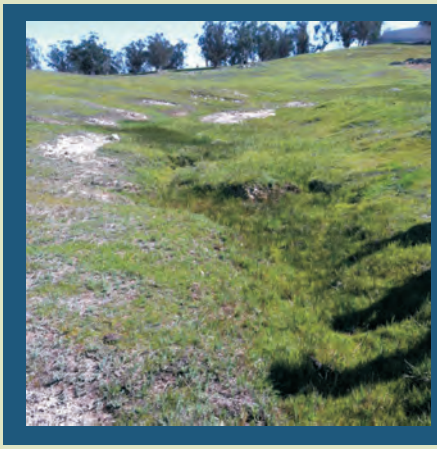
PG&E Dalton Crossover Valve Automation Project

Draft Mitigated Negative Declaration and Supporting Initial Study



Lead Agency:

California Department of Fish and Wildlife

Bay Delta Region

Prepared by:

Aspen Environmental Group

May 2014

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1. Project Overview

Pacific Gas and Electric (PG&E) proposes to install gas pipeline valve automation facilities at the existing V-046 Dalton crossover station in Alameda County on the northern border of Livermore, California.[1] The project would increase gas pipeline network reliability and flexibility where two of PG&E's gas transmission pipelines cross: Line 303 (L-303), a 36-inch-diameter pipeline, and Line 114 (L-114), a 24-inch-diameter pipeline.

The California Public Utilities Commission (CPUC) has exclusive discretionary jurisdiction over the design, construction, and operation of PG&E's gas pipeline projects. 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.

This mitigated negative declaration evaluates this project as proposed by the project proponent, incorporating all APMs that contribute to the project's design. The project area and its vicinity support potentially suitable habitat for the federally and state listed California tiger salamander (*Ambystoma californiense*) and the federally listed California red-legged frog (*Rana draytonii*) and vernal pool fairy shrimp (*Branchinecta lynchi*). PG&E has designed the project to limit work within wetlands to the installation and removal of a temporary "sniff hole" [2], followed by site restoration at the end of construction.

1.1 Purpose

The proposed Dalton Crossover Valve Automation Project is part of PG&E's larger effort to enhance the safety of its gas transmission pipeline system. Automated or remote-control valves are being added at locations where the technology will have the most benefit, providing operators with the capability to remotely isolate sections of larger-diameter and higher-pressure natural gas transmission pipelines that transverse heavily populated areas. These enhancements allow operators to more rapidly detect problems and to isolate specific pipeline segments for testing to improve public safety.

1.2 Location and General Information

PG&E's existing Dalton crossover station is located just north of the City of Livermore in Alameda County, California (see Figure 1-1). The station is northeast of the intersection of Raymond Road and Ames Street (see Figure 1-2) on the U.S. Geological Survey (USGS) Altamont 7.5-minute quadrangle in Section 01 of Township 04 South, Range 01 East (Mount Diablo Meridian). General project information is provided in Table 1-1.

All main line valves and associated equipment would be located above ground within a 3,000-square-foot area enclosed by a 7-foot-high chain-link fence with three rows of barbed wire on the top.

[1] PG&E's proposed project is described herein and in the application and notification materials submitted by PG&E to the California Department of Fish and Wildlife for an Incidental Take Permit (ITP) under Fish and Game Code § 2081 and a Streambed Alteration Agreement (SAA) under Fish and Game Code § 1600 *et seq*.

[2] A sniff hole contains a probe with an electronic gas detector.

TABLE 1-1
General Project Information
IS/MND Supporting an ITP and SAA for the PG&E Dalton Crossover Valve Automation Project

Project Title	ITP and SAA for PG&E's Dalton Crossover Valve Automation Project
California Environmental Quality Act (CEQA) Lead Agency	California Department of Fish and Wildlife (CDFW) Serge Glushkoff, Senior Environmental Scientist (Specialist) Bay Delta Region 7329 Silverado Trail Napa, CA 94558
PG&E Contact Person	Cori Mustin, Senior Land Planner
Project Location	County of Alameda, California
Project Sponsor	Pacific Gas and Electric Company Cori Mustin, Senior Land Planner Environmental Management 6111 Bollinger Canyon Road San Ramon, CA 94583
Land Use and Zoning Designations	Alameda County Zoning: Agriculture Alameda County Land Use: Large Parcel Agriculture Livermore Zoning: Planned Development – Open Space Livermore Land Use: Open Space – Agricultural

Data Sources:

Google Earth, modified by CH2M HILL

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PG&E Dalton Crossover Station
Valve Automation Project
Alameda County

Figure 1-1. Project Overview Map

ES01171416321SAC_PGE figure 1-1

Data Sources:

Microsoft BING maps

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PG&E Dalton Crossover
Valve Automation Project
Alameda County

Figure 1-2. Dalton Crossover Overview

ES01171416321 2SAC_PGE_figure_1-2

2. Project Description

2.1 Proposed Facility

The proposed project consists of installing valve automation facilities at the existing Dalton crossover station on the corner of Ames Street and Raymond Road, on the northern border of the City of Livermore. The crossover station is a facility that connects and regulates the flow of natural gas between two of PG&E's gas transmission pipelines: L-303, a 36-inch-diameter pipeline, and L-114, a 24-inch-diameter pipeline. In addition to adding automated valves at this location, PG&E would install in-line inspection receiver and launcher traps on L-114, and add pressure transmitters and flow meters to provide operators with more information about the state of the pipeline. The project would not change the existing capacity of natural gas in the two pipelines at the station.

As shown in Figures 2-1 and 2-2, the project area encompasses the proposed expanded station and work area, temporary access routes and work areas associated with two sniff holes, and a temporary offsite workspace. Throughout this document, the term "project area" refers to all of these locations collectively. When information pertains to only a specific location, the location will be noted.

The Dalton station currently covers an area of about 3,000 square feet (.07 acres). It would be expanded by 16,000 square feet (0.37 acres) to a total of 19,000 square feet (0.45 acres). The project would temporarily disturb 2.51 acres, including approximately 0.012 acres of a seasonal wetland for the excavation and refilling of two sniff holes and would permanently affect 0.37 acres for the station expansion. The sniff holes are required for worker safety and to provide for pipeline inspection.

2.2 Construction Methods

Upon project completion, all construction material would be removed from the project area and debris would be removed and disposed of at an appropriate landfill. All temporarily affected work areas (i.e., areas surrounding the two sniff holes and the temporary offsite workspace) would be restored to as close to pre-project conditions as feasible. All areas subject to ground-disturbance, with the exception of the expanded graveled crossover station, would be revegetated using an appropriate seed mix (approved by CDFW).

Pipe Replacement, Valve Automation, and Other Activities

The majority of project activities, including piping replacement and installation of automated valves and other equipment, would take place within the existing 3,000-square-foot Dalton crossover station and the permanent expansion area. When complete, the crossover station would encompass approximately 19,000 square feet. To accomplish this, PG&E's existing underground pipelines within the station would be located using potholing. Potholing involves the use of high-pressure water from a truck to break apart the soil while a vacuum removes the water/soil mix to expose the top of the underground pipelines.

After each pipeline has been located, several trenches and holes (also known as "bell holes") would be dug within the expanded station to access and replace the pipeline. Backhoes, vacuum extraction trucks, and other digging equipment would be used for excavation. Spoils would either be hauled offsite or would be temporarily stockpiled onsite within the temporary construction area surrounding the footprint of the expanded station. After the existing gas lines are exposed, a main line valve and existing pipe within an approximately 250-linear-foot area adjacent to another valve would be removed. Following the removal, new pipe and valve assemblies would be brought from the temporary offsite workspace, and would be connected to the existing pipeline in the crossover station. A pipeline outage would be required to perform this work.

PG&E would also conduct the following activities within the footprint of the expanded station:

- Install an actuator on the existing main line valve on L-303
- Upgrade the existing 20-inch ball valve with a 24-inch ball valve and actuator on L-114

- Install a 24-inch pig receiver and associated valves on L-114
- Install a 36-inch pig launcher and associated valves on L-114
- Install a 12-inch blow down valve
- Install four new pressure indicating transmitters
- Install a new remote terminal unit and supervisory control and data acquisition equipment in station
- Install new power supply to station
- Install an approximately 20-foot-tall communications antenna

Project activities would require several steps including site preparation, excavation, construction, backfilling, and grading for the crossover station expansion. A substantial amount of grading would be necessary to create a flat work space to expand the existing station. The surrounding 0.97-acre graded area is referred to as the "temporary construction area" because it would be used during construction for staging, stockpiling, welding, and hydrotesting. The slope of this area would be steepened, and then revegetated to as close to pre-project conditions as possible in accordance with the vegetation restoration plan.

After construction is completed, gravel would be placed throughout the new station footprint. Permanent fencing (7-foot-high chain-link with three rows of barbed wire) would be installed along the entire perimeter of the expanded crossover station. Future operations and maintenance would be confined to the fenced expanded station, which would be accessed by the existing gravel access road.

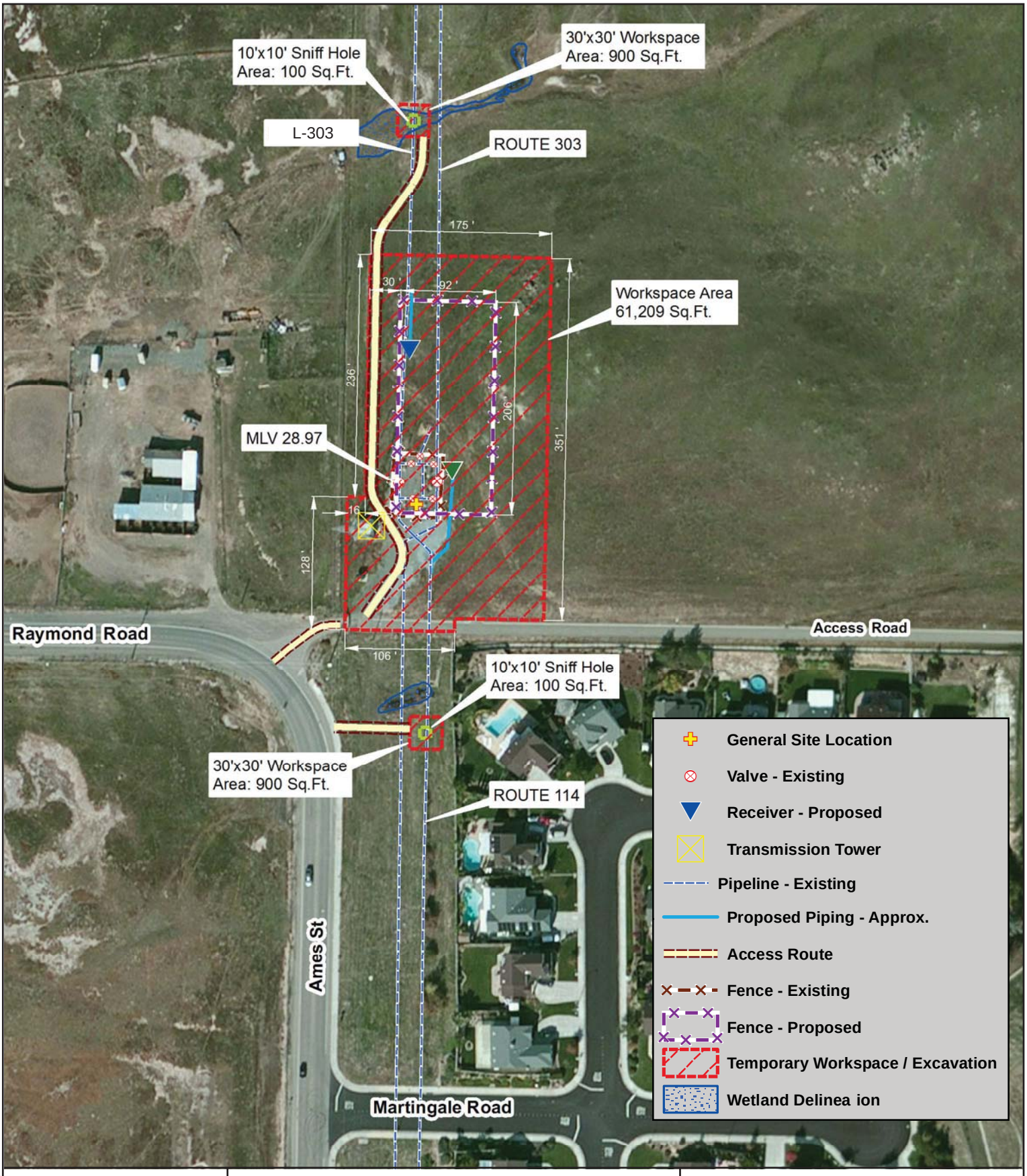
Hydrostatic Testing

All new piping would be hydrostatically pressure-tested (hydrotested) above ground to ensure its integrity before it is laid in the trench. Hydrotesting, which is the industry standard for testing pipelines and pressure valves, is a method of verifying the maximum operating pressure and ensuring the integrity of a pipe. Approximately 20,000 gallons of test water would be trucked to the work area from a municipal water source (the City of Livermore). Multiple hydrotests may be required to test the new pipe, which would be installed in segments. The majority of hydrotesting would occur within the crossover station work area. However, some segments of pipe may be hydrotested at the temporary offsite workspace. Once the piping is filled, the water pressure would be slowly raised to the appropriate test pressure for a minimum of 8 hours. At the end of the test, the piping would be emptied of water and the water would be collected into liquid storage tanks, such as Baker™ Tanks, staged within the existing station area or the temporary offsite workspace. After hydrotesting is completed, the test water would be hauled offsite to an appropriate disposal site, discharged to a sewer manhole on the east side of Ames Street connecting to a publically owned treatment work, or used onsite for dust control. If used for onsite dust control, free standing water would not be allowed to collect onsite, and water would not be allowed to enter onsite wetlands.

Sniff Hole Installations

During construction, the main gas line would be taken out of service. Two sniff holes would be excavated on L-114, one approximately 125 feet north of the crossover station temporary work area and one approximately 100 feet south of the crossover station temporary work area (see Figure 2-1). At each sniff hole location, a probe with an electronic gas detector would be inserted into the existing pipeline. The probe would detect gas leaks during construction and would provide work crews with early warning, should one of the gas isolation points fail. This early detection would enable personnel to take appropriate measures to mitigate safety hazards. The sniff holes would be manned whenever work is occurring during clearances, when the main gas line is out of service.

The northern sniff hole would be excavated in a seasonal wetland that was temporarily disturbed by two previous PG&E projects [PG&E L-114 ECDA Excavation Project (U.S. Army Corps of Engineers [USACE] file 30330S) and L-303 in-line inspection (USACE file 2009-00143)]. Pipeline integrity information would be collected while the existing pipeline is temporarily exposed for the installation of the northern sniff hole.



Data Sources:

Microsoft BING maps

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PG&E Dalton Crossover
Valve Automation Project
Alameda County

Figure 2-1. Site Layout - Dalton Crossover Station

ES011714163212SAC_PGE_figure 2-1

Data Sources:

Microsoft BING maps

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0 125 250 Feet

PG&E Dalton Crossover
Valve Automation Project
Alameda County

Figure 2-2. Temporary Offsite Workspace

ES01171416321 2SAC_PGE_figure 2-2

Each sniff hole would require a temporary excavation area of approximately 100 square feet (10 feet x 10 feet) surrounded by a temporary work area footprint. The total temporary work space for each sniff hole location, including the 100-square-foot excavation site, would be 900 square feet (30 feet x 30 feet), or 0.02 acre. Excavation would be performed using vacuum extraction trucks. Because of the location of the northern sniff hole within a seasonal wetland, either steel plates or high-density polyethylene mats, approximately 8 feet x 12 feet in size, would be temporarily placed in the work area to minimize adverse effects associated with vehicle access to the sniff hole. Ground disturbance at each sniff hole work area would be limited to the installation and removal of the sniff hole and restoration activities.

To take the line out of service, approximately 7 miles of L-114 would be isolated and cleared of natural gas prior to installing the pipeline features at the Dalton crossover station. Prior to clearing the line, the pressure would be reduced by drafting (feeding the connected distribution and transmission systems). Once drafting is complete, the isolated section of line would be vented to atmosphere at the Vasco Road station, east of the site. PG&E estimates the vented gas volume to be 4,871 million standard cubic feet.

Temporary Offsite Workspace

A 64,500-square-foot (1.48-acre) temporary offsite workspace located in Alameda County, approximately 1.25 miles northwest of the crossover station, would be used during construction (see Figure 2-2). The temporary offsite workspace would be primarily used for the storage and parking of project-related vehicles, equipment, and materials during construction. The temporary offsite workspace may also be used as a preparation site for some components of construction. For example, segments of new pipe may be welded at the temporary offsite workspace and trucked over to the crossover station for final assembly and installation. The offsite temporary offsite workspace would be accessed from May School Road.

No grading would occur on the temporary offsite workspace. The use of the temporary offsite workspace greatly reduces the size of the workspace required immediately adjacent to the crossover station, thus minimizing potential effects to sensitive plants, wildlife, and their associated habitat. Without the temporary offsite workspace, extensive grading in the hilly uplands adjacent to the crossover station would be required to create a flat work surface.

Work Area Dimensions

Temporary and permanent disturbance areas are provided in Tables 2-1 and 2-2.

TABLE 2-1
Areas Subject to Temporary Disturbance
IS/MND Supporting an ITP and SAA for the PG&E Dalton Crossover Valve Automation Project

	Approximate Area	
Location of Activities	**Square Feet**	**Acres**
Dalton Station Work Area (Excludes 3,000 sq. ft. existing graveled lot and 16,000 sq. ft. permanent expansion area)	42,200	0.97
Southern Sniff Hole Work Area	900	0.02
Northern Sniff Hole Work Area	900	0.02
Access route to Southern Sniff Hole	840	0.02
Access Route to Northern Sniff Hole	0	0
Temporary Offsite Workspace	64,500	1.48
Total	**109,340**	**2.51**

*An existing dirt access road would be used to access the northern sniff hole

TABLE 2-2
Area Subject to Permanent Disturbance
IS/MND Supporting an ITP and SAA for the PG&E Dalton Crossover Valve Automation Project

	Approximate Area	
Location of Activities	**Square Feet**	**Acres**
Dalton Crossover Expansion Area	16,000	0.37
Total	**16,000**	**0.37**

2.3 Site Restoration

Upon project completion, construction material would be removed from all work areas and debris would be removed and disposed of at an appropriate landfill. All temporarily affected work areas would be restored to as close to pre-project conditions as possible. All areas subject to ground disturbance, with the exception of the expanded graveled crossover station, would be revegetated using an appropriate seed mix.

2.4 Schedule

Construction is anticipated to take up to 5 months, and would extend from June through September/October 2014. Only 3 months of that 5 month time period would involve ground-disturbing construction activities. Crews would typically work from approximately 6:00 a.m. to 5:00 p.m., Monday through Saturday, and up to one week[3] of night work may be required during pipeline outages. The night work would include welding, grinding, cutting, and using heavy equipment to lift and transport the associated pipe spools into place, and some excavation and backfilling could be performed at night involving use of excavators, loaders, compactors, and trucks. If at any point it becomes evident that construction cannot be completed by October 10, 2014, PG&E would immediately notify the USFWS, CDFW, USACE, and Regional Water Quality Control Board and request an extension. PG&E would implement additional minimization measures if necessary, as directed by these agencies. These dates are subject to change, pending issuance of project permits and agency authorizations.

2.5 Construction Management and Equipment

Construction contractors would prepare the project area, deliver and install facilities, and complete final cleanup and restoration of the project area. Construction equipment to be used is described in Table 2-3. It is projected that from 8 to 15 workers per day would be onsite for a period of 5 months.

TABLE 2-3
Equipment Expected to be used during Project Construction
IS/MND Supporting an ITP and SAA for the PG&E Dalton Crossover Valve Automation Project

Equipment	Activity
Light Duty Trucks/Cars	Personal Truck/Van/Car
Pickup Truck	Personal Truck/Over-the-Road Hauling
Heavy Duty >1 Ton Truck	Over-the-Road Hauling
10 Wheel Dump	Over-the-Road Hauling
Tractor/Trailer	Over-the-Road Hauling
Water Truck	Construction Dust-Control
Excavator	Onsite Excavation
Grader	Onsite Excavation

[3] One week is worst case scenario and would not be 7 consecutive days but the cumulative total

TABLE 2-3
Equipment Expected to be used during Project Construction
IS/MND Supporting an ITP and SAA for the PG&E Dalton Crossover Valve Automation Project

Equipment	Activity
Loader	Onsite Excavation
Bulldozer	Onsite Excavation
Rough Terrain Hydraulic Crane	Hoisting
Welding Rig	Pipe Installation
Compressor	Pipe Installation
Sand Blaster	Pipe Installation
Smooth Drum Roller	Compaction

2.6 Applicant-Proposed Measures

To avoid and minimize potential impacts to environmental resources, PG&E would implement APMs before, during, and after project construction. These would also include PG&E best management practices (BMPs) and the requirements of applicable agency work authorization permits. The proposed APMs are incorporated into the project and are listed in the respective Initial Study checklist sections in Section 3. This IS/MND also includes Mitigation Measures imposed by CDFW to further avoid, minimize, and mitigate impacts to a less-than-significant level.

2.7 Land Uses and Setting Context

The project is located in eastern Alameda County, along the northern border of the City of Livermore. The project is located within East Alameda County Conservation Strategy (EACCS) Conservation Zone CZ4 in an undeveloped parcel containing open space with low hills and scattered rock outcrops to the north and east. It is bounded to the west by a private parcel containing a residence, pastures and livestock enclosures, and to the south by a paved access road that intersects with the corner of Raymond Road and Ames Street immediately south of the station entrance. South of the paved access road is an undeveloped parcel owned by the City of Livermore, and a residential development to its east. A small portion of the project, the southern sniff hole, is located within the City of Livermore. The Contra Costa-Las Positas 230 kV Transmission Line crosses the Dalton crossover station in a north-south orientation, in a parallel alignment to L-303 and L-114.

The temporary offsite workspace is located approximately 1.25 miles northwest of the Dalton crossover station, on the southeast corner of May School Road and Dagnino Road, north of Livermore, in Alameda County. The workspace is a flat, grazed field that would not require grading. It is accessible by vehicles from both Dagnino Road and May School Road.

2.8 Required Agency Approvals

- California Department of Fish and Wildlife Streambed Alteration Agreement
- California Department of Fish and Wildlife Incidental Take Permit
- U.S. Army Corps of Engineers Section 404 Permit
- Regional Water Quality Control Board Section 401 Certification
- U.S. Fish and Wildlife Service Biological Opinion

2.9 Relationship to Local Plans

PG&E's public utility valve automation project is not subject to local planning ordinances because the location, design, and construction of the project is under the exclusive jurisdiction of the CPUC. Nevertheless, because the County of Alameda East County Area General Plan Resource Management land use designation allows infrastructure such as pipelines that have no excessive growth-inducing effect on the county, the project is consistent with this plan. The proposed project is an upgrade and expansion to an existing utility station and does not represent a new use in the area. The project would not change the existing capacity of natural gas in the pipelines at the crossover station, and it would be a permitted use in this area if it were subject to County jurisdiction.

2.10 Public Notice

The 20-day comment period for the Draft IS/MND is from Thursday, May 22, 2014 to Wednesday, June 11, 2014. Comments may be submitted by fax, email, or U.S. Mail. Please be sure to include your name, address, and telephone number.

Written comments on the Draft IS/MND should be sent to: Serge.Glushkoff@wildlife.ca.gov; or via mail to: Serge Glushkoff, California Department of Fish and Wildlife, 7329 Silverado Trail, Napa CA 94558; or fax to (707)944-5563.

For electronic access to the MND and other project information, see CDFW's website at: http://www.dfg.ca.gov/news/pubnotice/. Hardcopies of the IS/MND may be reviewed at the following locations during the following hours:

California Department of Fish and Wildlife
7329 Silverado Trail
Napa, CA 94558

Hours:
8:00AM – 5:00PM, Monday-Friday

Livermore Public Library, Civic Center Branch
1188 South Livermore Avenue
Livermore, CA 94550

Hours:
Monday to Thursday 10:00 AM to 9:00 PM
Friday 10:00 AM to 6:00 PM
Saturday 10:00 AM to 5:00 PM
Sunday 12:00 PM to 6:00 PM

3. Initial Study Checklist and Environmental Analysis

3.1 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 within a state scenic highway?	☐	☐	☐	☑
(c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☑	☐
(d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☑	☐

3.1.1 Introduction

3.1.1.1 Summary

This section describes the existing physical environment within the project area and concludes that no significant changes to the visual landscape would result from the proposed project.

3.1.1.2 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 were evaluated in the field and potential visual changes due to project activities during construction and operations were evaluated. The evaluation of potential changes in the area's visual character is presented in the following paragraphs.

3.1.2 Regulatory Setting

The County of Alameda East County Area General Plan is the local planning document that addresses visual resources in the project area. Because the CPUC has jurisdiction over the design, construction and operation of gas pipelines and associated facilities, the project is not subject to local discretionary regulations. This section includes a description of the local regulations addressing visual resources issues generally, and is provided for informational purposes to assist CEQA review.

County of Alameda East County Area General Plan

Policy 106: Structures may not be located on ridgelines or hilltops or where they will project above a ridgeline or hilltop as viewed from public roads, trails, parks and other public viewpoints unless there is no other site on the parcel for the structure or on a contiguous parcel in common ownership on or subsequent to the

date this ordinance becomes effective. New parcels may not be created that have no building site other than a ridgeline or hilltop, or that would cause a structure to protrude above a ridgeline or hilltop, unless there is no other possible configuration.

Policy 116: To the maximum extent possible, development shall be located and designed to conform with rather than change natural landforms. The alteration of natural topography, vegetation, and other characteristics by grading, excavating, filling or other development activity shall be minimized. To the extent feasible, access roads shall be consolidated and located where they are least visible from public view points.

Policy 117: The County shall require that where grading is necessary, the offsite visibility of cut and fill slopes and drainage improvements is minimized. Graded slopes shall be designed to simulate natural contours and support vegetation to blend with surrounding undisturbed slopes.

City of Livermore

No permanent structures would be placed within City of Livermore boundaries as part of the proposed project. A sniff hole, to allow for detection of gas leaks during construction, would be temporarily created during construction, after which the site would be restored. Discussion of potential aesthetic effects in this analysis is therefore limited to the primary portion of the project area within Alameda County.

3.1.3 Environmental Setting

3.1.3.1 Aesthetic Context of the Project Area and its Vicinity

The project area is located in a rural area of unincorporated Alameda County. The existing Dalton crossover station contains underground and aboveground gas pipeline facilities and is fenced. The station is located in hilly terrain and is adjacent to privately owned ranchlands that are actively grazed by cattle to the north, west, and east. To the south is a suburban residential development.

The temporary offsite workspace is approximately one mile northwest of the Dalton crossover station. It is located on a flat undeveloped parcel of land vegetated by wild grasses. The immediate vicinity is similar in character.

3.1.3.2 Existing Views of the Project Area

Views to and from the project area are relatively expansive. The Dalton crossover station is visible from portions of Ames Street and Raymond Road, which intersect near the project site, and also visible from the nearest residences located approximately 125 feet south of the site. West of the site, the land surface is relatively flat with few trees or structures; to the north and east there are grass-covered small hills and ridges. An existing high-voltage transmission line runs north-south adjacent to the site. The transmission tower nearest the site also includes cellular phone antennas. At its closest, the site is approximately 180 feet from the intersection of Ames Street and Raymond Road. A gated access road leads from the intersection past the project site to a water tank on a hill east of the site. The paved access road is approximately 100 feet south of the site and runs between the site and the residential area to the south. The temporary offsite workspace is visible from Dagnino Road and May School Road as well as points beyond, given that the topography of the immediate vicinity is flat.

3.1.4 Impacts

The analysis of potential impacts was based on CEQA guidelines for the evaluation of aesthetic impacts on the environment from a proposed project. The CEQA guidelines ask:

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

No designated scenic vistas are present in the project vicinity. During construction, temporary visual changes due to excavating, grading, and staging of equipment and materials would occur. However, following construction of the project, all temporary work areas would be restored to as close to preconstruction conditions as feasible, and PG&E would prepare and implement a post-construction erosion control and site restoration

plan. The proposed project would not have an adverse effect on any scenic vistas because none are present in the area.

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

No designated state scenic highways are present within the project vicinity. Two small rock outcroppings are located to the northeast of the Dalton crossover station. To preserve the visual interest that these outcroppings contribute to the project area, construction activities would not remove or disturb these features. No trees or buildings would be affected by the proposed project at the station or at other locations in the project area. Therefore, no impact would occur.

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

New aboveground features at the crossover station would include a 20-foot communication antenna and other ancillary equipment with a maximum height of 20 feet. The proposed communications antenna would not be out of proportion with its surroundings, given that a high-voltage transmission line and electric power distribution poles and power lines similar to and larger in scale than the antenna currently exist in the project area.

Upon completion of the project, the total area within the fence at the Dalton crossover station would be approximately 19,000 square feet (0.45 acres). Approximately 3,000 square feet (0.07 acres) of this area is currently developed with existing PG&E aboveground facilities and gravel cover. Though the site is visible from Raymond Road and Ames Street, it is relatively flat and somewhat elevated above the roadway. The new fence would not break the skyline formed by the hills backdropping the site. Therefore, it is not a landscape feature that is visually prominent for passing motorists. The project would expand the crossover station into an area away from the roadway, a part of the site that is even less visible to passing motorists.

The temporary northern sniff hole excavation would not be visible from the roadway, while the temporary southern sniff hole excavation would be visible to passing traffic. However, these excavations would alter the existing landscape only to a minor extent and the areas would be restored upon completion of construction.

Grading and permanent re-contouring of the Dalton crossover station is proposed as part of the project. However, most of this activity would occur in an area immediately north of the existing station, in a location that is less visible to the public. In addition, given that the site is level and backdropped by large hills and a ridgeline, the proposed landscape alterations would not obstruct views of the surrounding hillsides or be visible against the sky above the ridgeline.

