human remains are determined likely to be Native American by the Coroner, as required by California Health and Safety Code Section 7050.5. The MLD (i.e., the Native American Group the NAHC determines is the most likely descendent) will work with the PG&E Cultural Resource Specialist to develop a program for re-interment or other disposition of the human remains and any associated artifacts. No additional work will take place within the immediate vicinity of the find until the appropriate actions have been implemented.	PG&E to ensure implementation of measure. CDFW to confirm.	During construction.
Construction phase paleontological resources impacts	**APM CR-3: Educate Construction Personnel in Recognizing Fossil Material.** The applicant will ensure that all construction personnel receive training provided by a qualified professional paleontologist experienced in teaching nonspecialists to ensure that they can recognize fossil materials in the event any are discovered during construction.	PG&E to ensure implementation of measure. CDFW to confirm.	Prior to construction.

Table 5-1. Mitigation Monitoring Plan for the IS/MND

Impact	Applicant Proposed Measure or Mitigation Measure	Monitoring Requirement	Timing of Action
Construction phase paleontological resources impacts	**APM CR-4: Inadvertent Discovery of Fossils.** If substantial fossil remains (particularly vertebrate remains) are discovered during earth-disturbing activities, activities within 100 feet of the find will stop immediately until a PG&E paleontological resource specialist or designated professional representative paleontologist can assess the nature and importance of the find and can recommend appropriate treatment. If the discovery is significant, but can be avoided, and no further impacts would occur, the resource will be documented in the appropriate paleontological resource records and no further effort would be required. If the discovery is significant, but cannot be avoided and may be subject to further impacts, PG&E will evaluate the significance of the resource, and implement data recovery excavation or other appropriate treatment measures. Treatment may include preparation and recovery of fossil materials so that they can be housed in an appropriate museum or university collection and may also include preparation of a report for publication describing the finds. The applicant will be responsible for ensuring that recommendations regarding treatment and reporting are implemented.	PG&E to ensure implementation of measure. CDFW to confirm.	During construction.

Table 5-1. Mitigation Monitoring Plan for the IS/MND

Impact	Applicant Proposed Measure or Mitigation Measure	Monitoring Requirement	Timing of Action
	Geology and Soils		
Construction phase geology and soils impacts	**APM GEO-1: Implement Erosion and Sedimentation Control Measures.** Erosion, sediment, and other control measures, as identified in the site-specific SWPPP, will be implemented to reduce related impacts within and adjacent to the construction footprint when construction activities are the source of potential erosion, sediment, and non-stormwater discharge. Of the selected SWPPP Best Management Practices (BMPs), erosion, sediment, and material stockpile BMPs will be employed between work areas and adjacent wetlands or waterways, so that no fill or runoff may be allowed to enter wetland areas or waterways. At the completion of project activities, final BMPS will be implemented to ensure disturbed areas are stabilized. Qualified personnel will routinely inspect and maintain compliance for the prescribed BMPs throughout project construction, restoration, and final stabilization. Examples of BMPs include: ▪ Preparation and training of all project personnel on the maintenance of work site practices, tracking controls, and excavated material management to minimize work impacts on soil and erosion; ▪ Installation of temporary fencing and other containment features surrounding work areas to prevent the loss of soils during rain events and other disturbances. Containment features include gravel or sand bags and fiber rolls. ▪ Utilization of storm drain inlet protection. ▪ Inspection of stockpiles as part of the routine stormwater inspection. PG&E or PG&E's construction contractor will repair or replace perimeter controls and covers to ensure proper function. ▪ Materials will be stockpiled away from drainage courses, drain inlets or concentrated flows of storm water, and such that direct impacts on special-status species are avoided. ▪ For aeolian erosion control, water or other dust palliative approved for use in wildlife habitat will be applied as needed to stockpiles. Stockpiles may also be tarped and secured with sandbags. ▪ Non-active stockpiles will be covered as needed and contained with temporary perimeter sediment barriers, such as berms, dikes, silt fences, or sandbag barriers. A soil stabilization measure may be used in lieu of cover. ▪ A water truck will be used to control dust from disturbed soils, stockpiles, and unpaved access roads as needed. Watering will be done in such a manner that no puddles are formed. ▪ Implementation of soil erosion controls, including preservation of existing vegetation and temporary soil stabilization (e.g. hydroseeding, mulching, etc.). All bare soils created as a result of the project shall be stabilized with vegetative cover to prevent discharges of sediment-laden water to Waters of the US or Waters of the State. Stabilization will be achieved either through natural revegetation, or using a combination of sediment and erosion control measures such as seeding with an appropriate seed mix and installation of fiber rolls, erosion control blankets, or similar products, when necessary.	PG&E to ensure implementation of measure. CDFW to confirm.	Prior to, during, and post-construction.

Table 5-1. Mitigation Monitoring Plan for the IS/MND

Impact	Applicant Proposed Measure or Mitigation Measure	Monitoring Requirement	Timing of Action
	Hazards and Hazardous Materials		
Construction phase fire hazard	**APM HAZ-1: Implement Fire Hazard Best Management Practices.** ▪ PG&E and PG&E contractors will keep all construction sites and staging areas free of grass taller than 18", and other flammable materials. When grass mowing is necessary, grass shall not be mowed to a height of less than six inches. ▪ All project personnel will be trained in the practices of the fire safety plan relevant to their duties. Construction and maintenance personnel shall be trained and equipped to extinguish small fires. ▪ Work crews shall have fire-extinguishing equipment on hand, as well as emergency numbers and cell phone or other means of contacting the Fire Department. ▪ Smoking will be prohibited while operating equipment and shall be limited to paved or graveled areas or areas cleared of all vegetation. Smoking will be prohibited within 30 feet of any combustible material storage area (including fuels, gases, and solvents). Smoking will be prohibited in any location during a Red Flag Warning issued by the National Weather Service for the project area. ▪ A temporary onsite water truck would be made available for fire water support, dust suppression, and construction needs.	PG&E to ensure implementation of measure. CDFW to confirm.	Prior to and during construction.
	Hydrology and Water Quality		
Construction phase hydrology and water quality impacts	**APM HYDRO-1: Implement Waterway Best Management Practices.** ▪ Vehicle and equipment fueling and maintenance operations will be conducted in designated areas only outside of waterways; these areas will be equipped with appropriate spill control materials and containment. ▪ Grading and construction will be conducted between April 15 and October 15 unless otherwise authorized by CDFW. Should work need to be extended beyond October 15, PG&E will request authorization from the USFWS and CDFW at least 30 days prior of the date of the proposed extension, for intervals of up to 1 week. Work will only be conducted in accordance with CDFW and USFWS approval. ▪ PG&E shall monitor the National Weather Service (NWS) 72-hr forecast for the Project Area. If a 30% or more chance of rain is predicted within 72 hours during Covered Activities, PG&E shall cease construction activities until no further rain is forecast. Ground disturbing activities may resume 48 hours after the rain ceases when there is a less than a 30% chance of precipitation in the 24-hour forecast.	PG&E to submit weather forecast to CDFW when chance of precipitation. PG&E to ensure implementation of measure. CDFW to confirm.	During construction.

Table 5-1. Mitigation Monitoring Plan for the IS/MND

Impact	Applicant Proposed Measure or Mitigation Measure	Monitoring Requirement	Timing of Action
	Noise		
Construction phase noise impacts	**APM NOI-1: Implement Construction Noise Control.** To ensure construction-period noise levels do not go above Alameda County noise limits, the following construction noise control would be implemented: ▪ Noise-generating activities at the construction site should be restricted to the exempt hours of 7:00 a.m. to 7:00 p.m. on weekdays and 8:00 a.m. to 5:00 p.m. on weekends, when feasible. ▪ If it is not feasible to limit construction to the hours exempted in the County Noise Ordinance, construction shall comply with the specific noise restrictions (for both daytime and nighttime work, as applicable) outlined in the County Noise Ordinance (refer to Table 3-16). Measures to help reduce construction noise during nonexempt hours to the allowable levels may include the following: – Reduce the duration of noise-generating construction activity during nonexempt hours. – Limit the concurrent use of multiple pieces of noise-generating equipment. – Equip internal combustion engine-driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment. – Locate stationary noise generating equipment as far as possible from nearby sensitive receptors (the closest residential land uses to the west). – Utilize "quiet" air compressors and other stationery noise sources where technology exists. – The contractor shall prepare a construction plan identifying the schedule for major noise-generating construction activities expected to occur during nonexempt hours. The construction plan shall identify a procedure for coordination with adjacent noise sensitive residences so that construction activities can be scheduled to minimize noise disturbance. – Designate a "disturbance coordinator" who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., starting too early, bad muffler) and will require that reasonable measures warranted to correct the problem be implemented. The disturbance coordinator shall conspicuously post the coordinator's telephone number at the construction site and include it in the notice sent to neighbors regarding the construction schedule. – Control noise from construction workers' radios to a point where they are not audible at existing residences bordering the project site.	PG&E to ensure implementation of measure. CDFW to confirm.	During construction.

Appendix A

Representative Photographs of Action Area

Photo 1: View of north end of proposed staging area, looking north

Photo 2: Looking north at southern end of proposed staging area

Representative Photographs of Action Area
Photographs taken on: July 24, 2015

Photo 3: View of sink holes, looking north (North Dublin Transition station in far left background)

Photo 4: Closer view of skink holes, looking northwest

Representative Photographs of Action Area
Photographs taken on: July 24, 2015

Photo 5: Close-up view of one skink hole

Photo 6: Looking northeast at created seasonal ponds. West Branch of Cayetano Creek and associated restoration area in background

Representative Photographs of Action Area
Photographs taken on: July 24, 2015

Photo 7: Looking southeast at created seasonal ponds. Proposed staging area in far background

Photo 8: View of the lower seasonal pond, looking east

Representative Photographs of Action Area
Photographs taken on: July 24, 2015

Photo 9: View of road surface cracks along lower 1/3 of road alignment.

Photo 10: View of natural erosion issues uphill of access road. Hillside sediment sloughing into road.

Photo 11: Looking downhill at natural seasonal pond that formed in January 2017 (foreground). Created seasonal ponds in background.

Photo 12: Close-up of natural seasonal pond that formed in 2017.

Representative Photographs of Action Area
Photographs taken on: February 1, 2017

Appendix B

Air Quality and Greenhouse Gas Modeling Assumptions

Phase	Equipment Type	Number/Day	Total Hours/Day	Hours/Day/Equipment	Assumed RCEM	Notes
Grubbing/Land Clearing	4x4 work truck	1	2	2	Off-highway trucks	
	Hand tool					Assumed to be non-engine powered tool and not modeled.
	Light-duty pickup truck	1	2	2	Off-highway trucks	
	Light-duty trailer					Assumed to be non-powered attachment and not modeled.
	Lowbed trailer					Assumed to be non-powered attachment and not modeled.
	Tracked excavator	1	8	8	Excavators	
	D6 dozer	1	8	8	Rubber Tired Dozers	
	Water truck	2	16	8		Water truck was included in a line item in the model. Not modeled under Off-Road Equipment Emissions.
	loader	1	8	8	Tractors/Loaders/Backhoes	
Grading/ Excavation/ Dredging	4x4 work truck	1	2	2	Off-highway trucks	
	Hand tool	1	2	2		Assumed to be non-engine powered tool and not modeled.
	Light-duty pickup truck	1	2	2	Off-highway trucks	
	Light-duty trailer					Assumed to be non-powered attachment and not modeled.
	skip loader	1	4	4	Skid Steer Loaders	Assumed to be used 8 hours conservatively since other skip loader in the paving phase is used for 8 hours
	Grader	1	8	8	Graders	
	compactor	1	6	6	Plate Compactor	
	Water truck	2	16	8		Water truck was included in a line item in the model. Not modeled under Off-Road Equipment Emissions.
	613 scraper	1	8	8	Scrapers	Data request indicated 16 hours, but Specialisted revised to 8 hours to be consistent with number of equipment and construction hours
Draining/ Utilities/ Subgrade	4x4 work truck	2	4	2	Off-highway trucks	
	Hand tool	2	6	3		Assumed to be non-engine powered tool and not modeled.
	Light-duty pickup truck	1	2	2	Off-highway trucks	
	Light-duty trailer					Assumed to be non-powered attachment and not modeled.
	Lowbed trailer					Assumed to be non-powered attachment and not modeled.
	Tracked excavator	2	16	8	Excavators	
	Tracked backhoe					Equipment listed, but no other information provided. Assumed to be used and not modeled.
	Loader					Equipment listed, but no other information provided. Assumed to be used and not modeled.
	Grader					Equipment listed, but no other information provided. Assumed to be used and not modeled.
	Small bulldozer	1	8	8	Rubber Tired Dozers	
	Water truck	2	16	8		Water truck was included in a line item in the model. Not modeled under Off-Road Equipment Emissions.
Paving	4x4 work truck	2	4	2	Off-highway trucks	
	Hand tool	2	4	2		Assumed to be non-engine powered tool and not modeled.
	Light-duty pickup truck	1	2	2	Off-highway trucks	
	Light-duty trailer	1	2	2		Assumed to be non-powered attachment and not modeled.
	Truck to drive trailer	1	2	2		
	10' paver	1	8	8	Pavers	
	skiploader	1	8	8	Tractors/Loaders/Backhoes	Assumed to be loader to be conservative since other skid loader is only used for 4 hours above.
	rollers	2	16	8	Rollers	
	Water truck	1	8	8		Water truck was included in a line item in the model. Not modeled under Off-Road Equipment Emissions.

Provided by Client 1/24/17

Question	Cliented Provided Response		Notes
Project Construction Time	1.25	How many months will the project take ?	Assumed 1.45 months to be consistent with project schedule
Working days per month	20	Days per month (5 days/week, 4 weeks/month?)	
Predominant Soil/Site Type: Enter 1, 2, or 3	Weathered Rock-Earth (expansive clay)	1. Sand Gravel	
		2. Weathered Rock-Earth	
		3. Blasted Rock	
Project Length	0.55	miles	
Total Project Area	8	acres	
Maximum Area Disturbed/Day	0.5	Acres (we can assume one-quarter the total area if unknown)	
Water Trucks Used?	Yes, 2 trucks	1. Yes	
		2. No	
Soil Imported/Exported by Phase	3000		
Grubbing/Land Clearing	475	yd^3/day	
Grading/Excavation/Dredging	500	yd^3/day	
Draining/Utilities/Subgrade	115	yd^3/day	
Paving	300	yd^3/day	
Asphalt Imported/ Exported by Phase			
Grubbing/Land Clearing	475	yd^3/day	
Grading/Excavation	450	yd^3/day	
Draining/Utilities/Subgrade	0	yd^3/day	
Paving	250	yd^3/day	
Average Truck Capacity	20	yd^3 (assume 20 if unknown)	

Entire project window is expected to last 2-3 months; actual earth moving (the actual construction of the road/dredging etc will take approximately 1.5 months

Phase	Start	End	Days
Grubbing/Land Clearing	6/5/2017	6/9/2017	5
Grading/Excavation/Dredging	6/12/2017	6/23/2017	10
Draining/Utilities/Subgrade	6/26/2017	6/30/2017	5
Paving	7/3/2017	7/14/2017	9

Question	Cliented Provided Response
Please provide the quantity of exported and imported soil (cubic yards) for each phase in which soil movement would occur.	Per table above
Please provide the number of acres paved. Of this, what is the maximum number of acres that would be paved in one day? Please confirm paving would not occur during any other phase.	Approximately one acre of existing paved road will be repaved. Maximum number of acres that would be paved in one day is 0.5 acres. Paving will not occur during any other phase.
How many acres would be graded? Of this, what is the maximum number of acres that would be graded in one day? Please confirm grading would not occur during any other phase.	The existing road is approximately 1 acre and this will be graded; maximum number of acres that will be graded in one day is 0.5 acres.
Please provide the number of daily and total haul truck trips for each construction phase in which hauling would occur. What is the maximum haul truck distance (miles)?	Three trips per day, approximately 40 miles one way.
Will any electricity be used during construction to power mobile offices or equipment? If so, please provide the annual kWh.	No mobile office

Provided by Client 1/24/17

Road Construction Emissions Model
Data Entry Worksheet

Version 8.1.0

Note: Required data input sections have a yellow background.
Optional data input sections have a blue background. Only areas with a yellow or blue background can be modified. Program defaults have a white background.
The user is required to enter information in cells D10 through D24, E28 through G35, and D38 through D41 for all project types.
Please use "Clear Data Input & User Overrides" button first before changing the Project Type or begin a new project.