Project-related activity at the temporary offsite workspace would involve storage of materials, vehicles and equipment needed for project construction. No excavation would occur at this location, and visual changes associated with the project would be temporary in nature. The use of this location would reduce the need for additional grading at the Dalton crossover station, given that equipment and materials would not have to be stored at the station. The project's impacts on the visual character of the project area and its surroundings would be less than significant.

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

Night time construction would be limited to a total of 1 week and would not exceed 7 consecutive days. None of the permanent physical structures associated with the project would be substantial sources of light or glare. Any permanent lighting fixtures installed as part of the project would cast light in a downward direction minimizing light spillover into offsite areas. Therefore, light and glare impacts would be less than significant.

3.2 Agriculture and Forestry Resources

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☑
(b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☑	☐
(c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☑
(d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☑
(e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to nonagricultural use or conversion of forest land to non-forest use?	☐	☑	☐	☐

3.2.1 Introduction

This section describes agricultural and forestry resources within the project area and analyzes potential impacts to these resources from construction and operation of project facilities. Based on the evaluation below, the project impacts on agricultural resources would be less than significant.

3.2.2 Regulatory Setting

3.2.2.1 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 non-agricultural 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) 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, or "Williamson Act," to encourage the preservation of the state's agricultural lands and to prevent their premature conversion to non-agricultural 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 non-renewal 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 cancelation application is consistent with the cancellation criteria provided in the California Land Conservation 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, defines the boundary of an area within which a city or county will enter into a Williamson Act contract with landowners (State of California Department of Conservation, 2007). The Williamson Act states that a board or council by resolution shall adopt rules governing the administration of agricultural preserves. 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, Section 51238, states that, unless otherwise decided by a local board or council, the erection, construction, alteration, or maintenance of electric and communication facilities, as well as other facilities, are determined to be compatible uses within any agricultural preserve. Also, Section 51238 states that board of supervisors may impose conditions on lands or land uses to be placed within preserves to permit and encourage compatible uses in conformity with Section 51238.1.

3.2.2.2 Local

County of Alameda 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 California Department of Conservation (CDC), Division of Land Resource Protection, designates agriculturally viable lands as Prime, Unique, or Farmland of Statewide Importance through the Farmland Mapping and Monitoring Program. Alameda County also designates lands that are considered economically viable as Agricultural. The project area is not located on farmland that has been designated as Prime, Unique, or Farmland of Statewide Importance. The CDC Farmland Mapping and Monitoring Program identifies the Dalton crossover station and northern sniff hole site as Grazing Land, the southern sniff hole as Urban and Built-up Land, and the temporary offsite workspace as Farmland of Local Importance (CDC, 2010).

3.2.4 Mitigation Measures

The following mitigation measure would be implemented:

MM AG-1 Notify residents and ranchers of construction activities. Notification and coordination shall include the following:

Advance Notice. Prior to construction, PG&E shall give at least 7 days advance notice of the start of construction-related activities. Notification shall be provided by mailing notices to all properties within 500 feet of the project area. The announcement shall:

- Describe where and when construction is planned;
- Describe the dates and type of any planned nighttime work; and
- Provide contact information for a point of contact for complaints related to construction activities.

Prior to commencing ground disturbing or noise generating activities, PG&E shall submit a copy of the template used for the notification letter and a list of the landowners notified to CDFW.

Reporting of Complaints. PG&E shall document all complaints and strategies for resolving complaints in monthly reports to CDFW during construction activities.

3.2.5 Impacts

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

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

The proposed project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to a non-agricultural use. Though the temporary offsite workspace is designated as Farmland of Local Importance, its use during the project would be temporary, and the area would be restored after its use as a staging area. Therefore, no permanent impacts to agricultural resources would result from implementation of the project.

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

The project area is identified as Williamson Act non-prime agricultural land. Upon completion of the project, approximately 0.37 acres of grassland in the main workspace at the Dalton crossover station would be permanently graveled and fenced as part of the project. This represents a small portion of the surrounding annual grassland area used for grazing activities. The land at the temporary offsite workspace and the two sniff holes would be disturbed only temporarily during the construction period. Grazing activities surrounding the project area would continue uninterrupted during project construction activities. Project activities would not require any changes to agricultural zoning or the cancellation of any Williamson Act contracts. Therefore, impacts would be less than significant.

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

The project area is not designated as forest land, timberland or timberland production, and no timberland uses currently exist onsite. Therefore, no impacts would result from the proposed project.

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

The proposed project would not introduce a new use that could result in a conversion to a nonforest use. No impacts to forestry resources would occur.

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

Upon completion of the project, approximately 0.37 acre of grassland would be permanently graveled and fenced as part of the expanded crossover station. This does not represent a significant portion of the surrounding annual grassland area used for grazing activities, and grazing activities surrounding the crossover station would continue during construction and operation of the project. Potential disruption from noise to ranching activities would be mitigated by Mitigation Measure AG-1, which requires PG&E to notify nearby ranchers (and nearby residents) of their construction schedule and allows ranchers to contact PG&E with complaints about construction activities. With the implementation of this measure, impacts would be less than significant.

3.3 Air Quality and Greenhouse Gases

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Air Quality				
(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 nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☑	☐
(d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☑	☐
(e) Create objectionable odors affecting a substantial number of people?	☐	☐	☑	☐
Greenhouse Gases				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☑	☐
b) Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☑

3.3.1 Introduction

3.3.1.1 Summary

This section describes existing conditions, potential project-related impacts, and APMs for air quality and greenhouse gas issues in the project area. Included are descriptions of the environmental setting in terms of existing air quality that could be affected by the proposed project. Federal, state, and regional air quality regulations are discussed, followed by discussions of APMs and evaluation of impacts. The analysis concludes that the project would result in less-than-significant air quality impacts, including less-than-significant green-house gas (GHG) emissions.

3.3.1.2 Methodology

Due to the relatively small size of the project area to be disturbed (2.51 acres for temporary construction disturbance and 0.37 acres of permanent disturbance) and the 5-month duration of construction (with a maximum 3 months of ground-disturbing activities), formal air quality modeling and analysis was not conducted. In addition, results of recent air emission calculations on similar PG&E projects have shown that construction emissions with implementation of APMs were below thresholds of significance as identified in the BAAQMD 2010 CEQA Air Quality Guidelines. The BAAQMD's Board of Directors adopted thresholds of

significance and CEQA Air Quality Guidelines in June 2010, but as a result of a March 2012 judicial action, the BAAQMD no longer recommends that thresholds in the 2010 guidelines be used as a generally applicable measure of significant impacts. The BAAQMD prepared detailed documentation to support use of the thresholds of significance in 2010, and in 2012 the BAAQMD released updated recommendations for analysis procedures. Basic strategies to mitigate construction phase air quality impacts are provided by the BAAQMD 2012 CEQA Air Quality Guidelines and are incorporated with this project as APMs. APMs are identified later in this section to address state and regional plans, policies, and requirements.

3.3.2 Regulatory Setting

3.3.2.1 Federal

Air Quality

Federal air quality policies are regulated through the federal Clean Air Act (CAA). Pursuant to the CAA, the U.S. Environmental Protection Agency (EPA) has established National Ambient Air Quality Standards (NAAQS) for the following air pollutants (called "criteria" pollutants): carbon monoxide (CO), ozone, nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter less than 10 microns in aerodynamic diameter (PM_{10}), particulate matter less than 2.5 microns in aerodynamic diameter ($PM_{2.5}$), and lead. The NAAQS represent levels established to avoid specific adverse health and welfare effects associated with each pollutant with a margin of safety. Table 3.3-1 summarizes the NAAQS.

EPA has designated counties in California as either in "attainment" or "nonattainment" for each NAAQS. A region that is meeting the air quality standard for a given pollutant is designated as being in "attainment" for that pollutant. If the region is not meeting the air quality standard, then the region is designated as being in "nonattainment" for that pollutant. If a region is designated as nonattainment for a NAAQS, the CAA requires the state to develop a State Implementation Plan (SIP) to demonstrate how the standard would be attained, including the establishment of specific requirements for review and approval of new or modified stationary sources of air pollution. The federal attainment status for the county is listed in Table 3.3-2.

Greenhouse Gases

On October 30, 2009, the EPA published the Mandatory Reporting Rule (codified in 40 Code of Federal Regulations [CFR] Part 98), which requires mandatory reporting of GHG emissions from large sources and suppliers in the U.S. (EPA, 2013b). In general, suppliers of fossil fuels or industrial GHGs, manufacturers of vehicles and engines, facilities that inject carbon dioxide (CO_2) underground, and facilities that emit 25,000 metric tons or more per year of carbon dioxide equivalent (CO_2e) emissions are required to submit annual reports to the EPA.

On December 7, 2009, the EPA Administrator signed two findings regarding GHGs. The first finds that the current and projected concentrations of the six key well-mixed GHGs in the atmosphere (CO_2, methane [CH_4], nitrous oxide [N_2O], hydrofluorocarbons [HFC], perfluorocarbons [PFC], and sulfur hexafluoride [SF_6]) threaten the public health and welfare of current and future generations. The second finds that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution that threatens public health and welfare (EPA, 2013b). While these findings do not themselves impose requirements on industry or other entities, the EPA is developing vehicle emission standards under the CAA as a result of these findings.

On June 3, 2010, the EPA promulgated the final GHG Tailoring Rule (75 Federal Register 31514). The GHG Tailoring Rule establishes clear applicability thresholds for stationary source emitters of GHGs under Prevention of Significant Deterioration (PSD) and Title V regulations. In general, any new stationary source with GHG emissions of 100,000 tons CO_2e per year or greater is now subject to both PSD review and the Title V program. Because no stationary sources of GHG emissions are associated with the proposed project, PSD and Title V regulations do not apply to the project.

TABLE 3.3-1
Ambient Air Quality Standards
IS/MND Supporting an ITP and SAA for the PG&E Dalton Crossover Valve Automation Project

			NAAQS [b]	
Pollutant	**Averaging Time**	**CAAQS [a]**	**Primary [c]**	**Secondary [d]**
Ozone	8 hours 1 hour	0.070 ppm 0.09 ppm	0.075 ppm —	0.075 ppm —
PM_{10}	Annual Arithmetic Mean 24 hours	20 µg/m^3 50 µg/m^3	— 150 µg/m^3	— 150 µg/m^3
$PM_{2.5}$	Annual Arithmetic Mean 24 hours	12 µg/m^3 —	12 µg/m^3 [e] 35 µg/m^3	15 µg/m^3 [e] 35 µg/m^3
CO	8 hours 1 hour	9.0 ppm 20 ppm	9 ppm 35 ppm	— —
NO_2	Annual Arithmetic Mean 1 hour	0.030 ppm 0.18 ppm	0.053 ppm 0.100 ppm [f]	0.053 ppm —
SO_2	Annual Arithmetic Mean 24 hours 3 hours 1 hour	— 0.04 ppm — 0.25 ppm	0.03 ppm 0.14 ppm — 0.075 ppm [g]	— — 0.5 ppm —
Lead [h]	Calendar Quarter Rolling 3-month Average 30-day Rolling Average	— — 1.5 µg/m^3	1.5 µg/m^3 0.15 µg/m^3 —	1.5 µg/m^3 0.15 µg/m^3 —
Visibility-reducing Particles (VRP)	8 hours	[l]	—	—
Sulfates (SO_4)	24 hours	25 µg/m^3	—	—
Hydrogen Sulfide (H_2S)	1 hour	0.03 ppm	—	—
Vinyl Chloride [h]	24 hours	0.01 ppm	—	—

[a] CAAQS for ozone, CO (except 8-hour Lake Tahoe), SO_2 (1- and 24-hour), NO_2, PM_{10}, $PM_{2.5}$, and VRP are values that are not to be exceeded. All others are not to be equaled or exceeded.

[b] NAAQS (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, is equal to or less than the standard.

[c] Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.

[d] Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[e] EPA finalized an update to its annual NAAQS for $PM_{2.5}$ on December 14, 2012.

[f] To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 0.100 ppm.

[g] To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 0.075 ppm.

[h] CARB has identified lead and vinyl chloride as "toxic air contaminants" with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

[l] Particles in sufficient amount to produce an extinction coefficient of 0.23 per kilometer due to particles when the relative humidity is less than 70 percent.

Sources: CARB, 2013a and EPA, 2013a

NAAQS = National Ambient Air Quality Standards
CAAQS = California Ambient Air Quality Standards
— = No standard has been adopted for this averaging time
µg/m^3 = micrograms per cubic meter
ppm = parts per million (by volume)

TABLE 3.3-2
Federal and California Air Quality Attainment Status for Alameda County
IS/MND Supporting an ITP and SAA for the PG&E Dalton Crossover Valve Automation Project

Pollutant	Averaging Period	Federal Status	California Status
Ozone	8 hours 1 hour	Nonattainment —	Nonattainment Nonattainment
CO	8 hours 1 hour	Attainment Attainment	Attainment Attainment
NO_2	1 hour Annual Arithmetic Mean	Unclassified Attainment	Attainment Attainment
SO_2	24 hours 1 hour 3 hours Annual Arithmetic Mean	Attainment Attainment — Attainment	Attainment Attainment — —
PM_{10}	24 hours Annual Arithmetic Mean	Unclassified —	Nonattainment Nonattainment
$PM_{2.5}$	24 hours Annual Arithmetic Mean	Nonattainment Attainment	— Nonattainment
SO_4	24 hours	—	Attainment
Lead	30-day Rolling Average	Attainment	Attainment
H_2S	1 hour	—	Unclassified
Vinyl Chloride	24 hours	—	Unclassified
VRP	Less than 10 miles when Relative Humidity < 70%	—	Unclassified

Source: CARB, 2013b and BAAQMD, 2013a
— = No standard has been adopted for this averaging time

3.3.2.2 State

Air Quality

The California Clean Air Act was approved in 1988 and, as amended in 1992, established the California Ambient Air Quality Standards (CAAQS). These standards, summarized in Table 3.3-1, are generally more stringent and include more pollutants than the NAAQS. Similar to EPA, CARB designates counties in California as being in "attainment" or "nonattainment" for the CAAQS. The state attainment status for the county is listed in Table 3.3-2.

The California Air Resources Board (CARB) has the primary responsibility for producing the SIP for nonattainment pollutants. However, CARB relies on and oversees the efforts of regional air districts to adopt and implement air quality regulations and plans, including CARB-suggested control measures and additional emission reduction strategies for sources under their jurisdiction. CARB consolidates statewide implementation plan requirements for mobile sources and consumer products with locally adopted district plans and submits the completed SIP to EPA. The SIP thus consists of the emissions standards for vehicular sources and consumer products set by CARB, as well as attainment plans adopted by the air districts and approved by CARB.

Regulations that contain mobile source control measures pertaining to heavy-duty, off-road equipment are implemented by CARB. The regulations for in-use off-road diesel equipment are designed to reduce NOx and diesel particulate matter from existing fleets of equipment. All equipment owners are subject to a five-minute idling restriction in the rule for off-road fleets (13 CCR 2449). CARB expects to enforce other portions of this

rule for large fleets starting in July 2014 and in 2019 for small fleets (as according to ARB Mail-Out #MSCD 13-25, September 2013). Depending on the size of the fleet, the equipment owner would need to ensure that the average emissions performance of the fleet meets certain state-wide standards.

Diesel engines on portable equipment and vehicles are subject to various CARB Airborne Toxic Control Measures that dictate how diesel sources must be controlled statewide. For example, the measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling generally limits idling of commercial motor vehicles (including buses and trucks) within 100 feet of a school or residential area for more than five consecutive minutes or periods aggregating more than five minutes in any one hour (13 CCR 2485).

The CARB Portable Equipment Registration Program allows owners or operators of portable engines and associated equipment commonly used for construction to register their units under a statewide portable program that allows them to operate their equipment throughout California without having to obtain individual permits from local air districts.

Greenhouse Gases

The framework for regulating GHG emissions in California falls under the implementation requirements of the Global Warming Solutions Act of 2006 (referred to as Assembly Bill [AB] 32), which was signed into law by the California State Legislature in 2006. AB 32 requires CARB to design and implement emission limits, regulations, and other measures such that statewide GHG emissions are reduced in a technologically feasible and cost-effective manner to 1990 levels by 2020. The statewide 2020 emissions limit is 427 million metric tons CO_2e; CO_2 emissions account for approximately 90 percent of this value (CARB, 2007).

In December 2007, CARB adopted the first regulation pursuant to AB 32, which requires mandatory reporting of GHG emissions from large emitting facilities, suppliers, and electricity providers. This regulation was significantly revised to better align with EPA's Mandatory Reporting Rule; the revised regulation became effective January 1, 2013 (CARB, 2013d). CARB adopted the California Cap-and-Trade Program on October 20, 2011. Under the California Cap-and-Trade Program, most covered entities have an obligation to hold GHG allowances beginning in 2013; fuel suppliers, including public utility gas corporations operating in California, have an obligation to hold GHG allowances beginning in 2015 (CARB, 2013e).

3.3.2.3 Local

The project is located in the San Francisco Bay Area Air Basin, which is within the jurisdiction of BAAQMD. BAAQMD is the agency charged with preparing, adopting, and implementing emission control measures and standards for mobile, stationary, and area sources of air pollution in the San Francisco Bay Area Air Basin.

BAAQMD works in cooperation with the Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC) to develop air quality plans. The BAAQMD prepares ozone attainment demonstrations for the federal ozone standard and clean air plans for the California ozone standard. The *2001 Ozone Attainment Plan* is BAAQMD's contribution to the SIP for demonstrating attainment of the federal 1-hour ozone standard (BAAQMD, 2001). The *2010 Clean Air Plan* is the currently approved ozone clean air plan, which shows how BAAQMD would make progress toward meeting the state 1-hour ozone standard. The *2010 Clean Air Plan* provides an integrated, multi-pollutant control strategy to reduce emissions and decrease ambient concentrations of harmful pollutants, safeguard public health by reducing exposure to air pollutants that pose the greatest health risk, and reduce GHG emissions to protect the climate (BAAQMD, 2010b).

Because BAAQMD currently attains the federal 24-hour PM_{10} standard, BAAQMD is not required to develop a plan for this standard at this time. However, BAAQMD is designated nonattainment for state PM_{10} standards and has implemented a Particulate Matter Control Program. The Particulate Matter Control Program includes emission limits of primary particulate matter and particulate matter precursors from stationary sources, wood smoke regulations, and 55 Particulate Matter Control Measures outlined in the *2010 Clean Air Plan*. Additionally, although BAAQMD is currently designated as federal nonattainment for the 24-hour and annual $PM_{2.5}$ standards, recent monitoring data indicate that $PM_{2.5}$ levels have decreased in the Bay Area

since 2008. As a result, CARB submitted a "clean data finding" request to EPA on behalf of BAAQMD on December 8, 2011. On January 9, 2013, EPA issued a final rule to determine that the San Francisco Bay Area has attained the federal 24-hour $PM_{2.5}$ standard. As a result, BAAQMD can meet the federal $PM_{2.5}$ standard by preparing a redesignation request and a $PM_{2.5}$ maintenance plan or a "clean data" SIP submittal (BAAQMD, 2013b).

3.3.3 Environmental Setting

The Livermore Valley is a sheltered inland valley within the Diablo Range. The western side of the valley is bounded by 1,000- to 1,500-foot hills with two gaps connecting it to the San Francisco Bay area, the Hayward Pass at the north and Niles Canyon at the south. The eastern side of the valley also has 1,000- to 1,500-foot hills, the Altamont Hills, with one major passage to the San Joaquin Valley called the Altamont Pass and several secondary passages. For the winter season, with the exception of an occasional storm moving through the area, air flow is often dictated by a weak pressure pattern, allowing local conditions to steer it. At night and early morning, especially on clear, calm and cold nights, gravity drives cold air downward, like water, to drain off the hills and snake through gaps and passes. During the day if some surface heating over land takes place, a thermally developed pressure field can initiate weak flow from high to low, drawing air through these same paths of least resistance which may be in the opposite direction of late night and early morning flow. By the summer the strong Pacific High has usually moved into a position to dominate Bay Area weather. Sunshine is plentiful with clear skies most of the time.

For the Livermore Valley, the air pollution potential is high especially for photochemical pollutants. Dependent upon the meteorology for that particular summer and or fall, the frequency of elevated ozone levels at the air district's Livermore station can be significant, approaching, reaching or exceeding Santa Clara Valley levels. The valley not only traps locally generated pollutants but can be the receptor of ozone and ozone precursors from San Francisco, Alameda, Contra Costa, and Santa Clara counties.

The nearest schools to the proposed project include Andrew N. Christensen Middle School and Christensen Preschool, both located approximately 0.3 mile from the project area. The nearest hospital is Valley Care Medical Center, located approximately 10.4 miles from the project area.

Air Quality

The primary pollutants of concern in the project area are ozone, PM_{10}, and $PM_{2.5}$ because the county is designated nonattainment for these pollutants by EPA and/or CARB. Six ambient air monitoring stations operate in the county. One of the six monitoring stations measures PM_{10} concentrations, five of the six monitoring stations measure $PM_{2.5}$ concentrations, and all of the monitoring stations measure ozone concentrations. Table 3.3-3 summarizes the ambient air monitoring data near the project for the most recent 3-year period for which data are available. Monitored concentrations of ozone exceeded the state 1-hour standard in 2010 and 2012 but not in 2011, and both the federal and state 8-hour standards during 2010 but not during 2011 or 2012. Monitored concentrations of PM_{10} exceeded the state annual average standard in 2010 but not in 2011 or 2012, and the state 24-hour standard in 2012 but not in 2010 or 2011. Monitored concentrations of PM_{10} have not exceeded the federal 24-hour standard during the period 2010 through 2012. Monitored concentrations of $PM_{2.5}$ exceeded the federal 24-hour standard during 2011 but not during 2010 or 2012. Monitored concentrations of $PM_{2.5}$ have not exceeded the state and federal annual average standards during the period 2010 through 2012.

TABLE 3.3-3
Summary of Ambient Air Monitoring Data in the Project Area (Most Recent 3-Year Period of Available Data)
IS/MND Supporting an ITP and SAA for the PG&E Dalton Crossover Valve Automation Project

Pollutant	Averaging Time	2010	2011	2012
Ozone (ppm)	1 Hour	0.120 [a]	0.088 [b]	0.094 [b]
	8 Hours	0.081 [a]	0.070 [b]	0.065 [b]
PM_{10} ($\mu g/m^3$)	Annual Arithmetic Mean	20.3 [c]	18.6 [d]	18.8 [d]
	24 Hours	42.8 [c]	44.3 [d]	59.6 [d]
$PM_{2.5}$ ($\mu g/m^3$)	Annual Arithmetic Mean	7.7 [e]	10.1 [e]	9.4 [e]
	24 Hours	26.3 [a]	49.3 [e]	33.6 [e]

[a] Data from the monitoring station located at 40733 Chapel Way, Fremont, County of Alameda, California.

[b] Data from the monitoring station located at 3466 La Mesa Drive, Hayward, County of Alameda, California.

[c] Data from the monitoring station located at 1340 Sixth Street, Berkeley, County of Alameda, California.

[d] Data from the monitoring station located at 156B Jackson Street, San Jose, County of Santa Clara, California. Although this monitoring station is not located within Alameda County, it was the closest monitoring station within the San Francisco Bay Area Air Basin for which monitored data were available.

[e] Data from the monitoring station located at 9925 International Boulevard, Oakland, County of Alameda, California.

Source: CARB, 2013f

Greenhouse Gases

BAAQMD periodically prepares GHG emissions inventories, which include direct and indirect GHG emissions due to human activities, to support BAAQMD's climate protection activities. Table 3.3-4 presents the 2007 GHG emissions inventory for the Bay Area, which is the most recently available inventory. In the Bay Area, CO_2, CH_4, and N_2O emissions represented about 91.6 percent, 2.6 percent, and 1.6 percent of the total GHG emissions in 2007, respectively. Emissions from high global warming potential gases, such as HFCs, PFCs, and SF_6, made up about 4.1 percent of the total GHG emissions in 2007 (BAAQMD, 2010c).

TABLE 3.3-4
Bay Area 2007 GHG Emissions Inventory
IS/MND Supporting an ITP and SAA for the PG&E Dalton Crossover Valve Automation Project

End-use Sector	Percent of Total Emissions	CO_2e Emissions (million metric tons/year)
Industrial/Commercial	36.40	34.86
Residential Fuel Usage	7.12	6.82
Electricity/Cogeneration	15.87	15.20
Off-road Equipment	3.05	2.92
Transportation	36.41	34.87
Agriculture/Farming	1.16	1.11
Total	**100**	**95.80**

Source: BAAQMD, 2010c

3.3.4 Applicant-Proposed Measures

The CEQA criteria require consideration of regional, state, and federal plans, policies, and regulations when evaluating potential project impacts and developing avoidance and minimization measures. APMs were identified to address state and regional plans, policies, and requirements. These APMs are considered part of the project as evaluated. PG&E has incorporated these APMs into the project to minimize air and GHG emissions.

The following APMs would be implemented:

- **APM AQ-1: Fugitive Dust.** The following basic control measures are based on BAAQMD's *2012 CEQA Air Quality Guidelines* for reducing PM_{10} and $PM_{2.5}$ emissions and emissions from equipment exhaust during construction (BAAQMD, 2012).

  Basic control measures. The following APMs will be implemented at all construction sites:

  - All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
  - All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
  - All visible mud or dirt track-out onto adjacent public roads shall 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 shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
  - Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
  - All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator.
  - Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

- **APM AQ-2: 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. Use off-road equipment engines that meet or exceed CARB's Tier 3 emissions standards, which are provided in Appendix D of the *CalEEMod User's Guide* (Environ, 2013). Engines can achieve these standards through the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such become available.
  - 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. Where such diesel-powered vehicles are required for repetitive construction tasks, these vehicles may require more idling time. 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 following section addresses responses to the CEQA checklist questions for air quality and GHGs. For PM_{10} and $PM_{2.5}$ related to construction fugitive dust, BAAQMD proposed that projects should include BMPs rather than achieve specific emissions thresholds. The BMPs are construction emissions control measures

that appear in Table 8-1 of the *2012 CEQA Air Quality Guidelines* (BAAQMD, 2012). Air emission impacts would be less than significant, and the proposed APMs will further minimize air emissions impacts.

3.3.5.1 Air Quality Impacts

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

The project would not result in a new source of stationary air emissions; therefore, the stationary control measures identified in the *2001 Ozone Attainment Plan* are not applicable. However, the mobile source control measures pertaining to heavy-duty, off-road equipment are applicable. The project would be consistent with the *2001 Ozone Attainment Plan* because APM AQ-2 contains measures targeting off-road equipment, including the use of equipment meeting CARB-approved engine standards. Therefore, the project would not conflict with or obstruct implementation of an air quality plan and no impact would result.

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

Construction activities may result in potential short-term emissions. In nonattainment areas, construction equipment exhaust emissions of ozone precursors (nitrogen oxides [NOx] and volatile organic compounds [VOC]), PM_{10}, and $PM_{2.5}$, and soil-disturbing activities may temporarily affect air quality.

Because BAAQMD control measures are implemented (as identified in APM AQ-1 and APM AQ-2), the air pollutant emissions from construction activities would result in a less-than-significant impact. Operation emissions would not increase compared to existing conditions and would not cause or contribute to an air quality violation. Because the project would not increase air emissions during operation, no impact would occur.

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

Construction of the project would result in emissions of ozone precursors (NOx and VOC), PM_{10}, and $PM_{2.5}$. However, these emissions would be temporary and would not result in a cumulatively considerable net increase in ozone, PM_{10}, or $PM_{2.5}$ concentrations with implementation of APMs AQ-1 and AQ-2. Therefore, the cumulative impact to air quality would be less than significant.

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

Sensitive receptors are defined as facilities or land uses that include people who are particularly susceptible to the effects of air pollution (e.g., children, elderly, and people with illnesses). Schools, hospitals, daycare centers, and nursing homes are all examples of sensitive receptors (BAAQMD, 2010a). The project is located in a relatively sparsely developed area of unincorporated Alameda County. The northern edge of a small residential neighborhood is within 125 feet of the project area's southern edge, which is located just within City of Livermore jurisdiction. These residences are considered sensitive receptors. The nearest schools to the proposed project include Andrew N. Christensen Middle School and Christensen Preschool, both located approximately 0.3 mile from the project area. The nearest medical facilities and hospitals are over 10 miles from the project area.

Emissions of potential air toxics (particularly diesel particulate matter) associated with construction activities are expected to be low, transient, and temporary and, especially with implementation of APM AQ-2, the project would not expose sensitive receptors to substantial pollutant concentration. Furthermore, operation of the project would not generate air emissions. Therefore, impacts to sensitive receptors would be less than significant.

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

Although emissions from construction of the project may result in temporary odors, such as from temporary natural gas blow offs or welding activities, they would be short term and affect few people. Additionally, operation of the project would not generate odors. Therefore, odor impacts would be less than significant.

3.3.5.2 GHG Impacts

(a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

GHG emissions directly generated during construction would be limited in quantity and duration. In taking the line temporarily out of service, approximately 7 miles of the line would be isolated and cleared of natural gas. PG&E would draft the line into the distribution system to reduce the pressure before the isolated section of line would be vented to atmosphere. The venting would release 4,871 million standard cubic feet of natural gas, which would contain about 93,000 metric tons of CH_4 or about 2 million metric tons CO_2e. The venting and construction-related emissions would be a one-time event that would result in a less-than-significant impact to climate change. GHG emissions from construction equipment would be reduced with implementation of APM AQ-2.

(b) Would the project conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

The project would not conflict with an applicable plan, policy, or regulation adopted to reduce GHG emissions. The minimal short-term construction GHG emissions would not interfere with the long-term goal of AB 32 to reduce GHG emissions to 1990 levels by 2020. Maintenance and operation of the existing station and associated gas line network would not increase GHG emissions. Therefore, no conflicts with GHG plans, policies, or regulations would occur.

3.4 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, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☑	☐	☐
(c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☑	☐	☐
(d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☑	☐
(e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☑	☐
(f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☑

3.4.1 Introduction

3.4.1.1 Summary

This section describes biological resources in the project area and vicinity, and identifies potential impacts to habitats and species that could result from construction and operation of the proposed project. The analysis concludes that, with implementation of proposed APMs and mitigation measures, impacts to biological resources would be less than significant. Please note that the project's Streambed Alteration Agreement from CDFW and Biological Opinion from USFWS are included in Appendix C.

3.4.1.2 Methodology

This section summarizes the methods used to identify resources and analyze potential impacts to biological resources, including waters and wetlands and special-status wildlife.

As used here, the term "special-status species" is defined as including plants and animals meeting the criteria defined below.

A plant species was considered to be of special-status if it met one or more of the following criteria:

- Listed, proposed for listing, or candidate for listing, as threatened or endangered under the federal Endangered Species Act (FESA; 50 CFR 17.11 for wildlife; 50 CFR 17.12 for plants; 67 Federal Register 40658 for candidates) and various notices in the *Federal Register* for proposed species);
- Listed under the California Endangered Species Act (CESA) as threatened or endangered, or proposed or candidates for listing;
- Designated as rare under the Native Plant Protection Act (NPPA); or
- Species that otherwise meet the definition of rare, threatened, or endangered species under CEQA. For the purposes of this project, that includes species listed by the California Native Plant Society (CNPS) in the online version of its *Inventory of Rare and Endangered Plants of California* (CNPS, 2013) as List 1a, 1B, and 2.

Special-status wildlife included species that met one or more of the following criteria:

- Listed, proposed for listing, or candidate for listing as threatened or endangered under the FESA;
- Listed or candidates for listing as threatened or endangered under the CESA;
- Designated as Species of Special Concern[4] (fish and wildlife species that do not have state or federal threatened or endangered status but may still be threatened with extinction) or a Fully Protected Species by CDFW; or
- Species that otherwise meet the definition of rare, threatened or endangered species under CEQA.

Natural communities were considered special-status if they are identified on the CDFW List of Vegetation Alliances and Associations as being highly imperiled, also classified by CDFW as ranks S1 to S3 in the California Natural Diversity Database (CNDDB; CDFW, 2014) and natural communities of special concern.

Data and Literature Review

Prior to conducting surveys, an evaluation of the special-status species records was conducted and aerial photographs and existing literature sources were reviewed. Database queries were made of the CNDDB (CDFW, 2014) within a 5-mile radius of the project, and the U.S. Fish and Wildlife Service (USFWS) quad search and CNPS online inventory of rare and endangered plants (CNPS, 2014) was used to identify special-status species and resources within and adjacent to the Altamont 7.5-minute series USGS topographic quadrangle. Aquatic habitats were identified using aerial photographs, National Wetlands Inventory maps, and the USGS National Hydrography Dataset. Hydroperiod, or the length of time aquatic habitats persist during an average rainfall year, was estimated using Google Earth historical imagery dated 2002 to 2013. The potential for special-status species and resources to occur was first evaluated by reviewing the range and habitat requirements of the species and comparing those to the conditions on site.

Survey Methods

Reconnaissance-level surveys of the project area were conducted on three separate dates in November 2013 (November 1, November 11, and November 20). Surveyed areas were inspected for the presence of

[4] See http://www.dfg.ca.gov/wildlife/nongame/ssc/ for a full definition of Species of Special Concern.

habitat features associated with the presence of six listed species: the state and federally threatened California tiger salamander (*Ambystoma californiense*), the federally threatened California red-legged frog (*Rana draytonii*), the federally threatened vernal pool fairy shrimp (*Branchinecta lynchi*), the federally endangered longhorn fairy shrimp (*Branchinecta longiantenna*), the state threatened and federally endangered San Joaquin kit fox (*Vulpes macrotis mutica*), and the state and federally endangered palmate-bracted bird's beak (*Cordylanthus palmatus[=Chloropyron palmatum]*). A site visit, attended by project team members from both PG&E and CH2M HILL, was conducted with CDFW on December 12, 2013.

The location of potentially jurisdictional wetlands and aquatic resources, including areas potentially requiring a Section 1600 Streambed Alteration Agreement, were delineated within the project area. The survey methodology followed the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory, 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE, 2008).

3.4.2 Regulatory Setting

3.4.2.1 Federal

Federal Endangered Species Act. The FESA protects plants and wildlife that are listed as endangered or threatened by USFWS and the National Marine Fisheries Service. Section 9 of the FESA prohibits the taking of endangered wildlife, where taking is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct" (50 CFR 17.3). For plants, this statute governs removing, possessing, maliciously damaging, or destroying any endangered plant on federal land and removing, cutting, digging-up, damaging, or destroying any endangered plant on non-federal land in knowing violation of state law (16 United States Code [U.S.C.] 1538). Under Section 7 of the FESA, federal agencies are required to consult with USFWS if their actions, including permit approvals or funding, may adversely affect a federally listed species or its designated 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 otherwise authorized activity provided the action will not jeopardize the continued existence of the species. Section 10 of the FESA provides for issuance of incidental take permits to private parties in association with development of a Habitat Conservation Plan.

Migratory Bird Treaty Act. The Migratory Bird Treaty Act implements international treaties between the United States and other nations devised to protect migratory birds, any of their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. As authorized by the Migratory Bird Treaty Act, USFWS may issue permits to qualified applicants for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal. 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. The State of California has incorporated the protection of birds of prey in Sections 3800, 3513, and 3503.5 of the California Fish and Game Code.

Federal Clean Water Act. The CWA's purpose is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." Section 404 of the CWA prohibits the discharge of dredged or fill material into "waters of the United States" without a permit from USACE. The definition of waters of the United States includes 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 CFR 328.3(b)). The U.S. Environmental Protection Agency also has authority over wetlands and may override a USACE permit.

Substantial impacts to wetlands may require an individual permit. Projects that only minimally affect wetlands may meet the conditions of one of the existing Nationwide Permits. A Water Quality Certification or waiver

pursuant to Section 401 of the CWA is required for Section 404 permit actions; this certification or waiver is issued by the Regional Water Quality Control Board (RWQCB).

3.4.2.2 State and Local

California Endangered Species Act. The CESA generally parallels the main provisions of the FESA, but unlike its federal counterpart, the CESA applies the take prohibitions to species proposed for listing (called "candidates" by the state). Section 2080 of the California Fish and Game Code prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit or in the regulations. Take is defined in section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." The CESA allows for take incidental to otherwise lawful activities. Project proponents wishing to obtain incidental take permits are able to do so through a permitting process outlined in California Code of Regulations section 783. PG&E has applied for a permit for incidental take of the state listed (threatened) California tiger salamander, application number 2081-2014-0017-03.

Fully Protected Species. The State of California first began to designate species as "Fully Protected" prior to the creation of the CESA and the FESA. Lists of fully protected species were initially developed to provide protection to those animals that were rare or faced possible extinction, and included fish, mammals, amphibians, reptiles, and birds. Most fully protected species have since been listed as threatened or endangered under the CESA and/or the FESA. The Fully Protected Species Statute (California Fish and Game Code, section 4700) provides that fully protected species may not be taken or possessed at any time. Furthermore, CDFW may authorize take of fully protected species only in very limited circumstances, such as for necessary scientific research.

California Streambed Alteration Notification/Agreement. Section 1602 of the California Fish and Game Code requires that a Streambed Alteration Application be submitted to CDFW for "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake." CDFW reviews the proposed actions and, if necessary, submits to the applicant a proposal for measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by the department and the applicant is the Streambed Alteration Agreement. PG&E has applied for a streambed alteration agreement due to the excavation of an onsite swale (notification number 1600-2014-0028-03).

3.4.3 Environmental Setting

This section provides a discussion of existing conditions within the project area.

The project area is located in the central portion of the Fremont-Livermore's Hills and Valleys ecological subsection within the Central California Coast Ecological Section (Miles and Goudey, 1998). This region is characterized by parallel ranges, and folded, metamorphosed strata with rounded crests of unequal height (Miles and Goudey, 1998). The elevation of the project area is about 540 feet above sea level.

The regional climate is variable with the average daily temperature of 47 degrees Fahrenheit (°F) in December to 72°F in July (United States Department of Agriculture, 2002). Average annual precipitation is 14.6 inches, most of which occurs as rainfall between November and April. The growing season, defined as having a 50 percent probability of temperatures at or above 32°F, extends throughout most of the year, with a total of 276 days (United States Department of Agriculture, 2002).

3.4.3.1 Vegetation Types

The crossover station, the northern sniff hole, and the southern sniff hole are located within non-native annual grasslands on rolling hills with scattered rock outcrops nearby. The existing crossover station and adjacent parking area are developed and covered with gravel, and non-native annual grassland is the dominant vegetation type within other portions of these work areas. Vegetation includes non-native annual grasses and forbs, such as wild oat (*Avena barbata*), ripgut brome (*Bromus diandrus*), and soft chess brome

(*Bromus hordeaceous*). The grasslands within the vicinity of the crossover station work area are grazed by cattle, and vegetation height during the field surveys was relatively low (less than 4 inches).

Animal species common to non-native annual grasslands include western toad (*Bufo boreas*), western fence lizard (*Sceloporus occidentalis*), common garter snake (*Thamnophis sirtalis*), gopher snake (*Pituophis melanoleucus*), killdeer (*Charadrius vociferus)*, western meadowlark (*Sturnella neglecta*), deer mouse (*Peromyscus maniculatus*), California ground squirrel (*Spermophilus beecheyi*), and pocket gopher (*Thomomys bottae*).

The temporary offsite workspace is located on an area with low topographic relief dominated by non-native annual grassland vegetation. Within this area vegetation is primarily composed of non-native annual grasses and forbs, such as wild oat, ripgut brome, and soft chess brome.

There are no trees within the project disturbance area.

3.4.3.2 Wetlands, Waters, and Riparian Areas

Two perennial wetlands are present within the project area, located east of the northern sniff hole and north of the southern sniff hole. Although these perennial wetlands are located outside of the construction footprint, they are included in the project area for the purposes of impact analysis to sensitive species and habitats. One wetland is located south of the existing station on an undeveloped parcel immediately east of Ames Street. Within this 0.016-acre wetland, slender cattail (*Typha angustifolia*) is the dominant species, with saltgrass (*Distichlis spicata)* and alkali heath (*Frankenia salina*) also present. This wetland is located on a gradual (6%) slope in an area where runoff from a concrete V-ditch pools in a shallow channel. A second perennial wetland is present to the north of the crossover station below a spring located on a hill with an 8% slope. This wetland is dominated by Baltic rush (*Juncus balticus*) and saltgrass and covers an area of approximately 0.012 acre.

Immediately downslope of the perennial wetland north of the crossover station, a 0.056-acre seasonal wetland is present within a drainage swale, part of which is located within the footprint for the northern sniff hole excavation. This seasonal wetland follows the topography of the swale and drains in a southwestern direction toward the wetlands of the Springtown Alkali Sink Preserve. The Preserve is located on three parcels owned by the City of Livermore and is approximately 300 acres in size, and is located approximately 220 feet from the existing valve station, on the southwest corner of Raymond Road and Ames Street. To the west, the incised swale channel shallows and becomes imperceptible as it crosses an existing farm road. The local relief of the swale is concave and the slope is approximately 5%. Vegetation in the seasonal wetland is dominated by saltgrass and alkali heath.

There is an unvegetated ditch and a vegetated swale feature located adjacent to the temporary offsite workspace (located at the southeastern corner of May School Road and Dagnino Road). Neither feature is within the proposed footprint of the temporary offsite workspace, and neither is expected to be affected by the proposed work.

Figure 3.4-1 illustrates the location and dimensions of the wetland areas.

3.4.3.3 Special-status Species

A total of 52 species with at least some potential to occur in the project vicinity were evaluated based on record search results from CNDDB, USFWS, and CNPS (Table 3.4-1). Of the 52 species identified during the background research, twelve plants and nine wildlife species were determined to have low, medium, or high potential to occur in the project area. The analysis that follows is based on a desk top review and preliminary results of surveys that were conducted by PG&E's consultant, Swaim Biological, Inc. (2013).

Special-status Plants

Thirty-eight special-status plant species were identified in the CNDDB, USFWS, and CNPS records searches as having potential to occur in the project vicinity. Twenty-six of these species were found to lack suitable habitat. The remaining twelve species have a very low potential to occur due to marginal habitat, high density of

non-natives, and frequently disturbed and grazed nature of the project area; however, they are described below for informational purposes.

Palmate-Bracted Bird's Beak

Palmate-bracted bird's beak is listed as federally and state endangered (USFWS, 1986). Palmate-bracted bird's beak is an annual herb in the *Orobanchaceae* (broomrape) family with highly branched stems and glandular hairs that sometimes excrete salt crystals. Seedlings grow in late March or April, and flowers typically bloom from May/June through October. Each flower has a fuzzy white pouch, sometimes tinted purple. This species grows on seasonally wet saline or alkaline soils below 500 feet in elevation. Locally, palmate-bracted bird's beak is found in alkali grassland, iodine bush scrub, on the sides of drainage channels, and in disturbed alkali grassland, scrub, and scalds (CCB, 1992). Palmate-bracted bird's beak is found in multiple locations throughout the Springtown Preserve, located immediately to the south of the project area (CDFW, 2014).

No critical habitat has been designated for palmate-bracted bird's beak. The species has not been documented to occur within the project area, but marginal habitat is present within the seasonal wetland located north of the existing station. Soils within the wetland are similar to those found within the Springtown Preserve (National Resources Conservation Service [NRCS], 2013), where the species is known to occur. The potential for palmate-bracted bird's beak to occur within the seasonal wetland is considered moderate because despite the low quality habitat (it is regularly disturbed by cattle grazing and dominated by non-native plants), there is a documented occurrence of the plant immediately south of the project area.

Brittlescale

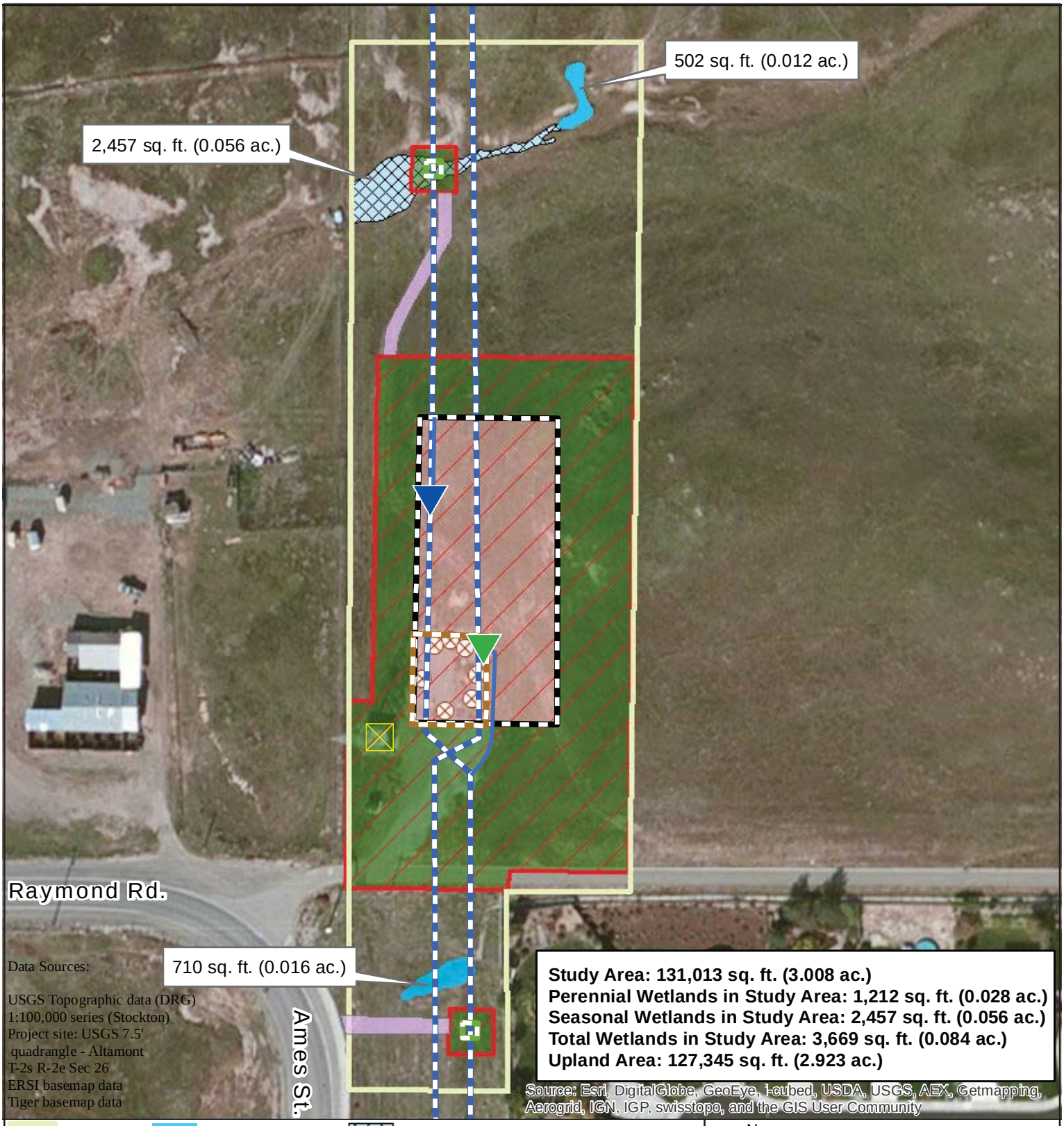
Brittlescale is listed as 1B.2 by CNPS. Brittlescale is an annual herb in the *Chenopodaceae* (goosefoot) family with prostrate-decument to ascending stems, which are glabrous to scaly and generally brittle. This species is found below 1,050 feet in elevation and typically blooms from June through October. Flowers are small and generally green. Brittlescale is most commonly found in alkali scalds or alkaline clay in meadows or annual grassland and rarely associated with riparian marshes or vernal pools. Brittlescale has been observed at the Springtown Preserve, located immediately to the south of the project area (CDFW, 2013).

The species has not been documented to occur within the project area, but marginal habitat is present within the seasonal wetland located north of the existing station. Soils within the wetland are similar to those found within the Springtown Preserve (NRCS, 2013), where the species is known to occur. The potential for brittlescale to occur within the seasonal wetland is considered low because the seasonal wetland is regularly disturbed by cattle grazing and dominated by non-native plants.

San Joaquin Spearscale

San Joaquin spearscale is listed as 1B.2 by CNPS. San Joaquin spearscale is an annual herb in the *Chenopodaceae* (goosefoot) family with ascending stems, which are sparsely scaly, glabrous with age. This species is found from 3 to 2,740 feet in elevation and typically blooms from April through October, and its flowers are small and generally green. It grows in chenopod scrub, alkali meadow, and valley and foothill grassland. It is usually found in seasonal alkali wetlands or alkali sink scrub associated with saltgrass, alkali heath, and other alkaline plants. San Joaquin spearscale has been observed at the Springtown Preserve, located immediately to the southwest of the station (CDFW, 2014).

The species has not been documented to occur within the project area, but marginal habitat is present within the seasonal wetland located north of the existing station. Soils within the wetland are similar to those found within the Springtown Preserve (NRCS, 2013), where the species is known to occur. The potential for San Joaquin spearscale to occur within the seasonal wetland is considered low because the seasonal wetland is regularly disturbed by cattle grazing and dominated by non-native plants.



Data Sources:

USGS Topographic data (DRG)
1:100,000 series (Stockton)
Project site: USGS 7.5'
quadrangle - Altamont
T-2s R-2e Sec 26
ERSI basemap data
Tiger basemap data

Study Area | Perennial Wetland | Seasonal Wetland

Valve - Existing
Transmission Tower
Receiver - Proposed
Launcher - Proposed
Pipeline - Existing
Proposed Piping - Approx.

Existing Fence
Proposed Fence
Sniff Hole Excavation
Temporary Access Route
Temporary Work Area
Temporary Impact Area
Permanent Impact Area

Delineation and survey conducted by Sarah Willbrand. Initial preparation, November 22, 2013

N
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0 50 100 200
Feet

PG&E Dalton Crossover
Valve Automation Project Alameda County

Figure 3.4-1. Wetlands in Study Area

ES01171416321 2SAC_PGE figure 3-1

TABLE 3.4-1
State, Federal, and CNPS-Listed Species Identified from CNDDB, USFWS, and CNPS Records Searches
IS/MND Supporting an ITP and SAA for the PG&E Dalton Crossover Valve Automation Project

		Status					
Scientific Name	**Common Name**	**Federal**	**State**	**CDFW**	**CNPS/ threat rank**	**Habitat Requirements/Bloom Period**	**Potential for Occurrence and Impact in the Project Area**
Plants							
Allium sharsmithiae	Sharsmith's onion	—	—	—	1B.3	Chaparral and cismontane woodland, in serpentinite and rocky soil. Elevation range of 1,312 to 3,675 feet. Blooms March to May.	**None.** No suitable habitat for this species is present in the project area. Project area is over 500 feet below elevation range and plant is known only from the Mt. Hamilton Range, which is approximately 30 miles south. No impacts to this species are anticipated from the project.
Amsinckia grandiflora	large-flowered fiddleneck	E	E	—	1B.1	Cismontane woodland, valley and foothill grassland. Elevation range of 902 to 1,805 feet. Blooms April to May.	**None.** Grassland habitat is found in the project area; however, it is primarily heavily grazed non-native grassland. Project area is over 300 feet below elevation range and closest CNDDB record is over 5 miles north. No impacts to this species are anticipated from the project.
Arctostaphylos auriculata	Mt. Diablo manzanita	—	—	—	1B.3	Chaparral in sandstone and cismontane woodland. Elevation range of 443 to 2,133 feet. Blooms January to March.	**None.** No suitable habitat for this species is present in the project area. No impacts to this species are anticipated from the project.
Arctostaphylos manzanita ssp. *laevigata*	Contra Costa manzanita	—	—	—	1B.2	Chaparral in rocky soil. Elevation range of 1,640 to 3,609 feet. Blooms January to April.	**None.** No suitable habitat for this species is present in the project area. Project area is over 1,000 feet below elevation range. No impacts to this species are anticipated from the project.
Astragalus tener var. *tener*	alkali milk-vetch	—	—	—	1B.2	Alkali playa, valley and foothill grassland, vernal pools. Low ground, alkali flats, and flooded lands. In annual grassland or in playas or vernal pools. Elevation range of 3 to 197 feet. Blooms March to June.	**None.** Marginal habitat is present within the small seasonal wetland; however, the project area is over 300 feet above the species' range. No impacts to this species are anticipated from the project.

TABLE 3.4-1
State, Federal, and CNPS-Listed Species Identified from CNDDB, USFWS, and CNPS Records Searches
IS/MND Supporting an ITP and SAA for the PG&E Dalton Crossover Valve Automation Project

		Status					
Scientific Name	**Common Name**	**Federal**	**State**	**CDFW**	**CNPS/ threat rank**	**Habitat Requirements/Bloom Period**	**Potential for Occurrence and Impact in the Project Area**
Atriplex cordulata var. *cordulata*	heartscale	—	—	—	1B.2	Chenopod scrub, meadows and seeps, and valley and foothill grassland in sandy soil. Usually in saline or alkaline soils. Elevation range of 3 to 230 feet (Jepson, 2013). Blooms June to July.	**None.** Marginal habitat is present within the small seasonal wetland, however, the project area is over 300 feet above the species' range. No impacts to this species are anticipated from the project.
Atriplex depressa	brittlescale	—	—	—	1B.2	Chenopod scrub, meadows and seeps, playas, valley and foothill grassland, and vernal pools. Usually in alkaline or clay soils. Elevation range of 3 to 1,050 feet. Blooms. June to October.	**Low.** Marginal habitat is present within the small seasonal wetland. The overall potential for occurrence is low. No impacts to this species are anticipated from the project.
Atriplex joaquiniana	San Joaquin spearscale	—	—	—	1B.2	Occurs in chenopod scrub, alkali meadow, and valley and foothill grasslands. In seasonal alkali wetlands or alkali sink scrub with *Distichlis spicata*, *Frankenia*, etc. Elevation range of 3 to 2,740 feet. Blooms April to October.	**Low.** Marginal habitat is present within the small seasonal wetland. The overall potential for occurrence is low. No impacts to this species are anticipated from the project.
Atriplex minuscula	lesser saltscale	—	—	—	1B.1	Chenopod scrub, playas, valley and foothill grassland. Usually in alkaline, sandy soil. Elevation range of 66 to 328 feet. Blooms April to October.	**None.** Marginal habitat is present within the small seasonal wetland, however, the project area is over 200 feet above the species' range. No impacts to this species are anticipated from the project.
Balsamorhiza macrolepis	big-scale balsamroot	—	—	—	1B.2	Chaparral, valley and foothill grassland and cismontane woodland. Open grassy or rocky slopes, valleys. Sometimes on serpentinite soil. Elevation range of 295 to 5,102 feet. Blooms March to June.	**None.** Grassland habitat is found in the project area; however, it is primarily heavily grazed non-native grassland. The closest CNDDB record is over 5 miles southeast of the site. No impacts to this species are anticipated from the project.

TABLE 3.4-1
State, Federal, and CNPS-Listed Species Identified from CNDDB, USFWS, and CNPS Records Searches
IS/MND Supporting an ITP and SAA for the PG&E Dalton Crossover Valve Automation Project

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Blepharizonia plumosa	big tarplant	—	—	—	1B.1	Valley and foothill grassland. Dry hills and plains in annual grassland. Clay to clay-loam soils; usually on slopes and often in burned areas. Elevation range of 30 to 1,657 feet. Blooms July to October.	**None.** Grassland habitat is found in the project area; however, it is primarily heavily grazed non-native grassland. The closest CNDDB record is over 5 miles southeast of the site. No impacts to this species are anticipated from the project.
California macrophylla	round-leaved filaree	—	—	—	1B.1	Cismontane woodland and valley and foothill grassland. Elevation range of 49 to 3,937 feet. Blooms March to May.	**None.** Grassland habitat is found in the project area; however, it is primarily heavily grazed non-native grassland. The closest CNDDB record is over 10 miles east of the site. No impacts to this species are anticipated from the project.
Calochortus pulchellus	Mt. Diablo fairy-lantern	—	—	—	1B.2	Wooded slopes, rarely chaparral, generally northern aspect. Elevation range of 656 to 2,625 feet. Blooms April to June.	**None.** No suitable habitat for this species is present in the project area. No impacts to this species are anticipated from the project.
Campanula exigua	chaparral harebell	—	—	—	1B.2	Chaparral. Rocky sites, usually in serpentine soil. Elevation range of 902 to 4,101 feet. Blooms May to June.	**None.** No suitable habitat for this species is present in the project area. No impacts to this species are anticipated from the project.
Centromadia parryi ssp. *congdonii*	Congdon's tarplant	—	—	—	1B.2	Valley and foothill grassland. Alkaline soils, sometimes described as heavy white clay. Elevation range of 3 to 755 feet. Blooms May to November.	**None.** Suitable habitat for this species is present in the project area. Not observed during reconnaissance surveys conducted in November during the species' bloom time. No impacts to this species are anticipated from the project.
Chloropyron molle spp. *hispidum*	hispid bird's-beak	—	—	—	1B.1	Saline marshes and swamps. Elevation range of 3 to 509 feet. Blooms June to September.	**None.** No potentially suitable habitat for this species is present in the project area. No impacts to this species are anticipated from the project.

TABLE 3.4-1
State, Federal, and CNPS-Listed Species Identified from CNDDB, USFWS, and CNPS Records Searches
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		Status					
Scientific Name	**Common Name**	**Federal**	**State**	**CDFW**	**CNPS/ threat rank**	**Habitat Requirements/Bloom Period**	**Potential for Occurrence and Impact in the Project Area**
Chloropyron palmatum	palmate-bracted bird's beak	E	E	—	1B.2	Occurs in alkali sink, alkali grassland, vernal pools, and alkali wetlands and seeps, typically along the edges of drainages. Elevation range of 16 to 509 feet. Blooms May/June to October.	**Medium.** Marginal habitat is present within the small seasonal wetland. Known to occur immediately south of the project area. No impacts to this species are anticipated from the project.
Cirsium fontinale var. *campylon*	Mt. Hamilton fountain thistle	—	—	—	1B.2	Chaparral, cismontane woodland, valley and foothill grassland, in serpentine seeps. Elevation range of 328 to 2,920 feet. Blooms February to October.	**None.** No suitable habitat for this species is present in the project area. No impacts to this species are anticipated from the project.
Deinandra bacigalupii	Livermore tarplant	—	—	—	1B.2	Meadows and seeps, in alkaline soils. Elevation range of 492 to 607 feet. Blooms June to October.	**Medium.** Marginal habitat is present within the small seasonal wetland. CNDDB occurrence adjacent to the project area. No impacts to this species are anticipated from the project.
Delphinium californicum ssp. *interius*	Hospital Canyon larkspur	—	—	—	1B.2	Cismontane woodland in a moderately moist habitat, openings in chaparral, and coastal scrub. Elevation range of 640 to 3,593 feet. Blooms April to June.	**None.** No suitable habitat for this species is present in the project area. No impacts to this species are anticipated from the project.
Delphinium recurvatum	recurved larkspur	—	—	—	1B.2	Chenopod scrub, cismontane woodland, valley and foothill grassland. Alkaline soils. Elevation range of 10 to 2,592 feet. Blooms March to June.	**Low.** Marginal habitat is present within the small seasonal wetland. Nearest CNDDB occurrence is over 10 miles southwest of site. The overall potential for occurrence is low. No impacts to this species are anticipated from the project.
Eschscholzia rhombipetala	diamond-petaled California poppy	—	—	—	1B.1	Valley and foothill grassland in alkaline, clay soil. Elevation range of 0 to 3,199 feet. Blooms March to April.	**Low.** Marginal habitat is present within the small seasonal wetland. Nearest CNDDB occurrence is over 10 miles southwest of site. The overall potential for occurrence is low. No impacts to this species are anticipated from the project.