To begin a new project, click this button to clear data previously entered. This button will only work if you opted not to disable macros when loading this spreadsheet.

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

Input Type

Project Name	Eagle Ridge Access Road Repair Project	
Construction Start Year	2017	Enter a Year between 2014 and 2025 (inclusive)
Project Type	2	1) New Road Construction : Project to build a roadway from bare ground, which generally requires more site preparation than widening an existing roadway 2) Road Widening : Project to add a new lane to an existing roadway 3) Bridge/Overpass Construction : Project to build an elevated roadway, which generally requires some different equipment than a new roadway, such as a crane 4) Other Linear Project Type: Non-roadway project such as a pipeline, transmission line, or levee construction
Project Construction Time	1.45	months
Working Days per Month	20.00	days (assume 22 if unknown)
Predominant Soil/Site Type: Enter 1, 2, or 3 (for project within "Sacramento County", follow soil type selection instructions in cells E18 to E20 otherwise see instructions provided in cells J18 to J22)	2	1) Sand Gravel : Use for quaternary deposits (Delta/West County) 2) Weathered Rock-Earth : Use for Laguna formation (Jackson Highway area) or the Ione formation (Scott Road, Rancho Murieta) 3) Blasted Rock : Use for Salt Springs Slate or Copper Hill Volcanics (Folsom South of Highway 50, Rancho Murieta)
Project Length	0.55	miles
Total Project Area	8.00	acres
Maximum Area Disturbed/Day	0.50	acres
Water Trucks Used?	1	1. Yes 2. No

Please note that the soil type instructions provided in cells E18 to E20 are specific to Sacramento County. Maps available from the California Geologic Survey (see weblink below) can be used to determine soil type outside Sacramento County.

http://www.conservation.ca.gov/cgs/information/geologic_mapping/Pages/googlemaps.aspx#regionalseries

Material Hauling Quantity Input

Material Type	Phase	Haul Truck Capacity (yd^3) (assume 20 if unknown)	Import Volume (yd^3/day)	Export Volume (yd^3/day)
Soil	Grubbing/Land Clearing	20.00		475.00
	Grading/Excavation	20.00		500.00
	Drainage/Utilities/Sub-Grade	20.00		115.00
	Paving	20.00		300.00
Asphalt	Grubbing/Land Clearing	20.00	475.00	
	Grading/Excavation	20.00	450.00	
	Drainage/Utilities/Sub-Grade	20.00	0.00	
	Paving	20.00	250.00	

Mitigation Options

On-road Fleet Emissions Mitigation	No Mitigation	Select "2010 and Newer On-road Vehicles Fleet" option when the on-road heavy-duty truck fleet for the project will be limited to vehicles of model year 2010 or newer
Off-road Equipment Emissions Mitigation	No Mitigation	Select "20% NOx and 45% Exhaust PM reduction" option if the project will be required to use a lower emitting off-road construction fleet. The SMAQMD Construction Mitigation Calculator can be used to confirm compliance with this mitigation measure (http://www.airquality.org/ceqa/mitigation.shtml). Select "Tier 4 Equipment" option if some or all off-road equipment used for the project meets CARB Tier 4 Standard

The remaining sections of this sheet contain areas that can be modified by the user, although those modifications are optional.

Note: The program's estimates of construction period phase length can be overridden in cells D50 through D53, and F50 through F53.

Construction Periods	User Override of Construction Months	Program Calculated Months	User Override of Phase Starting Date	Program Default Phase Starting Date
Grubbing/Land Clearing	0.25	0.15	6/5/2017	1/1/2017
Grading/Excavation	0.50	0.65	6/12/2017	1/9/2017
Drainage/Utilities/Sub-Grade	0.25	0.44	6/26/2017	1/25/2017
Paving	0.45	0.22	7/3/2017	2/2/2017
Totals (Months)	1			

Note: Soil Hauling emission default values can be overridden in cells D61 through D64, and F61 through F64.

Soil Hauling Emissions User Input	User Override of Miles/Round Trip	Program Estimate of Miles/Round Trip	User Override of Truck Round Trips/Day	Default Values Round Trips/Day	Calculated Daily VMT
Miles/round trip: Grubbing/Land Clearing	80.00	30.00	3	24	240.00
Miles/round trip: Grading/Excavation	80.00	30.00	3	25	240.00
Miles/round trip: Drainage/Utilities/Sub-Grade	80.00	30.00	3	6	240.00
Miles/round trip: Paving	80.00	30.00	3	15	240.00

Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.20	0.74	6.54	0.17	0.10	0.02	1,684.12	0.01	0.06	1,701.31
Grading/Excavation (grams/mile)	0.20	0.74	6.54	0.17	0.10	0.02	1,684.12	0.01	0.06	1,701.31
Draining/Utilities/Sub-Grade (grams/mile)	0.20	0.74	6.54	0.17	0.10	0.02	1,684.12	0.01	0.06	1,701.31
Paving (grams/mile)	0.20	0.74	6.54	0.17	0.10	0.02	1,684.12	0.01	0.06	1,701.31
Hauling Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.11	0.39	3.46	0.09	0.05	0.01	891.09	0.01	0.03	900.18
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.01	0.00	0.00	0.00	2.23	0.00	0.00	2.25
Pounds per day - Grading/Excavation	0.11	0.39	3.46	0.09	0.05	0.01	891.09	0.01	0.03	900.18
Tons per const. Period - Grading/Excavation	0.00	0.00	0.02	0.00	0.00	0.00	4.46	0.00	0.00	4.50
Pounds per day - Drainage/Utilities/Sub-Grade	0.11	0.39	3.46	0.09	0.05	0.01	891.09	0.01	0.03	900.18
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.01	0.00	0.00	0.00	2.23	0.00	0.00	2.25
Pounds per day - Paving	0.11	0.39	3.46	0.09	0.05	0.01	891.09	0.01	0.03	900.18
Tons per const. Period - Paving	0.00	0.00	0.02	0.00	0.00	0.00	4.01	0.00	0.00	4.05
Total tons per construction project	0.00	0.01	0.05	0.00	0.00	0.00	12.92	0.00	0.00	13.05

Note: Asphalt Hauling emission default values can be overridden in cells D87 through D90, and F87 through F90.

Asphalt Hauling Emissions User Input	User Override of Miles/Round Trip	Program Estimate of Miles/Round Trip	User Override of Truck Round Trips/Day	Default Values Round Trips/Day	Calculated Daily VMT
Miles/round trip: Grubbing/Land Clearing	80.00	30.00	3	24	240.00
Miles/round trip: Grading/Excavation	80.00	30.00	3	23	240.00
Miles/round trip: Drainage/Utilities/Sub-Grade	0.00	30.00	0	0	0.00
Miles/round trip: Paving	80.00	30.00	3	13	240.00

Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.20	0.74	6.54	0.17	0.10	0.02	1,684.12	0.01	0.06	1,701.31
Grading/Excavation (grams/mile)	0.20	0.74	6.54	0.17	0.10	0.02	1,684.12	0.01	0.06	1,701.31
Draining/Utilities/Sub-Grade (grams/mile)	0.20	0.74	6.54	0.17	0.10	0.02	1,684.12	0.01	0.06	1,701.31
Paving (grams/mile)	0.20	0.74	6.54	0.17	0.10	0.02	1,684.12	0.01	0.06	1,701.31
Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.11	0.39	3.46	0.09	0.05	0.01	891.09	0.01	0.03	900.18
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.01	0.00	0.00	0.00	2.23	0.00	0.00	2.25
Pounds per day - Grading/Excavation	0.11	0.39	3.46	0.09	0.05	0.01	891.09	0.01	0.03	900.18
Tons per const. Period - Grading/Excavation	0.00	0.00	0.02	0.00	0.00	0.00	4.46	0.00	0.00	4.50
Pounds per day - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Paving	0.11	0.39	3.46	0.09	0.05	0.01	891.09	0.01	0.03	900.18
Tons per const. Period - Paving	0.00	0.00	0.02	0.00	0.00	0.00	4.01	0.00	0.00	4.05
Total tons per construction project	0.00	0.00	0.04	0.00	0.00	0.00	10.69	0.00	0.00	10.80

Note: Worker commute default values can be overridden in cells D113 through D118.

Worker Commute Emissions User Input	User Override of Worker Commute Default Values	Default Values	Calculated Daily Trips	Calculated Daily VMT
Miles/ one-way trip		20		
One-way trips/day		2		
No. of employees: Grubbing/Land Clearing		7	14	280.00
No. of employees: Grading/Excavation		22	44	880.00
No. of employees: Drainage/Utilities/Sub-Grade		15	30	600.00
No. of employees: Paving		12	24	480.00

Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.04	1.51	0.17	0.05	0.02	0.00	403.73	0.01	0.01	406.12
Grading/Excavation (grams/mile)	0.04	1.51	0.17	0.05	0.02	0.00	403.73	0.01	0.01	406.12
Draining/Utilities/Sub-Grade (grams/mile)	0.04	1.51	0.17	0.05	0.02	0.00	403.73	0.01	0.01	406.12
Paving (grams/mile)	0.04	1.51	0.17	0.05	0.02	0.00	403.73	0.01	0.01	406.12
Grubbing/Land Clearing (grams/trip)	1.28	3.62	0.30	0.00	0.00	0.00	89.60	0.02	0.01	93.79
Grading/Excavation (grams/trip)	1.28	3.62	0.30	0.00	0.00	0.00	89.60	0.02	0.01	93.79
Draining/Utilities/Sub-Grade (grams/trip)	1.28	3.62	0.30	0.00	0.00	0.00	89.60	0.02	0.01	93.79
Paving (grams/trip)	1.28	3.62	0.30	0.00	0.00	0.00	89.60	0.02	0.01	93.79
Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.06	1.05	0.11	0.03	0.01	0.00	251.99	0.01	0.00	253.59
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.63	0.00	0.00	0.63
Pounds per day - Grading/Excavation	0.19	3.29	0.36	0.09	0.04	0.01	791.96	0.03	0.01	797.00
Tons per const. Period - Grading/Excavation	0.00	0.02	0.00	0.00	0.00	0.00	3.96	0.00	0.00	3.99
Pounds per day - Drainage/Utilities/Sub-Grade	0.13	2.24	0.24	0.06	0.03	0.01	539.97	0.02	0.01	543.41
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.01	0.00	0.00	0.00	0.00	1.35	0.00	0.00	1.36
Pounds per day - Paving	0.11	1.79	0.19	0.05	0.02	0.00	431.98	0.01	0.01	434.73
Tons per const. Period - Paving	0.00	0.01	0.00	0.00	0.00	0.00	1.94	0.00	0.00	1.96
Total tons per construction project	0.00	0.03	0.00	0.00	0.00	0.00	7.88	0.00	0.00	7.93

Note: Water Truck default values can be overridden in cells D145 through D148, and F145 through F148.

Water Truck Emissions User Input	User Override of Default # Water Trucks	Program Estimate of Number of Water Trucks	User Override of Truck Miles Traveled/Vehicle/Day	Default Values Miles Traveled/Vehicle/Day	Calculated Daily VMT
Grubbing/Land Clearing - Exhaust	2	1		40.00	80.00
Grading/Excavation - Exhaust	2	1		40.00	80.00
Drainage/Utilities/Subgrade	2	1		40.00	80.00
Paving	1	1		40.00	40.00

Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.20	0.74	6.54	0.17	0.10	0.02	1,684.12	0.01	0.06	1,701.31
Grading/Excavation (grams/mile)	0.20	0.74	6.54	0.17	0.10	0.02	1,684.12	0.01	0.06	1,701.31
Draining/Utilities/Sub-Grade (grams/mile)	0.20	0.74	6.54	0.17	0.10	0.02	1,684.12	0.01	0.06	1,701.31
Paving (grams/mile)	0.20	0.74	6.54	0.17	0.10	0.02	1,684.12	0.01	0.06	1,701.31
Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.04	0.13	1.15	0.03	0.02	0.00	297.03	0.00	0.01	300.06
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.74	0.00	0.00	0.75
Pounds per day - Grading/Excavation	0.04	0.13	1.15	0.03	0.02	0.00	297.03	0.00	0.01	300.06
Tons per const. Period - Grading/Excavation	0.00	0.00	0.01	0.00	0.00	0.00	1.49	0.00	0.00	1.50
Pounds per day - Drainage/Utilities/Sub-Grade	0.04	0.13	1.15	0.03	0.02	0.00	297.03	0.00	0.01	300.06
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.74	0.00	0.00	0.75
Pounds per day - Paving	0.02	0.07	0.58	0.01	0.01	0.00	148.51	0.00	0.01	150.03
Tons per const. Period - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.00	0.00	0.68
Total tons per construction project	0.00	0.00	0.01	0.00	0.00	0.00	3.64	0.00	0.00	3.68

Note: Fugitive dust default values can be overridden in cells D171 through D173.

Fugitive Dust	User Override of Max Acreage Disturbed/Day	Default Maximum Acreage/Day	PM10 pounds/day	PM10 tons/per period	PM2.5 pounds/day	PM2.5 tons/per period
Fugitive Dust - Grubbing/Land Clearing	0.50	0.50	5.00	0.01	1.04	0.00
Fugitive Dust - Grading/Excavation	0.50	0.50	5.00	0.03	1.04	0.01
Fugitive Dust - Drainage/Utilities/Subgrade	0.50	0.50	5.00	0.01	1.04	0.00

Off-Road Equipment Emissions

Grubbing/Land Clearing Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Mitigation Option Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1		Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00	2		Model Default Tier	Excavators	0.36	3.44	4.04	0.20	0.18	0.01	544.60	0.17	0.00	550.17
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00			Model Default Tier	Off-Highway Trucks	0.44	2.34	4.92	0.18	0.17	0.01	672.13	0.21	0.01	678.99
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rollers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Rubber Tired Dozers	1.19	9.94	13.19	0.61	0.56	0.01	910.01	0.28	0.01	919.27
			Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	2		Model Default Tier	Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Tractors/Loaders/Backhoes	0.32	2.42	3.08	0.23	0.21	0.00	321.55	0.10	0.00	324.82
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab

Number of Vehicles	Equipment Tier	Type		ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing	pounds per day	2.31	18.14	25.23	1.23	1.13	0.02	2,448.29	0.75	0.02	2,473.25
Grubbing/Land Clearing	tons per phase	0.01	0.05	0.06	0.00	0.00	0.00	6.12	0.00	0.00	6.18

Grading/Excavation Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Mitigation Option Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0		Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1		Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	3		Model Default Tier	Excavators	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00	2		Model Default Tier	Graders	0.96	4.87	9.70	0.54	0.50	0.01	641.27	0.20	0.01	647.79
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00			Model Default Tier	Off-Highway Trucks	0.44	2.34	4.92	0.18	0.17	0.01	672.13	0.21	0.01	678.99
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Plate Compactors	0.03	0.16	0.19	0.01	0.01	0.00	25.86	0.00	0.00	25.99
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	2		Model Default Tier	Rollers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1		Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00	2		Model Default Tier	Scrapers	1.30	10.23	16.36	0.66	0.60	0.02	1,527.57	0.47	0.01	1,543.18
0.00	2		Model Default Tier	Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Skid Steer Loaders	0.11	1.41	1.39	0.07	0.07	0.00	211.37	0.06	0.00	213.53
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	4		Model Default Tier	Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab

Number of Vehicles	Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grading/Excavation	pounds per day	2.84	19.00	32.56	1.47	1.35	0.03	3,078.21	0.94	0.03	3,109.48
Grading/Excavation	tons per phase	0.01	0.10	0.16	0.01	0.01	0.00	15.39	0.00	0.00	15.55

Drainage/Utilities/Subgrade Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Mitigation Option Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier		ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1		Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00			Model Default Tier	Excavators	0.73	6.88	8.08	0.40	0.37	0.01	1,089.21	0.33	0.01	1,100.33
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1		Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1		Model Default Tier	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3.00			Model Default Tier	Off-Highway Trucks	0.65	3.51	7.38	0.27	0.25	0.01	1,008.20	0.31	0.01	1,018.48
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1		Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1		Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rollers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1		Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Rubber Tired Dozers	1.19	9.94	13.19	0.61	0.56	0.01	910.01	0.28	0.01	919.27
			Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	1		Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	2		Model Default Tier	Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	3		Model Default Tier	Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment

If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab

Number of Vehicles	Equipment Tier	Type		ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Drainage/Utilities/Sub-Grade	pounds per day	2.57	20.34	28.65	1.28	1.18	0.03	3,007.41	0.92	0.03	3,038.08
Drainage/Utilities/Sub-Grade	tons per phase	0.01	0.05	0.07	0.00	0.00	0.00	7.52	0.00	0.00	7.60

Paving Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Mitigation Option Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Excavators	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.00			Model Default Tier	Off-Highway Trucks	0.87	4.69	9.83	0.37	0.34	0.01	1,344.26	0.41	0.01	1,357.97
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00	1		Model Default Tier	Pavers	0.36	2.86	4.06	0.20	0.18	0.00	465.71	0.14	0.00	470.47
0.00	1		Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	2		Model Default Tier	Rollers	0.63	4.03	5.88	0.43	0.39	0.01	543.03	0.17	0.00	548.57
			Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	2		Model Default Tier	Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00	3		Model Default Tier	Tractors/Loaders/Backhoes	0.32	2.42	3.08	0.23	0.21	0.00	321.55	0.10	0.00	324.82
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab

Number of Vehicles	Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

			ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
	Paving	pounds per day	2.18	13.99	22.85	1.22	1.12	0.03	2,674.55	0.82	0.02	2,701.84
	Paving	tons per phase	0.01	0.06	0.10	0.01	0.01	0.00	12.04	0.00	0.00	12.16
Total Emissions all Phases (tons per construction period) =>			0.04	0.25	0.40	0.02	0.02	0.00	41.07	0.01	0.00	41.48

Equipment default values for horsepower and hours/day can be overridden in cells D391 through D424 and F391 through F424.