TABLE 3.4-1
State, Federal, and CNPS-Listed Species Identified from CNDDB, USFWS, and CNPS Records Searches
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Scientific Name	**Common Name**	**Federal**	**State**	**CDFW**	**CNPS/ threat rank**	**Habitat Requirements/Bloom Period**	**Potential for Occurrence and Impact in the Project Area**
Helianthella castanea	Diablo helianthella	—	—	—	1B.2	Broadleaved upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, and valley and foothill grassland. Usually in chaparral/oak woodland interface in rocky azonal soils. Often in partial shade. Elevation range of 197 to 4,265 feet. Blooms March to June.	**None.** No suitable habitat for this species is present in the project area. No impacts to this species are anticipated from the project.
Hesperolinon breweri	Brewer's western flax	—	—	—	1B.2	Chaparral, cismontane woodland, valley and foothill grassland. Usually in serpentine soil. Elevation range of 98 to 3,100 feet. Blooms May to July.	**Low.** Marginally suitable habitat for this species is present in the project area; however, no serpentine soils are present. No impacts to this species are anticipated from the project.
Hesperolinon tehamense	Tehama County western flax	—	—	—	1B.3	Chaparral and cismontane woodland. Usually in serpentine soil. Elevation range of 328 to 4,101 feet. Blooms May to July.	**Low.** Marginally suitable habitat for this species is present in the project area; however, no serpentine soils are present. No impacts to this species are anticipated from the project.
Hibiscus lasiocarpos var. occidentalis	woolly rose-mallow	—	—	—	1B.2	Marshes and swamps, often in riprap on sides of levees. Elevation range of 0 to 394 feet. Blooms June to September.	**None.** No suitable habitat for this species is present in the project area. No impacts to this species are anticipated from the project.
Hoita strobilina	Loma Prieta hoita	—	—	—	1B.1	Chaparral, cismontane woodland, and riparian woodland. Usually in serpentine soil, mesic habitat. Elevation range of 98 to 2,822 feet. Blooms May to October.	**None.** No suitable habitat for this species is present in the project area. No impacts to this species are anticipated from the project.
Lasthenia conjugens	Contra Costa goldfields	E	—	—	1B.1	Valley and foothill grasslands, alkaline playas, vernal pools, and cismontane woodlands, in moderately moist habitat. Elevation range of 0 to 1,542 feet. Blooms March to June.	**Low.** Marginally suitable habitat for this species is present in the project area. However, the nearest occurrence is over 10 miles from the project area. No impacts to this species are anticipated from the project.

TABLE 3.4-1
State, Federal, and CNPS-Listed Species Identified from CNDDB, USFWS, and CNPS Records Searches
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Scientific Name	**Common Name**	**Federal**	**State**	**CDFW**	**CNPS/ threat rank**	**Habitat Requirements/Bloom Period**	**Potential for Occurrence and Impact in the Project Area**
Legenere limosa	legenere	—	—	—	1B.1	Vernal pools; however, most historical occurrences are extirpated. Elevation range of 0 to 2,887 feet. Blooms April to June.	**None.** No suitable habitat for this species is present in the project area. No impacts to this species are anticipated from the project.
Leptosyne hamiltonii	Mt. Hamilton coreopsis	—	—	—	1B.2	Cismontane woodland, in rocky soil. On steep shale talus with open southwestern exposure. Elevation range of 1,805 to 4,265 feet. Blooms March to May.	**None.** No suitable habitat for this species is present in the project area. No impacts to this species are anticipated from the project.
Lilaeopsis masonii	Mason's lilaeopsis	—	—	—	1B.1	Marshes and swamps, brackish or freshwater. Riparian scrub. Elevation range of 0 to 33 feet. Blooms April to November.	**None.** No suitable habitat for this species is present in the project area. No impacts to this species are anticipated from the project.
Navarretia prostrata	prostrate vernal pool navarretia	—	—	—	1B.1	Coastal scrub, valley and foothill grasslands, vernal pools. Alkaline soils in grassland, or in vernal pools. Mesic, alkaline sites. Elevation range of 249 to 3,281 feet. Blooms April to July.	**Low.** Marginally suitable habitat for this species is present in the project area. No impacts to this species are anticipated from the project.
Plagiobothrys glaber	hairless popcorn-flower	—	—	—	1A	Wet, saline, more or less alkaline soils in valleys, and coastal marshes. Elevation range of 49 to 328 feet. Blooms April to July.	**None.** Marginal habitat is present within the small seasonal wetland. Site is over 200 feet above the known elevation range. Presumed extinct. No impacts to this species are anticipated from the project.
Senecio aphanactis	chaparral ragwort	—	—	—	2B.2	Chaparral, cismontane woodland, and coastal scrub. Sometimes found in alkaline soil. Elevation range of 49 to 2,625 feet. Blooms January to April.	**None.** No suitable habitat for this species is present in the project area. No impacts to this species are anticipated from the project.
Streptanthus albidus ssp. *peramoenus*	most beautiful jewel-flower	—	—	—	1B.2	Valley and foothill grassland, chaparral, and cismontane woodland. Serpentine outcrops on ridges and slopes. Elevation range of 312 to 3,281 feet. Blooms March to October.	**None.** No suitable habitat for this species is present in the project area. No impacts to this species are anticipated from the project.

TABLE 3.4-1
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Trifolium hydrophilum	saline clover	—	—	—	1B.2	Occurs in marshes and swamps, vernal pools, and valley and foothill grassland in moderately moist and alkaline soils. Elevation range of 0 to 984 feet. Blooms April to June.	**Low.** Marginal habitat is present within the small seasonal wetland. No impacts to this species are anticipated from the project.
Tropidocarpum capparideum	caper-fruited tropidocarpum	—	—	—	1B.1	Valley and foothill grassland on alkaline hills. Elevation range of 3 to 1,493 feet. Blooms March to April.	**Low.** Marginal habitat is present within the small seasonal wetland. Highly restricted range that does not overlap with the project area. No impacts to this species are anticipated from the project.
Viburnum ellipticum	oval-leaved viburnum	—	—	—	2B.3	Chaparral, cismontane woodland, and lower montane coniferous forest. Elevation range of 705 to 4,593 feet. Blooms May to June	**None.** No suitable habitat for this species is present in the project area. No impacts to this species are anticipated from the project.
Invertebrates							
Branchinecta longiantenna	longhorn fairy shrimp	E	—	—	—	Vernal pools and depressions. In the project region they occur in pools within sandstone outcrops with low alkalinity.	**Low.** Pools in rock outcrops are absent. The seasonal wetland within the assessment area may provide marginal habitat. No impacts to this species are anticipated from the project.
Branchinecta lynchi	vernal pool fairy shrimp	T	—	—	—	Inhabits a variety of seasonal pools including stone, mud, and grassy-bottomed habitats.	**High.** Suitable habitat is present. Species occurs within the Springtown Preserve immediately south of the station. The project falls within critical habitat unit 19-C. The species may be affected by the project.
Desmocerus californicus dimorphus	valley elderberry longhorn beetle	T	—	—	—	Occurs only in the Central Valley of California, in association with blue elderberry (*Sambucus mexicana*).	**None.** There are no elderberry bushes onsite, and, therefore, no suitable habitat for this species is present in the project area. No impacts to this species are anticipated from the project.

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Fish							
Hypomesus transpacificus	Delta smelt	T	E	—	—	Sacramento-San Joaquin Delta. Seasonally in Suisun Bay, Carquinez Strait and San Pablo Bay. Seldom found at salinities > 10 ppt. Most often at salinities <2 ppt.	**None.** No suitable habitat for this species is present in the project area. No impacts to this species are anticipated from the project.
Oncorhynchus mykiss	Steelhead, Central Valley and Central California Coast	T	—	—	—	California coast distinct population segment (DPS) occurs from the Russian River., south to Soquel Creek and to the Pajaro River including the San Francisco and San Pablo Bay basins. Central Valley DPS includes populations in the Sacramento and San Joaquin Rivers and their tributaries.	**None.** No suitable habitat for this species is present in the project area. No impacts to this species are anticipated from the project.
Amphibians/Reptiles							
Masticophis lateralis euryxanthus	Alameda whipsnake	T	T	—	—	Typically found in chaparral and scrub habitats but will also use adjacent grassland, oak savanna and woodland habitats. Mostly south-facing slopes and ravines, with rock outcrops, deep crevices or abundant rodent burrows.	**None.** No suitable habitat for this species is present in the project area. No impacts to this species are anticipated from the project.
Ambystoma californiense	California tiger salamander	T	T	SSC	—	Central Valley DPS federally listed as threatened. Santa Barbara and Sonoma Counties DPS federally listed as endangered. Need underground refuges, especially ground squirrel burrows and vernal pools or other seasonal water sources for breeding without predacious fish or bullfrogs. Pools must stay inundated at least 4 – 5 months for successful metamorphose.	**High.** Suitable breeding habitat and recorded occurrences within dispersal distance of project area. The species may be affected by the project.
Rana draytonii	California red-legged frog	T	—	SSC	—	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby, or emergent riparian vegetation. Requires 4 to 7 months of permanent water for larval development. Must have access to estivation habitat.	**High.** Suitable breeding habitat and recorded occurrences within dispersal distance of project area. The species may be affected by the project.

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Birds							
Athene cunicularia	Burrowing owl	—	—	SSC	—	Nesting habitat consists of open areas with mammal burrows. Habitats include dry open rolling hills, grasslands, fallow fields, sparsely vegetated desert scrub with gullies, washes, arroyos, and edges of human disturbed lands.	**High.** Highly suitable habitat is found within the project area. CNDDB documented a pair immediately southwest of the station in 1993. If present, the species may be affected by the project.
Buteo swainsoni	Swainson's hawk	—	ST	—	—	Suitable nesting habitat includes trees within mature riparian forest, lone trees and oak groves, and mature roadside trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	**Low.** Marginally suitable foraging and breeding habitat is found in the vicinity of the project area. There are no CNDDB occurrences within 5 miles. No impacts to this species are anticipated from the project.
Circus cyaneus	Northern harrier	—		SSC	—	Breed and forage in a variety of open (treeless) habitats that provide adequate vegetative cover, an abundance of suitable prey, and scattered hunting perches such as shrubs or fence posts. Harriers nest on the ground, mostly within patches of dense, often tall, vegetation in undisturbed areas (MacWhirter and Bildstein, 1996).	**Low.** Marginally suitable foraging habitat is found in the vicinity of the project area; however, no breeding habitat is present onsite due mainly to active grazing and relatively short vegetation; there are no CNDDB occurrences with 5 miles. No impacts to this species are anticipated from the project.
Haliaeetus leucocephalus	Bald eagle	D	E	CFP	—	Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1 mile of water. Nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter.	**None.** No suitable habitat for this species is present in the project area. No impacts to this species are anticipated from the project.

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Mammals							
Taxidea taxus	American badger	—	—	SSC	—	Variety of open, arid habitats, most commonly associated with grasslands, savannas, mountain meadows, and open areas of desert scrub. Principle habitat requirements include sufficient prey base, friable soils, and relatively open, uncultivated ground.	**Low.** No CNDDB records within 5 miles, and no evidence of badgers using the site was observed during reconnaissance surveys. No impacts to this species are anticipated from the project.
Vulpes macrotis mutica	San Joaquin kit fox	E	T	—	—	Annual grasslands or grassy open stages with scattered shrubby vegetation. Needs loose textured sandy soils for burrowing, and suitable prey base.	**Low.** No evidence of the species was observed during surveys. The project area is located at the northern extent of the species' range and the nearest and most recent CNDDB observation is 3.3 miles to the northeast of the project area and was recorded in 2002. No impacts to this species are anticipated from the project.

***Status**:

Federal Designations:

E =Federally endangered
T = Federally Threatened
D = Delisted

State Designations:

E = State Endangered
T = State Threatened
D =Delisted

California Department of Fish and Wildlife (CDFW) Designations:

SSC = Species of Special Concern
CFP = Fully Protected Species

California Native Plant Society (CNPS) California Rare Plant Rank:

1A = Presumed extinct in California
1B = Rare, threatened, or endangered in California and elsewhere
2 = Rare, threatened, or endangered in California, but more common elsewhere

Threat Rank:

0.1 = Seriously threatened in California (more than 80% of occurrences threatened / high degree and immediacy of threat)
0.2 = Fairly threatened in California (20 to 80% occurrences threatened / moderate degree and immediacy of threat)
0.3 = Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known

Livermore Tarplant

The Livermore tarplant is listed as 1B.2 by CNPS. Livermore tarplant is an annual herb in the *Asteraceae* (sunflower) family with proximal entire or irregularly lobed and more or less coarse-hairy and stalked-glandular leaves. This species usually occurs in alkaline meadows and seeps from 492 to 607 feet in elevation. Livermore tarplant typically blooms from June through October, and its flowers are yellow.

The species has been documented to occur adjacent to the project area (CDFW, 2014) and marginal habitat is present within the seasonal wetland located north of the existing station. The potential for Livermore tarplant to occur within the seasonal wetland is considered moderate because despite the low quality habitat (it is regularly disturbed by cattle grazing and dominated by non-native plants), there is a documented occurrence of the plant adjacent to the project area.

Recurved Larkspur

Recurved larkspur is listed as 1B.2 by CNPS. Recurved larkspur is an annual herb in the *Ranunculaceae* (buttercup) family with a glabrous stem, with basal leaves generally larger than leaves along the stem. This species is found from 10 to 2,592 feet in elevation and typically blooms from June through October. Flowers are light blue and white. Recurved larkspur grows in poorly drained, fine alkaline soils in grassland and saltbush (*Atriplex* sp.) scrub habitat.

The species has not been documented to occur within or adjacent to the site, with the nearest record occurring over 10 miles southwest (CDFW, 2014). However, marginal habitat is present within the seasonal wetland located north of the existing station. The potential for recurved larkspur to occur within the seasonal wetland is considered low because the seasonal wetland is regularly disturbed by cattle grazing and dominated by non-native plants, and the lack of documented occurrences near the site.

Diamond-petaled California Poppy

Diamond-petaled California poppy is listed as 1B.1 by CNPS. Diamond-petaled California poppy is an annual herb in the *Papaveraceae* (poppy) family with yellow flowers and an erect and non-hairy stem. This species typically blooms from March through April. It is found on fallow fields and open places, from 0 to 3,199 feet in elevation.

The species has not been documented to occur within or adjacent to the project area, with the nearest record occurring over 10 miles southwest (CDFW, 2014). However, marginal habitat is present within the seasonal wetland located north of the existing station. The potential for diamond-petaled California poppy to occur within the seasonal wetland is considered low because the seasonal wetland is regularly disturbed by cattle grazing and dominated by non-native plants, and the lack of documented occurrences near the site.

Brewer's Western Flax

Brewer's western flax is listed as 1B.2 by CNPS. Brewer's western flax is an annual herb in the Linaceae (flax) family that is generally branched with alternate and linear leaves. This species typically blooms from May through July and its flowers are yellow. It is found on chaparral, cismontane woodland, valley and foothill grassland, and usually in serpentine soil from of 98 to 3,100 feet in elevation.

The species has not been documented to occur within or adjacent to the project area, with the nearest record occurring over 5 miles from the project area (CDFW, 2014). Marginal habitat is present within the project area, however, no serpentine soils are present. The potential for Brewer's western flax to occur is considered low because the grassland is regularly disturbed by cattle grazing and dominated by non-native plants, and the lack of documented occurrences near the site.

Tehama County Western Flax

Tehama County western flax is listed as 1B.3 by CNPS. Tehama County western flax is an annual herb in the Linaceae (flax) family that is generally branched with alternate and linear leaves. This species typically blooms

May to July and its flowers are light or bright yellow. It is found on chaparral and cismontane woodland, and usually in serpentine soil from 328 to 4,101 feet in elevation.

The species has not been documented to occur within or adjacent to the project area, with the nearest record occurring over 5 miles from the project area (CDFW, 2014). Marginal habitat is present within the project area, however, no serpentine soils are present. The potential for Brewer's western flax to occur is considered low because the grassland is regularly disturbed by cattle grazing and dominated by non-native plants, and the lack of documented occurrences near the site.

Contra Costa Goldfields

Contra Costa goldfields is listed as 1B.1 by CNPS. Contra Costa goldfields is an annual herb in the Asteraceae (sunflower) family that is simple or freely branched with entire or pinnately lobed leaves. This species typically blooms March to June and its flowers are yellow. It is found in valley and foothill grasslands, alkaline playas, vernal pools, and cismontane woodlands, in moderately moist habitat from 0 to 1,542 feet in elevation.

The species has not been documented to occur within or adjacent to the project area, with the nearest record occurring over 5 miles from the project area (CDFW, 2014). Marginally suitable habitat is present within the project area. The potential for Brewer's western flax to occur is considered low because the habitat is regularly disturbed by cattle grazing and dominated by non-native plants, and the lack of documented occurrences near the site.

Prostrate Vernal Pool Navarretia

Prostrate vernal pool navarretia is listed as 1B.1 by CNPS. Prostrate vernal pool navarretia is an annual herb in the Polemoniaceae (phlox) family that grows close to the ground with leaves clustered below flowers. This species typically blooms April to July and its flowers are blue to white. It is found in coastal scrub, valley and foothill grasslands, and vernal pools. It is found in alkaline soils in grassland, or in vernal pools from 249 to 3,281 feet in elevation.

The nearest documented occurrence of the species is from approximately 5 miles west in 2008 (CDFW, 2014). Marginally suitable habitat is present within the project area. The potential for prostrate vernal pool navarretia to occur is considered low because the habitat is regularly disturbed by cattle grazing and dominated by non-native plants, and the lack of documented occurrences near the site.

Saline Clover

Saline clover is listed as 1B.2 by CNPS. Saline clover is an annual herb in the *Fabaceae* (pea) family that is often fleshy with generally palmately compound leaves and leaflets usually in threes. This species is found below 984 feet in elevation and typically blooms from April through June. Flowers are generally purple to pale lavender, occasionally yellow. Saline clover grows in marshes and swamps, valley and foothill grassland, and vernal pools in moderately moist, alkaline sites. Saline clover has been observed at the Springtown Preserve, located immediately to the south of the project area (CDFW, 2014).

The species has not been documented to occur within the project area, but marginal habitat is present within the seasonal wetland located north of the existing station. Soils within the wetland are similar to those found within the Springtown Preserve (NRCS, 2013), where the species is known to occur. The potential for saline clover to occur within the seasonal wetland is considered low because the seasonal wetland is regularly disturbed by cattle grazing and dominated by non-native plants.

Caper-fruited Tropidocarpum

Caper-fruited tropidocarpum is listed as 1B.1 by CNPS. Caper-fruited tropidocarpum is an annual herb in the *Brassicaceae* (mustard) family that is branched with pinnately lobed leaves. This species is found from 3 to 1,493 feet in elevation and typically blooms from March through April. Flowers are yellow and occasionally tinged purple. Caper-fruited tropidocarpum grows in valley and foothill grassland on alkaline hills. The CNDDB records indicate the historically documented occurrences within 5 miles of the project area are likely extir-

pated (CDFW,2014). Caper-fruited tropidocarpum was rediscovered after not having been observed for over 50 years in California, the occurrence is located in central California from 2000 (CNPS, 2014).

The species has not been documented to occur within the project area, but marginal habitat is present within the seasonal wetland located north of the existing station. The potential for caper-fruited tropidocarpum to occur within the seasonal wetland is considered low because the seasonal wetland is regularly disturbed by cattle grazing and dominated by non-native plants, and the lack of recent documented occurrences of the species near the project area.

Special-status Wildlife

Based on records searches and familiarity with species in the project area, fourteen special-status wildlife species were initially identified as having potential to occur in the project area. Of these species, suitable habitat for only nine of the species was identified in the project area. Five of these species were identified as having a low potential for occurrence and the remaining four (vernal pool fairy shrimp (*Branchinecta lynchi*), California tiger salamander (*Ambystoma californiense*), California red-legged frog (*Rana draytonii*), and burrowing owl (*Athene cunicularia*)) were identified as having a high potential for occurrence in the project area. These species are discussed in detail below.

Vernal Pool Fairy Shrimp

Vernal pool fairy shrimp is listed as threatened under FESA (USFWS, 2004). Vernal pool fairy shrimp occur in vernal pools and swales, rock outcrop pools, ephemeral drainages, and alkali pools and are distributed widely within the Central Valley and Coast Ranges (Eriksen and Belk, 1999). Fairy shrimp survive as cysts within dried pools and can withstand temperature fluctuations and prolonged desiccation. Fairy shrimp begin hatching when pools fill with water and mature rapidly, allowing them to persist even in relatively shallow, ephemeral pools. When the temporary pools dry, offspring persist in suspended development as desiccation-resistant embryos (commonly called cysts) in the pool substrate until the return of winter rains and appropriate temperatures allow some of the cysts to hatch (Eriksen and Belk, 1999). Immature and adult shrimp die off when water temperatures rise to approximately 75°F (USFWS, 2007).

The project area is within critical habitat (Subunit 19-C) designated for the vernal pool fairy shrimp (USFWS, 2006). Subunit 19-C is part of the Altamont Hills Unit, which comprises approximately 7,892 acres in Alameda and Contra Costa counties (USFWS, 2006). The project area contains a small area of suitable wetland habitat for the species. Although no vernal pools are present within the project area, the seasonal wetland at the northern sniff hole work area could provide suitable habitat for the vernal pool fairy shrimp. Vernal pool fairy shrimp is known to occur in the Springtown Alkali Preserve, located immediately southwest of the Dalton station (CDFW, 2014). The seasonal wetland located north of the crossover station is within a swale that directs overland flow toward the wetland, and the wetland itself is located on alkaline soils that impede water penetration and are likely to allow it to hold water for at least 18 days in most years. This feature is dominated by saltgrass and alkali heath, which are associated with seasonal wetlands and alkaline soils and non-emergent wetlands. The seasonal wetland also may provide food, shelter, growth, and reproduction conditions for vernal pool fairy shrimp. It is, therefore, assumed that there is a high potential for the vernal pool fairy shrimp to occur in the project area.

Longhorn Fairy Shrimp

Longhorn fairy shrimp (*Brancinecta longiantenna*) is a federally endangered species. Longhorn fairy shrimp survive as cysts within dried pools and can withstand temperature fluctuations and prolonged desiccation. Like other fairy shrimp species they begin hatching when pools fill with water and mature rapidly, completing their life cycle while water persists in their pools.

Two of the five known populations of longhorn fairy shrimp occur within the Livermore Vernal Pool Region in Alameda and Contra counties, including areas within Brushy Peak Preserve, in Alameda County, and areas within the Vasco Caves preserve near the town of Byron in Contra Costa County (USFWS, 2012a). Within the

region, longhorn fairy shrimp occur in pools within sandstone outcrops as small as 3.3 feet in diameter, and containing clear water with a pH near neutral and a very low alkalinity (USFWS, 2012a). The project is located within the range of the longhorn fairy shrimp but is located outside of designated critical habitat; the nearest critical habitat to the project area is Unit 1B, located 3 miles northeast of the proposed project.

Marginal habitat for the longhorn fairy shrimp is present within the seasonal wetland at the northern sniff hole work area. Although longhorn fairy shrimp occur in other types of wetlands, including clear to turbid grassland pools in the San Joaquin, Fresno County, and Carrizo Vernal Pool Regions, the species is known only from sandstone outcrop vernal pools within the project region. The longhorn fairy shrimp is rare, and extensive surveys conducted within the range of the species have identified only one previously unknown population in addition to the four that were known at the time of listing (USFWS, 2012a; H.T. Harvey and Associates, 2009). Because of the marginal nature of the habitat present, the distance from other known longhorn fairy shrimp records and the rarity of the species, the potential for longhorn fairy shrimp to occur in the project area is low.

California Tiger Salamander

The central population of the California tiger salamander in Alameda County is listed as threatened under both CESA (California Fish and Game Commission, 2010) and FESA (USFWS, 2004). Critical habitat for the California tiger salamander was designated in 2005 (USFWS, 2005). California tiger salamander is strongly associated with annual grassland habitat but it also occurs in other habitat types, including oak savanna, the edges of mixed woodlands, and foothill coniferous forests (Stebbins, 2003). Adults spend most of the year in underground retreats, particularly in burrows of California ground squirrels and pocket gopher, and occasionally are found in man-made structures. California tiger salamanders make seasonal migrations to breeding ponds starting with the onset of fall rains. Seasonal pools are most commonly used but California tiger salamanders may also use permanent ponds if bullfrogs and predatory fish are absent. After breeding, California tiger salamander adults return to their upland retreats after a few days or weeks. Juveniles require approximately 4 to 5 months to metamorphose. Newly metamorphosed juveniles then disperse to upland areas after spending a few hours or days near the edge of aquatic habitats.

The project area is outside of critical habitat designated for the California tiger salamander but is within the current range of the species (USFWS, 2005). The nearest critical habitat to the project area is Unit CV-18, located approximately 3 miles to the west. The project area contains suitable upland habitat for the California tiger salamander, and assumed suitable breeding habitat for the species is also present within dispersal distance, which is approximately 1.3 miles. Nearby potential California tiger salamander breeding habitat in the project vicinity is present in the small stock pond located approximately 280 feet northeast of the northern sniff hole work area, in three permanent ponds located 0.10 mile to the northwest, and two potentially jurisdictional wetland features located adjacent to the temporary offsite workspace (located at the southeastern corner of May School Road and Dagnino Road).

The nearest and most recent CNDDB record of California tiger salamander includes multiple observations of larvae, juveniles, and adults from within the Springtown Alkali Sink Preserve. The Preserve contains vernal pools with California tiger salamander breeding habitat and is located approximately 0.5 mile southwest of the project area (CDFW, 2014). Within the project area, upland habitat that could provide shade, moisture, and cooler temperatures for the California tiger salamander includes rodent burrows, which are found throughout the uplands surrounding the crossover station area and within the temporary offsite workspace. The rodent burrows may provide underground retreats for the California tiger salamander. Burrows are concentrated primarily along existing fence lines and near the existing aboveground crossover station facilities, and include those of California ground squirrel, pocket gopher, and other small rodents. All portions of the project area may be used by California tiger salamanders for movement during and after rain events, and rodent burrows may be used at any time during the year for upland habitat.

California Red-legged Frog

The California red-legged frog is considered a Species of Special Concern by CDFW and is federally listed as threatened (USFWS, 1996). Critical habitat was designated in 2010 (USFWS, 2010). This species breeds in wetlands, lakes, ponds, and other still or slow-moving sources of water that remain inundated long enough for larvae to complete metamorphosis, which typically occurs between 4 and 7 months after hatching (Storer, 1925). During summer months, California red-legged frogs use available aquatic habitats such as springs and plunge pools within seasonal drainages, and may take refuge in rodent burrows and soil crevices within a few hundred feet of aquatic habitats. Adult California red-legged frogs tend to be most active at night during wet weather, but they may make forays through upland areas at any time during the year (USFWS, 2002).

The majority of the project area is located within designated critical habitat for the California red-legged frog, Unit ALA-2 (USFWS, 2010). The nearest recorded observation of California red-legged frog consists of two adult frogs that were observed in the small stock pond 400 feet north of the crossover station in 2007 (CDFW, 2014). Other nearby records include a 1992 observation of a juvenile frog from a pond less than 0.5 mile from the existing crossover station and the temporary offsite workspace, and observations of adult frogs near another pond located about 0.5 mile northwest of the project area. Suitable aquatic non-breeding habitat, upland habitat and dispersal habitat for the California red-legged frog is present in and around the project area.

The seasonal wetland located at the proposed northern sink hole may provide aquatic non-breeding habitat for the California red-legged frog but its short hydroperiod and lack of dense vegetation for cover reduce its usefulness as this type of habitat. The perennial wetland north of the proposed southern sink hole contains dense vegetation and year-round moisture that may be used as shelter, foraging habitat, and cover by juvenile and adult California red-legged frogs. Although it contains some characteristics associated with breeding habitat, including the ability to hold water for more than 20 weeks in all but the driest year, it is located on an approximately 6% slope and it does not develop the deep, still, or slow-moving pools that are required for California red-legged frog breeding. This feature may be suitable for juvenile California red-legged frogs, which appear to use a wider variety of non-breeding habitats than their adult counterparts, including wetlands that lack deep pools.

Upland habitat that could provide shade, moisture, and cooler temperatures for the California red-legged frog includes rodent burrows, which are found throughout the uplands surrounding the crossover station area and within the temporary offsite workspace. Dispersal habitat for the California red-legged frog includes the annual grasslands adjacent to the crossover station, and the station area itself because frogs potentially could pass through it while moving between other habitat types. The stock pond located approximately 280 feet northeast of the crossover station provides suitable breeding habitat for California red-legged frog. This pond contains permanent water with a mixture of submerged vegetation and open water areas with sufficient depth to allow frogs to escape from predators. Adult California red-legged frogs have been observed using this pond in the fall (CDFW, 2014) and it may be used by California red-legged frogs for breeding at least during some years.