Equipment	User Override of Horsepower	Default Values Horsepower	User Override of Hours/day	Default Values Hours/day
Aerial Lifts		63	0.00	8
Air Compressors		78	0.00	8
Bore/Drill Rigs		206	0.00	8
Cement and Mortar Mixers		9	0.00	8
Concrete/Industrial Saws		81	0.00	8
Cranes		226	0.00	8
Crawler Tractors		208	0.00	8
Crushing/Proc. Equipment		85	0.00	8
Excavators		163	8.00	8
Forklifts		89	0.00	8
Generator Sets		84	0.00	8
Graders		175	8.00	8
Off-Highway Tractors		123	0.00	8
Off-Highway Trucks		400	2.00	8
Other Construction Equipment		172	0.00	8
Other General Industrial Equipment		88	0.00	8
Other Material Handling Equipment		167	0.00	8
Pavers		126	8.00	8
Paving Equipment		131	0.00	8
Plate Compactors		8	6.00	8
Pressure Washers		13	0.00	8
Pumps		84	0.00	8
Rollers		81	8.00	8
Rough Terrain Forklifts		100	0.00	8
Rubber Tired Dozers		255	8.00	8
Rubber Tired Loaders		200	0.00	8
Scrapers		362	8.00	8
Signal Boards		6	0.00	8
Skid Steer Loaders		65	0.00	8
Surfacing Equipment		254	0.00	8
Sweepers/Scrubbers		64	0.00	8
Tractors/Loaders/Backhoes		98	8.00	8
Trenchers		81	0.00	8
Welders		46	0.00	8

END OF DATA ENTRY SHEET

The maximum pounds per day in row 11 is summed over overlapping phases, but the maximum tons per phase in row 34 is not summed over overlapping phases.

Road Construction Emissions Model, Version 8.1.0

Daily Emission Estimates for -> Eagle Ridge Access Road Repair Project

Project Phases (Pounds)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	SOx (lbs/day)	CO2 (lbs/day)	CH4 (lbs/day)	N2O (lbs/day)	CO2e (lbs/day)
Grubbing/Land Clearing	2.63	20.11	33.41	6.46	1.46	5.00	2.31	1.27	1.04	0.05	4,779.48	0.77	0.10	4,827.26
Grading/Excavation	3.28	23.20	40.99	6.76	1.76	5.00	2.55	1.51	1.04	0.06	5,949.37	0.98	0.11	6,006.90
Drainage/Utilities/Sub-Grade	2.85	23.10	33.51	6.47	1.47	5.00	2.32	1.28	1.04	0.05	4,735.50	0.95	0.08	4,781.73
Paving	2.53	16.64	30.54	1.46	1.46	0.00	1.26	1.26	0.00	0.05	5,037.22	0.84	0.10	5,086.96
Maximum (pounds/day)	8.76	66.41	107.90	19.69	4.69	15.00	7.18	4.06	3.12	0.15	15,722.09	2.76	0.28	15,875.59
Total (tons/construction project)	0.04	0.30	0.51	0.07	0.02	0.05	0.03	0.02	0.01	0.00	76.20	0.01	0.00	76.95

Notes:

Project Start Year ->	2017
Project Length (months) ->	1
Total Project Area (acres) ->	8
Maximum Area Disturbed/Day (acres) ->	1
Water Truck Used? ->	Yes

	Total Material Imported/Exported Volume (yd^3/day)		Daily VMT (miles/day)			
Phase	Soil	Asphalt	Soil Hauling	Asphalt Hauling	Worker Commute	Water Truck
Grubbing/Land Clearing	475	475	240	240	280	80
Grading/Excavation	500	450	240	240	880	80
Drainage/Utilities/Sub-Grade	115	0	240	0	600	80
Paving	300	250	240	240	480	40

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1 , 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

Total Emission Estimates by Phase for -> Eagle Ridge Access Road Repair Project

Project Phases (Tons for all except CO2e. Metric tonnes for CO2e)	ROG (tons/phase)	CO (tons/phase)	NOx (tons/phase)	Total PM10 (tons/phase)	Exhaust PM10 (tons/phase)	Fugitive Dust PM10 (tons/phase)	Total PM2.5 (tons/phase)	Exhaust PM2.5 (tons/phase)	Fugitive Dust PM2.5 (tons/phase)	SOx (tons/phase)	CO2 (tons/phase)	CH4 (tons/phase)	N2O (tons/phase)	CO2e (MT/phase)
Grubbing/Land Clearing	0.01	0.05	0.08	0.02	0.00	0.01	0.01	0.00	0.00	0.00	11.95	0.00	0.00	10.95
Grading/Excavation	0.02	0.12	0.20	0.03	0.01	0.03	0.01	0.01	0.01	0.00	29.75	0.00	0.00	27.25
Drainage/Utilities/Sub-Grade	0.01	0.06	0.08	0.02	0.00	0.01	0.01	0.00	0.00	0.00	11.84	0.00	0.00	10.84
Paving	0.01	0.07	0.14	0.01	0.01	0.00	0.01	0.01	0.00	0.00	22.67	0.00	0.00	20.77
Maximum (tons/phase)	0.02	0.12	0.20	0.03	0.01	0.03	0.01	0.01	0.01	0.00	29.75	0.00	0.00	27.25
Total (tons/construction project)	0.04	0.30	0.51	0.07	0.02	0.05	0.03	0.02	0.01	0.00	76.20	0.01	0.00	69.81

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1 , 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

The CO2e emissions are reported as metric tons per phase.

Appendix C

Native American Outreach
2015, 2017, and 2018

Contents

1. Native American Outreach by PG&E Communication Log, 2015 and 2017
2. Contact List from Native American Heritage Commission (2015 and early 2017)
3. Example of Project Notification Letter: Eagle Ridge Preserve Road Repair Project, City of Livermore, Alameda County (2015)
4. Example of Project Notification Letter: Pacific Gas & Electric's Eagle Ridge Road Project, Alameda County, CA (2017)
5. Email correspondence between Michael Taggart and Antonio Ruiz, March 2, 2017.
6. CDFW AB 52 Outreach, 2018
7. Contact List from Native American Heritage Commission (December 2017)
8. CDFW Project Notification Letters (2018)

Section 1

Native American Outreach by PG&E Communication Log, 2015 and 2017

Native American Outreach Communication Log
2015 & 2017

No.	Date	Follow-up Email	Follow-up Phone	To/From	ICF Contact	PG&E Contact	Contact	Address	Phone	Email	Organization Affiliation	Tribal Affiliation	Type	Subject	Comments
1	7/15/2015			From	Joanne Grant		NAHC	915 Capitol Mall, Room 364 Sacramento, CA 95814	916.653.6251	NAHC@nahc.ca.gov	NAHC	NAHC	Fax	NAHC Sacred Lands File search request	
2	8/5/2015			To	Joanne Grant	Mike Taggart	Debbie Pilas-Treadway (NAHC)	915 Capitol Mall, Room 364 Sacramento, CA 95814	916.653.6251	NAHC@nahc.ca.gov	NAHC	NAHC	Fax	Sacred Lands File response	
3	8/31/2015			From	Joanne Grant	Mike Taggart	Jakki Kehl	720 North 2nd Street Patterson, CA 95363	510.701.3975	jakkiekehl@gmail.com	Not specified	Ohlone/ Costanoan	Letter	Eagle Ridge Preserve Road Repair project, asking to provide any additional information they may have of the project vicinity	
4	8/31/2015			From	Joanne Grant	Mike Taggart	Tony Cerda, Chairperson	240 E. 1st Street Pomona, CA	909.524.8041 (cell), 909.629.6081	rumsen@aol.com	Costanoan Rumsen Carmel Tribe	Ohlone/ Costanoan	Letter	Eagle Ridge Preserve Road Repair project, asking to provide any additional information they may have of the project vicinity	
5	8/31/2015			From	Joanne Grant	Mike Taggart	Ms Linda G. Yamane	1585 Mira Mar Ave Seaside, CA 93955	831.394.5915	rumsien123@yahoo.com	Not specified	Ohlone/Costanoan	Letter	Eagle Ridge Preserve Road Repair project, asking to provide any additional information they may have of the project vicinity	
6	8/31/2015			From	Joanne Grant	Mike Taggart	Katherine Erolinda Perez	PO Box 717 Linden, CA 95236	209.887.3415	canutes@verizon.net	Not specified	Ohlone/Costanoan, Northern Valley Yokuts, Bay Miwok	Letter	Eagle Ridge Preserve Road Repair project, asking to provide any additional information they may have of the project vicinity	
7	8/31/2015			From	Joanne Grant	Mike Taggart	Andrew Galvan	PO Box 3152 Fremont, CA 94539	510.882.0527	chochenyo@aol.com	The Ohlone Indian Tribe	Ohlone/Costanoan , Bay Miwok, Plains Miwok, Patwin	Letter	Eagle Ridge Preserve Road Repair project, asking to provide any additional information they may have of the project vicinity	
8	8/31/2015			From	Joanne Grant	Mike Taggart	Anne Marie Sayers, Chairperson	PO Box 28 Hollister, CA 95024	831.637.4238	ams@indiancanyon.org	Indian Canyon Mutsun Band of Costanoan	Ohlone/Costanoan	Letter	Eagle Ridge Preserve Road Repair project, asking to provide any additional information they may have of the project vicinity	
9	8/31/2015			From	Joanne Grant	Mike Taggart	Rosemary Cambra, Chairperson	PO Box 360791 Milpitas, CA 95036	408.205.9714 510.581.5194	muwekma@muwekma.org	Muwekma Ohlone Indian Tribe of the SF Bay Area	Ohlone/Costanoan	Letter	Eagle Ridge Preserve Road Repair project, asking to provide any additional information they may have of the project vicinity	
10	8/31/2015			From	Joanne Grant	Mike Taggart	Raymond Hitchcock, Chairperson	9728 Kent Street Elk Grove, CA 95624	916.683.600	rhitchcock@wiltonrancheria-nsn.	Wilton Rancheria	Miwok	Letter	Eagle Ridge Preserve Road Repair project, asking to provide any additional information they may have of the project vicinity	
11	8/31/2015			From	Joanne Grant	Mike Taggart	Steven Hutchason, Executive Director Environmental Resources Wilton Rancheria	9728 Kent Street Elk Grove, CA 95624	916.683.600 ext. 20(	shutchason@wiltonrancheria-nsr	Wilton Rancheria	Miwok	Letter	Eagle Ridge Preserve Road Repair project, asking to provide any additional information they may have of the project vicinity	
12	8/31/2015			From	Joanne Grant	Mike Taggart	Michelle Zimmer	789 Canada Road Woodside, CA 94062	650.851.7747	amahmutsuntribal@gmail.com	Amah Mutsun Tribal Band of Mission San Juan Bautista	Ohlone/Costanoan	Letter	Eagle Ridge Preserve Road Repair project, asking to provide any additional information they may have of the project vicinity	
13	8/31/2015			From	Joanne Grant	Mike Taggart	Irenne Zwierlein, Chairperson	789 Canada Road Woodside, CA 94062	650.851.7747 650.400.4806 cell	amahmutsuntribal@gmail.com	Amah Mutsun Tribal Band of Mission San Juan Bautista	Ohlone/Costanoan	Letter	Eagle Ridge Preserve Road Repair project, asking to provide any additional information they may have of the project vicinity	
14	8/31/2015			From	Joanne Grant	Mike Taggart	Ramona Garibay, Representative	30940 Watkins Street Union City, CA 94587	510.972.0645	soaprootmo@comcast.net	Trina Marine Ruano Family	Ohlone/Costanoan, Bay Miwok, Plains Miwok, Patwin	Letter	Eagle Ridge Preserve Road Repair project, asking to provide any additional information they may have of the project vicinity	
13	9/21/2015			From	Lily Henry Roberts	Mike Taggart	Ramona Garibay, Representative	30940 Watkins Street Union City, CA 94587	510.972.0645	soaprootmo@comcast.net	Trina Marine Ruano Family	Ohlone/Costanoan, Bay Miwok, Plains Miwok, Patwin	Phone Call	follow up phone call regarding letters sent out requesting information on the Eagle Ridge Preserve Road Repair Project	no answer - left phone message

Native American Outreach Communication Log
2015 & 2017

No.	Date	Follow-up Email	Follow-up Phone	To/From	ICF Contact	PG&E Contact	Contact	Address	Phone	Email	Organization Affiliation	Tribal Affiliation	Type	Subject	Comments
14	9/21/2015			From	Lily Henry Roberts	Mike Taggart	Jakki Kehl	720 North 2nd Street Patterson, CA 95363	510.701.3975	jakkiekehl@gmail.com	Not specified	Ohlone/Costanoan	Phone Call	follow up phone call regarding letters sent out requesting information on the Eagle Ridge Preserve Road Repair Project	no answer - left phone message
15	9/21/2015			From	Lily Henry Roberts	Mike Taggart	Tony Cerda, Chairperson	240 E. 1st Street Pomona, CA 91766	909.524.8041	rumsen@aol.com	Costanoan Rumsen Carmel Tribe	Ohlone/Costanoan	Phone Call	follow up phone call regarding letters sent out requesting information on the Eagle Ridge Preserve Road Repair Project	no answer - unable to leave phone message due to a mailbox that has not been set-up
18	9/21/2015			From	Lily Henry Roberts	Mike Taggart	Katherine Erolinda Perez	PO Box 717 Linden, CA 95236	209.887.3415	canutes@verizon.net	Not specified	Ohlone/Costanoan, Northern Valley Yokuts, Bay Miwok	Phone Call	follow up phone call regarding letters sent out requesting information on the Eagle Ridge Preserve Road Repair Project	no answer - left phone message
19	9/21/2015			From	Lily Henry Roberts	Mike Taggart	Valentin Lopez, Chairperson	PO Box 5272 Galt, CA 95632	916.743.5833	vlopez@amahmutsun.org	Amah Mutsun Tribal Band	Ohlone/Costanoan, Northern Valley Yokuts	Phone Call	follow up phone call regarding letters sent out to Amah Mutsun Tribal Band requesting information on the Eagle Ridge Preserve Road Repair Project	no answer - left phone message
20	9/21/2015			From	Lily Henry Roberts	Mike Taggart	Andrew Galvan	PO Box 3152 Fremont, CA 94539	510.882.0527	chochenyo@aol.com	The Ohlone Indian Tribe	Costanoan Ohlone, Bay Miwok, Plains Miwok, Patwin	Phone Call	follow up phone call regarding letters sent out requesting information on the Eagle Ridge Preserve Road Repair Project	no answer - unable to leave a message due to a full mailbox
21	9/21/2015			From	Lily Henry Roberts	Mike Taggart	Anne Marie Sayers, Chairperson	PO Box 28 Hollister, CA 95024	831.637.4238	ams@indiancanyon.org	Indian Canyon Mutsun Band of Costanoan	Ohlone/Costanoan	Phone Call	follow up phone call regarding letters sent out requesting information on the Eagle Ridge Preserve Road Repair Project	she stated that she feels comfortable with any work occurring in the area.
22	9/21/2015			From	Lily Henry Roberts	Mike Taggart	Rosemary Cambra, Chairperson	PO Box 360791 Milpitas, CA 95036	408.205.9714 510.581.5194	muwekma@muwekma.org	Muwekma Ohlone Indian Tribe of the SF Bay Area	Ohlone/Costanoan	Phone Call	follow up phone call regarding letters sent out requesting information on the Eagle Ridge Preserve Road Repair Project	wrong number
23	9/21/2015			From	Lily Henry Roberts	Mike Taggart	Michelle Zimmer	789 Canada Road Woodside, CA 94062	650.851.7747	amahmutsuntribal@gmail.com	Amah Mutsun Tribal Band of Mission San Juan Bautista	Ohlone/Costanoan	Phone Call	follow up phone call regarding letters sent out requesting information on the Eagle Ridge Preserve Road Repair Project	updated phone number - 916.730.9468 No answer - left phone message
24	9/21/2015			From	Lily Henry Roberts	Mike Taggart	Irenne Zwierlein, Chairperson	789 Canada Road Woodside, CA 94062	650.851.7747	amahmutsuntribal@gmail.com	Amah Mutsun Tribal Band of Mission San Juan Bautista	Ohlone/ Costanoan	Phone Call	follow up phone call regarding letters sent out requesting information on the Eagle Ridge Preserve Road Repair Project	no concerns
25	1/27/2017	1/27/2017		From	Barbara Wolf		NAHC	1550 Harbor Blvd., Suite 100 West Sacramento, CA 95691	916.373.3710	NAHC@nahc.ca.gov	Native American Heritage Commission	NAHC	Fax	NAHC contact list request	Fax and email request for list of tribes for outreach to aid in the identification of Native-affiliated historic properties / historical resources.
26	2/6/2017			From	Frank Lienert (NAHC)	Mike Taggart	NAHC	1550 Harbor Blvd., Suite 100 West Sacramento, CA 95691	916.373.3710	NAHC@nahc.ca.gov	Native American Heritage Commission	NAHC	E-mail	Native American contact response	NAHC emailed response letter to Barbara Wolf (ICF) providing a list of six Native American contacts for the project. NAHC recommended a search of the Sacred Lands files and record search of the CHRIS centers. The six Tribes were also on the 2015 contact list.
27	2/3/2017		2/24/2017		ICF mailed PG&E outreach letters. Kerry Boutte (follow-up call)	Mike Taggart	Ms Jakki Kehl	720 North 2nd Street Patterson, CA 95363	510.701.3975	jakkikehl@gmail.com	Not specified	Ohlone/Costanoan	Letter & Phone Call	Eagle Ridge Preserve Road Repair project, asking to provide any additional information they may have of the project vicinity. Follow up phone call regarding letters sent out requesting information on the Eagle Ridge Preserve Road Repair Project	No answer but left a message about the project and gave my contact information (k. boutte).

Native American Outreach Communication Log
2015 & 2017

No.	Date	Follow-up Email	Follow-up Phone	To/From	ICF Contact	PG&E Contact	Contact	Address	Phone	Email	Organization Affiliation	Tribal Affiliation	Type	Subject	Comments
28	2/3/2017		2/23/2017	From	ICF mailed PG&E outreach letters. Kerry Boutte (follow-up call)	Mike Taggart	Mr. Tony Cerda, Chairperson Costanoan Rumsen Carmel Tribe	240 E. 1st Street Pomona, CA 91766	909.629.6081 909.524.8041 cell	rumsen@aol.com	Costanoan Rumsen Carmel Tribe	Ohlone/Costanoan	Letter & Phone Call	Eagle Ridge Preserve Road Repair project, asking to provide any additional information they may have of the project vicinity. Follow up phone call regarding letters sent out requesting information on the Eagle Ridge Preserve Road Repair Project	Outreach letter was returned as undeliverable with no forwarding address. Called the number listed on the NAHC response letter (909-629-6081) - no response and no option for voice mail. Called cell phone, too, and left a voice mail. (k. boutte)
29	2/3/2017		2/23/2017		ICF mailed PG&E outreach letters. Kerry Boutte (follow-up call)	Mike Taggart	Ms Katherine Erolinda Perez	P.O. Box 717 Linden, CA 95236	209.887.3415	canutes@verizon.net	North Valley Yokuts Tribe	Ohlone/Costanoan, Nort	Letter & Phone Call	Eagle Ridge Preserve Road Repair project, asking to provide any additional information they may have of the project vicinity. Follow up phone call regarding letters sent out requesting information on the Eagle Ridge Preserve Road Repair Project	Not available at the time of the call but left a message about the project and gave my contact information to reception (k. boutte).
30	2/3/2017		2/23/2017		ICF mailed PG&E outreach letters. Kerry Boutte (follow-up call)	Mike Taggart	Ms Ann Marie Sayers, Chairperson	P.O. Box 28 Hollister, CA 95024	831.637.4238	ams@indiancanyon.org	Indian Canyon Mutsun Band of Costanoan	Ohlone/Costanoan	Letter & Phone Call	Eagle Ridge Preserve Road Repair project, asking to provide any additional information they may have of the project vicinity. Follow up phone call regarding letters sent out requesting information on the Eagle Ridge Preserve Road Repair Project	Requested to be kept apprised of the project status. If there are archaeological resources identified, then she will recommend monitoring of all construction activities by a Native American monitor and an archaeologist. She can provide the names of OSHA-certified NA monitors. (k. boutte).
31	2/3/2017		2/24/2017		Barbara Wolf (sent outreach letters). Kerry Boutte (follow-up call)	Mike Taggart	Ms Linda G. Yamane	1585 Mira Mar Ave Seaside, CA 93955	831.394.5915	rumsien123@yahoo.com	Not specified	Ohlone/Costanoan	Letter & Phone Call	Eagle Ridge Preserve Road Repair project, asking to provide any additional information they may have of the project vicinity. Follow up phone call regarding letters sent out requesting information on the Eagle Ridge Preserve Road Repair Project	No answer but left a message about the project and gave my contact information (k. boutte)
32	2/3/2017		2/23/2017		ICF mailed PG&E outreach letters. Kerry Boutte (follow-up call)	Mike Taggart	Ms Rosemary Cambra, Chairperson	P.O. Box 360791 Milpitas, CA 95036	408.314.1898 510.581.5194	muwekma@muwekma.org	Muwekma Ohlone Indian Tribe of the SF Bay Area	Ohlone/Costanoan	Letter & Phone Call	Eagle Ridge Preserve Road Repair project, asking to provide any additional information they may have of the project vicinity. Follow up phone call regarding letters sent out requesting information on the Eagle Ridge Preserve Road Repair Project	No answer but left a message about the project and gave my contact information (k. boutte).
33	2/3/2017		2/23/2017		ICF mailed PG&E outreach letters. Kerry Boutte (follow-up call)	Mike Taggart	Ms Irenne Zwierlein, Chairperson	789 Canada Road Woodside, CA 94062	650.400.4806	amahmutsuntribal@gmail.com	Amah Mutsun Trlbal Band of Mission San Juan Bautista	Ohlone/Costanoan	Letter & Phone Call	Eagle Ridge Preserve Road Repair project, asking to provide any additional information they may have of the project vicinity. Follow up phone call regarding letters sent out requesting information on the Eagle Ridge Preserve Road Repair Project	Verizon Wireless message stating that the number has been changed or is no longer in service. (k. boutte)
34	2/3/2017		2/24/2017		ICF mailed PG&E outreach letters. Kerry Boutte (follow-up call)	Mike Taggart	Ms Michelle Zimmer	789 Canada Road Woodside, CA 94062	650.851.7747	amahmutsuntribal@gmail.com	Amah Mutsun Tribal Band of Mission San Juan Bautista	Ohlone/Costanoan	Letter & Phone Call	Eagle Ridge Preserve Road Repair project, asking to provide any additional information they may have of the project vicinity. Follow up phone call regarding letters sent out requesting information on the Eagle Ridge Preserve Road Repair Project	No answer but left a message about the project and gave my contact information. (k. boutte)

Native American Outreach Communication Log
2015 & 2017

No.	Date	Follow-up Email	Follow-up Phone	To/From	ICF Contact	PG&E Contact	Contact	Address	Phone	Email	Organization Affiliation	Tribal Affiliation	Type	Subject	Comments
35	2/3/2017		2/23/2017		ICF mailed PG&E outreach letters. Kerry Boutte (follow-up call)	Mike Taggart	Mr. Andrew Galvan	P.O. Box 3152 Fremont, CA 94539	510.882.0527	chochenyo@aol.com	The Ohlone Indian Tribe	Ohlone/Costanoan, Bay	Letter & Phone Call	Eagle Ridge Preserve Road Repair project, asking to provide any additional information they may have of the project vicinity. Follow up phone call regarding letters sent out requesting information on the Eagle Ridge Preserve Road Repair Project	After discussing the results of the records search and the archaeological pedestrian survey with him, he agrees that standard inadvertent discovery protocol is appropriate for this project. (k. boutte)
36	2/3/2017		2/24/2017		Barbara Wolf (sent outreach letters). Kerry Boutte (follow-up call)	Mike Taggart	Ms Ramona Garibay, Representative	30940 Watkins Street Union City, CA 94587	510.972.0645	soaprootmo@comcast.net	Trina Marine Ruano Family	Ohlone/Costanoan, Bay	Letter & Phone Call	Eagle Ridge Preserve Road Repair project, asking to provide any additional information they may have of the project vicinity. Follow up phone call regarding letters sent out requesting information on the Eagle Ridge Preserve Road Repair Project	No answer but left a message about the project and gave my contact information. (k. boutte)
37	2/3/2017		2/24/2017		ICF mailed PG&E outreach letters. Kerry Boutte (follow-up call)	Mike Taggart	Mr. Raymond Hitchcock, Chairperson Wilton Rancheria	9728 Kent Street Elk Grove, CA 95624	916.683.600	rhitchcock@wiltonrancheria-nsn.	Wilton Rancheria	Miwok	Letter & Phone Call	Eagle Ridge Preserve Road Repair project, asking to provide any additional information they may have of the project vicinity. Follow up phone call regarding letters sent out requesting information on the Eagle Ridge Preserve Road Repair Project	No answer but left a message about the project and gave my contact information. (k. boutte)
38	2/3/2017		2/24/2017		ICF mailed PG&E outreach letters. Kerry Boutte (follow-up call)	Mike Taggart	Mr. Steven Hutchason, Executive Director Environmental Resources Wilton Rancheria	9728 Kent Street Elk Grove, CA 95624	916.683.600 ext. 20	shutchason@wiltonrancheria-nsr	Wilton Rancheria	Miwok	Letter & Phone Call	Eagle Ridge Preserve Road Repair project, asking to provide any additional information they may have of the project vicinity. Follow up phone call regarding letters sent out requesting information on the Eagle Ridge Preserve Road Repair Project	No answer but left a message about the project and gave my contact information (k. boutte). On March 1, 2017, the Tribe's Cultural Resources Officer, Mr. Antonio Ruiz, responded to PG&E's letter via email on behalf of Mr. Hutchason. Mr. Ruiz stated the Tribe's belief that the project falls within their ancestral territory and requested consultation on a number of topics under the authority of Assembly Bill 52 and Section 106 of the National Historic Preservation Act. The Tribe also requested a copy of the cultural resources inventory report. PG&E responded via email on March 2, 2017, stating that the Tribe's requests will be forwarded to the lead CEQA and Section 106 agencies for their consideration. The Tribe's email is appended to the report appendix.

Section 2
Contact Lists 2015 and 2017

STATE OF CALIFORNIA Edmund G. Brown, Jr., Governor

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-6251
Fax (916) 657-5390

August 5, 2015

Joanne Grant
ICF

VIA Fax: 415.677.7177
Number of Pages: 3

Re: North Dublin Underground/Eagle Ridge:Access Road Rebuild project, Alameda and Contra Costa Counties

Dear Ms. Grant:

A search of the Native American Heritage Commission (NAHC) *Sacred Lands File* was completed for the area of potential project effect (APE) referenced above. Please note that the absence of specific site information in the *Sacred Lands File* does not indicate the absence of Native American traditional cultural places or cultural landscapes in any APE. While in this case, a search of the NAHC *Sacred Lands File* did not indicate the presence of any sites within the APE you provided, a Native American tribe or individual may be the only source for the presence of traditional cultural places. For that reason, enclosed is a list of Native American individuals/organizations who may have knowledge of traditional cultural places in your project area. This list should provide a starting place in locating any areas of potential adverse impact.

The NAHC makes no recommendation or preference of any single individual, or group over another. All of those on the list should be contacted, if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe or group. If a response has not been received within two weeks of notification, the NAHC requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact me at my email address: dpt_nahc@pacbell.net.

Sincerely,

Debbie Pilas-Treadway
Environmental Specialist III

Native American Contact
Alameda and Contra Costa Counties
August 5, 2015

Jakki Kehl
720 North 2nd Street
Patterson , CA 95363
jakkikehl@gmail.com
510-701-3975
Ohlone/Costanoan

Coastanoan Rumsen Carmel Tribe
Tony Cerda, Chairperson
240 E. 1st Street
Pomona , CA 91766
rumsen@aol.com
(909) 524-8041 Cell
(909) 629-6081
Ohlone/Costanoan

Katherine Erolinda Perez
P.O. Box 717
Linden , CA 95236
canutes@verizon.net
(209) 887-3415
Ohlone/Costanoan
Northern Valley Yokuts
Bay Miwok

Indian Canyon Mutsun Band of Costanoan
Ann Marie Sayers, Chairperson
P.O. Box 28
Hollister , CA 95024
ams@indiancanyon.org
(831) 637-4238
Ohlone/Costanoan

Linda G. Yamane
1585 Mira Mar Ave
Seaside , CA 93955
rumsien123@yahoo.com
(831) 394-5915
Ohlone/Costanaon

Muwekma Ohlone Indian Tribe of the SF Bay Area
Rosemary Cambra, Chairperson
P.O. Box 360791
Milpitas , CA 95036
muwekma@muwekma.org
(408) 205-9714
(510) 581-5194
Ohlone / Costanoan

Amah MutsunTribal Band of Mission San Juan Bautista
Irenne Zwierlein, Chairperson
789 Canada Road
Woodside , CA 94062
amahmutsuntribal@gmail.com
(650) 400-4806 Cell

(650) 332-1526 Fax
Ohlone/Costanoan

The Ohlone Indian Tribe
Andrew Galvan
P.O. Box 3152
Fremont , CA 94539
chochenyo@AOL.com
(510) 882-0527 Cell

(510) 687-9393 Fax
Ohlone/Costanoan
Bay Miwok
Plains Miwok
Patwin

Amah MutsunTribal Band of Mission San Juan Bautista
Michelle Zimmer
789 Canada Road
Woodside , CA 94062
amahmutsuntribal@gmail.com
(650) 851-7747 Home

(650) 332-1526 Fax
Ohlone/Costanoan

Trina Marine Ruano Family
Ramona Garibay, Representative
30940 Watkins Street
Union City , CA 94587
soaprootmo@comcast.net
(510) 972-0645
Ohlone/Costanoan
Bay Miwok
Plains Miwok
Patwin

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed North Dublin Underground/Eagle Ridge: Access Road Rebuild project, Alameda and Contra Costa Counties

Native American Contact
Alameda and Contra Costa Counties
August 5, 2015

Wilton Rancheria
Raymond Hitchcock, Chairperson
9728 Kent Street Miwok
Elk Grove , CA 95624
rhitchcock@wiltonrancheria-nsn.gov
(916) 683-6000 Office

(916) 683-6015 Fax

Wilton Rancheria
Steven Hutchason, Executive Director Environmental Resources
9728 Kent Street Miwok
Elk Grove , CA 95624
shutchason@wiltonrancheria-nsn.gov
(916) 683-6000, Ext. 2006

(916) 683-6015 Fax

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed North Dublin Underground/Eagle Ridge: Access Road Rebuild project, Alameda and Contra Costa Counties

NATIVE AMERICAN HERITAGE COMMISSION
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
(916) 373-3710
Fax (916) 373-5471

February 6, 2017

Barbara Wolf
ICF

Sent by Barbara.wolf@icf.com

RE: PG&E Eagle Ridge Access Road Improvement Project, Alameda County

Dear Ms. Wolf,

Attached is a list of tribes that have cultural and traditional affiliation to the area of potential project effect (APE) referenced above. I suggest you contact all of those listed, if they cannot supply information, they might recommend others with specific knowledge. The list should provide a starting place to locate areas of potential adverse impact within the APE. By contacting all those on the list, your organization will be better able to respond to claims of failure to consult, as may be required under particular state statutes. If a response has not been received within two weeks of notification, the Native American Heritage Commission (NAHC) requests that you follow-up with a telephone call to ensure that the project information has been received.