Burrowing Owl

Burrowing owl is a California Species of Special Concern. The burrowing owl's nesting habitat consists of open areas with mammal burrows. Habitats include dry open rolling hills, grasslands, fallow fields, sparsely vegetated desert scrub with gullies, washes, arroyos, and edges of human-disturbed lands. They have been known to inhabit golf courses, airports, cemeteries, vacant lots, and road embankments, wherever there is sufficient friable soil for a nesting burrow. Favored nest burrow sites are those in relatively sandy sites (possibly for ease of modification and drainage), areas with low vegetation around the burrows (to facilitate the owl's view and hunting success), holes at the bottom of vertical cuts with a slight downward slope from the entrance, and slightly elevated locations to avoid flooding. In addition to burrows, the owls also require perching locations and frequently use fence posts or the top of mounds outside the burrow. Burrowing owls

typically use burrows created by other animals such as prairie dogs, kangaroo rats, ground squirrels—especially burrows constructed by California ground squirrels and kit foxes (Bates, 2006). Primary threats across the North American range of the burrowing owl are habitat loss and fragmentation primarily due to intensive agricultural and urban development, and habitat degradation due to declines in populations of colonial burrowing mammals. Elimination of burrowing rodents through control programs has been identified as the primary factor in the recent and historical decline of burrowing owl populations (USFWS, 2003). Surveys in California between 1986 and 1991 found population decreases of 23 to 52% in the number of breeding groups and 12 to 27% in the number of breeding pairs of owls (Bates, 2006).

There is a high potential for burrowing owl to occur in the project area because this species has been observed in the vicinity. CNDDB has multiple documented occurrences within 5 miles of the project area. The nearest and most recent is from 1993, when a pair was observed occupying a ground squirrel burrow at the Springtown Alkali Sink Preserve, which is located immediately southwest of the project area. The project area provides highly suitable habitat with rodent burrows having been observed throughout the uplands surrounding the station area and within the temporary offsite workspace.

Swainson's Hawk

Swainson's hawk is a threatened species under CESA. The Swainson's hawk breeds in the western United States and Canada and winters in South America as far south as Argentina. As a raptor adapted to the open grasslands, it has become increasingly dependent on agriculture, especially alfalfa crops, as native communities are converted to agricultural lands. The diet of the Swainson's hawk in California is varied, but mainly consists of voles (*Microtus* sp.) in addition to other small mammals, birds, and insects. Swainson's hawks generally nest in isolated trees, narrow bands of vegetation, or along riparian corridors in grassland, shrubland, and agricultural landscapes. Reduction of rodent populations due to conversion of native grassland to cropland has resulted in declines of Swainson's hawks in some locations in North America, especially central California. In California, the Swainson's hawk is vulnerable to extirpation due to its very restricted range (primarily the Central Valley), few populations, steep population declines, and loss of habitat. In California, most breeding occurs in the Central Valley between Modesto and Sacramento (Bloom, 1980), and approximately 95% of the breeding pairs now occur in the Central Valley (CDFG, 2007).

The project area does not support a substantial rodent population; therefore, it provides only marginally suitable foraging habitat for Swainson's hawk. Several potential Swainson's hawk nest trees are located approximately 0.015 mile from the crossover station and two trees are located along the southern boundary of the temporary offsite workspace. However, there is a low potential for this species to nest in the area because the current range for Swainson's hawk is further to the east (CDFW, 2007). Therefore, Swainson's hawks have a low potential to occur the project area.

Northern Harrier

Northern harrier is a California Species of Concern. The northern harrier breeds widely but locally in North America from northern Alaska and Canada south to mid- and lower latitudes of the United States and northern Baja. It occurs year round in much of its breeding range in the contiguous United States and year round within breeding range in California. At least some breeding populations may be resident. The species occurs more broadly and in much greater numbers during migration and winter than during the breeding season, which extends from March through August. Northern Harriers breed and forage in a variety of open (treeless) habitats that provide adequate vegetative cover, an abundance of suitable prey, and scattered hunting, plucking, and lookout perches such as shrubs or fence posts. In California, such habitats include freshwater marshes, brackish and saltwater marshes, wet meadows, weedy borders of lakes, rivers and streams, annual and perennial grasslands (including those with vernal pools), weed fields, ungrazed or lightly grazed pastures, some croplands (especially alfalfa, grain, sugar beets, tomatoes, and melons), sagebrush flats, and desert sinks. Harriers nest on the ground, mostly within patches of dense, often tall, vegetation in undisturbed areas (Shuford et al., 2008).

There is a low potential for this species to occur in the project area due to the marginally suitable foraging habitat found in the project vicinity. The project area is outside of the breeding range for northern harriers (Shuford et al., 2008) and it does not support suitable nesting habitat. Therefore, northern harriers are not expected to nest in or nearby the project area.

San Joaquin Kit Fox

San Joaquin kit fox is federally listed as endangered and is a threatened species under CESA. San Joaquin kit fox occur in annual grasslands or open areas with scattered shrubby vegetation on the San Joaquin Valley floor and in the surrounding foothills of the Coast Ranges, Sierra Nevada, and Tehachapi Mountains, from Kern County north to Contra Costa, Alameda, and San Joaquin counties (USFWS, 1998). This species is rare and sparsely distributed within the northern part of its range, including Alameda County (Orloff et al., 1986; East Contra Costa County Habitat Conservation Plan Association, 2005). Typically, kit foxes prefer loose-textured sandy soils for burrowing and a suitable prey base within the habitat, but they can be found on virtually every soil type. Although San Joaquin kit fox are primarily nocturnal, some individuals have adapted to diurnal schedules to accommodate available prey activities (Orloff et al., 1986; O'Farrell et al., 1987; USFWS, 1998). San Joaquin kit fox will utilize dens for thermoregulation, shelter, reproduction, and to escape from predators (USFWS, 1998). No Critical Habitat has been designated for San Joaquin kit fox.

Of the approximately 33 recorded observations of San Joaquin kit fox that occur within a 10-mile radius of the project area, the majority occur on the east (opposite) side of Vasco Road, and none of the observations were recorded within the past 10 years (CDFW, 2014). The nearest and most recent record of San Joaquin kit fox was recorded in 2002 from the Brushy Peak Regional Preserve, located on the east side of Vasco Road, 3.3 miles northeast of the project area. Other nearby records include a natal den observed in 1989 in the vicinity of Morgan Territory Road, approximately 5 miles north of the project, and several observations from between 1967 and 1989 southwest of Byron, approximately 5.5 miles northeast of the project. Although the grasslands in the project area offer suitable breeding, foraging, and dispersal habitat for San Joaquin kit fox, there was no sign of the species within the project area and surrounding 100-foot buffer during reconnaissance surveys. While burrows with the project area have openings wider than 4 inches on the ground surface, they taper to narrower than 4 inches within 2 feet of the ground surface, and therefore indicate that kit fox have not used onsite burrows. The project area is located in the northern extent of the species' range, within an area where the species is very rare. Due to the rarity of the species and lack of any kit fox sign within the project area, the potential for San Joaquin kit fox to occur in the project area is considered low.

American Badger

The American badger is a California Species of Special Concern. Badgers are found in a variety of open, arid habitats, but are most commonly associated with grasslands, savannas, mountain meadows, and open areas of desert scrub. Principal habitat requirements for the species include sufficient prey base, friable soils, and relatively open, uncultivated ground. They are primarily found in areas of low to moderate slope (Stephenson and Calcarone, 1999). The elevation range of the badger extends from below sea level to over 3,600 meters. American badgers are carnivorous and feed on fossorial rodents including ground squirrels (*Spermophilus* ssp.), cottontails (*Sylvilagus spp*.), jackrabbits (*Lepus* spp.), small rodents (*Peromyscus, Microtus, Mus, Reithrodontomys, Dipodomys*), and pocket gophers (*Thomomys* spp*.).* Badger will also eat reptiles, insects, earthworms, eggs, birds, and carrion (Ahlborn, 2005).

There are no recorded observations of badgers within a 10-mile radius of the project area (CDFW, 2014) and no CNDDB records within 5 miles. Although the grasslands in the project area offer suitable habitat for badger, there was no sign of the species within the project area and surrounding 100-foot buffer during reconnaissance surveys. Due to the rarity of the species and lack of badger sign, the potential for badger to occur in the project area is considered low.

3.4.4 Applicant-Proposed Measures and Mitigation Measures

3.4.4.1 Applicant-Proposed Measures

The following APMs would be implemented to reduce potential impacts to biological resources to less-than-significant levels:

- **APM BIO-1 Qualified Biologist.** At least 15 days prior to the start of any construction activities, PG&E will submit the names and credentials of biologists proposed to perform preconstruction surveys and monitoring to CDFW and USFWS for approval. A qualified biological monitor is a person who has completed at least 4 years of university training in wildlife biology or a related science and/or has demonstrated field experience in the identification and life history of the species likely to occur on site.
- **APM BIO-2: Environmental Education.** Employees and contractors performing construction activities will receive environmental education prior to beginning work on the project. Training will include review of environmental laws and guidelines that must be followed by all personnel to avoid or reduce effects on covered resources and species during construction activities. The program will include a presentation by the qualified biologist covering CDFW and USACE jurisdictional issues; species biology and general behavior; distribution and habitat needs; sensitivity of the species to human activity; and their status pursuant to the Endangered Species Act and the California Endangered Species Act including legal protection, recovery efforts, penalties for violation and project specific measures in the 1602, Biological Opinion, Incidental Take Permit, 401 Water Quality Certification, and 404 Nationwide Permit. A fact sheet or wallet card handout will be prepared and provided to workers to carry in the project area. Upon completion of training, employees will sign a training form indicating they attended the program and understood the measures. PG&E will conduct follow-up environmental tailboard trainings on an as-needed basis in the field. The environmental tailboard trainings will include a brief review of the biology of the covered species and guidelines that must be followed by all personnel to reduce or avoid negative effects to these species during construction activities.
- **APM BIO-3: Invasive Species.** A qualified 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 species in the project area shall be removed.
- **APM BIO-4: Vehicle Use.** Vehicle traffic will be restricted to established roads and construction areas. Vehicles will not exceed a speed limit of 15 mph on unpaved roads within natural land-cover types, or during off-road travel. Vehicles and equipment will be parked on pavement, existing roads, and previously disturbed areas to the extent practicable. Vehicles shall be washed at offsite locations only.
- **APM BIO-5: Size of Work Areas.** Ground disturbance and any vegetation trimming will be limited to the minimum amount necessary to facilitate project activities and visibility of the ground to inspect for special-status species. Heavy equipment, vehicles, and construction activities will be confined to existing access roads, defined access routes, or designated work areas. All equipment and spoils will be staged within the defined work area.
- **APM BIO-6: Sedimentation and Erosion Control.** Erosion control measures will be implemented to reduce sedimentation in wetland habitat occupied by sensitive animal and plant species when activities are the source of potential erosion problems. Plastic mono-filament netting (erosion control matting) or similar material containing netting shall not be used in the project area. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds. If used, hydroseed mix shall be reviewed and approved by CDFW before application.
- **APM BIO-7: Litter and Trash Management.** All trash and debris within the work area will be placed in containers with secure lids before the end of each work day to reduce the likelihood of predators being attracted to the site by discarded food wrappers and other rubbish. Containers will be emptied as necessary to prevent trash overflow and all rubbish will be disposed of at an appropriate off-site location.

- **APM BIO-8: Fire Protection.** All vehicles and equipment must have a fire extinguisher on-board. Due to welding safety requirements, dry grass immediately around the project area may need to be cleared to ensure sparks from pipe welding do not cause a fire. Grass trimming is anticipated to be located within the impact area and/or will be limited to the minimum necessary to ensure safety for the crew.
- **APM BIO-9: Smoking.** No smoking in or near the worksite, except in designated areas.
- **APM BIO-10: Waste, firearms, pets.** Trash dumping, firearms, open fires (such as barbecues), hunting, and pets are prohibited in the project area.
- **APM BIO-11: Engine Idling.** Diesel engines may not be idled for more than five minutes unless necessary for construction or safety.

3.4.4.2 Mitigation Measures

The following mitigation measures would be implemented to reduce potential impacts to biological resources to less-than-significant levels:

MM B-1 **Monitoring.** A USFWS- and CDFW- approved qualified biologist will remain onsite during all construction activities in or adjacent to habitat for listed and special-status species and will check the work area for sensitive species. The qualified biologist will observe construction activities and make sure all appropriate protections are in place and permit conditions are followed. The qualified biologist will be given the authority to stop any work that may violate permit conditions. If the qualified biologist exercises this authority, USFWS and CDFW will be notified by telephone and electronic mail within one working day.

The qualified biologist will be the contact for any employee or contractor who might inadvertently kill or injure a listed species or anyone who finds a dead, injured, or entrapped individual. The biological monitor will possess a working wireless/mobile phone whose number will be provided to the USFWS and CDFW.

MM B-2 **Preconstruction Surveys for Special-Status Plants.** Preconstruction surveys will be performed prior to groundbreaking activities, as described below. All surveys will be conducted by a qualified biologist. Special-status species identified during preconstruction surveys will be reported to USFWS and CDFW, as appropriate, and reported to the CNDDB.

1. Plant Survey: Surveys for special-status plants with some potential to occur in the project area will be conducted prior to the start of construction. Surveys shall follow CDFW's Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18959&inline=1 and be conducted during the appropriate phenological period. Surveys will need to continue into June for species that are known to not flower until later in the spring. Furthermore, the low levels of rainfall in the current water year may require additional levels of effort to determine presence or absence of rare taxa:

Nearby reference populations, including Springtown Preserve will be visited during surveys to determine if known special-status plant populations are evident and identifiable, and to obtain a visual image of the target species, associated habitat, and associated natural community. Reference populations should be noted to ensure that the timing of surveys is appropriate and to help substantiate negative findings.

Reports for surveys shall include a discussion of how the drought affects the comprehensiveness of the surveys, and the potential for false negative surveys. The size, condition, and phenological development of any special-status plant reference populations that were visited should be described.

2. Occurrences of special-status plants: If special-status plants are discovered, they will be flagged for full avoidance with buffers defined and fenced, and the appropriate agency(ies) will be contacted immediately. The PG&E Biologist will provide a written description and map of occurrence and setbacks to CDFW and/or USFWS, as appropriate. Initial setback distances shall not be less than 15 feet. If avoidance is not feasible, work may not commence or resume within 15 feet of occurrence until PG&E has consulted with CDFW (and USFWS as appropriate) and a Special Status Plant Protection Plan that includes quantification of impacted plants has been developed, and approved by CDFW (and USFWS as appropriate). Mitigation shall include the conservation of occupied species habitat, through a conservation easement or CDFW- and Service-approved mitigation bank, with a ratio of at least 1:1. Actual acreage required shall be based on the particular species affected and the scale of actual impacts.

3. Palmate-Bracted Bird's Beak Survey: In order to maximize possibility of early detection of this species, surveys shall also include identification at the family (Orobanchaceae) or genus (Chloropyron or Cordylanthus) level during the pre-flowering phase. If plants from these taxonomic groups are observed, and cannot be identified to species, full avoidance must be maintained until a positive identification can be attained. If Palmate-Bracted Bird's beak is found within the workspace, it will be avoided by a minimum of 15 feet. The only suitable habitat for the species in the project area is the seasonal wetland located in the vicinity of the northern sniff hole workspace. If the species is detected onsite, a minimum buffer of 15 feet will be maintained between the occurrence and the northern sniff hole workspace. If the occurrence is detected less than 15 feet from the sniff hole workspace, the workspace will be shifted to accommodate the required buffer. Orange fencing will be installed to ensure crew members and machinery avoid the occurrence.

MM B-3 **Preconstruction Surveys for Special-Status Amphibians.** Preconstruction surveys will be performed prior to groundbreaking activities, as described below. All surveys will be conducted by a qualified biologist. Special-status species identified during preconstruction surveys will be reported to USFWS and CDFW, as appropriate, and reported to the CNDDB.

A qualified biologist will conduct a preconstruction survey for California tiger salamander and California red-legged frog within 30 days prior to the start of all work. A qualified biologist will also survey the project area immediately prior to construction activities. Visually detecting these species during summer construction period is unlikely given that California tiger salamanders will likely be underground and California red-legged frog will likely be underground or inhabiting perennial water sources. In the event that these species are detected onsite during construction, USFWS and CDFW will be contacted for guidance.

MM B-4 **Preconstruction Surveys for Birds.** Preconstruction surveys will be performed prior to groundbreaking activities, as described below. All surveys will be conducted by a qualified biologist. Special-status species identified during preconstruction surveys will be reported to USFWS and CDFW, as appropriate, and reported to the CNDDB.

If construction activities are scheduled to occur between February 1 and August 31, preconstruction nesting bird surveys will be conducted by a qualified biologist within 7 days of construction, covering a radius of 250 feet for raptors and 50 feet for passerines at all locations. The survey will cover all areas where substantial ground disturbance or vegetation clearing is required. If any active nests containing eggs or young are found, an appropriate nest exclusion zone will be established by the qualified biologist under the direction of the PG&E project biologist and in accordance with PG&E's Avian Conservation Plan (e.g., for burrowing owl, the standard disturbance-free zone is 250 feet); the biologist will evaluate

whether sufficient screening buffers (such as trees or intervening topography) exist that work may proceed in the area and he/she will determine what level of nest monitoring is needed. To the extent practicable, no project vehicles, or heavy equipment will be operated in this exclusion zone until the biologist has determined that the nest is no longer active and or the young have fledged and are independent of their parents. Per the Avian Conservation Plan, no work would occur within the standard 250 foot disturbance-free zone for burrowing owl without consulting with the CDFW. The standard 250 foot disturbance-free zone for burrowing owls is consistent with the EACCS

MM B-5 **Preconstruction Surveys for San Joaquin Kit Fox.** Preconstruction surveys will be performed prior to groundbreaking activities, as described below. All surveys will be conducted by a qualified biologist. Special-status species identified during preconstruction surveys will be reported to USFWS and CDFW, as appropriate, and reported to the CNDDB.

A qualified biologist will conduct a preconstruction survey of the project area, including a 200-foot buffer area no more than 30 days prior to ground disturbance or any activity likely to affect San Joaquin kit fox and just prior to the start of work activities. The biologist will conduct den searches by systematically walking transects spaced 30 to 100 feet apart through the survey area. Transect distance will be determined on the basis of the height of vegetation such that 100 percent visual coverage of the project area is achieved. If dens are found during the survey, the biologist will map the location of each den as well as record the size and shape of the den entrance; the presence of tracks, scat, and prey remains; and if the den was recently excavated. The biologist will also record information on prey availability (e.g., ground squirrel colonies). The status of the den as defined by USFWS and CDFW will also be determined and recorded. Dens will be classified in one of the following four den status categories:

1. Potential den: Any subterranean hole within the species' range that has entrances of appropriate dimensions for which available evidence is sufficient to conclude that it is being used or has been used by a San Joaquin kit fox. Potential dens comprise: (1) any suitable subterranean hole; or (2) any den or burrow of another species (e.g., coyote, badger, red fox, or ground squirrel) that otherwise has appropriate characteristics for San Joaquin kit fox use.
2. Known den: Any existing natural den or artificial structure that is used or has been used at any time in the past by a San Joaquin kit fox. Evidence of use may include historical records; past or current radio telemetry or spotlighting data; San Joaquin kit fox signs such as tracks, scat, and/or prey remains; or other reasonable proof that a given den is being or has been used by a San Joaquin kit fox.
3. Natal or pupping den: Any den used by San Joaquin kit fox to whelp and/or rear their pups. Natal/pupping dens may be larger with more numerous entrances than dens occupied exclusively by adults. These dens typically have more San Joaquin kit fox tracks, scat, and prey remains in the vicinity of the den, and may have a broader apron of matted dirt and/or vegetation at one or more entrances. A natal den, defined as a den in which San Joaquin kit fox pups are actually whelped but not necessarily reared, is a more restrictive version of the pupping den. In practice, however, it is difficult to distinguish between the two; therefore, for purposes of this definition either term applies.
4. Atypical den: Any artificial structure that has been or is being occupied by a San Joaquin kit fox. Atypical dens may include pipes, culverts, and diggings beneath concrete slabs and buildings.

Reporting: Written results of the surveys will be submitted to USFWS and CDFW within one week of the completion of surveys and prior to the beginning of ground disturbance and/or construction activities likely to affect San Joaquin kit fox. If pre construction surveys indicate a known den, pupping den, or atypical den is present at the project site or within the survey area PG&E will halt work and immediately consult with CDFW and the USFWS on avoidance and minimization measures. Work shall not proceed until PG&E receives take authorization or avoidance and minimization measures are deemed sufficient by CDFW and USFWS to avoid take.

MM B-6 **Special-Status Species Relocation Handling and Injury.** The qualified biologist shall have all necessary permits to handle and relocate special-status species, including California tiger salamander and California red-legged frog.

1. Relocation. The qualified biologist shall relocate any California tiger salamander or California red-legged frog found within an upland area to be impacted to an active rodent burrow system or another appropriate area located no more than 300 feet outside of the project unless otherwise approved by CDFW in writing. The California tiger salamander/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 qualified biologist based upon best suitable habitat available and approved by CDFW prior to the start of project activities. The qualified biologist shall document both locations by photographs and GPS positions. The salamander/frog shall be photographed and measured (Snout-Vent) for identification purposes prior to relocation. All documentation shall be provided to the CDFW and USFWS within 24 hours of special-status species relocation.

2. Handling and Injury. California tiger salamanders and California red-legged frogs shall be handled and assessed according to the Restraint and Handling of Live Amphibians USGS, National Wildlife Health Center (http://www.nwhc.usgs.gov/publications/amphibian_research_procedures/handling_and_restraint.jsp). If an injured special-status species is found during the project term, the individual shall be evaluated by the qualified biologist who shall then immediately contact CDFW and USFWS, via email and telephone, to discuss the next steps. If the CDFW cannot be contacted immediately, the injured amphibian shall be placed in a shaded container and kept moist. If CDFW is not available or has not responded within 2 hours of initial attempts then the following steps shall be taken:

   a) If the injury is minor or healing and the salamander/frog is likely to survive, the animal shall be released to an active rodent burrow system or another appropriate location no more than 300 feet outside of the project.

   b) If it is determined that the salamander/frog has major or serious injuries the qualified biologist shall immediately take it to the Lindsay Wildlife Museum or another CDFW approved facility. If taken into captivity the individual shall remain in captivity and not be released into the wild unless it has been kept in quarantine and the release is authorized by CDFW and USFWS. PG&E shall bear any costs associated with the care or treatment of such injured salamanders/frogs. The circumstances of the injury, the procedure followed and the final disposition of the injured animal shall be documented in a written incident report.

MM B-7 **Burrowing Owl Avoidance:** Prior to work being conducted within 250 feet of a burrowing owl burrow, an Avoidance Plan shall be approved by CDFW. If burrowing owls are observed at a distance from project activity of less than 250 feet, a PG&E Biologist with burrowing owl experience will submit a detailed report and site-specific Avoidance Plan that will monitor

owl behavior to see what level of work can begin or resume without disruption of nesting activity or burrow occupancy.

The Avoidance Plan will 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 will be coordinated with CDFW. The Plan will 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 will 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 will be implemented. If work cannot proceed without disturbing the nesting birds, or signs of disturbance are observed by the monitor, work will be halted or redirected to other areas until the nesting is completed.

MM B-8 **Burrowing Owl Exclusion and Mitigation Management Plan:** If burrowing owls are present within 250 feet of the site, work shall not commence or resume in this zone until one of the following occurs:

1. PG&E has a CDFW approved Avoidance Plan (as described in Mitigation Measure B-7); or
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.

MM B-9 **Wildlife Exclusion Fencing Installation.** Prior to commencing any other work activities PG&E shall install temporary wildlife exclusion fencing to prevent the California tiger salamander, California red-legged frog, and other species from dispersing into the project. The barrier shall be designed to allow the species to leave the project using a one-way funnel, ramp or other method approved by CDFW and USFWS. Wildlife exclusion fencing will be at least 3 feet high and the lower 6 inches of the fence will be buried in the ground to prevent animals from crawling under. The fencing will be pulled taut at each support to prevent folds or snags. Refuge opportunities shall be provided along or near the outer side of the fencing. In areas where gates are required, the gates will be designed to make a seal with the ground that will prevent the entrance of special-status species. Location and design of the barrier and refuge opportunities shall be submitted to CDFW and USFWS for approval no less than 10 days prior to the proposed start of ground disturbance. The qualified biologist shall inspect the barrier daily, and during and after storm events. PG&E shall maintain and repair barrier immediately to ensure that it is functional and without defects. The fencing will be removed only when all construction equipment is removed from the site.

MM B-10 **Time of Work Restrictions.** Grading and construction will be limited to the dry season, June through October. If weather forecasts during construction suggest that flowing water may intrude into the northern sniff hole work space prior to backfill and restoration, sand bags will be placed upstream to divert water around the sniff hole and off site.

1. Work During Dry Weather. PG&E shall ensure that work involving ground disturbance (such as wildlife exclusion fencing installation, excavation, grading, and contouring) are limited to periods of dry weather (less than 0.25 inches per 24-hour period and less than 40 percent chance of rain). Construction activities shall cease 24 hours prior to a 40 percent or greater forecast of rain from the National Weather Service (NWS). Construction may continue 24 hours after the rain ceases and there is no precipitation in the 24-hour forecast. PG&E or qualified biologist shall consult the 72-hour weather forecasts from the NWS prior to the startup of any phase of the Project.
2. Nighttime Work. In most cases, construction activities will cease one half-hour before sunset and will not begin prior to one half hour after sunrise. There is a possibility that up to a total of one week of night work (but not 7 consecutive days) will be required during the construction period. Some components of this public safety project (such as hydrotesting) need to be completed once started. If nighttime work is required, it will be limited in extent, duration, and brightness to the maximum extent possible. Lighting will be faced downward and will only be used in the immediate workspace. A USFWS and CDFW-approved biologist will be present during all construction activities including all night work.
3. Work Period Modification. If at any point it becomes evident that construction cannot be completed by October 10, 2014, PG&E would immediately notify the USFWS, CDFW, USACE, and Regional Water Quality Control Board and request an extension. If PG&E requires more time to complete the project, the work period may be extended at the discretion of these agencies. PG&E will implement additional minimization measures if necessary, as directed by these agencies.

MM B-11 **Open Excavations and Grading.** To prevent the accidental entrapment of listed species during construction, all excavated holes or trenches deeper than 6 inches will be covered at the end of each work day with plywood or similar material. Foundation trenches or larger excavations that cannot easily be covered will be ramped at the end of the work day to allow trapped animals an escape method. Ramps will be designed of earth or wood and placed at an angle no greater than 30 degrees. Prior to the filling of such holes, these areas will be thoroughly inspected for listed species by a qualified biologist. If a trapped animal is observed, construction will cease until the individual escapes or is relocated per the guidance of the appropriate agencies. The qualified biologist shall mark all burrows within the project no less than five 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 and large burrows suitable for San Joaquin kit fox dens shall be avoided by grading activities to the maximum extent possible. In addition, when concentrations of burrows or large burrows are observed within the site these areas shall be staked and flagged to ensure construction personnel are aware of their location and to facilitate avoidance of these areas when possible.

MM B-12 **Pipes and Culverts.** All construction pipes, culverts, or similar structures that are stored at the project for one or more overnight periods are either securely capped prior to storage or thoroughly inspected by the qualified biologist and/or the construction foreman/manager for these animals before the pipe is subsequently buried, capped, or otherwise used or moved in any way.

MM B-13 **Protection of Aquatic Habitats.** Project activities will be conducted in accordance with the measures specified in the Storm Water Pollution Prevention Plan (SWPPP). No chemicals (fuel, hydraulic fluid, etc.) will be stored where they may enter waterways. Vehicular and equipment refueling may only take place in designated areas with spill protection present. Proper spill prevention and cleanup equipment must be maintained in refueling areas. Vehicles or equipment will not be refueled within 100 feet of a wetland, stream, or other waterway unless a bermed and lined refueling area is constructed.

To reduce the amount of disturbance to the seasonal wetland, protective mats will be installed within portions of the wetland that will be subject to the movement of vehicles or construction equipment.

Wetland avoidance. The portions of the seasonal and perennial wetlands adjacent to the northern sniff hole temporary work area will be marked with orange construction fencing and erosion control fencing and will be avoided during project activities. Exclusion zones will be designated around aquatic habitats onsite that will not be subject to project impacts. Orange construction fencing will be installed around the perennial wetland adjacent to the southern sniff hole, and it will be avoided during project activities. The area within 250 feet of the perennial stock pond located north of the valve station will be designated as environmentally sensitive and will be flagged for avoidance during project activities. The temporary workspace boundaries will be clearly fenced to ensure that the wetland swale located in this area is not impacted.

Water in and around sniff hole. If standing or ponded water is observed, or anticipated to occur due to pending precipitation within the northern sniff hole or within any portion of the swale that may be affected by work activities, PG&E shall position sandbag barriers in the swale to isolate the work area from the flowing water. The sandbags shall be filled with clean sand and placed by hand. The sandbag barrier shall remain in place as necessary until all work in the swale is complete or water is no longer present and no rise in subsurface water can reasonably be anticipated.

MM B-14 **Dust Suppression.** When appropriate, a water truck will be used to control dust from disturbed soils, stockpiles, and unpaved access roads. Watering will be done in such a manner that no puddles are formed and impacts to wetlands are avoided. Chemical additives used for dust suppression must be reviewed and approved by CDFW and shall not cause harm to sensitive species.

MM B-15 **Vegetation Restoration Plan.** PG&E shall restore on-site all of the vegetation that will be temporarily disturbed during construction to pre-project or better conditions. Table 3.4-2 describes the proposed restoration success criteria for grassland habitat beginning in "Year 1," the first year upon completion of construction. Upon agencies approval, the Vegetation Restoration Plan will be implemented to restore temporary impact areas to pre-project or better conditions.