The NAHC also recommends that project proponents conduct a record search of the NAHC Sacred Lands File (SLF) and the appropriate regional archaeological Information Center of the California Historic Resources Information System (CHRIS) (http://ohp.parks.ca.gov/?page_id=1068) to determine if any tribal cultural resources are located within the area(s) affected by the proposed action. The SFL, established under Public Resources Code section 5094, are sites submitted for listing to the NAHC by California Native American tribes. The request form can be found at http://nahc.ca.gov/resources/forms/. Please note records maintained by the NAHC and CHRIS is not exhaustive, and a negative response to these searches does not preclude the existence of tribal cultural resources. A tribe may in fact be the only source for information about tribal cultural resources within an APE.

If you receive notification of change of addresses and phone numbers from any of these tribes, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact via email: frank.lienert@nahc.ca.gov

Sincerely,

Frank Lienert
Associate Governmental Program Analyst

Native American Heritage Commission
Native American Contacts

2/6/2017

Coastanoan Rumsen Carmel Tribe
Tony Cerda, Chairperson
244 E. 1st Street — Ohlone/Costanoan
Pomona , CA 91766
rumsen@aol.com
(909) 524-8041 Cell
(909) 629-6081

Indian Canyon Mutsun Band of Costanoan
Ann Marie Sayers, Chairperson
P.O. Box 28 — Ohlone/Costanoan
Hollister , CA 95024
ams@indiancanyon.org
(831) 637-4238

Amah MutsunTribal Band of Mission San Juan Bautista
Irenne Zwierlein, Chairperson
789 Canada Road — Ohlone/Costanoan
Woodside , CA 94062
amahmutsuntribal@gmail.com
(650) 400-4806 Cell

(650) 332-1526 Fax

North Valley Yokuts Tribe
Katherine Erolinda Perez, Chairperson
P.O. Box 717 — Ohlone/Costanoan
Linden , CA 95236 — Northern Valley Yokuts
canutes@verizon.net — Bay Miwok
(209) 887-3415

Muwekma Ohlone Indian Tribe of the SF Bay Area
Rosemary Cambra, Chairperson
P.O. Box 360791 — Ohlone / Costanoan
Milpitas , CA 95036
muwekma@muwekma.org
(408) 314-1898
(510) 581-5194

The Ohlone Indian Tribe
Andrew Galvan
P.O. Box 3152 — Ohlone/Costanoan
Fremont , CA 94539 — Bay Miwok
chochenyo@AOL.com — Plains Miwok
(510) 882-0527 Cell — Patwin

(510) 687-9393 Fax

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This list is only applicable for contacting local Native Americans with regard to cultural resources assessments for the PG&E Eagle Ridge Access Road Improvement Project, Alameda County

Section 3

Example of Project Notification Letter: Eagle Ridge Preserve Road Repair Project, City of Livermore, Alameda County (2015)

September 1, 2015

Ms. Ann Marie Sayers
Chairperson, Indian Canyon Mutsun Band of Costanoan
P.O. Box 28
Hollister, CA 95024

Subject: Eagle Ridge Preserve Road Repair Project, City of Livermore, Alameda County

Dear Ms. Sayers:

ICF will provide cultural resource services to Pacific Gas and Electric (PG&E) for the Eagle Ridge Preserve Road Repair Project. Specifically, PG&E is proposing to repair a 0.5-mile stretch of an existing paved access road that leads up to the PG&E North Dublin Substation. This road has multiple cracks and poor drainage, and as a result of these issues, eight large sinkholes have formed in the adjacent hillside. PG&E also proposes to collapse and fill these existing sinkholes in order to repair the site and restore the habitat value for the Eagle Ridge Preserve (the Preserve), and to dredge two ponds that were created by the Preserve in September 2014. These two ponds have accumulated sediment due to the erosional issues in the area. Dredging is intended to maintain habitat quality of the ponds.

The Preserve is located in northcentral Alameda County, approximately 3 miles north of the City of Livermore (see enclosed map). The proposed activities would occur in the northwest corner of the Preserve, within steeply sloped open grassland habitat.

ICF conducted a background records search for the proposed project at the Northwest Information Center in August 2015. No resources were identified in or adjacent to the project area. ICF also conducted an archaeological field survey of the project area in July 2015. No cultural resources were identified during the field survey.

ICF contacted the Native American Heritage Commission (NAHC) for a review of its Sacred Lands Files on July 15, 2015. The NAHC's review failed to reveal the presence of Native American cultural resources in the immediate project area. They provided a list of contacts that may have specific knowledge of cultural resources, or other concerns, within the project area. Your name was on this list. Should you have any knowledge of cultural resources within the project area, or have other concerns with regards to the proposed project, please contact me at (415) 677-7171, or write to me at the letterhead address. If I do not hear from you within 90 days of receipt of this letter, I will follow up with a phone call.

Sincerely,

Joanne S. Grant, RPA

Enclosure: Map

Section 4

Example of Project Notification Letter: Pacific Gas & Electric's Eagle Ridge Road Project, Alameda County, CA (2017)

Pacific Gas and Electric Company

Mike Taggart, RPA
Sr. Cultural Resources Specialist
Environmental Planning and Permitting

Mailing Address
2730 Gateway Oaks Dr., #220
Sacramento, CA 95833
Tel: 916.923.7047
Email: M1TI@pge.com

February 3, 2017

Ms Jakki Kehl
720 North 2nd Street
Patterson, CA 95363

Re: Pacific Gas & Electric's Eagle Ridge Access Road Improvements Project, Alameda County, CA

Dear Ms Kehl,

Pacific Gas & Electric (PG&E) proposes to construct the Eagle Ridge Access Road Improvements Project (proposed project). In accordance with the California Environmental Quality Act (CEQA), the California Department of Fish and Wildlife (CDFW) is preparing an initial study to analyze the project's potential environmental impacts, in anticipation of issuing a Section 2081 Incidental Take Permit. In addition, the repair work will require a permit from the US Army Corps of Engineers (USACE), triggering compliance with Section 106 of the National Historic Preservation Act. CDFW will initiate formal notification to tribes of opportunity to consult on tribal cultural resources, in accordance with California Environmental Quality Act Public Resources Code section 21080.3.1 (AB 52). In addition to this formal AB 52 process, PG&E is providing you with this preliminary project information and request for information on tribal resources of concern in the project area.

The Eagle Ridge Access Road Improvements Project is located in north-central Alameda County, approximately 3 miles north of the City of Livermore (Attachment A). The proposed activities would occur in the northwest corner of the Eagle Ridge Preserve Property (Preserve). PG&E proposes to repair a 0.55-mile stretch of existing paved access road to the PG&E North Dublin Transmission Terminal; collapse and fill eight existing hillside sinkholes in order to repair the site and restore the habitat value for the Preserve; dredge two seasonal ponds that were created by the Preserve in September 2014; and repair two stormwater runoff areas ("gully areas") adjacent to the access road. The proposed project activities would occur within approximately 8.0 acres of the Preserve.

PG&E owns, operates, and maintains electrical facilities within the Eagle Ridge Preserve. The facilities are accessed via a paved access road that has developed a network of surface cracks. An area downslope of a surface-runoff drainage outlet has developed several large and deep collapse features ("sinkholes"). PG&E proposes to repair the access road in order to ensure access to the North Dublin Transmission terminal. If left unmitigated, further erosion could structurally compromise the access road. The primary and fundamental objective of the project is to ensure the long-term function and safety of the access road and surrounding area within the Preserve.

The proposed project would involve the following components:

- Site preparation of temporary material/equipment staging and laydown areas.
- Removing and replacing the existing asphalt road alignment and roadside drainage features. Work activities include a combination of road surface pulverizing, grading, and ripping of the subgrade according to engineering specifications to achieve required compaction and avoid future problems with clay swelling and erosion.
- Restoring two gully areas adjacent to the road alignment.
- Reshaping and repairing hill slope topography.
- Collapsing and filling in erosional features (i.e., sinkholes).
- Installing a buried drainage pipe to convey stormwater to the base of the slope into an energy dissipation structure (e.g., an outfall collection box).

- Dredging two seasonal ponds using a mini excavator and using spoil materials as fill for the sinkhole/hill slope repair.
- Cleanup and post-construction site restoration.

Because conservation easements are present just outside of the road easement, the rebuilt road footprint will be strictly limited to the existing road area, although some work along the road shoulders and cross drain culverts will be necessary to ensure proper drainage and site function. Accordingly, the work area along the existing roadway includes the 18-foot-wide road work area and a 6-foot-wide temporary construction easement on either side of the road. Engineering designs will be used to confirm the precise work areas needed. Approximately 5,400 cubic feet (200 cubic yards) of soil will be excavated. Once the drainage improvements are installed, the trench will be backfilled and the site will be restored to specified engineering contours to facilitate hillside drainage.

Equipment and work staging will take place in the southeastern portion of the Proposed Project area, as shown on Attachment A. These areas are previously disturbed by an existing graded ranch road and former home sites. If a work area is not being repaired, construction equipment, vehicles, and materials may be stored or parked in that location in accordance with prescribed best management practices.

In order to verify that all potential resources of concern to Native American communities are identified and considered in the planning and implementation of the proposed project, we respectfully request any specific information you can provide on the location and nature of tribal cultural resources that may be located within or immediately adjacent to the project area. Specifically, we are seeking your input on the nature and location of the following types of resources:

- Prehistoric archaeological sites and features;
- Sacred lands or locations that are important in Native American culture;
- Places that the Native American community uses for ongoing cultural practices; and
- Historic-era resources.

PG&E recognizes that the nature and location of these resources is sensitive information and will be treated accordingly. Your assistance in identifying such resources so they may be avoided and protected wherever feasible is greatly appreciated.

If you have any information, questions, or concerns regarding this project please feel free to call or email me. Your response by March 1, 2017 would be appreciated.

Sincerely,

Mike Taggart, RPA
Sr. Cultural Resource Specialist

Enclosure (Attachment A)

Section 5

Email between Michael Taggart and Antonio Ruiz, March 2, 2017

Taggart, Michael

From: Taggart, Michael
Sent: Thursday, March 02, 2017 1:42 PM
To: 'Antonio Ruiz'
Cc: Steven Hutchason; Ed Silva
Subject: RE: Re: Pacific Gas & Electric's Eagles Ridge Access Road Improvements Project, (Alameda County) / WR-ERD-0742

Hi Antonio,

Thank you very much for the response to our recent outreach to identify cultural resources that could be affected by the proposed project. As the project proponent/applicant, we will defer to the lead agencies who are overseeing environmental compliance for this project. We will be sure to provide a copy of your correspondence to the agencies (California Department of Fish and Wildlife & US Army Corps of Engineers) to facilitate the government-to-government consultation.

Respectfully,
Mike

Mike Taggart, RPA
Sr. Cultural Resource Specialist
Pacific Gas & Electric Co.
2730 Gateway Oaks Dr., Suite 220
Ofc: 916.923.7047 Cell: 916.261.6523

From: Antonio Ruiz [mailto:aruiz@wiltonrancheria-nsn.gov]
Sent: Wednesday, March 01, 2017 4:56 PM
To: Taggart, Michael
Cc: Steven Hutchason; Ed Silva
Subject: Re: Pacific Gas & Electric's Eagles Ridge Access Road Improvements Project, (Alameda County) / WR-ERD-0742

Hello Michael,

After review of your letter we have determined the project lies within the Tribe's ancestral territory. We appreciate the opportunity to comment on this and any other projects within the Tribe's ancestral territory that may be in your jurisdiction.

Thank you for your letter dated February 03, 2017 regarding the proposed project. Wilton Rancheria ("Tribe") is a federally-recognized Tribe as listed in the Federal Register, Vol. 74, No. 132, p. 33468-33469, as "Wilton Rancheria of Wilton, California". The Tribe's Service Delivery Area ("SDA") as listed in the Federal Register, Vol. 78, No. 176, p. 55731, is Sacramento County. However, the Tribe's ancestral territory spans from Sacramento County to portions of the surrounding Counties. The Tribe is concerned about projects and

undertakings that have potential to impact resources that are of cultural and environmental significance to the tribe.

The Tribe requests consultation on the following topics checked below, which shall be included in consultation subject to;

- Public Resources Code section 21080.3.2, subd. (a)
- Senate Bill 18,
- Section 106 of the National Historic Preservation Act,
- American Indian Religious Freedom Act,
- Archaeological Resources Protection Act,
- Native American Graves Protection and Repatriation Act (NAGPRA), and
- Executive Order 13175- Consultation and Coordination with Indian Tribal Governments: Section 5 (b) To the extent practicable and permitted by law, no agency shall promulgate any regulation that has tribal implication, that imposes substantial direct compliance costs on Indian tribal governments, and that is not required by statute, unless: (1) funds necessary to pay the direct costs incurred by the Indian tribal government or the tribe in complying with the regulation are provided by the federal government:

__X___ Alternatives to the project
__X___ Project funding
__X___ Recommended mitigation measures
_____ Native American Inspector present during ground disturbance
__X___ Significant effects of the project

The ERD also requests consultation on the following discretionary topics checked below:
__X___ Type of environmental review necessary
__X___ Significance of tribal cultural resources, including any regulations, policies or standards used by your agency to determine significance of tribal cultural resources
__X___ Significance of the project's impacts on tribal cultural resources
_____ NAGRPRA Plan of Action:

1. The written plan of action is an integral part of the consultation process mandated by 43 CFR 10.5 whenever there is activity affecting or likely to affect Native American cultural items on Federal or tribal lands. The plan of action must document compliance with ARPA, especially 43 CFR 7.7 – 7.9, regarding requirements for permits on Indian lands.

__X___ Project alternatives and/or appropriate measures for preservation or mitigation that we may recommend, including, but not limited to:

1. Avoidance and preservation of the resources in place, pursuant to Public Resources Code section 21084.3, including, but not limited to, planning and construction to avoid the resources and protect the cultural and natural context, or planning greenspace, parks or other open space, to incorporate the resources with culturally appropriate protection and management criteria;
2. Treating the resources with culturally appropriate dignity taking into account the tribal cultural values and meaning of the resources, including but not limited to the following:
    a. Protecting the cultural character and integrity of the resource;
    b. Protection the traditional use of the resource; and
    c. Protecting the confidentiality of the resource.
3. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.
4. Protecting the resource.

Additionally, the Tribe would like to receive any cultural resources assessments or other assessments that have been completed on all or part of the project's area of potential effect (APE), and area surrounding the APE including, but not limited to:

1. The results of any record search that may have been conducted at an Information Center of the California Historical Resources Information System (CHRIS), including, but not limited to:
   - A listing of any and all known cultural resources have already been recorded on or adjacent to the APE;
   - Copies of any and all cultural resource records and study reports that may have been provided by the Information Center as part of the records search response;
   - If the probability is low, moderate, or high that cultural resources are located in the APE or surrounding the APE.
   - Whether the records search indicates a low, moderate or high probability that unrecorded cultural resources are located in the potential APE or surrounding the APE; and
   - If a survey is recommended by the Information Center to determine whether previously unrecorded cultural resources are present.
     - The Tribe would like to be present at any survey conducted on the Applicants behalf.
2. The results of any archaeological inventory survey that was conducted, including:
   - Any reports that may contain site forms, site significance, and suggested mitigation measures.
   - Any reports or inventories found under the Native American Graves Protection and Repatriation Act.
     - All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure in accordance with Government Code Section 6254.10. All Wilton Rancheria correspondences shall be kept under this confidential section and only shared between the Tribe and the lead agency.
3. The results of any Sacred Lands File (SFL) check conducted through Native American Heritage Commission. The request form can be found at http://www.nahc.ca.gov/slf_request.html.
4. USGS 7.5-minute quadrangle name, township, range, and section required for the search and areal map of the APE.
5. Any ethnographic studies conducted for any area including all or part of the potential APE or areas surrounding the APE; and
6. Any geotechnical reports regarding all or part of the potential APE or areas surrounding the APE.
   - The Tribe shall be notified before any geotechnical testing is planned. Geotechnical testing has potential to impact Tribal Cultural Resources and should be part of this consultation.

The information gathered will provide us with a better understanding of the project and will allow the Tribe to compare your records with our database. The below requested review fees are based on services provided by tribal staff time and general administrative expenses. The Tribe's fiscal year 2017 fee schedule is listed below:

- Requested document review fee $650.00
- Onsite field investigation requested fee $500.00
- Tribal Inspector rates are based on a different fee schedule
  - All payments shall be made out to Wilton Rancheria at the address below.

Thank you again for taking these matters into consideration, please contact Eduardo Silva at (916) 683-6000 extension 2013 or via email at esilva@wiltonrancheria-nsn.gov to discuss the concerns of the Tribe on this proposed project.

Thank you,

Antonio Ruiz
Cultural Resources Officer
Department of Environmental Resources | Wilton Rancheria
Tel: 916.683.6000 Ext. 2005 | Fax: 916.683.6015
9728 Kent Street | Elk Grove | CA | 95624
aruiz@wiltonrancheria-nsn.gov
www.wiltonrancheria-nsn.gov

Customer Service Hours: M-F 8:00am-3:00pm.
Please be aware phone calls and emails will be answered only during these hours.

Section 6
CDFW AB 52 Outreach Log, 2018

CDFW AB52/Lead Agency Consultation

Eagle Ridge Access Road Improvements Project

Organization	Contact	Letter	Email	Phone	Comments
Native American Heritage Commission			12/15/2017		Email request for list of tribes for outreach to aid in the identification of Native-affiliated historic properties / historical resources. Frank Lienert responded to the Sacred Lands File search request and provided a list of tribes potentially having an interest in this project on 12/28/2017.
Coastanoan Rumsen Carmel Tribe	Tony Cerda, Chairperson 244 E. 1st Street Pomona, CA 91766 (NAHC List #1)	1/31/2018	1/30/2018		Letter/email outreach explaining the projects. Letters refrerenced previous PG&E contact, if any
Indian Canyon Mutsun Band of Costanoan	Ann Marie Savers, Chairperson P.O. Box 28 Hollister, CA 95024 (NAHC List #2)	1/31/2018	1/30/2018		Letter/email outreach explaining the projects. Letters refrerenced previous PG&E contact, if any
Amah Mutsun Tribal Band of Mission San Juan Bautista	Irenne Zwierlein, Chairperson 789 Canada Road Woodside, CA 94062 (NAHC List #3)	1/31/2018	1/30/2018		Letter/email outreach explaining the projects. Letters refrerenced previous PG&E contact, if any

North Valley Yokuts Tribe	Katherine Erolinda Perez, Chairperson P.O. Box 717 Linden, CA 95236 (NAHC List #4)	1/31/2018	1/30/2018		Letter/email outreach explaining the projects. Letters refreferenced previous PG&E contact, if any
Muwekma Ohlone Indian Tribe of the SF Bay Area	Rosemary Cambra, Chairperson P.O. Box 360791 Milpitas, CA 95036 (NAHC List #5)	1/31/2018	1/30/2018		Letter/email outreach explaining the projects. Letters refreferenced previous PG&E contact, if any
The Ohlone Indian Tribe	Andrew Galvan P.O. Box 3152 Fremont, CA 94539 (NAHC #6)		1/30/2018	1/30/2018	Confirmed that Mr. Galvan wanted only email and not written letter with orientation to project. Mr. Galvan indicated he would like to see the archaelogist report, and then may recommend that a Native tribal monitor be used depending on report findings. We agreed that he would contact us with his recommenation after getting our email.
Wilton Rancheria	Mr. Steven Hutchason, Executive Director Environmental Resources Wilton Rancheria 9728 Kent Street Elk Grove, CA 95624	1/31/2018	1/30/2018		Letter refreferenced previous PG&E contact
Federal Indians of Graton Rancheria	Buffy McQuillen, Tribal Historic Preservation Officer 6400 Redwood Drive, Suite 300 Rohnert Park, CA 94928	2/8/2018	2/7/2018		Letter/email outreach explaining the projects. Received an email response from Buffy McQuillen on February 28, 2018 indicating that the project was outside of this tribe's territorial interest.

Section 7

Contact List from Native American Heritage Commission (December 2017)

NATIVE AMERICAN HERITAGE COMMISSION
Environmental and Cultural Department
1550 Harbor Blvd., ROOM 100
West SACRAMENTO, CA 95691
(916) 373-3710
Fax (916) 373-5471

December 28, 2017

Serge Glushkoff
CA Department of Fish and Wildlife

Email to: Serge.Glushkoff@wildlife.ca.gov

RE: Eagle Ridge Access Road Project, Alameda County

Dear Mr. Glushkoff,

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not preclude the presence of cultural resources in any project area. Other sources for cultural resources should also be contacted for information regarding known and/or recorded sites.

Enclosed is a list of Native Americans tribes who may have knowledge of cultural resources in the project area. I suggest you contact all of those indicated, if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these tribes, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact me at 916-573-1033 or frank.lienert@nahc.ca.gov.

Sincerely,

Frank Lienert
Associate Governmental Program Analyst

Native American Heritage Commission
Native American Contacts
12/28/2017

1
Coastanoan Rumsen Carmel Tribe
Tony Cerda, Chairperson
244 E. 1st Street — Ohlone/Costanoan
Pomona , CA 91766
rumsen@aol.com
(909) 524-8041 Cell
(909) 629-6081

2
Indian Canyon Mutsun Band of Costanoan
Ann Marie Sayers, Chairperson
P.O. Box 28 — Ohlone/Costanoan
Hollister , CA 95024
ams@indiancanyon.org
(831) 637-4238

3
Amah MutsunTribal Band of Mission San Juan Bautista
Irenne Zwierlein, Chairperson
789 Canada Road — Ohlone/Costanoan
Woodside , CA 94062
amahmutsuntribal@gmail.com
(650) 851-7489 Cell
(650) 851-7747 Office
(650) 332-1526 Fax

4
North Valley Yokuts Tribe
Katherine Erolinda Perez, Chairperson
P.O. Box 717 — Ohlone/Costanoan
Linden , CA 95236 — Northern Valley Yokuts
canutes@verizon.net — Bay Miwok
(209) 887-3415

5
Muwekma Ohlone Indian Tribe of the SF Bay Area
Rosemary Cambra, Chairperson
P.O. Box 360791 — Ohlone / Costanoan
Milpitas , CA 95036
muwekma@muwekma.org
(408) 314-1898

(510) 581-5194

6
The Ohlone Indian Tribe
Andrew Galvan
P.O. Box 3152 — Ohlone/Costanoan
Fremont , CA 94539 — Bay Miwok
chochenyo@AOL.com — Plains Miwok
(510) 882-0527 Cell — Patwin

(510) 687-9393 Fax

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This list is only applicable for contacting local Native American Tribes with regard to cultural resources assessments for the proposed Eagle Ridge Access Road Project, Alameda County

Section 8
CDFW Project Notification Letters (2018)

State of California – The Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Bay Delta Region
7329 Silverado Trail
Napa, CA 94558
(707) 944-5500
www.wildlife.ca.gov

EDMUND G. BROWN JR., *Governor*
CHARLTON H. BONHAM, *Director*

January 30, 2018

Honorable Tony Cerda, Chairperson
Costanoan Rumsen Carmel Tribe
244 East 1st Street
Pomona, CA 91766
rumsen@aol.com

Dear Honorable Tribal Representative:

Subject: Notification Pursuant to California Environmental Quality Act Section 21080.3.1 of the Eagle Ridge Access Road Project, Alameda County

The California Department of Fish and Wildlife (CDFW) would like to inform you that its Bay Delta Region has received a permit application for the Eagle Ridge Access Road Project (Project). CDFW is providing this formal notice as the Project lead agency pursuant to the California Environmental Quality Act (CEQA), Public Resources Code section 21080.3.1. Your input can be provided to CDFW through direct communication and consultation or during the public comment period for the Project planned to begin in February 2018. CDFW welcomes direct communication and consultation prior to the public review process to discuss the Project and identify any Project impacts to Tribal interests or cultural resources. Please note that you may already be familiar with this Project as the Project Applicant, the Pacific Gas and Electric Company (PG&E) has indicated that it previously sent you Project information in September 2015 and again in February 2017.

This Project would repair a 0.55-mile stretch of existing paved access road to the PG&E North Dublin Transmission Terminal; collapse and fill eight existing hillside sinkholes in order to repair the site and restore the habitat value for the habitat preserve it is located on; dredge a constructed seasonal pond that was created to provide wildlife habitat; and repair two stormwater runoff gully areas adjacent to the road. The proposed Project activities would occur within approximately 8.1 acres of the preserve.

PG&E owns, operates, and maintains electrical facilities within the Eagle Ridge Preserve. The facilities are accessed via a paved access road that has developed a network of surface cracks, and an area downslope of a surface-runoff drainage outlet has developed several large sinkholes. PG&E proposes repairs to ensure safe access to its terminal. The proposed Project would involve site preparation of temporary material/equipment staging and laydown areas, removal and replacement of the existing asphalt road alignment and roadside drainage features, treatment of two gully areas, reshaping and repair of hill slope topography, collapsing and filling in of sinkholes, installation of a buried drainage pipe to convey stormwater off the road, dredging of a

seasonal constructed habitat pond with a mini excavator and post-construction site restoration. Pond dredging is intended to restore the habitat quality of the pond and restore an original design depth of 7 feet.

Because conservation easements are present just outside of the road easement, the rebuilt road footprint will be limited to proximity with the existing road area and a 6-foot-wide temporary construction easement on either side of the road. Approximately 5,400 cubic feet (200 cubic yards) of soil will be excavated. Once the drainage improvements are installed, the trench will be backfilled and the site will be restored to facilitate hillside drainage.

Equipment and work staging will take place in areas previously disturbed by an existing graded ranch road and former home sites.

The Project area is located south of Manning Road in the County of Alameda, State of California; Latitude 37.750645, Longitude -121.801710 or Section 19, Township 2S, Range 2E, U.S. Geological Survey (USGS) map Livermore and Tassajara, or 8876 Manning Road, Livermore, CA, 94551; Assessor's Parcel Number 903-0002-03, 903-0002-001-01, 006-200-006-2, and 505-040-006 (see Figure 1; Project Area Map). Access to the Project site is from Manning Road through the gate owned and operated by the property owner, Eagle Ridge Preserve LLC.

The Project is anticipated to impact the habitat for the California tiger salamander and the bed and bank of a pond, which may be of interest to your Tribe.

CDFW's goal is to understand Tribal interests and concerns early in the Project and to work collaboratively to resolve any concerns. CDFW is committed to open communication with your Tribe under its Tribal Communication and Consultation Policy, which is available through CDFW's Tribal Affairs webpage at https://www.wildlife.ca.gov/General-Counsel/Tribal-Affairs.

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We look forward to your response and input on the Project.

Sincerely,

Gregg Erickson

Gregg Erickson
Acting Regional Manager
Bay Delta Region

Enclosure: Project Area Map

ec: California Department of Fish and Wildlife

Nathan Voegeli, Tribal Liaison, Tribal.Liaison@wildlife.ca.gov
Karen Carpio, Habitat Conservation Planning Branch – Karen.Carpio@wildlife.ca.gov
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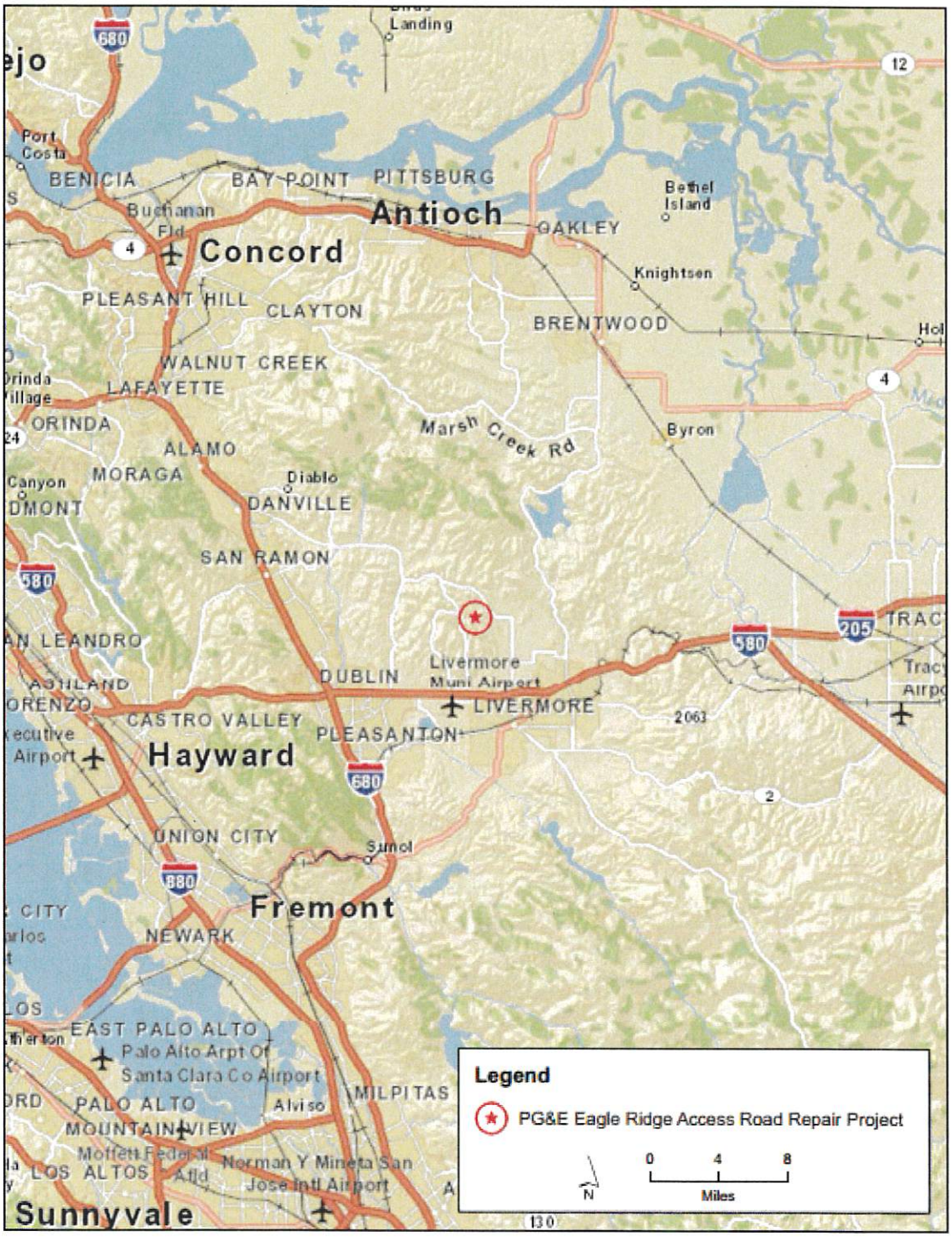

Figure 1
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State of California – The Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Bay Delta Region
7329 Silverado Trail
Napa, CA 94558
(707) 944-5500
www.wildlife.ca.gov

EDMUND G. BROWN JR., *Governor*
CHARLTON H. BONHAM, *Director*

January 30, 2018

Honorable Ann Marie Sayers Chairperson
Indian Canyon Mutsun Band of Costanoan
Post Office Box 28
Hollister, CA 95024
ams@indiancanyon.org

Dear Honorable Tribal Representative:

Subject: Notification Pursuant to California Environmental Quality Act Section 21080.3.1 of the Eagle Ridge Access Road Project, Alameda County

The California Department of Fish and Wildlife (CDFW) would like to inform you that its Bay Delta Region has received a permit application for the Eagle Ridge Access Road Project (Project). CDFW is providing this formal notice as the Project lead agency pursuant to the California Environmental Quality Act (CEQA), Public Resources Code section 21080.3.1. Your input can be provided to CDFW through direct communication and consultation or during the public comment period for the Project planned to begin in February 2018. CDFW welcomes direct communication and consultation prior to the public review process to discuss the Project and identify any Project impacts to Tribal interests or cultural resources. You may remember that you have provided some recommendations about this Project to the Project Applicant, the Pacific Gas and Electric Company (PG&E) in February 2017 after they sent you Project information. The Applicant provided us a record of this communication. We now invite you to communicate with us directly.