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 swale. This stockpiled top soil material shall be placed back so as to replicate the original soil stratigraphy at the end of construction, and the swale returned to pre-project grade.
- PG&E shall return swale contour as near as possible to pre-project grade and conditions. The seasonal alkali wetland swale shall be seeded with a custom blend of saltgrass (*Distichlis spicata*) and alkali heath (*Frankinia salina*)
- Reference Site(s). Prior to initiating ground disturbance, PG&E shall identify an appropriate adjacent vegetation community to be used as a reference site (i.e., a site that will be used as a model for restoration activities). The slope, aspect, and hydrological conditions shall be similar for both the reference site and the site(s) to be restored. PG&E shall also evaluate species composition at the reference site, which shall be similar for both the reference site and site(s) to be restored. PG&E shall use information collected at the reference site to guide restoration activities.
- Restoration of temporary impacts shall occur prior to the beginning of the rainy season (generally October 31). Restoration work may occur year-round, but must be completed within the same season of project impact.
- Seed mixes shall be tailored to match the composition of species found at the reference site(s). The mixes shall include only native species, with an emphasis on native bunch-grasses and other grassland species. Seed may be collected from within the Project site. Additionally, seed shall be sourced from within 50 miles of the Project site (i.e., original genetic material shall have been collected within this radius); however, the seed may be purchased from a seed farm outside of this area.
- No more than 5% of the vegetation in the restoration area shall consist of species designated as in Cal-IPC's California Invasive Plant Inventory Database as high or moderate during the 3 years of monitoring. If the presence of invasive species exceeds this threshold, PG&E is responsible for conducting appropriate control activities.
- PG&E is responsible for monitoring and maintaining the restored areas until the Vegetation Restoration Plan success criteria have been met.
- To ensure that site restoration and erosion control measures are successful PG&E shall be required to monitor site conditions for three years following project completion. Site visits will 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 there is an increase in erosion or bank instability, as determined by CDFW, PG&E will be required to consult with CDFW on corrective actions and monitor the location for a minimum of twelve months.
- To discourage the introduction and establishment of invasive plant species, seed mixtures/ straw used within natural vegetation will be either rice straw or weed-free straw
- Prior to commencement of work, PG&E shall flag a minimum of four (4) vantage points that offer representative views of the project site and work areas. 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 thirty (30) days of completion of the project.

TABLE 3.4-2
Restoration Success Criteria for Grassland Habitat
IS/MND Supporting an ITP and SAA for the PG&E Dalton Crossover Valve Automation Project

Year 1*	Year 2	Year 3
• Minimum 30% vegetation cover relative to adjacent reference site, and less than 5% absolute cover of invasive plants listed as high or moderate in the Cal-IPC database. Apply habitat-appropriate, weed-free native seed mix • Take photos from designated photo stations • Provide report documenting a qualitative comparison in vegetative cover to reference sites. Annual monitoring report will document restoration success and will be submitted to the permitting agencies by September 1. The first report will provide a species list of the seed mix used at each restoration area.	• Minimum 50% vegetation cover relative to adjacent reference site, and less than 5% absolute cover of invasive plants listed as high or moderate in the Cal-IPC database. Take photos from designated photo stations • Provide report documenting a qualitative comparison in vegetative cover to reference sites. Annual monitoring report will document restoration success and will be submitted to the permitting agencies by September 1.	• A minimum of 70% vegetation cover relative to adjacent reference site, and less than 5% absolute cover of invasive plants listed as high or moderate in the Cal-IPC database. • Take photos from designated photo stations • A final report will be submitted to the permitting agencies no later than 30 days after the final monitoring survey is complete

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

MM B-16 **Species Observations and Reporting**. The onsite qualified biologist will be the primary contact for any employee or contractor who observes a special-status species in the project area. The qualified biologist will immediately coordinate with the PG&E biologist, and the appropriate regulatory agencies will be notified by telephone within one business day. Follow-up formal notification will be provided in writing. Any contractor or employee who inadvertently kills or injures a special-status species, or finds one either dead, injured, or entrapped, will report the incident to the qualified biologist, who will contact the PG&E biologist immediately. The procedures described in MM B-6 would be implemented in the event of any threatened or endangered species found dead or injured within the work area. PG&E will maintain a record of all special-status species encountered during construction and will provide a report to USFWS and/or CDFW upon project completion.

MM B-17 **Habitat Compensation.**

California Tiger Salamander and California Red Legged Frog: To mitigate the temporary and permanent loss of upland California tiger salamander and California red-legged frog habitat, PG&E will purchase credits at a conservation bank or provide alternative offsite mitigation as approved by both the USFWS and CDFW at ratios consistent with the East Alameda County Conservation Strategy (EACCS).

PG&E will purchase credits prior to or within 18 months of the start of construction. Credits will most likely be purchased at Mountain House Conservation Bank but may be purchased at a USFWS- and CDFG-approved mitigation bank with available credits. The selected mitigation bank's service area must include the action area, or otherwise be approved by the agencies.

Vernal Pool Fairy Shrimp: PG&E will compensate for effects to listed vernal pool branchiopods by purchasing 0.67 acre of credits for vernal pool fairy shrimp at the Elsie Gridley Multi-Species Conservation Bank (total based on 12:1 ratio adjusted to reflect impact scoring corrections calculated per Appendix E of the East Alameda County Conservation Strategy). Alternatively,

PG&E may propose and implement an alternative compensation strategy that would meet Conservation Strategy goals by preserving, restoring, or improving habitat for vernal pool branchiopods at the City of Livermore's Springtown Preserve (an area known to support vernal pool fairy shrimp and within designated critical habitat for vernal pool fairy shrimp). The proposal must include compensation equivalent to the purchase of credits consistent with the Conservation Strategy and must be reviewed and approved by the USFWS prior to implementation. USFWS-approved compensation for vernal pool branchiopods shall be completed and documentation provided to the USFWS within 6 months of start of project-related work.

Burrowing Owl: If a Burrowing Owl Exclusion Plan is approved by CDFW the habitat compensation will be consistent with Appendix F of the Staff Report on Burrowing Owl Mitigation (Department of Fish and Game, March 2012)

San Joaquin Kit Fox: If take of San Joaquin kit fox cannot be avoided, PG&E shall provide restored and/or enhanced compensatory habitat to mitigate for the permanent and temporary effects of the project on individuals and habitat. The mitigation will provide for the permanent protection and management of San Joaquin kit fox and the extent of mitigation will be based on the project impacts and the capacity of the mitigation plan to fully mitigate for the project impact species. PG&E shall secure these mitigations through an Incidental take permit pursuant to the California Endangered Species Act and section 2081 of the Fish and Game Code.

3.4.6 Impacts

The methodology used for determining standards of significance for biological resources was derived from Appendix G of the CEQA guidelines. Potential impacts to vegetation, wildlife, and aquatic resources are discussed in the following sections. The project would disturb a total of approximately 2.88 acres. Of this, 2.51 acres will be temporarily disturbed and 0.37 acres would be permanently disturbed. The project's aquatic impacts would be limited to the temporary disturbance of approximately 0.012 acre of the seasonal wetland located at the northern sniff hole site.

(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?

In response to PG&E's application for a Nationwide Permit 12, USACE initiated formal consultation with USFWS for potential effects on the federally listed palmate-bracted bird's beak, longhorn fairy shrimp, vernal pool fairy shrimp, California tiger salamander, California red-legged frog, and San Joaquin kit fox on December 19, 2013. PG&E has also applied for an Incidental Take Permit from CDFW for California tiger salamander. Further, the project was designed to be consistent with the EACCS, which was developed in partnership with both USFWS and CDFW. All applicable impact minimization measures were incorporated into the proposed project to minimize effects on species addressed in the EACCS. PG&E would mitigate unavoidable permanent impacts according the mitigation ratios outlined in the EACCS. Therefore, the project would not have a significant on species addressed in the EACCS that may be affected by the project.

The project would not have a significant impact on other candidate, sensitive, or special-status species not addressed in the EACCS, with implementation of proposed APMs.

Permanent and Temporary Habitat Impacts

Clearing of annual grassland vegetation would be needed within the permanent project footprint and the temporary construction area prior to construction. In areas that do not require clearing or grading, vegetation could be temporarily disturbed by foot traffic and/or construction equipment. Invasive plant species

could be introduced on construction equipment or vehicles which may further exacerbate any existing competition with native species within the project area.

Following completion of the project, the amount of annual grassland that would be permanently disturbed by the project for the Dalton station expansion would be approximately 16,000 square feet (0.37 acre). Approximately 108,440 square feet (2.49 acres) of annual grassland would be temporarily disturbed during construction.

Following completion of project activities, all construction material and debris would be removed and disposed of at appropriate permitted landfills. All temporarily impacted areas would be restored pursuant to MM B-15 (Vegetation Restoration Plan), which requires preparation and implementation of a Vegetation Restoration Plan with detailed specifications and success criteria for restoration. Additionally, implementation of APM BIO-3 would minimize the spread of invasive plant species. Impacts to wetland habitat are described under (c), below.

Special-status Species Impacts

Impacts to known or potentially occurring special-status species as a result of project construction are described below. USACE initiated formal consultation with USFWS for potential effects on the palmate-bracted bird's beak, longhorn fairy shrimp, vernal pool fairy shrimp, California tiger salamander, California red-legged frog, and San Joaquin kit fox. PG&E has applied for an Incidental Take Permit from CDFW for California tiger salamander. The proposed APMs and mitigation measures have been incorporated into the consultation process, as appropriate.

Plants

A total of 0.012 acre of potential special-status plant species habitat would be temporarily affected as a result of excavation for the northern sniff hole. This impact would be temporary and the site would be restored to pre-project conditions upon completion of construction, pursuant to MM B-15. Pursuant to MM B-2, PG&E would conduct special-status plant surveys during appropriate bloom periods in 2014 for the species identified in Table 3.4-1 as potentially occurring in the project area to determine the presence of special-status plants in the project area. If special-status plants are discovered onsite, impact avoidance measures would be implemented including adjusting the work area locations, worker education, fencing, and salvage. If complete avoidance of impacts to palmate-bracted bird's beak is not feasible, compensatory mitigation would be required as described in MM B-17. With implementation of APMs and MM B-17, impacts would be less than significant.

Birds

Migratory and resident birds have the potential to forage and nest in the project vicinity. Nesting birds may be affected if construction activities occur nearby. Increased noise and vibration may temporarily affect both ground-nesting and tree-nesting bird species not adapted to human-related disturbance. Potential direct impacts include nest failure or abandonment. Destruction or removal of rodent burrows could directly impact nesting or resident western burrowing owls. Indirect impacts to birds are not anticipated. Preconstruction bird surveys would be conducted and impacts to nesting birds, including burrowing owl would be avoided as described in MM B-4, MM B-7, and MM B-8. With implementation of mitigation measures, impacts would be less than significant.

Longhorn Fairy Shrimp and Vernal Pool Fairy Shrimp

Longhorn fairy shrimp and vernal pool fairy shrimp could potentially occur in the project area, and impacts to individuals could occur as a result of construction (e.g., equipment passage and movement or trampling by construction workers). Although construction would occur during the dry season, cysts may be incidentally relocated, removed, or damaged. The project would temporarily disturb a total of 0.012 acre of potential longhorn fairy shrimp and vernal pool fairy shrimp habitat as a result of the installation of the temporary sniff hole north of the crossover station. Impacts to vernal pool fairy shrimp would be mitigated by the

purchase of mitigation bank credits consistent with EACCS as described in MM B-17. Measures applicable to wetlands (i.e., APM BIO-6, MM B-10, MM B-13), and California tiger salamander and California red-legged frog (i.e., MM B-3) would also minimize impacts to fairy shrimp. With implementation of APMs and the aforementioned mitigation measures, impacts to longhorn fairy shrimp and vernal pool fairy shrimp would be less than significant.

California Tiger Salamander and California Red-Legged Frog

California tiger salamander and California red-legged frog could potentially occur in the project area and impacts to individuals could occur as a result of construction (e.g., trampling by construction workers or equipment). The project would permanently impact 0.37 acre of suitable California tiger salamander and California red-legged frog upland habitat and temporarily disturb 2.51 acres of suitable habitat for these species. This includes an estimated total of 2.50 acres of upland habitat from the overall project footprint and an estimated 0.012 acre of aquatic non-breeding habitat that would be affected at the northern sniff hole location. The 0.012 acre of aquatic impact is considered non-breeding upland habitat because construction would occur during the dry season and the seasonal wetland does not appear to hold water long enough for California tiger salamander to complete breeding and metamorphosis.

Approximately 0.84 acre of critical habitat for California red-legged frog would be temporarily impacted and approximately 0.37 acre would be permanently impacted by the proposed project. The project would not result in the destruction or adverse modification of designated critical habitat for the California red-legged frog because impacts would be very limited in extent relative to both total designated critical habitat and critical habitat contained within the action area. The function of the primary constituent elements of critical habitat would not be affected.

Construction impacts to California tiger salamander and California red-legged frog would be avoided or minimized with implementation of MM B-10,[5] which would require work to occur only in dry weather within the dormant period for California tiger salamander; MM B-11, which would require burrows (refuge sites) to be marked and avoided; and MM B-9, which would require installation of a barrier around the project work areas to exclude California tiger salamander and California red-legged frog. Preconstruction surveys and species relocation (MM B-3 and MM B-6), and covering pipes and trenches (MM B-11 and MM B-12) would ensure that there are no California tiger salamanders or California red-legged frogs within the work areas during construction activities.

PG&E would mitigate the temporary disturbance of suitable upland habitat for California tiger salamander and California red-legged frog through purchase of mitigation credits consistent with EACCS as described in MM B-17. With implementation of MMs and the APMs listed previously, impacts to California tiger salamander and California red-legged frog would be less than significant.

San Joaquin Kit Fox and American Badger

San Joaquin kit fox and American badger are not anticipated to occur within the project area because of the lack of physical evidence observed during reconnaissance surveys and the species' rarity in the area. If present in the project area, their foraging and dispersal opportunities would be temporarily reduced as construction activities would temporarily deter San Joaquin kit fox and badger from using the project area. Impacts to these species would be reduced with implementation of APMs and MMs, in particular, preconstruction surveys, biological monitoring, trash disposal, and speed limits. MM B-5 requires preconstruction surveys for San Joaquin kit fox, and MM B-17 outlines potential requirements for compensatory mitigation. Pursuant to MM B-11, potential refuge sites (i.e., culverts, trenches, etc.) would be properly covered or fitted with ramps at the end of each work day and inspected each morning. Trenches may also be covered at the end of each

[5] MM B-10 includes a process for work period modifications.

work day to prevent wildlife entrapment. With implementation of APMs and MMs, impacts to San Joaquin kit fox and American badger would be less than significant.

(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, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

The project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community. Riparian vegetation does not occur within the project area and would thus not be affected. The majority of impacts would occur on annual non-native grasslands (approximately 0.37 acre of permanent impact area and 2.49 acres of temporary impact area). Relative to the expansive amount of the annual grasslands in the project vicinity, 0.37 acre of permanent impact is less than significant. Impacts to seasonal wetlands would be limited to 0.012 acre and would be temporary in nature. All temporarily disturbed natural vegetation would be restored to pre-project or better conditions in accordance with the Vegetation Restoration Plan (MM B-15) and impacts would be less than significant.

(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.) through direct removal, filling, hydrological interruption, or other means?

Project construction would temporarily disturb a seasonal wetland under the jurisdiction of the USACE. Impacts would be limited to the temporary disturbance of approximately 0.012 acre for excavation of the northern sniff hole. Ground disturbance would be limited to excavating and filling the sniff hole and restoring the site. Portions of the seasonal and perennial wetlands would be marked with orange construction fencing and erosion control fencing, and would be avoided by construction, pursuant to MM BIO-11.

According to the Programmatic Biological Opinion for the East Alameda County Conservation Strategy (EACCS) (USFWS, 2012b), the USFWS considers all areas within 250 feet of suitable wetland habitat to be potentially indirectly impacted by project construction. Therefore, the exclusion zone would encompass the maximum practicable distance from the worksite and at least 250 feet from the aquatic feature wet or dry. However, the seasonal wetland is approximately 125 feet north of the crossover station work area so meeting the 250-foot exclusion zone requirement would not be possible. The ditch located west of the temporary offsite workspace would not be impacted because the construction crew would access the site from May School Road.

Significant indirect impacts could result if water quality was impaired from construction discharges or contamination or erosion. Measures developed to avoid and minimize these impacts include MM B-10,[6] which would require work to only occur during dry weather, and APM WQ-1 and MM B-13, which would require installation of silt fencing and other protective measures near aquatic features.

With implementation of APMs and the aforementioned mitigation measures, impacts to wetlands would be less than significant.

PG&E applied for a Section 404 permit from USACE and a streambed alteration agreement from CDFW. APMs and mitigation measures have been incorporated into the permitting process, as appropriate.

(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 native wildlife nursery sites?

Grading, graveling and fencing 0.37 acre of annual grassland habitat to expand the existing crossover station would prevent small mammals from creating burrows. Because California tiger salamander and California red-legged frog use burrows for refugia, elimination of burrows would reduce refugia opportunities in that

[6] MM B-10 includes a process for work period modifications.

area. However, the project does not include any features that would interfere substantially with wildlife movement from one area to another. The project is located in a rural area with little development. In addition, it is expected that small mammals would create burrows within the temporarily disturbed work areas following restoration, thereby continuing to provide upland movement and dispersal habitat for these species. The project area is near (within 280 feet of) potential breeding habitat for California tiger salamander and California red-legged frog, but it does not impede access to a pond or adjacent upland habitat. Work would be conducted during the dry season when these species are not expected to be dispersing to and from breeding sites. Potential impacts to nesting birds are discussed under subsection (a). In the unlikely event that San Joaquin kit fox and badger do occur, foraging and dispersal opportunities in the project area would be temporarily reduced during the construction period but would be available again after restoration. Impacts to wildlife movement would be less than significant.

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

With implementation APMs and mitigation measures, the project would be consistent with the goals and policies of the County of Alameda East County Area General Plan regarding the protection of biological resources. Any conflicts with local plans would be less than significant.

(f) Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

The project including APMs, was designed to be consistent with the East Alameda County Conservation Strategy (EACCS). MM B-17 requires compensatory mitigation in accordance with the EACCS. Therefore, the project does not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan

3.5 Cultural 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 §15064.5?	☐	☐	☑	☐
(b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☑	☐
(c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☑	☐
(d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☑	☐

3.5.1 Introduction

3.5.1.1 Summary

This section describes the existing cultural and paleontological resources in the project area and discusses potential impacts associated with construction of the project. The project would require both federal and state permits, necessitating compliance with CEQA and Section 106 (36 CFR Part 800) of the National Historic Preservation Act (NHPA). CEQA and Section 106 regulations require that effects to significant cultural resources be considered as part of the environmental analysis of a proposed project. Cultural resources include architectural and historical resources or prehistoric archaeological resources and may include Traditional Cultural Properties as defined in the National Park Service National Register Bulletin 38. Cultural resource identification efforts for the proposed project included a records search at the Northwest Information Center of the California Historical Resource Information System, Native American outreach, an archival records search, a buried site sensitivity analysis, and a pedestrian survey designed to satisfy both CEQA and Section 106 reporting standards.

The records search revealed that one cultural resource—the Contra Costa-Las Positas 230 kV Transmission Line—has been recorded within the project area. An additional five resources have been identified within the 1-mile record search area: four historic structures and one prehistoric lithic scatter. None of these resources have been evaluated for inclusion on the National Register of Historic Places (NRHP) or California Register of Historical Resources (CRHR), but all of them, including the transmission line, would be avoided during construction of the proposed project.

The Native American Heritage Commission's (NAHC) search of the sacred land file failed to indicate the presence of cultural resources in the immediate project area. Far Western corresponded with 10 Native American contacts to request any input they may have on the proposed project. No specific comment or concerns about the project have been expressed to date.

A buried site sensitivity analysis was conducted in order to assess the likelihood of encountering archaeological materials. Based on the age of soils mapped at the surface and proximity to historic-era water sources, it is estimated that the entire project area contains a low to very low sensitivity for the presence of buried archaeological resources.

Based on these results, no known historical resources or other cultural resources would be impacted by the construction activities and the potential to encounter previously unidentified resources in the course of construction or related activities is low.

Paleontological resources, or fossils, are protected under CEQA for their educational and scientific value to the earth and life sciences and are considered a part of the environment. Applied EarthWorks, Inc. performed a paleontological resource assessment for the proposed project. The assessment consisted of a museum records search, a comprehensive literature and geologic map review, and a pedestrian field survey. The study concludes that no known localities are present within the project footprint or the vicinity and the location contains only moderate potential to contain unidentified significant paleontological resources. Thus, with the implementation of both a worker's environmental awareness training and an unanticipated discovery plan, potential impacts to paleontological resources would be less than significant.

3.5.2 Regulatory Setting

3.5.2.1 Cultural and Historical Resources

This project will require discretionary permits from the Regional Water Quality Control Board and the California Department of Fish and Wildlife (CDFW), thus necessitating CEQA compliance.

CEQA and the California Register of Historical Resources (CRHR).

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 California Register of Historical Resources (CRHR). Eligible resources are those that can be clearly shown to meet any of the following criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage
2. Is associated with the lives of persons important in our past
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic value
4. 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 PRC 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 (PRC Section 21084.1 and Section 21098.1).

California Health and Safety Code and Public Resources Code.

Broad provisions for the protection of Native American cultural resources are contained in the California Health and Safety Code, Division 7, Part 2, Chapter 5 (Sections 8010 through 8030).

Several provisions of the Public Resources Code also govern archaeological finds of human remains and associated objects. Procedures are detailed under PRC Section 5097.98 through 5097.996 for actions to be taken whenever Native American remains are discovered. Furthermore, Section 7050.5 of the California Health and Safety Code states that any person who knowingly mutilates or disinters, wantonly disturbs, or willfully removes human remains in or from any location other than a dedicated cemetery without authority of law is guilty of a misdemeanor, except as provided in Section 5097.99 of the PRC. Any person removing human remains without authority of law or written permission of the person or persons having the right

to control the remains under PRC Section 7100 has committed a public offense that is punishable by imprisonment.

PRC Chapter 1.7, Section 5097.5/5097.9 (Stats. 1965, c. 1136, p. 2792), entitled Archaeological, Paleontological, and Historical Sites, defines any unauthorized disturbance or removal of a fossil site or remains on public land as a misdemeanor and specifies that state agencies may undertake surveys, excavations, or other operations as necessary on state lands to preserve or record paleontological resources.

3.5.2.2 Paleontological Resources

CEQA includes in its definition of historical resources "any object [or] site …that has yielded or may be likely to yield information important in prehistory" (14 CCR 15064.5[3]), which is typically interpreted as including fossil materials and other paleontological resources. More specifically, destruction of a "unique paleontological resource or site or unique geologic feature" constitutes a significant impact under CEQA per State CEQA Guidelines Appendix G.

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

3.5.3 Environmental Setting

3.5.3.1 Natural Setting

The project area is located in hilly topography in the Livermore Valley of north-central Alameda County, in central California. The southern portion of San Francisco Bay lies 20 kilometers to the west, while the San Joaquin Valley is situated almost 15 kilometers to the east. Numerous drainages of the Diablo Range flow into Livermore Valley from all directions. The western end of the valley floods today, and during historical times this area was termed Tulare Lake, or Willow Marsh, with associated wetlands and willow stands (Meyer and Dalldorf, 2004). The project area lies at the northeastern end of the valley, most of which drains into Altamont Creek, a tributary of Arroyo Los Positas.

Geologically, the northern and southern hillsides of the valley margins are primarily Quaternary gravels, while Pleistocene alluvial fans and fluvial deposits of varied ages are dispersed within and long the margins of the drainages that lead into the valley (Helley and Graymer, 1997). In contrast, the surface of the valley floor is dominated by Holocene alluvial fan and fluvial deposits of varied ages, as well as basin-floor clays and silty clays.

3.5.3.2 Ethnographic Setting

The ethnographic populations living in and around the Livermore Valley were members of the Ohlone language family. This family occupied territories stretching from San Francisco and the Carquinez Straits south to the interior of Salinas Valley and to the Big Sur area on the coast (Kroeber, 1925; Levy, 1978). The reduced population and displacement of the native people caused by missionization and Anglo-American occupation of their land substantially altered their traditional way of life (Milliken, 1995). As a result, the Ohlone are not well-known ethnographically.

3.5.3.3 Historical Setting

Sixteenth-century sea-going European explorers were the first to reach the coastline of the San Francisco area, but it was not until the late eighteenth century that explorers intruded into the hinterlands. Spanish military explorers entered the Livermore Valley in 1772. The first of seven Spanish missions was established within Ohlone territory in 1770. The last of these, Mission San Jose, was founded in 1797, and this marked the onset of active coercement and resettlement of local Native Americans into the mission feudal system, followed rapidly by a massive decline of native populations. Native American populations within the Livermore Valley area were brought into the mission system between 1801 and 1806, based on Mission San Jose

baptismal records (Milliken, 1997). Raids by Spanish soldiers played an important role in this process. Subsequently, the project region became an important grazing area for the mission's animal herds.

When Mexico took control of the region in 1822, a series of privately owned ranchos were established; the mission lands were officially secularized in 1833 (Hill, 1991). The Livermore Valley contained four land-grant-based ranchos: Rancho de las Positas, Rancho Valle de San Jose, Rancho Santa Rita, and Rancho San Ramon. These ranches primarily ran cattle, horses, and sheep and provided products to a growing non-native population. Notably, Jose Aria Amador built the Rancho San Ramon adobe in 1826. The ever-dwindling population of local Native Americans often worked on the ranches.

The region came under United State rule in 1848, and the subsequent gold rush greatly increased the region's population. The city of Livermore was originally within the Rancho Las Positas, which was granted to Robert Livermore, a British-born naturalized Mexican citizen, in 1839. He and his family settled in Livermore Valley in 1846 and began a business selling longhorn cattle to gold rush prospectors.

During the succeeding decades, the Livermore Valley witnessed continued population influxes and a rise in beef-cattle ranching and wheat farming. The city of Livermore was founded in 1869, after Robert Livermore's death, and named in his honor. This same year the Central Pacific Railroad was constructed through the valley, thus cementing its importance in the region.

3.5.3.4 Results

Records Search Results

The records search revealed that six cultural resources have been identified within the record search radius, one of which is situated within the western edge of the area of potential effects (APE): P-01-010927. Site P-01-010927, also known as the Contra Costa-Las Positas 230 kV Transmission Line, is the only recorded resource within the APE. The line was primarily constructed in 1972 and is still in use but will not be affected by the proposed project.

Field Survey Results

An intensive pedestrian survey of the project area was conducted on November 1, 2013. The survey included all areas of proposed ground disturbance at the Dalton crossover location, including the temporary offsite workspace and access areas, and a 10-meter buffer around each of these. Visible landmarks, plan maps, and a global positioning system (GPS) unit were used to locate and survey the project area. The survey consisted of a series of roughly parallel transects spaced a maximum of 10 meters apart. A supplemental survey, which adhered to the same survey methodology as the November 1 survey, was conducted by PG&E personnel on November 18.

No archaeological materials or cultural soil deposits were identified during the pedestrian surveys.

Traditional Cultural Properties / Areas of Native American Concern

Ten Native American representatives were contacted via letters, email, and telephone to request any input they may have on the proposed project. No specific comment or concerns about the project have been expressed to date.

3.5.3.5 Paleontological Resources

The geologic units from maps of the area were analyzed for their potential paleontological sensitivity based on existing literature and known localities. Paleontological resources, or fossils, are the remains, imprints, or traces of once-living organisms preserved in rocks and sediments. These include mineralized, partially mineralized, or unmineralized bones and teeth, soft tissues, shells, wood, leaf impressions, footprints, burrows, and microscopic remains. Paleontological resources include not only fossils themselves, but also the associated rocks or organic matter and the physical characteristics of the fossils' associated sedimentary matrix.

A field survey of the project area was conducted on November 22, 2013. A pedestrian walkover of the project area was performed, and the project area was surveyed for paleontological resources utilizing zigzag transects. Areas underlain by Miocene and Pleistocene age units were observed to be obscured by vegetation, soil development, animal disturbances (e.g., burrowing animals), agricultural activities, previous facilities construction, and road building. GPS technology, topographic maps, and aerial photographs were used in the field to locate geologic formation boundaries. When a rock outcrop was encountered, the surface of the exposure was visually scanned for paleontological resources. Notes were taken on the geology and lithology of each geologic unit and photographs were taken to document the survey.

No fossil resources were discovered during the course of fieldwork. However, at least 90 percent of the survey area was obscured by vegetation or soil development, limiting visibility. The Miocene-age Cierbo Formation as well as the Pleistocene alluvial fans and fluvial deposits that underlie the project area are characterized by fine- to medium-grained sediments that have proven to be moderately conducive to the preservation of terrestrial vertebrates/invertebrates remains. Therefore, these geologic units possess a moderate potential to contain an unknown number of fossil resources, although their significance, abundance, and predictability of occurrence may vary.

3.5.4 Applicant-Proposed Measures

The following APMs would be implemented:

- **APM CULT-1: Prehistoric or Historic-Period Materials Discovered during Construction.** If concentrations of prehistoric or historic-period materials are encountered during ground-disturbing work, all work in the immediate vicinity of the discovery will be halted until a qualified archaeologist can evaluate the significance of the find. If the find is determined to be significant and the landowner consents, PG&E will determine the appropriate avoidance measures or other appropriate mitigation in consultation with a qualified archaeologist, and landowner and the Lead Agency. With the permission of the landowner, significant cultural materials will be curated according to current professional standards.
- **APM CULT-2: Human Burials Encountered during Construction.** Section 7050 of the California Health and Safety Code states that it is a misdemeanor to knowingly disturb a human burial. If human remains are encountered during any project-related activity:
  - Stop all work within 100 feet;
  - Immediately contact a PG&E Cultural Resource Specialist, who will 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; and
  - Treat the find as confidential and do not publically 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 most likely descendant 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.

- **AMM PAL-1: Workers Awareness Training.** Prior to the start of construction, all field personnel will receive a worker's environmental awareness training module on paleontological resources. The training will provide a description of the fossil resources that may be encountered in the Project area, outline steps to follow in the event that a fossil discovery is made, and provide contact information for the Project Paleontologist and on-site monitor(s). The training will be developed by the Project Paleontologist and may be conducted concurrent with other environmental training (e.g., cultural and natural resources awareness training, safety training, etc.).