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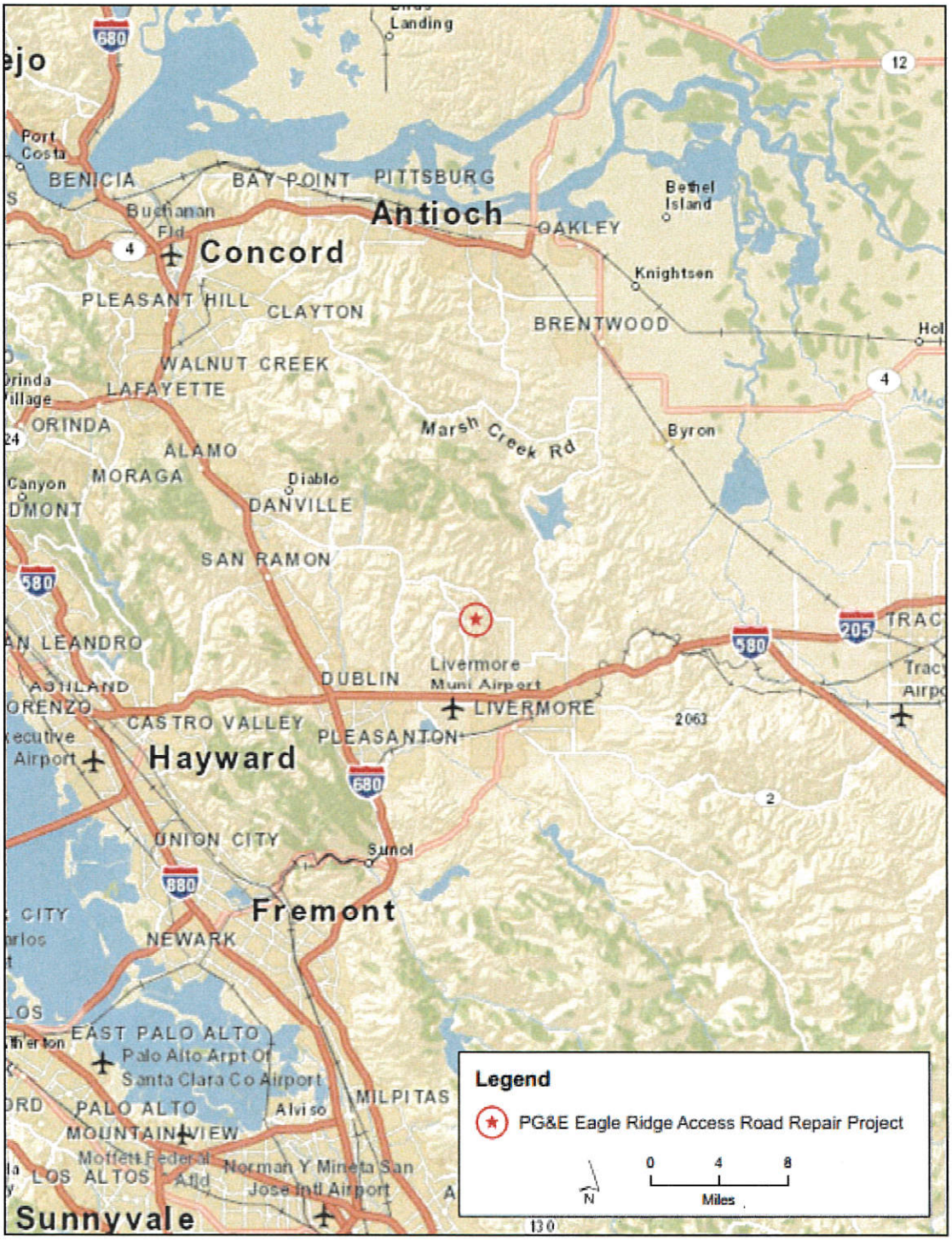

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EDMUND G. BROWN JR., *Governor*
CHARLTON H. BONHAM, *Director*

January 30, 2018

Honorable Irenne Zwierlein, Chairperson
Amah Mutsun Tribal Band of Mission San Juan Bautista
789 Canada Road
Woodside, CA 94062
amahmutsuntribal@gmail.com

Dear Honorable Tribal Representative:

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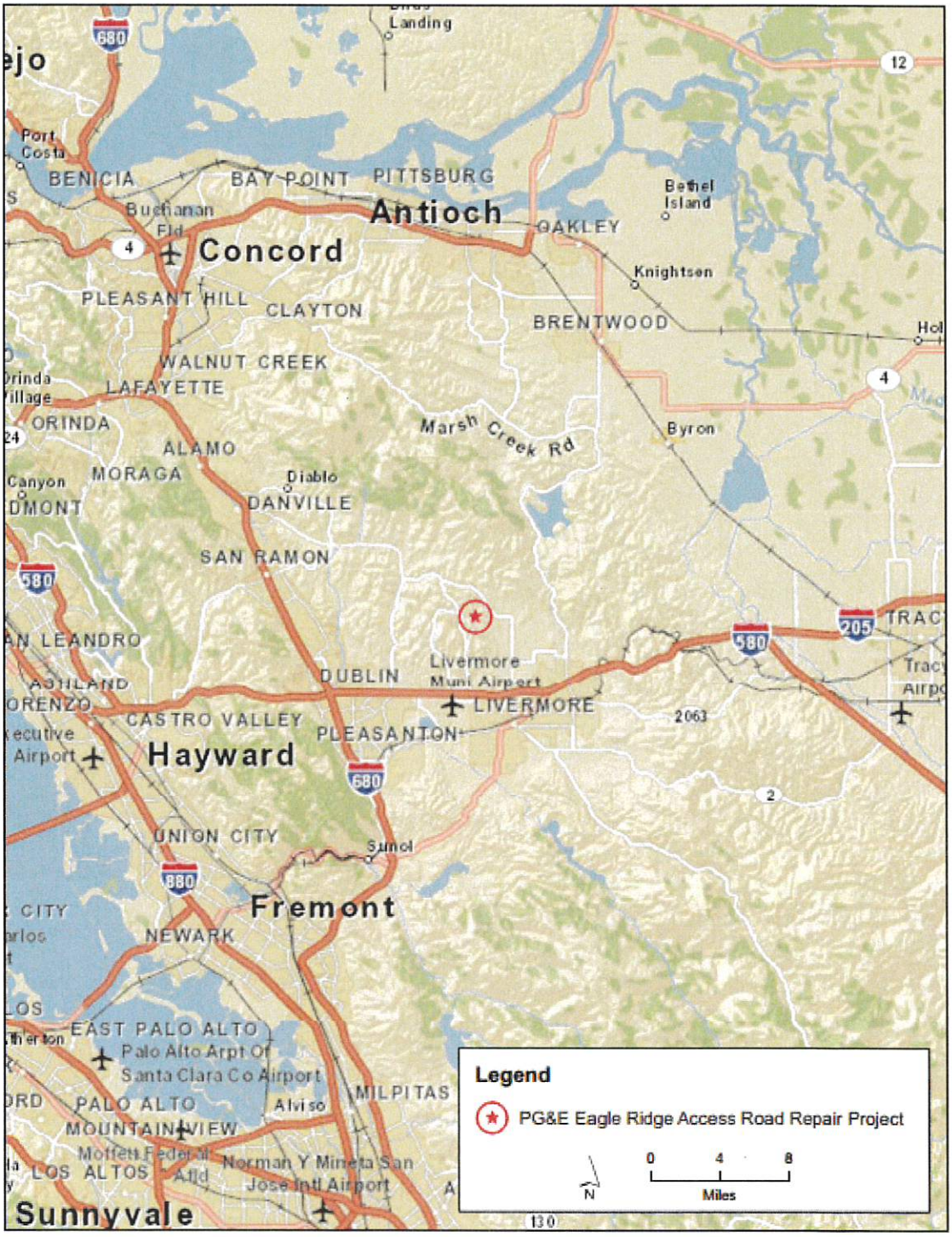

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EDMUND G. BROWN JR., *Governor*
CHARLTON H. BONHAM, *Director*

January 30, 2018

Honorable Katherine Erolinda Perez, Chairperson
North Valley Yokuts Tribe
Post Office Box 717
Linden, CA 95236
Canutes@verizon.net

Dear Honorable Tribal Representative:

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Bay Delta Region

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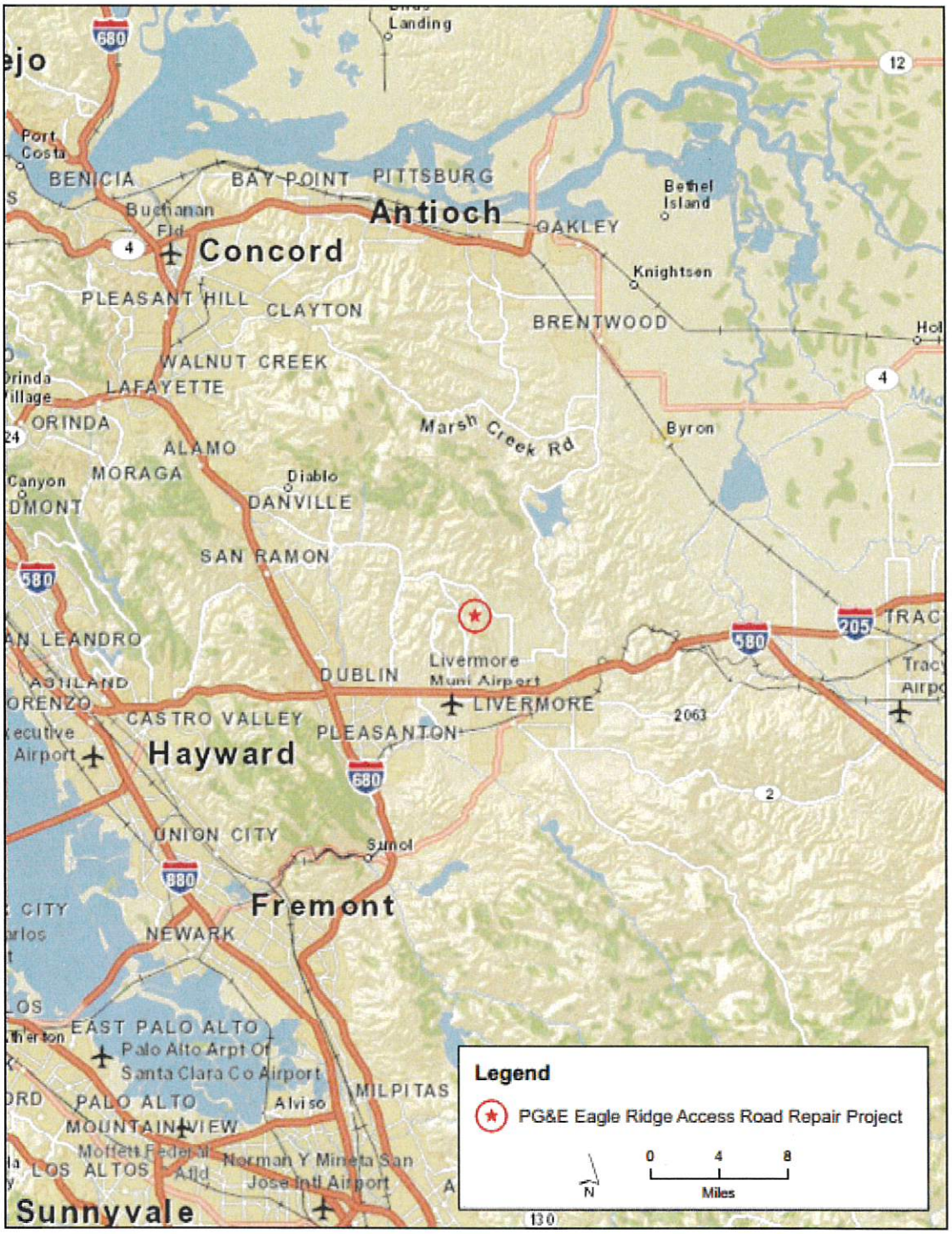

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EDMUND G. BROWN JR., *Governor*
CHARLTON H. BONHAM, *Director*

January 30, 2018

Honorable Rosemary Cambra, Chairperson
Muwekma Ohlone Indian Tribe of the San Francisco Bay Area
Post Office Box 360791
Milpitas, CA 95036
muwekma@muwekma.org

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Bay Delta Region

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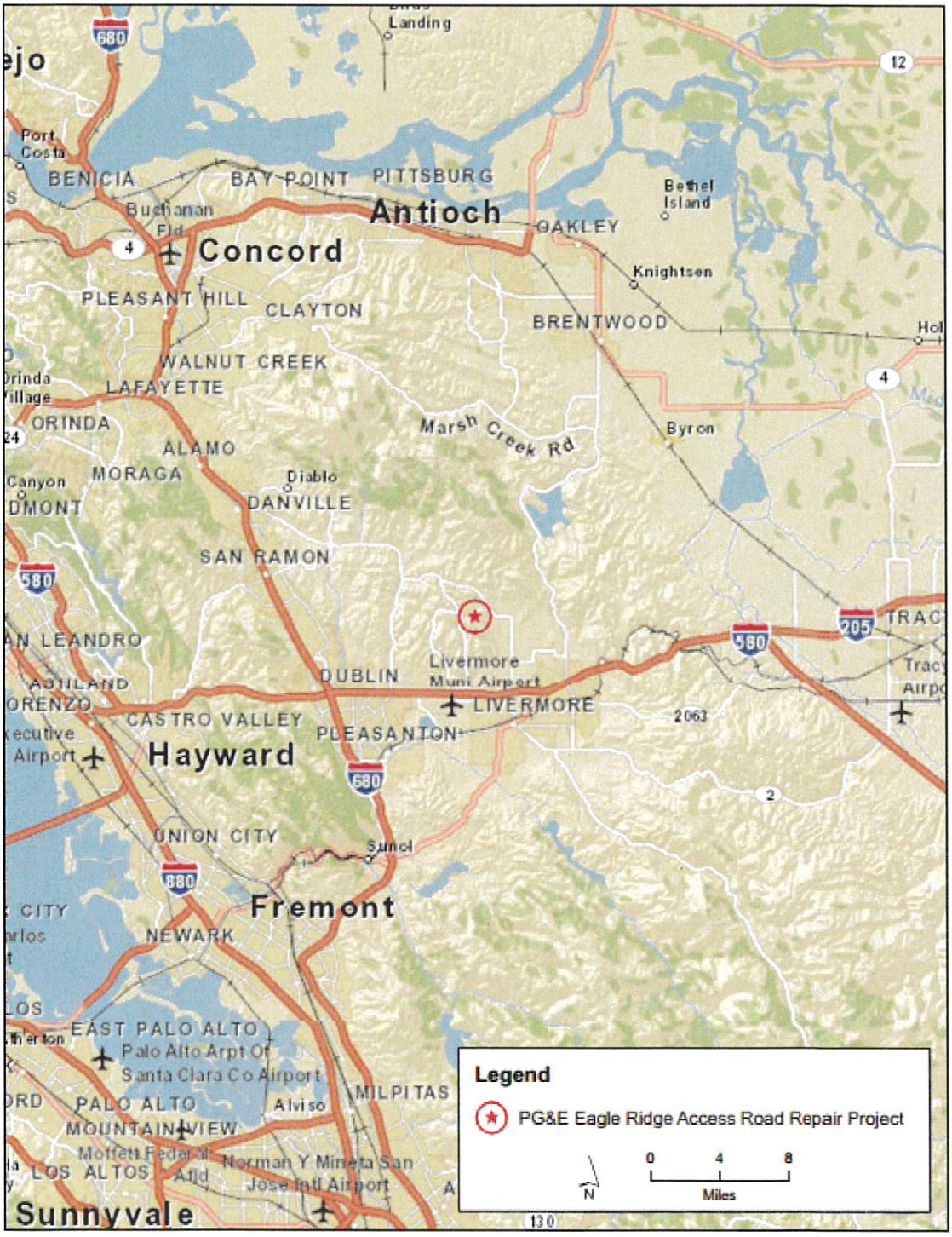

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EDMUND G. BROWN JR., *Governor*
CHARLTON H. BONHAM, *Director*

January 30, 2018

Mr. Andrew Galvan
The Ohlone Indian Tribe
Post Office Box 3152
Fremont, CA 94539
chochenyo@aol.com

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ec: California Department of Fish and Wildlife