- **APM PAL-2: Stop-Work and Unanticipated Discovery Procedures.** In the event that previously unidentified paleontological resources are uncovered during construction of the project, all ground-disturbing work would be temporarily halted or diverted away from the discovery to another location. PG&E's paleontological resources specialist or his/her designated representative would 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 would be documented in the appropriate paleontological resource records and no further effort would be required. If the resource is significant, but cannot be avoided and may be subject to further impact, PG&E would evaluate the significance of the resources, and implement data recovery excavation or other appropriate treatment measures, in coordination with the landowner, and as recommended by a qualified paleontologist.

3.5.4.1 Significance Criteria

Under Section 21083.2 of CEQA, a "unique" archaeological resource is an object, artifact, or site that can be clearly shown to meet any of the following criteria:

- Contains information needed to answer important scientific research questions, and a demonstrable public interest in that information exists
- Has a special and particular quality such as being the oldest of its type, or the best available example of its type
- Is directly associated with a scientifically recognized important prehistoric or historic event or person

California regulations require that effects to cultural resources must be considered only for resources meeting the criteria for eligibility to the California Register of Historical Resources, outlined in Section 5024.1 of the California Public Resources Code. Under this section, an important historical property is one that meets 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 California's 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

3.5.4.2 Cultural Impacts

The following sections address the responses to the CEQA checklist questions for cultural and paleontological resources. The CEQA guidelines ask:

(a) Would the project cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

Six cultural resources were identified within the record search radius, one of which is situated on the western edge of the APE. Site P-01-010927, also known as the Contra Costa-Las Positas 230 kV Transmission Line, is the only recorded resource within the APE; however, this resource would not be impacted by the project. No known historical resources or cultural resources would be impacted by the proposed project. In the event of an unanticipated discovery, APM CULT-1 would be incorporated into the project to ensure the protection of any cultural resources encountered during project construction. Therefore, impacts would be less than significant.

(b) Would the project cause a substantial adverse change in the significance of a unique archaeological resource pursuant to §15064.5?

The results of the sensitivity assessment reveal the project area has a moderate potential to contain buried archaeological resources. APM CULT-1 would be incorporated into the project if any cultural resource that

may be considered a unique archaeological resource is encountered during project implementation. Therefore, impacts would be less than significant.

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

The project area lies within a moderate sensitivity formation that has a moderate potential to produce significant paleontological resources. The project has the potential to create significant impacts to paleontological resources if the work affects sensitive, previously undisturbed sediment or sedimentary rock. Earthmoving activities such as digging could result in adverse impacts on these resources. With implementation of APM PAL-1 and APM PAL-2, the potential impacts would be less than significant.

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

There is no indication that the project area has been used for burial purposes in the recent or distant past; it is, therefore, unlikely that human remains would be encountered during construction. However, archaeological, historical, and prehistoric materials may be present within the project area and the possibility of encountering human remains that may be associated with these items cannot be discounted. Incorporation of APM CULT-2 into the project would make certain that potential impacts related to the discovery of human remains would be less than significant by ensuring compliance with Section 7050.5 of the California Health and Safety Code and Public Resources Code 5097.98.

3.6 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:				
(i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☑	☐
(ii) Strong seismic ground shaking?	☐	☐	☑	☐
(iii) Seismic-related ground failure, including liquefaction?	☐	☐	☑	☐
(iv) Landslides?	☐	☐	☑	☐
(b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☑	☐
(c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or 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 waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☑

3.6.1 Introduction

This section describes the existing geology and soils setting and potential impacts from the proposed project. The project would result in less-than-significant impacts with respect to geology and soils.

3.6.2 Regulatory Setting

3.6.2.1 Federal

Federal Earthquake Hazards Reduction Act

In 1997, the U.S. Congress passed the Earthquake Hazards Reduction Act to reduce the risks to life and property from future earthquakes through the establishment and maintenance of an effective earthquake hazards and reduction program. To accomplish this, the act established the National Earthquake Hazards Reduction Program (NEHRP). The agencies responsible for coordinating NEHRP are the Federal Emergency

Management Agency (FEMA), the National Institute of Standards and Technology (NIST), the National Science Foundation (NSF); and the United States Geological Survey (USGS). In 1990 NEHRP was amended by the National Earthquake Hazards Reduction Program Act (NEHRPA), which refined the description of the agency responsibilities, program goals, and objectives. The four goals of the NEHRP are as follows:

- Develop effective practices and policies for earthquake loss-reduction and accelerate their implementation;
- Improve techniques to reduce seismic vulnerability of facilities and systems;
- Improve seismic hazards identification and risk-assessment methods and their use; and
- Improve the understanding of earthquakes and their effects.

3.6.2.2 State

Alquist-Priolo Earthquake Fault Zoning Act

Alquist-Priolo Earthquake Fault Zoning Act is the State law that focuses on hazards from earthquake fault zones. The purpose of this law is to mitigate the hazard of surface fault rupture by regulating structures designated for human occupancy near active faults. As required by the Act, the California Geological Survey has delineated Earthquake Fault Zones along known active faults in California.

California Uniform Building Code

The California Code of Regulations (CCR), also known as Title 24, California Building Standards Codes contain the laws regarding the construction of buildings. Title 24, Part 2 of the California Uniform Building Code (UBC) specifies standards for geologic and seismic hazards, other than surface faulting. Chapter 23 of the California UBC addresses seismic safety, and includes regulations for earthquake-resistant design and construction.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act was enacted in 1997 to protect the public from the effects of strong ground shaking, liquefaction, landslides, or other ground failure, and from other hazards caused by earthquakes. This act requires the State Geologist to map areas subject to seismic hazards. In cases where site specific seismic hazard risks are present, a geotechnical investigation of the site must be conducted and appropriate mitigation measures incorporated into the project design before development permits will be granted. Additionally, the Act requires a Standardized Natural Hazards Disclosure Statement form be completed by real estate sellers if a property is within one of the designated natural hazards areas.

3.6.2.3 Local

Alameda County General Ordinance Code

The proposed project is not subject to the Grading, Erosion and Sediment Control Ordinance (Alameda County General Ordinance Code, Chapter 15.36), given that issuance of a grading permit is a discretionary action.

3.6.3 Environmental Setting

3.6.3.1 Geology

The project area is situated within the Coast Ranges Geomorphic Province of California. A geomorphic province is a region of unique topography and geology that is readily distinguished from other regions based on its landforms and diastrophic history. The Coast Ranges Geomorphic Province extends about 600 miles from the Oregon border south to the Santa Ynez River in Santa Barbara County. Within this geomorphic province, the project area is located 28 miles inland and 8 miles west of the adjacent Great Central Valley Geomorphic Province. The project area overlays mudstone and sandstone rocktypes. The white sandstone member of the Miocene Cierbo Formation, a unit within the San Pablo Group, underlies the majority of the project area.

3.6.3.2 Soils

The white sandstone member of the Miocene Cierbo Formation, a unit within the San Pablo Group, underlies the majority of the project area. In the Livermore Valley it is unconformably underlain by the Tesla Formation and is conformably overlain by the Neroly Formation, the youngest unit in the San Pablo Formation. The Cierbo Formation consists of poorly to moderately consolidated white to pale yellow brown quartz sandstone interbedded with thin pebble conglomerate lenses and brown shale deposits (Carpenter et al., 1984). The lithology is fine- to coarse-grained, massive to thickly bedded, and moderately friable to indurated. The sandstone is locally crossbedded and is composed of quartz feldspar sand, lithic gravel, and biotite crystals (Barlock, 1988). Limonite (an iron oxide-hydroxide mineral that forms due to secondary alteration), black chert, tuff deposits, and carboniferous shale appear locally. The Cierbo Formation is up to 650 feet thick and is mapped as a discontinuous exposure throughout the Coast Ranges, from Solano County in the north to Santa Barbara County in the south (Clifford and DeBusk, 2013). According to the USDA's Natural Resources Conservation Service data, the project area is underlain by Gaviota Rocky Sandy Loam and Solano Fine Sandy Loam (USDA 2014).

3.6.3.3 Seismic Setting

The project area is located within a seismically active area of northern California, along the complex boundary margin between two tectonic plates: the North American Plate and the Pacific Plate. Under the current tectonic regime, the Pacific Plate moves northwestward relative to the North American Plate at a rate of up to 2 inches per year. Although relative motion between these two plates is predominantly lateral (strike-slip), an increase in convergent motion along the plate boundary within the past few million years has resulted in the formation of mountain ranges and structural valleys of the Coast Ranges Geomorphic Province.

At the latitude of the project area, the fault system that accommodates the plate movements comprises several major faults, including the San Andreas Fault, the Hayward–Rodgers Creek Fault system, the Greenville–Marsh Creek Fault system, and the Calaveras Fault. In addition, many other named and unnamed faults within the region accommodate the relative motion of these plates.

Since 1800, several earthquakes with magnitudes greater than 6.5 have occurred in the project region, including the 1868 magnitude 6.8 earthquake on the Hayward Fault, 1906 magnitude 7.9 San Francisco earthquake on the San Andreas Fault, and the more recent 1989 magnitude 6.9 Loma Prieta earthquake that occurred in the Santa Cruz Mountains. These earthquakes caused significant damage and ground failures in the San Francisco Bay Region. The 1980 magnitude 5.8 Livermore Earthquake occurred on January 24, 1980 and caused considerable damage in the vicinity of the project area. The project area is located within less than one mile of the Altamont Alquist-Priolo Fault Zone, a State of California designation for areas where construction should be limited due to existing surficial fault ruptures.(CGS 2014).

3.6.3.4 Landslides and/or Liquefaction

The project area is located in a liquefaction zone as characterized by the California Geological Survey. Susceptibility to liquefaction is determined based on the relative resistance of a soil to loss of strength when subjected to ground shaking. Criteria for defining a liquefaction zone include areas known to have experienced liquefaction during historical earthquakes, or areas where sufficient geotechnical data and groundwater conditions indicate the potential for liquefaction (CGS 2014).

Landslides occur most frequently during or following large storms or earthquakes. Landslides are most likely to take place in areas where they have previously occurred. Due to low slopes of 0–2%, the project area is not identified as being at risk for land sliding (CGS 2014, USDA 2014).The project area is not identified as being at risk for landslides by the Safety Element of the County of Alameda East County Area General Plan (County of Alameda, 2013).

3.6.4 Applicant-Proposed Measures

The following APM would be implemented:

- **APM GEO-1: Erosion and Sedimentation.** PG&E will implement a SWPPP for the project. A monitoring program will be established to ensure that the prescribed BMPs are followed throughout project construction. Examples of these BMPs include:
  - Preparation, training, and maintenance for clear work site practices, tracking controls, and materials management to minimize the direct work impacts on soil and erosion;
  - Installation of temporary silt fences and other containment features (including gravel bags and fiber rolls) surrounding work areas to prevent the loss of soil during rain events and other disturbances;
  - Utilization of storm drain inlet protection (if applicable), including sediment filters and ponding barriers, in order to retain sediments onsite and prevent excess discharge into storm drains; and
  - Implementation of soil erosion controls, including preservation of existing vegetation, temporary soil stabilization through hydroseeding, mulching, and other techniques.

3.6.5 Impacts

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

(a) Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

(i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?

The project area is located within one mile of a State of California designated Alquist-Priolo Earthquake Fault Zone (California Geological Survey 2014). Based on existing data, the potential for fault-induced ground rupture across the project area is judged to be low and the impact would be less than significant.

(ii) Strong seismic ground shaking?

The likeliest seismic source of a large earthquake in northern California is the Hayward fault. Within a mile of the project area, the Greenville-Marsh Creek Fault system also poses an earthquake risk to the project. The project would be designed and constructed in accordance with the requirements of applicable standards and guidelines for gas pipelines. Adherence to current state and federal standards, would result in less-than-significant seismic impacts from strong ground shaking.

(iii) Seismic-related ground failure, including liquefaction?

The project area has been identified as being within a liquefaction zone. However, project facilities would be engineered to withstand expected ground shaking without substantial adverse impacts, as required by current state and federal standards. Therefore, impacts would be less than significant.

(iv) Landslides

There would not be any occupied facilities associated with the project. The project area is not identified as being at risk for landslides (County of Alameda, 2013). Permanent cut-and-fill slope design criteria would be developed to satisfy the stability design criteria (i.e., minimum slope safety factors) for the various anticipated loading conditions. It is estimated that a total of 2,818 cubic yards (CY) of earth material would be cut from the site, while 712 CY of fill would be placed onsite, resulting in a net export of 2,106 CY (Underground Construction Company, 2014). Site hydrological information would be used, and the design would be in accordance with current standards and construction practices. If necessary, surface and/or internal drainage

systems would be installed to reduce erosion. Impacts with respect to landslides and slope instability would be less than significant.

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

Project construction activities would include earth grading and filling at the Dalton crossover station. The extent of grading and filling activities is shown in Figure 3.6-1. BMPs would be implemented to protect against soil erosion and to maintain water quality during construction. BMPs would be part of the project SWPPP, and may include silt fences, straw wattles/temporary berms, and installing hydroseed and straw mulch after construction is completed. Top soil excavated during construction would be segregated from other earth material, and then placed onsite again at the end of construction activities. As a result, project construction is not expected to be a significant source of erosion of exposed soils due to wind or water and potential erosion impacts would be less than significant.

(c) Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?

Ground subsidence usually occurs in valleys and basins when underground fluids are extracted in large volumes. Because groundwater would not be removed from the site, the potential for ground subsidence is low. The project area is not identified as being at risk for landslides or flooding by the Safety Element of the County of Alameda East County Area General Plan and the liquefaction potential for the project area is mapped as very low. The project would be designed and constructed in accordance with the requirements of applicable standards and guidelines. Impacts in these areas would be less than significant.

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

The Dalton crossover station is primarily located in soils mapped as Gaviota Rocky Sandy Loam, with the southwest corner mapped as Solano Fine Sandy Loam. Gaviota Rocky Sandy Loam has a Plasticity Index of 4.1%, which signifies low plasticity due to limited expansibility or soil shrinkage and swelling from water absorption. Solano Fine Sandy Loam has a Plasticity Index of 12.5%, which also signifies a low shrink-swell potential (USDA 2014). Because soil disturbance area is located in areas mapped as having non-expansive soils; all new structures would be located in areas with non-expansive soils; and the project area is rural and sparsely occupied by people or building structures; the resulting risk to life and property is low.

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

The project does not include or require septic tanks or other wastewater disposal systems. Construction workers would use contractor-supplied portable toilets, the wastewater from which would be taken offsite to a wastewater treatment facility for processing. Therefore, potential impacts from these systems would not occur.

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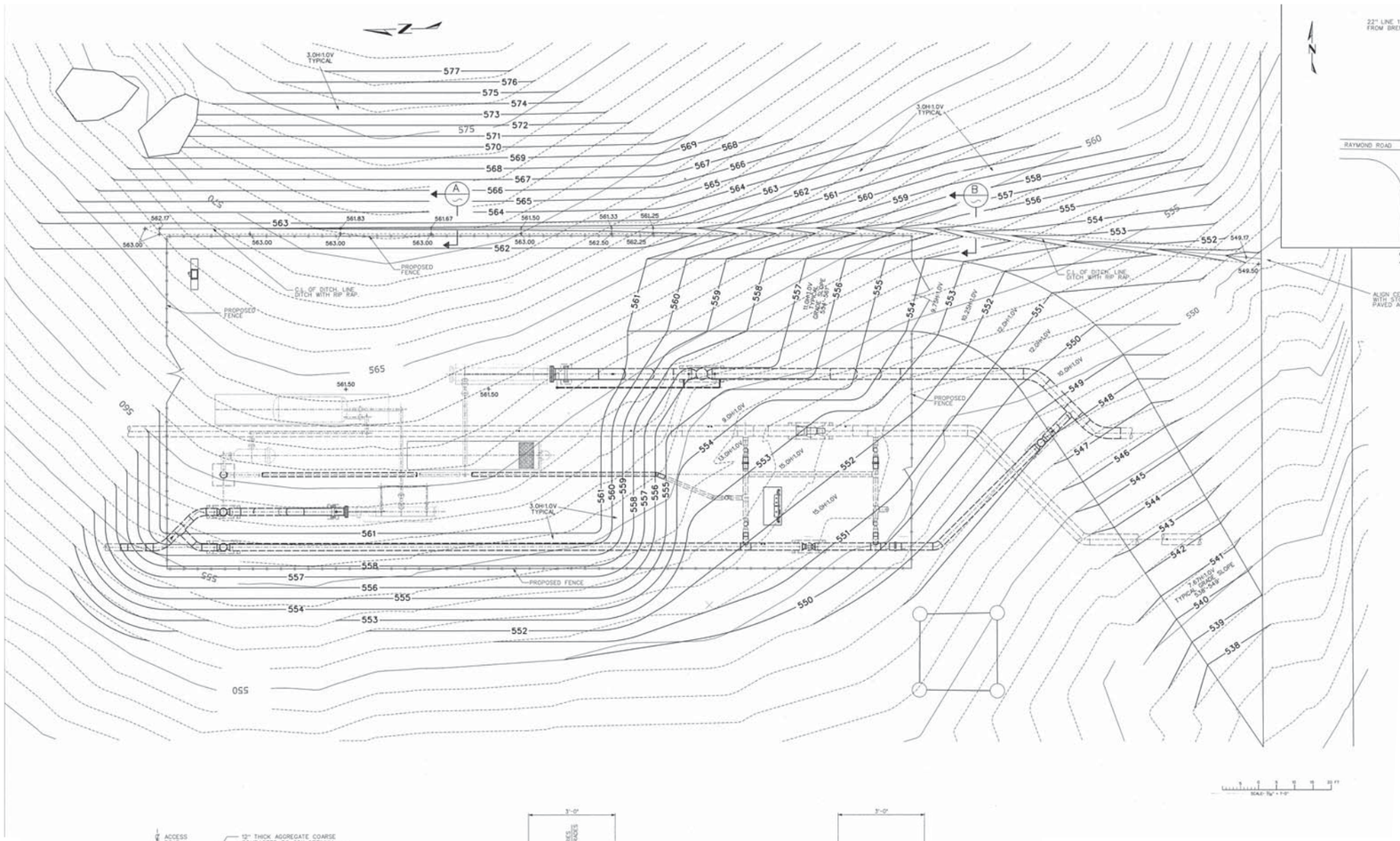
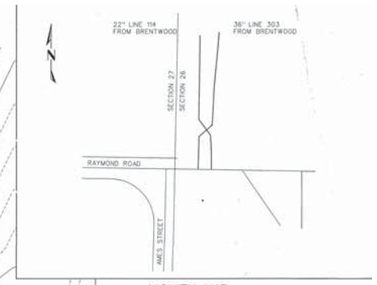




VICINITY MAP
SCALE: 1" = 400'

GENERAL NOTES:

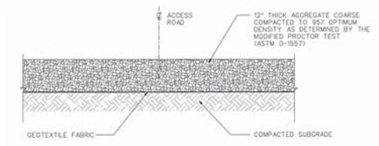
1. REFERENCE DRAWING Z-1100 FOR THE LOCATION OF THE BENCHMARK.
2. REFERENCE DRAWING 486931 SH1 & SH2 AND 486932 SH1, SH2 & SH3 FOR PLAN & ELEVATION VIEWS OF PIPING.
3. REFERENCE DRAWING Z-1100 FOR PROPERTY AND/OR EASEMENT OF SITE.

EROSION CONTROL NOTES:

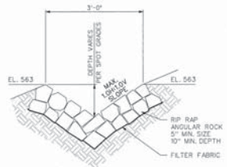
1. EROSION CONTROL PRACTICES SHALL BE MAINTAINED BY THE EARTHWORK AND EXCAVATION CONTRACTORS IN ACCORDANCE WITH THE ASSOCIATED STATE, COUNTY AND TOWNSHIP REGULATIONS AND REQUIREMENTS AND AS SHOWN ON THESE PLANS.
2. AS INDICATED ON THE DRAWING, A SILT FENCE SHALL BE PLACED AROUND THE LIMITS OF DISTURBANCE. THE SILT FENCE SHALL BE LOCATED NO LESS THAN 4-0" FROM THE TOE OF THE FILL SLOPES TO ALLOW CONSTRUCTION OF THE FINAL GRADE INDICATED ON THE DRAWING.
3. EROSION CONTROL MEASURES SHALL BE UTILIZED WHEN SITE CONDITIONS REQUIRE. THESE MEASURES MAY INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING:
   A. INSTALL PERIMETER EROSION BARRIERS.
   B. CONSTRUCT SEDIMENT BASINS.
   C. CONSTRUCT TEMPORARY DITCHES.
   D. PROVIDE EROSION CONTROL BLANKET.
4. ONCE FINAL GRADE HAS BEEN ACHIEVED, SLOPED SURFACES AND AREAS NOT COVERED BY CRUSHED STONE SHALL BE SEEDED WITH NATIVE GRASSES OR VEGETATION TO RESTORE THOSE AREAS TO THEIR NATURAL CONDITION.

GRADING NOTES:

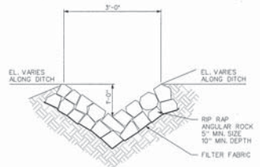
1. ALL EXCAVATION AND GRADING WORK FOR FOUNDATIONS SHALL CONFORM TO THE SPECIFICATIONS HEREIN AND ALL LOCAL, COUNTY, STATE AND FEDERAL LAWS AND REGULATIONS.
2. THE EXISTING SURFACE WITHIN THE PROPOSED FENCE SHALL BE GRUBBED TO REMOVE ANY GRASS, ROOTS, ORGANIC MATERIAL, EXISTING FILL OR OTHER DEBRIS. STRIPPED MATERIAL SHALL BE DISPOSED OF OUTSIDE THE SITE AT AN APPROPRIATE DISPOSAL FACILITY.
3. THE FINAL GRADE SHALL ROUGHLY MAINTAIN THE EXISTING NATURAL GRADE EXCEPT WERE INDICATED ON THE GRADING PLAN.
4. THE NON TRAFFIC AREA INSIDE THE FENCE SHALL BE SCARIFIED TO A MINIMUM DEPTH OF SIX (6) INCHES AND COMPACTED TO AT LEAST 98% OF MAXIMUM DRY DENSITY PER ASTM D1557.
5. FOR ANY AREA INSIDE THE FENCED AREA WHERE NATIVE FILL MATERIAL IS USED, FILL MATERIAL SHALL BE PLACED IN SIX (6) INCH LIFTS AND COMPACTED TO AT LEAST 98% OF MAXIMUM DRY DENSITY PER ASTM D1557.
6. FOR ANY AREA INSIDE THE FENCED AREA WHERE IMPORTED FILL MATERIAL IS USED, FILL MATERIAL SHALL BE PLACED IN SIX (6) INCH LIFTS AND COMPACTED TO AT LEAST 98% OF MAXIMUM DRY DENSITY PER ASTM D1557.
7. ANY IMPORTED FILL MATERIAL SHALL BE CLEAN, GRANULAR MATERIAL WITH A LOW PLASTICITY INDEX AND SHALL MEET THE FOLLOWING MINIMUM SPECIFICATIONS:
   a. MAX AGGREGATE SIZE 2 INCHES
   b. % PASSING #4 SIEVE 50-75
   c. % PASSING #40 SIEVE 25-50
   d. PLASTICITY INDEX 5-15
8. THE AREA INSIDE THE FENCE SHALL BE FINISHED WITH A MINIMUM FOUR (4) INCH LAYER OF ¾"-1" CRUSHED ROCK TO BRING GRADE UP TO REQUIRED ELEVATION. THIS SURFACE ROCK SHALL BE FINISHED TO A SMOOTH, UNIFORM, COMPACTED SURFACE CAPABLE OF SUPPORTING VEHICLE TRAFFIC WITHOUT DISPLACEMENT.



TYPICAL ROAD SECTION
SCALE: NONE



SECTION A
SCALE: NONE



SECTION B
SCALE: NONE

DRAWING REFERENCES:

Z-1100	TOPOGRAPHIC SURVEY-PSEP VALVE AUTOMATION DALTON CROSSOVER
486931 SH.1	PIPNG - PLAN DALTON AVE. CROSSOVER
486931 SH.2	PIPNG - PLAN DALTON AVE. CROSSOVER
486932 SH.1	PIPNG - SECTIONS & DETAILS DALTON AVE. CROSSOVER
486932 SH.2	PIPNG - SECTIONS & DETAILS DALTON AVE. CROSSOVER
486932 SH.3	PIPNG - SECTIONS & DETAILS DALTON AVE. CROSSOVER

LEGEND:

565	EXISTING GRADE
565	PROPOSED FINAL GRADE
+ 561.50	PROPOSED FINAL SPOT GRADE
3.0H:1.0V	SLOPE OF PROPOSED GRADING IN DESIGNATED AREAS

N

SCALE: 1" = 10'

Source: Site Improvement - Plan from ENE Engineering, November 2013.

PG&E Dalton Crossover Valve Automation ProjectAlameda County

Figure 3.6-1. Grading Plan

PGE_Fig_3-6-1.indd

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3.7 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 handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☑
(d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☑
(e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☑
(f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☑
(g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☑
(h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☑	☐

3.7.1 Introduction

This section describes the environmental setting and impacts related to hazards and hazardous materials. For the purposes of this analysis, the term “hazards” refers to risk associated with such issues as fires, explosions, exposure to hazardous materials and interference with emergency response plans.

The term “hazardous material” is defined in different ways for different regulatory programs. For this analysis, “hazardous material” is defined by the California Health and Safety Code, Section 25501: “because of their quantity, concentration, or physical or chemical characteristics, (they) pose a significant present or potential hazard to human health and safety or to the environment if release into the workplace or the environment.”

"Hazardous waste" is a subset of hazardous materials. For this analysis, "hazardous waste" is defined by the California Health and Safety Code, Section 25517, and in 22 CCR Section 66261.2: "because of their quantity, concentration, or physical or chemical characteristics, may either cause, or significantly contribute to an increase in mortality or an increase in serious illness, or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed."

Based on the impact analysis, the project would not result in potentially significant adverse impacts from hazards or hazardous materials.

3.7.2 Environmental Setting

The project area is located on relatively level terrain, in a relatively sparsely populated portion of unincorporated Alameda County west of Vasco Road. The nearest schools to the proposed project include Andrew N. Christensen Middle School and Christensen Preschool, both located approximately 0.3 mile from the project area. The nearest hospital is Valley Care Medical Center, located approximately 10.4 miles from the station. A single-family home neighborhood is adjacent to the south of the project area.

3.7.2.1 Hazardous Materials

The project area is not identified on a list of hazardous materials sites pursuant to Government Code Section 65962.5 (California Environmental Protection Agency, 2013). A site that appears on a hazardous materials is located approximately 2,000 feet southwest of the Dalton crossover station. This facility is listed as closed (Geotracker, 2013).

3.7.2.2 Fire Hazards

Fire protection in the project area is provided by the Alameda County Fire Department. The California Department of Forestry and Fire Protection (CAL FIRE) has developed a Fire Hazard Severity Scale which uses three criteria to evaluate and designate potential fire hazards in wildland areas: fuel loading (vegetation), fire weather (winds, temperatures, humidity levels and fuel moisture contents), and topography (degree of slope). Based on these criteria, the proposed project is located in a moderate fire hazard severity zone as discussed in the Safety Element of the County of Alameda East County Area General Plan.

3.7.3 Applicant-Proposed Measures

The following APMs would be implemented.

- **APM HAZ-1: Hazardous Substance Control and Emergency Response.** PG&E will implement its hazardous substance control and emergency response procedures as needed. The procedures identify methods and techniques to minimize the exposure of the public and site workers to potentially hazardous materials during all phases of project construction through operation. They address worker training appropriate to the site worker's role in hazardous substance control and emergency response. The procedures also require implementing appropriate control methods and approved containment and spill-control practices for construction and materials stored onsite. If it is necessary to store chemicals onsite, they will be managed in accordance with all applicable regulations. Material safety data sheets will be maintained and kept available onsite, as applicable.

  Project construction will involve soil surface grading and excavation at the Dalton crossover station. The soil has been sampled and analyzed, and no contamination was identified in the project area (CH2M Hill, 2014; Siegmund, 2014). In the event that soils suspected of being contaminated (on the basis of visual, olfactory, or other evidence) are removed during site grading activities or excavation activities, the excavated soil will be tested and, if contaminated above hazardous waste levels, will be contained and disposed of at a licensed waste facility. The presence of suspected contaminated soil will require testing and investigation procedures to be supervised by a qualified person, as appropriate, to meet state and federal regulations.

All hazardous materials and hazardous wastes will be handled, stored, and disposed of in accordance with all applicable regulations, by personnel qualified to handle hazardous materials. The hazardous substance control and emergency response procedures include, but are not limited to, the following:

- Proper disposal of potentially contaminated soils.
- Establishing site-specific buffers for construction vehicles and equipment located near sensitive resources.
- Emergency response and reporting procedures to address hazardous material spills.
- Stopping work and contacting the County Fire Department Hazardous Materials Unit immediately if visual contamination or chemical odors are detected. Work will be resumed after any necessary consultation and approval by the Hazardous Materials Unit.

PG&E will complete its Emergency Action Plan Form as part of the pre-construction meetings. The purpose of the form is to gather emergency contact numbers, first aid location, work site location, and other relevant information.

- **APM HAZ-2: Fire Avoidance and Suppression.** CAL FIRE requires that PG&E select a welding site that is void of native combustible material and/or clearing such material for 10 feet around the area where the work is to be performed. PG&E will follow its standard practice for clearing in wildland areas. Project personnel will be directed to drive on areas that have been cleared of vegetation, park away from dry vegetation, and carry water, shovels, and fire extinguishers in times of high fire hazard. PG&E will also prohibit trash burning. Additionally, fire-suppression materials and equipment will be kept adjacent to work areas, and will be clearly marked as required by the Hot Work permit that will be obtained for the project.