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Karen Carpio, Habitat Conservation Planning Branch – Karen.Carpio@wildlife.ca.gov
Serge Glushkoff, Bay Delta Region – Serge.Glushkoff@wildllife.ca.gov
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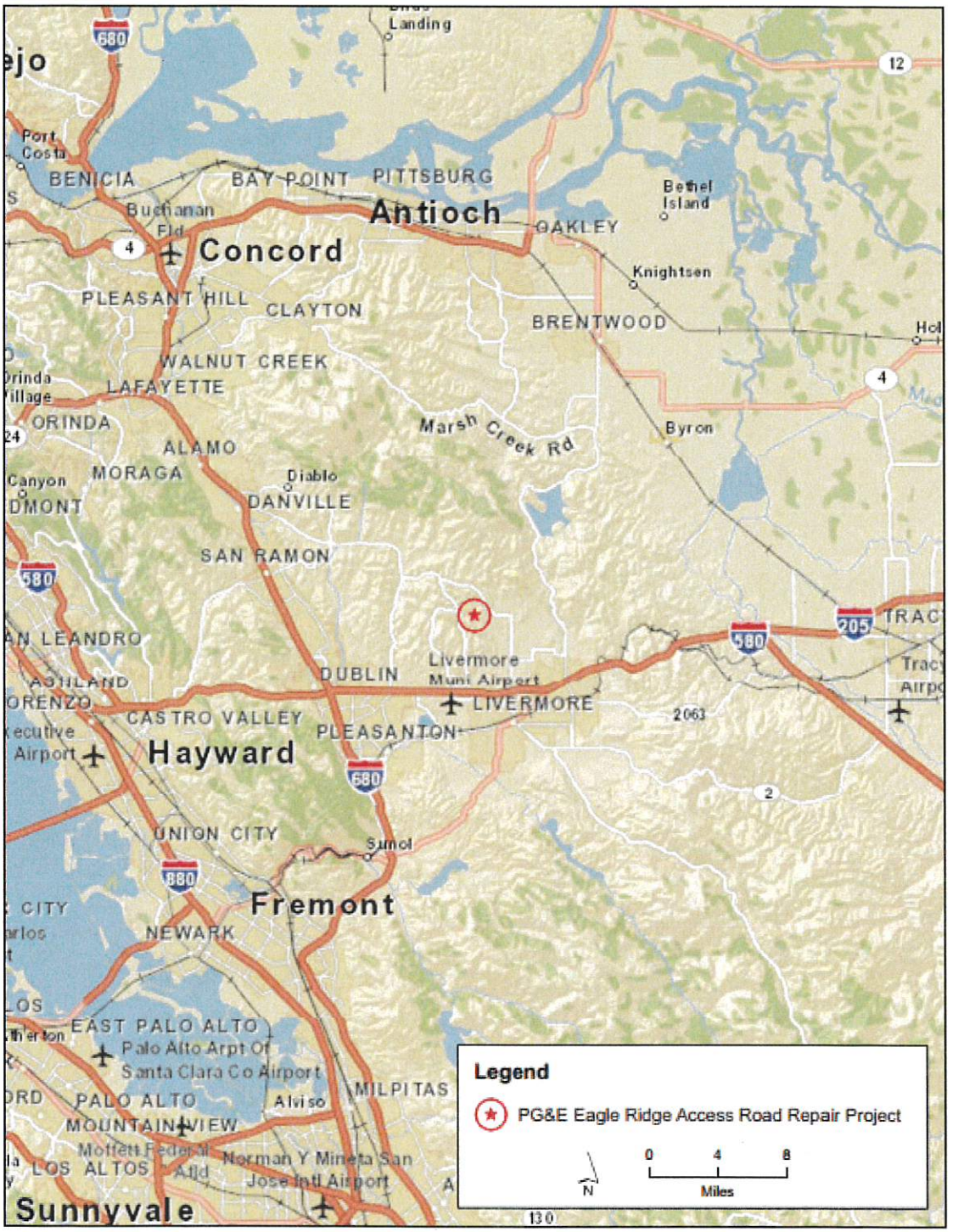

Figure 1
Project Area
Eagle Ridge Access Road Repair Project

State of California – The Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Bay Delta Region
7329 Silverado Trail
Napa, CA 94558
(707) 944-5500
www.wildlife.ca.gov

EDMUND G. BROWN JR., *Governor*
CHARLTON H. BONHAM, *Director*

January 30, 2018

Mr. Steven Hutchason
Executive Director Environmental Resources
Wilton Rancheria
9728 Kent Street
Elk Grove, CA 95624

Dear Honorable Tribal Representative:

Subject: Notification Pursuant to California Environmental Quality Act Section 21080.3.1 of the Eagle Ridge Access Road Project, Alameda County

The California Department of Fish and Wildlife (CDFW) would like to inform you that its Bay Delta Region has received a permit application for the Eagle Ridge Access Road Project (Project). CDFW is providing this formal notice as the Project lead agency pursuant to the California Environmental Quality Act (CEQA), Public Resources Code section 21080.3.1. Your input can be provided to CDFW through direct communication and consultation or during the public comment period for the Project planned to begin in February 2018. CDFW welcomes direct communication and consultation prior to the public review process to discuss the Project and identify any Project impacts to Tribal interests or cultural resources. You may remember that the Tribe's Cultural Resources Officer, Mr. Antonio Ruiz, provided some recommendations about this Project to the Project Applicant, the Pacific Gas and Electric Company (PG&E) in March 2017 after they sent you Project information. The Applicant provided us a copy of this correspondence. We now invite you to communicate with us directly.

This Project would repair a 0.55-mile stretch of existing paved access road to the PG&E North Dublin Transmission Terminal; collapse and fill eight existing hillside sinkholes in order to repair the site and restore the habitat value for the habitat preserve it is located on; dredge a constructed seasonal pond that was created to provide wildlife habitat; and repair two stormwater runoff gully areas adjacent to the road. The proposed Project activities would occur within approximately 8.1 acres of the preserve.

PG&E owns, operates, and maintains electrical facilities within the Eagle Ridge Preserve. The facilities are accessed via a paved access road that has developed a network of surface cracks, and an area downslope of a surface-runoff drainage outlet has developed several large sinkholes. PG&E proposes repairs to ensure safe access to its terminal. The proposed Project would involve site preparation of temporary material/equipment staging and laydown areas, removal and replacement of the existing asphalt road alignment and roadside drainage features, treatment of two gully areas,

reshaping and repair of hill slope topography, collapsing and filling in of sinkholes, installation of a buried drainage pipe to convey stormwater off the road, dredging of a seasonal constructed habitat pond with a mini excavator and post-construction site restoration. Pond dredging is intended to restore the habitat quality of the pond and restore an original design depth of 7 feet.

Because conservation easements are present just outside of the road easement, the rebuilt road footprint will be limited to proximity with the existing road area and a 6-foot-wide temporary construction easement on either side of the road. Approximately 5,400 cubic feet (200 cubic yards) of soil will be excavated. Once the drainage improvements are installed, the trench will be backfilled and the site will be restored to facilitate hillside drainage.

Equipment and work staging will take place in areas previously disturbed by an existing graded ranch road and former home sites.

The Project area is located south of Manning Road in the County of Alameda, State of California; Latitude 37.750645, Longitude -121.801710 or Section 19, Township 2S, Range 2E, U.S. Geological Survey (USGS) map Livermore and Tassajara, or 8876 Manning Road, Livermore, CA, 94551; Assessor's Parcel Number 903-0002-03, 903-0002-001-01, 006-200-006-2, and 505-040-006 (see Figure 1; Project Area Map). Access to the Project site is from Manning Road through the gate owned and operated by the property owner, Eagle Ridge Preserve LLC.

The Project is anticipated to impact the habitat for the California tiger salamander and the bed and bank of a pond, which may be of interest to your Tribe.

CDFW's goal is to understand Tribal interests and concerns early in the Project and to work collaboratively to resolve any concerns. CDFW is committed to open communication with your Tribe under its Tribal Communication and Consultation Policy, which is available through CDFW's Tribal Affairs webpage at https://www.wildlife.ca.gov/General-Counsel/Tribal-Affairs.

CDFW respectfully requests your preliminary input regarding the Project by March 1, 2018. If you would like more Project information, please contact Mr. Serge Glushkoff, Senior Environmental Scientist (Specialist), at Serge.Glushkoff@wildlife.ca.gov or (707) 339-6191, or write to Serge Glushkoff, 7329 Silverado Trail, Napa, CA 94558.

To request formal consultation pursuant to the CDFW Tribal Communication and Consultation Policy or CEQA section 21080.3.1, please respond in writing within 30 days to Tribal Liaison Nathan Voegeli by email at Tribal.Liaison@wildlife.ca.gov or by mail to California Department of Fish and Wildlife, 1416 9th Street, Suite 1341, Sacramento, CA 95814. Please designate and provide contact information for the appropriate Tribal lead person.

We look forward to your response and input on the Project.
Sincerely,

Gregg Erickson
Acting Regional Manager
Bay Delta Region

Enclosure: Project Area Map

ec: California Department of Fish and Wildlife

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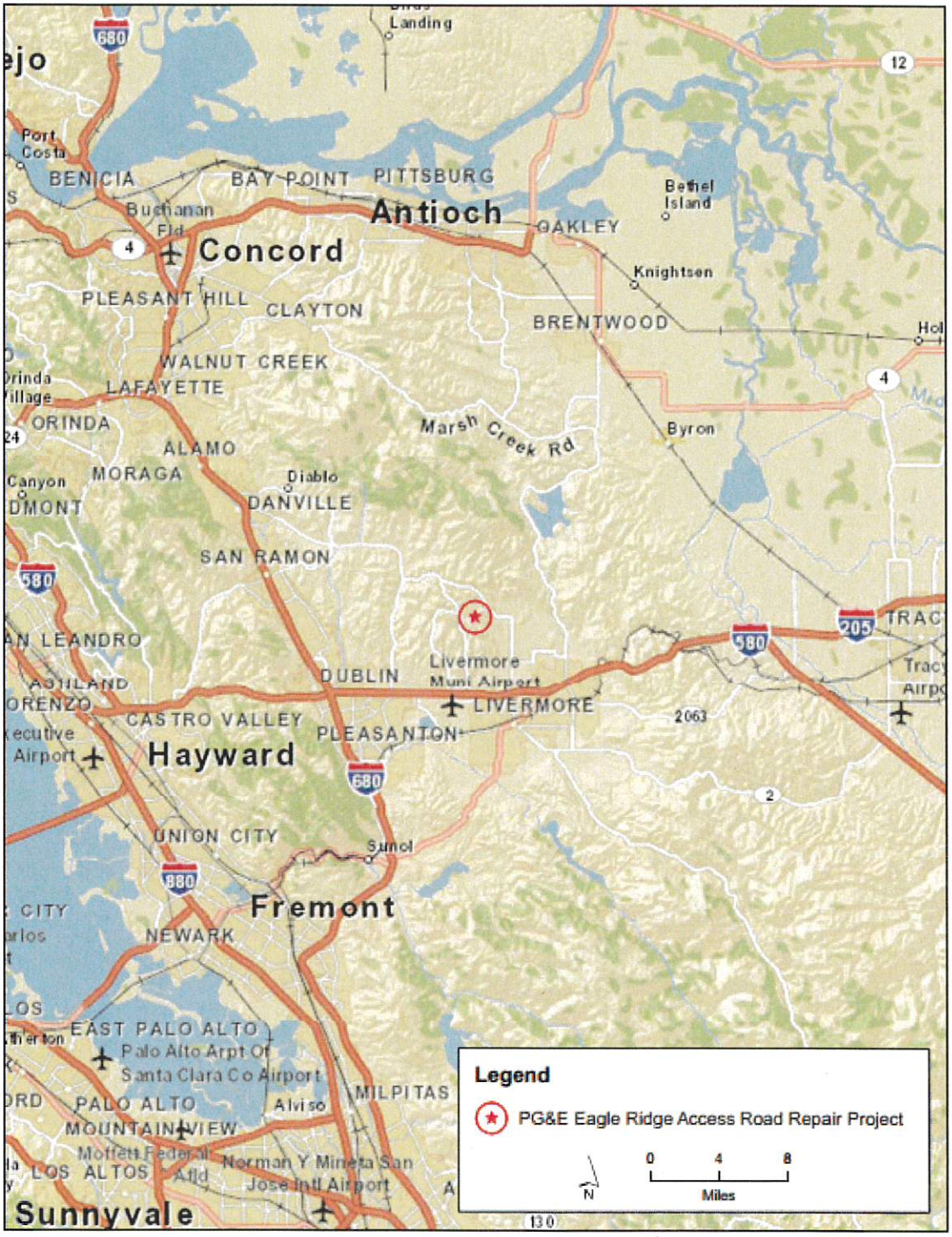

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EDMUND G. BROWN JR., *Governor*
CHARLTON H. BONHAM, *Director*

February 7, 2018

Honorable Buffy McQuillen, Tribal Historic Preservation Officer
Federated Indians of Graton Rancheria
6400 Redwood Drive, Suite 300
Rohnert Park, CA 94928
bmcquillen@gratonrancheria.com

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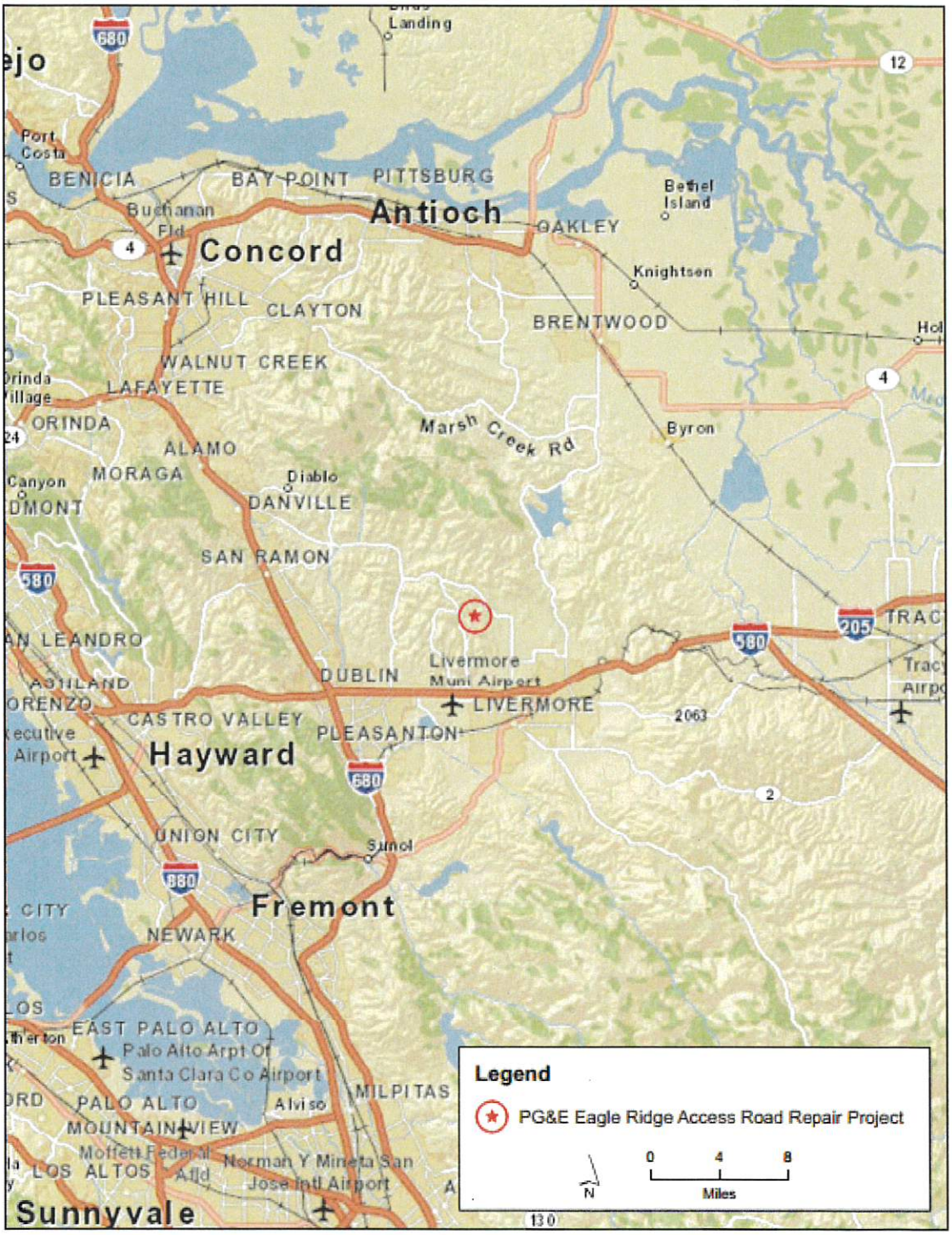

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