3.7.4 Impacts

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

(a) Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

The construction activities associated with this project in general would not pose a hazardous materials risk; however, construction equipment would require refueling and maintenance. Vehicles and equipment would not be refueled within 100 feet of the wetlands onsite unless a bermed and lined refueling area is constructed. Regular fueling and maintenance activities would be performed offsite or when equipment is located in the temporary offsite workspace so any accidental spills or releases would be contained and addressed through implementation of standard construction BMPs. BMPs to contain hazardous materials would be implemented if emergency fueling and maintenance are required. Operation of the project would not require the transport, use, or disposal of hazardous materials.

(b) Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

PG&E would properly maintain all construction equipment to prevent leaks of fuels, lubricants, or other fluids into waterways. Emergency spill supplies and equipment would be kept adjacent to work areas, and would be clearly marked. PG&E would take appropriate precautions when handling and/or storing chemicals (e.g., fuel and hydraulic fluid) near waterways and wetlands, and any and all applicable laws and regulations would be followed. Service and refueling procedures would take place at least 100 feet from waterways or in an upland area at least 100 feet from wetland boundaries to prevent spills from entering waterways or wetlands unless appropriate spill control and containment areas are provided. Appropriate materials would

be onsite to prevent and manage spills. These procedures would be outlined in the project-specific SWPPP and are detailed in APM HAZ-1.

If hazardous substances are unexpectedly encountered during trenching, grading, or excavating, work would be stopped until the material is properly characterized and appropriate measures are taken to protect human health and the environment. If excavation of hazardous materials is required, they would be handled, transported, and disposed of in accordance with all applicable federal, state, and local regulations. Therefore, the project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

(c) Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

There are no existing schools within one-quarter mile of the Dalton crossover station. The nearest schools to the station include Andrew N. Christensen Middle School and Christensen Preschool (both approximately 0.3 mile southeast of the project area). As such, no impact would occur.

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

The project would not be located on a site that is included on the listing of hazardous materials sites compiled pursuant to Government Code Section 65962.5. As such, no impact would occur.

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

The project is not located within an airport land use plan or within 2 miles of a public airport or public use airport; therefore, no impacts would occur.

(f) Would the project occur within the vicinity of a private airstrip, or would the project result in a safety hazard for people residing or working in the project area?

The project is not within the vicinity of a private airstrip.

(g) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The project would not impair implementation of, or physically interfere with, an emergency response plan or emergency evacuation plan. No public road closures are anticipated during project construction so the project would not interfere with emergency plans or access. As a routine construction measure, emergency access and evacuation procedures would be developed and implemented as part of the onsite health and safety plan. No impacts or interference with emergency plans or access would result from project implementation.

(h) Would the project expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

Construction of the project would occur in an area that is surrounded by annual grassland that is susceptible to wildland fires. Heat or sparks from vehicles or equipment have the potential to ignite dry vegetation and cause a fire. CAL FIRE requires the use of spark arrestors on all internal combustion engines. In addition, work that involves flame, arcing, or sparking equipment (such as welding) in the project area during construction could potentially result in the combustion of native materials located close to the site, if insufficient controls are implemented. Open fires would not be allowed at or near worksites. With the implementation of preventative measures as described in APM HAZ-2, the potential for fire would be less than significant.

3.8 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 such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☑
(c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or 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 which would result in flooding on- or offsite?	☐	☐	☑	☐
(e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	☑
(f) Otherwise substantially degrade water quality?	☐	☐	☑	☐
(g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☑
(h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☑
(i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☑
(j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☑

3.8.1 Introduction

This section documents the existing hydrological setting in the project area and evaluates the potential impacts of project implementation. Please note that the project's Streambed Alteration Agreement from CDFW and Biological Opinion from USFWS are included in Appendix C.

3.8.2 Regulatory Setting

3.8.2.1 Federal

The Clean Water Act (CWA) is the major federal legislation relating to water quality. Implementation of the CWA is managed by the U.S. Environmental Protection Agency with management authority delegated to the State Water Resources Control Board (SWRCB), in turn administered by the nine Regional Water Quality Control Boards (RWQCBs). The proposed project is located within the jurisdiction of the San Francisco Bay Regional Water Quality Control Board (RWQCB), and subject to management direction of the Water Quality Control Plan (Basin Plan) for the San Francisco Region.

Section 401 of the CWA requires a project that discharges into waters of the U.S. to obtain certification that the project would not violate water quality standards. In California, the State Water Resources Control Board (SWRCB) and the nine RWQCBs have the primary responsibility for administering state and federal regulations related to water quality, including Section 401 water quality certification.

Section 402 of the CWA established the National Pollutant Discharge Elimination System (NPDES), which requires any discharge of pollutants into waters of the U.S. to be in compliance with an NPDES permit. In California, stormwater discharges associated with construction activities are covered by a statewide General Permit. This General Permit requires that a project with more than one acre of ground-disturbing activity:

- Develop and implement a Stormwater Pollution Prevention Plan (SWPPP) specifying BMPs that would prevent all construction pollutants from contacting stormwater and with the intent of keeping all products of erosion from moving offsite into receiving waters.
- Eliminate or reduce non stormwater discharges to storm sewer systems and other waters of the nation.
- Perform inspections of all BMPs.

Section 404 of the CWA prohibits discharge of fill or dredge material into waters of the United States, including wetlands. Section 404 compliance is discussed further in Section 3.4, Biological Resources.

The Federal Emergency Management Agency (FEMA) administers the National Flood Insurance Program, which subsidizes flood insurance to communities that limit development in floodplains. As part of this program, FEMA maps all U.S. areas that fall within a 100-year floodplain (i.e., areas with a greater than 1 percent annual probability of flooding). The project area is located within FEMA Zone X, which is an area determined to be outside of the 0.2 percent annual chance floodplain.

3.8.2.2 State

The Porter-Cologne Water Quality Act provides the basis for water quality regulation in California. The act requires the nine RWQCBs to adopt water quality control plans that recognize the unique characteristics of each region with regard to natural water quality, actual and potential beneficial uses, and existing water quality problems. The SWRCB and the RWQCBs have the authority under this act to regulate waste discharge to surface waters or land, and also to provide the certification required by Section 401 of the CWA as described above. As described above, the project is located within the jurisdiction of the San Francisco Bay RWQCB, and subject to the management direction of the San Francisco Region Basin Plan.

Under Sections 1600–1616 of the California Fish and Game Code, CDFW regulates activities that would alter the bed, channel, or bank of any river, stream, or lake. CDFW is also authorized to develop mitigation measures and to enter into a streambed alteration agreement with applicants that propose a project that could potentially adversely fish or wildlife resources, including intermittent and ephemeral streams. This is discussed further in Section 3.4, Biological Resources.

CEQA Guidelines Section 15206 specifies that a project would be deemed to have a significant impact if it would substantially affect sensitive wildlife habitats including, but not limited to, riparian lands, wetlands, bays, estuaries, marshes, and habitats for rare and endangered species as defined by California Fish and Game Code Section 903. This is discussed in Section 3.4, Biological Resources.

3.8.3 Environmental Setting

3.8.3.1 Climate

Alameda County has a Mediterranean climate characterized by warm, dry summers and cold, moist winters in the eastern portion of the county with a marine influence in the western portion of the county. The project site, located just north of Livermore, is in the north-northeastern portion of the county. In general, the amount of precipitation increases inland from the San Francisco Bay as the elevation increases (Soil Conservation Service, 1975). The majority of annual precipitation in the county occurs as rain during the wet season which extends from November to April. The average annual precipitation for Alameda County is 23 inches (USA.com, 2013).

3.8.3.2 Surface Water Resources

The proposed project area is located within the Alameda Creek Watershed, which encompasses approximately 633 square miles between Mt. Diablo in the north, Mt. Hamilton in the south, Altamont Pass in the east, and the San Francisco Bay to the west. Land uses in this watershed are largely undeveloped, open range, as well as public lands and parks, cropland, and smaller areas of residential, commercial, and industrial uses (ACWD, 2014a).

Two perennial (existing throughout the year) wetlands are present in the project area, one east of the northern sniff hole and one north of the southern sniff hole. The first perennial wetland is located south of the existing station on an undeveloped parcel immediately east of Ames Street. Within this 0.016-acre wetland, slender cattail is the dominant species, with saltgrass and alkali heath also present. This wetland is located on a gradual (6%) slope in an area where runoff from a concrete V-ditch pools in a shallow channel. A second perennial wetland is present to the north of the crossover station below a spring located on a hill with an 8% slope. This wetland is dominated by identified Baltic rush and saltgrass, and covers an area of approximately 0.012 acre.

In addition to the perennial wetland areas described above, one 0.056-acre seasonal (existing for only a portion of the year) wetland is present within a drainage swale located immediately downslope of the perennial wetland north of the crossover station. This seasonal wetland follows the topography of the swale and drains in a southwestern direction toward the Springtown Alkali Sink Preserve, a large vernal pool complex known to support vernal pool fairy shrimp. Seasonal wetland habitat includes areas that are inundated or saturated for a portion of the growing season. The seasonal drainage swale, which is bisected by PG&E's Line 303 gas pipeline, is dominated by salt grass (*Distichlis spicata)* (GANDA, 2009). To the west, the incised swale channel shallows and becomes imperceptible as it crosses an existing farm/access road. The local relief of the swale is concave and the slope is approximately 5%. The Springtown Alkali Sink Preserve, towards which this swale drains, is designated critical habitat for vernal pool fairy shrimp.

No drainage features are present within the temporary offsite workspace, to the northwest of the project site. One shallow swale is present beyond the eastern edge of the temporary offsite workspace, and conveys runoff south from the parcel north of May School Road. This feature is outside of the project area and will not be affected by project activities (Swaim Biological Inc., 2013). A drainage ditch is located west of the offsite workspace, along Dagnino Road. The ditch would not be affected by the project.

3.8.3.3 Groundwater Resources

The project site is underlain by the Niles Cone Groundwater Basin, a subbasin of the Santa Clara Valley Groundwater Basin, the primary groundwater basin in Alameda County. The Niles Cone Groundwater Basin is an alluvial aquifer system consisting of unconsolidated gravel, silt, and clay. The primary source of recharge for the Niles Cone Groundwater Basin is local runoff from the Alameda Creek Watershed. To a

lesser extent, infiltration of rainfall and applied water also provide a local source of recharge for the groundwater basin. Water quality in the groundwater system is characterized by fresh groundwater in the eastern portion of the groundwater basin transitioning into brackish groundwater in the western portion of the basin. The brackish groundwater is a result of historical seawater intrusion from the adjacent San Francisco Bay. The Niles Cone Groundwater Basin has capacity to store water from year to year; however, the usable storage capacity of the groundwater basin is significantly limited by the potential for seawater intrusion if groundwater levels are maintained too low. Local groundwater storage provides a short-term source of supply during dry years. (ACWD, 2011)

The Niles Cone Groundwater Basin is managed by the Alameda County Water Agency, which implements an extensive monitoring program to determine the location and movement of saltwater that has intruded into a portion of the groundwater basin. Sixteen wells are used to extract groundwater from the basin, with a combined ability to produce up to 47.5 million gallons of water per day. This water is blended with San Francisco Regional Water System supplies before being delivered to customers (ACWD, 2014b).

3.8.4 Applicant-Proposed Measures

BMPs such as those outlined in the California Stormwater Quality Association's *Construction BMP Handbook* (CASQA, 2010) would be implemented during project construction. These BMPs are standard in the construction industry and are commonly used to protect water quality. Standard practices and BMPs would be incorporated into project design. PG&E's SWPPP and erosion control BMPs would be used to minimize any wind- or water-related soil erosion. Implementation of the following APMs would ensure that water quality impacts would be less than significant.

- **APM WQ-1: SWPPP Development and Implementation.** Following project approval, PG&E will prepare and implement a SWPPP or an amendment to an existing SWPPP to minimize construction impacts on surface water and groundwater quality. Implementation of the SWPPP will help stabilize graded areas and reduce erosion and sedimentation. The plan will designate BMPs that will be adhered to during construction activities. Erosion and sediment control measures, such as straw wattles, covers, and silt fences, will be installed before the onset of winter rains or any anticipated storm events. Suitable stabilization measures will be used to protect exposed areas during construction activities, as necessary. During construction activities, measures will be in place to prevent contaminant discharge from vehicles and equipment.

  The project SWPPP will include erosion control and sediment transport BMPs to be used during construction. BMPs, where applicable, will be designed by using specific criteria from recognized BMP design guidance manuals. Erosion-minimizing efforts may include measures such as the following:

  – Defining ingress and egress within the project area
  – Implementing a dust control program during construction
  – Properly containing stockpiled soils

  Erosion control measures identified will be installed in an area before construction begins. Temporary measures such as silt fences or wattles, intended to minimize sediment transport from temporarily disturbed areas, will remain in place until disturbed areas have stabilized. The plan will be updated during construction as required by the SWRCB.

- **APM WQ-2: Worker Environmental Awareness Program Development and Implementation.** The project's worker environmental awareness program will communicate environmental issues and appropriate work practices specific to this project. This awareness will include spill prevention and response measures, and proper BMP implementation. The training will emphasize site-specific physical conditions to improve hazard prevention (such as identification of flow paths to nearest water bodies) and will include a review of all site-specific water quality requirements, including applicable portions of erosion control and sediment transport BMPs, health and safety plan, and hazardous substance control and emergency response plan.

- **APM WQ-3: Vehicles and Equipment Fueling and Maintenance.** Vehicle and equipment fueling and maintenance operations will be conducted in designated areas only; these will be equipped with appropriate spill control materials and containment.

3.8.5 Impacts

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

(a) Would the project violate any water quality standards or waste discharge requirements?

PG&E has submitted an application for water quality certification pursuant to CWA Sections 401 and 404 for work in waters of the U.S. CDFW has been notified of these applications. Potential impacts to water quality would be regulated and any additional actions required by the San Francisco Bay RWQCB would be incorporated into the project.

Potential water pollutants associated with the project could be generated during the construction phase and could include soil sediment and petroleum-based fuels or lubricants. The project involves ground-disturbing activities that could potentially cause soil erosion and release of excess sediment into the nearby wetland area, particularly if precipitation events occur during or immediately following ground disturbing activities. However, with construction anticipated to not exceed 5 months between June and early October, and ground disturbing activities not exceeding 3 months within that period, it would not be necessary to conduct ground disturbing activities during the wet season.[7]

Implementation of APMs WQ-1, WQ-2, and WQ-3, along with BMPs outlined in the California Stormwater Quality Association's *Construction BMP Handbook* would reduce water quality impacts to a less-than-significant level.

(b) Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

Temporary construction water supply for the project would be provided by the City of Livermore or from a well water source. The City of Livermore operates under an Urban Water Management Plan (UWMP) to ensure water supply reliability. The project is not expected to directly consume groundwater. PG&E has conducted work in the project vicinity previously and has not encountered groundwater; it is reasonably anticipated that project construction would not accidentally or unexpectedly encounter groundwater, and indirect effects to groundwater supply are not anticipated. Excavations at the Dalton crossover station and two sniff holes are not likely to encroach within the water table.

No excavation would occur at the temporary offsite workspace. Therefore, the project would not affect groundwater supply and no impacts to groundwater would result.

(c) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or offsite?

The project is in an upland area, outside of drainage channels, with the exception of the northern sniff hole location, which is within a drainage swale southwest of a perennial wetland. Construction of the project would result in site-specific changes to overland flow patterns in the immediate vicinity of the Dalton crossover station, but such changes would not affect overall local drainage patterns or change erosion or

[7] Provisions for work period modifications are provided in MM B-10.

siltation patterns. No stream or river course would be altered as a result of the project. Potential impacts to the on-site swale would be addressed by Mitigation Measures B-10, B-13 and B-15.

The final regrading of the project area would result in redirection of local overland flow during heavy precipitation events. Overland flow would change from directly down slope; it would be captured in an upslope drainage ditch and redirected a short distance to the east. This redirection would have the beneficial result of lessening the impact of runoff and, with measures presented in the site-specific SWPPP, the potential for erosion to occur would be minimized or avoided. If weather forecasts during construction suggest that flowing water may intrude into the northern sniff hole work space prior to backfill and restoration, sand bags would be placed upstream to divert water around the sniff hole and off site.

No grading would be required at the temporary offsite workspace. Overland flow patterns would not be affected at the temporary offsite workspace, given that no excavation or grading would occur there. Therefore, with the implementation of APMs and mitigation measures, project effects on the area's existing drainage pattern would be less than significant.

(d) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?

As described above, the redirection of overland flow that would occur with implementation of the project would have the beneficial result of lessening the impact of runoff; this would in turn reduce flood risks. Downhill of the site, runoff would end up in the same drainage basin and channel as under existing conditions. The project would not alter the course of a stream or river because none are present in the project area. Impacts would be less than significant, and APMs would further reduce less-than-significant impacts.

(e) Would the project create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

The expansion area of the existing station would not be paved. As described above, upon completion of grading, drainage patterns of the project site would be modified to slow the rate of runoff compared to existing conditions. Spoils generated during potholing would be hauled off-site and appropriately disposed of. Water used for hydrostatic testing would also be hauled offsite to an appropriate disposal site, or it would be discharged to a sewer manhole on the east side of Ames Street connecting to a publically owned treatment work; alternatively, it may be used onsite for dust control. These activities would not result in an increased volume of runoff water such that existing or planned stormwater drainage systems would be overwhelmed. Appropriate BMPs would be implemented to control runoff and water quality. No impacts would result.

(f) Would the project otherwise substantially degrade water quality?

All temporarily disturbed areas would be restored to pre-project or better conditions following construction in accordance with the Vegetation Restoration Plan. Temporary impacts to water quality would be avoided by implementing a SWPPP and BMPs during construction. The project would not create a substantial additional source of polluted runoff or substantially degrade water quality. Therefore, impacts would be less than significant.

(g) Would the project 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?

The project area is outside the 100-year flood plain hazard area (FEMA, 2009) and does not involve construction of housing. Therefore, no impacts would result.

(h) Would the project place within a 100-year flood hazard area structures which would impede or redirect flood flows?

The project area is outside the 100-year flood hazard area and not located near main drainages (FEMA, 2009), and as a result would not impede flood flows. Therefore, no impacts would result.

(i) Would the project expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

The project area is outside the 100-year flood hazard area, not located near main drainages (FEMA, 2009; USGS, 1953), and does not involve the construction of or work near levees or dams; and as a result would expose people or structures to risk involving failure of a levee or dam. Therefore, no impacts would result.

(j) Would the project be exposed to inundation by seiche, tsunami, or mudflow?

The project area is inland and not in an area subject to seiche or tsunami. Based on the topography and shallow bedrock present in the area, the site would not be subject to mudflows. Therefore, no impacts would result.

3.9 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, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☑
(c) Conflict with any applicable Habitat Conservation Plan or Natural Community Conservation Plan?	☐	☐	☐	☑

3.9.1 Introduction

This section includes information on the regulatory and environmental setting and includes analysis of potential land use impacts resulting from the project.

3.9.2 Regulatory Setting

3.9.2.1 County of Alameda East County Area General Plan

Because the CPUC has jurisdiction over the design, construction and operation of gas pipelines 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.

The East County Area General Plan contains the following general policies related to gas facilities:

- Policy 285: The County shall facilitate the provision of adequate gas and electric service and facilities to serve existing and future needs while minimizing noise, electromagnetic, and visual impacts on existing and future residents.
- Policy 286: The County shall work with PG&E to design and locate appropriate expansion of gas and electric systems.

3.9.2.2 City of Livermore General Plan

The City of Livermore General Plan contains the following general policies related to gas facilities:

- Goal INF-4: Provide utilities in ways that are safe, environmentally acceptable and financially sound.
- Objective INF-4.1: Facilitate the development and maintenance of all utilities at the appropriate levels of service to accommodate the City's projected growth.
- Policy P1: The City shall ensure that utilities, including electricity, natural gas, telecommunications, and cable, are available or can be provided to serve the projected population within the City in a manner which is fiscally and environmentally responsible, aesthetically acceptable to the community, and safe for residents. However, the ultimate responsibility for ensuring that the utilities are available to support new development rests on the sponsor of proposed projects.

3.9.3 Environmental Setting

Alameda County has designated the project area as "Large Parcel Agriculture" in the East County Area General Plan. This Land Use Designation requires a minimum parcel size of 100 acres and allows public and quasi-public uses. The project area is located within the County's Agricultural Zoning District, which was established to promote implementation of agricultural and other nonurban uses, to conserve and protect existing agricultural uses, and to provide space for and encourage such uses in places where more intensive development is not desirable or necessary for the general welfare (County of Alameda, 2013b).

South of the paved access road is an undeveloped parcel owned by the City of Livermore, and a residential development is present to its east. A temporary 30-foot by 30-foot work area at that location would be established during the project construction period. A 230-kilovolt transmission line, the Contra Costa–Las Positas 230 kV Transmission Line, crosses the Dalton crossover station in a north-south orientation in a parallel alignment to L-303 and L-114.

The City of Livermore Community General Plan designates the portion of the project area within City boundaries as Open Space (OSP). This designation is applied to areas to be maintained as permanent or semi-permanent open space. This designation may be applied to areas that are already open space, and those that should remain open space because they have valuable natural or scenic resources, or because they are unsuitable for development due to environmental hazards. The site is zoned Planned Development – Open Space (PD-OS), which follows uses and development standards of the Open Space – Agriculture (OS-A) zoning district. Public and quasi-public uses are conditionally-permitted in OS-A districts.

3.9.4 Impacts

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

(a) Would the project physically divide an established community?

The project area is located in a rural location in unincorporated Alameda County, with a small portion in the City of Livermore. The proposed project would not result the physical division of an established community, and no impact would occur.

(b) Would the project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect?

As stated previously, the project is not subject to local discretionary regulations. However, the project would be consistent with the policies of the East County Area General Plan and the City of Livermore General Plan listed above. As discussed in Sections 3.1, Aesthetics, and 3.11, Noise, the project would have less-than-significant visual and noise impacts. Although PG&E's project is not subject to Alameda County and City of Livermore plans, policies, or regulations, it is nevertheless consistent with the general policies expressed.

(c) Would the project conflict with any applicable Habitat Conservation Plan or Natural Community Conservation Plan?

The project area is within the EACCS study area, but is not within an approved or in-progress HCP or NCCP. The Conservation Strategy does not promulgate regulations for any participating local agency. Instead, it is a tool to inform decisions during standard environmental permitting processes for projects that occur in the study area. The USFWS issued a programmatic Biological Opinion for the EACCS on May 31, 2012 (USFWS, 2012b). The EACCS addresses 19 listed and non-listed species, including California tiger salamander and California red-legged frog, and provides a framework for long-term conservation and management of these species and the habitats that support them.

As discussed in Section 3.4, Biological Resources, the project was designed to be consistent with the EACCS. USACE initiated consultation with the USFWS and requested that the project be appended to the EACCS programmatic Biological Opinion

3.10 Minerals

	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?	☐	☐	☐	☑

3.10.1 Introduction

This section discusses potential minerals found in Alameda County and the potential for minerals to be present and recoverable in the project area. Due to the lack of mineral resources present in the project area, the project would have no impact on mineral resources.

3.10.2 Regulatory Setting

3.10.2.1 Federal

There are no specific federal regulations applicable to mineral resources.

3.10.2.2 State

Surface Mining and Reclamation Act

The California Surface Mining and Reclamation Act of 1975 (SMARA) was enacted in response to land use conflicts between urban growth and essential mineral production. SMARA (Public Resources Code § 2710 et seq.; subsequently amended) is the primary regulation for onshore surface mining in the State. SMARA mandated that aggregate resources throughout the State be identified, mapped, and classified by the State geologist so that local governments could make land use decisions in light of the presence of aggregate resources and the need to preserve access to those resources. Local jurisdictions are required to enact specific plan procedures to guide mineral conservation and extraction at particular sites, and to incorporate mineral resource management policies into their general plans. The Division of Mines and Geology has prepared Mineral Land Classification Maps for aggregate resources. The Mineral Land Classification Maps designate four different types of resource sensitivities. The four sensitivity types are:

- MRZ-1: Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood for their presence exists.
- 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 of any other MRZ zone.

3.10.3 Environmental Setting

Major mineral resources within Alameda County include: sand and gravel, salt, stone, petroleum, and clays (County of Alameda, 1994). The following minerals are present in Alameda County, and extraction has been reported: asbestos, bromine, chromite, coal, copper, gold, lead, lime, magnesite, magnesium compounds, manganese, potash, pyrite, silica, silver, soapstone, and travertine (County of Alameda, 1994).

3.10.4 Impacts

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

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

Based on available geologic maps, it is unlikely that economically significant mineral deposits are present in the project area. The project area is at the edge of an area of Quaternary Alluvium and underlain by Tertiary age Ciebro Sandstone. The nearby alluvial fan and flood plain deposits, and friable Ciebro Sandstone are unlikely to be economical sources of mineral resources (Dibblee, 2005). Therefore, no impact would occur.

(b) Would the project result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

No known mineral resources exist within the project area and, therefore, no impacts would occur to mineral resources from implementation of the project.

3.11 Noise

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☑	☐	☐
(b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☑
(c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☑
(d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☑	☐	☐
(e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☑
(f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☑

3.11.1 Introduction

This section analyses the potential noise sources associated with construction of the project, including equipment used during excavating/trenching, valve and pipe removal/installation, backfilling, and grading within the project footprint. The analysis concludes that noise impacts from construction and operation of the project would be less than significant.

3.11.2 Regulatory Setting

3.11.2.1 Federal

There are no federal regulations that limit overall environmental noise levels for this type of project.

3.11.2.2 State

Although there is no statewide noise regulation or specific threshold for determining what constitutes a maximum allowable absolute noise level or a substantial increase in noise level, the CEQA Checklist identifies the general types of impacts that must be considered when analyzing a project's potential to result in temporary and permanent impacts on sensitive receptors as a result of noise.

3.11.2.3 Local

Although this project is not subject to local land use regulations, land use plans and ordinances in the area related to noise are discussed to assist in the CEQA evaluation.

County of Alameda Noise Control Ordinance. Alameda County has established noise limits in Chapter 6.60 (Noise) of Title 6 of its Code of Ordinances. Noise associated with construction is exempted from the provisions of the Noise Control chapter of the code as long as construction activities take place between 7:00 a.m. and 7:00 p.m. on weekdays and between 8:00 a.m. and 5:00 p.m. on weekends.

City of Livermore Municipal and Development Code Noise Element. The City of Livermore regulates noise emissions through Chapter 9.36 of its Municipal and Development Code, which includes the following sections:

> **9.36.040** Blowers, fans and combustion engines. The operation of any noise-creating blower, power fan or internal combustion engine, the operation of which causes noise due to the explosion of operating gases or fluids, is prohibited, unless the noise from such blower or fan is muffled and such engine is equipped with a muffler device to deaden such noise in such a manner so as not to be plainly audible at a distance of either 75 feet from the source of the noise, or between the hours of 6:00 p.m. Saturday to 7:00 a.m. Monday; 8:00 p.m. to 7:00 a.m. on Monday, Tuesday, Wednesday and Thursdays; 8:00 p.m. Friday to 9:00 a.m. on Saturday or at all on city-observed holidays. (Ord. 1672 § 1, 2002; Ord. 1128 § 2, 1983; 1960 code § 13B.3(g)).
>
> **9.36.080** Hammers, pile drivers, pneumatic tools and similar equipment. The operation between the hours of 6:00 p.m. Saturday to 7:00 a.m. Monday; 8:00 p.m. to 7:00 a.m. on Monday, Tuesday, Wednesday and Thursdays; 8:00 p.m. Friday to 9:00 a.m. on Saturday or at all on city-observed holidays of any pile driver, pneumatic tools, derrick, electric hoist, sandblaster or other equipment used in construction, demolition or other repair work, the use of which is attended by loud or unusual noise, is prohibited. (Ord. 1672 § 2, 2002; Ord. 1128 § 2, 1983; 1960 code § 13B.3(f)).

3.11.3 Environmental Setting

The project is located in a relatively sparsely developed area of Alameda County. Noise sensitive receptors are facilities or areas (e.g., residences, hospitals, schools, churches, or public libraries) where excessive noise may cause annoyance. The residential neighborhood located about 125 feet from the crossover station and the residence adjacent to the project's temporary offsite workspace are considered sensitive noise receptors. The nearest schools to the proposed project include Andrew N. Christensen Middle School and Christensen Preschool, both located within approximately 0.3 mile southeast of the project area. The nearest medical facilities and hospitals include Valley Care Medical Center (approximately 10.4 miles southwest of the station), San Ramon Regional Med Center (approximately 19.1 miles northwest of the station), and Sutter Tracy Community Hospital (approximately 18.8 miles east of the station).

Existing ambient noise levels in the project vicinity have not been measured. The project is within a lightly developed area, which is relatively quiet, except for noise generated by the nearby Livermore/Pleasanton Rod and Gun Facility.

3.11.4 Applicant-Proposed Measures

PG&E would implement the following measure as part of project design to ensure that noise impacts are less than significant:

- **APM NO-1: Noise Minimization with Quiet Equipment.** Quiet equipment (e.g., equipment that incorporates noise-control elements into the design) will be used during construction whenever feasible. This means that engine exhaust points will be equipped with a muffler, and quiet model air-compressors or generators will be specified. Use of equipment such as hammers, pile drivers, pneumatic tools, or other impact device that may create loud or unusual noise will be avoided at night whenever feasible or will be shrouded or provided with barriers to achieve a 5 dB reduction during night work.

3.11.5 Impacts

Noise impacts are evaluated in accordance with the significance criteria contained in Appendix G of the CEQA guidelines. The CEQA guidelines ask, would the project result in:

(a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

The project would involve construction that generally would occur in the daytime, in a manner consistent with applicable policies, plans, and ordinances regarding noise, although project construction may begin as early as 6:00 a.m. In addition, up to one week[8] of night work may be required during planned pipeline outages. Night work would include welding, grinding, cutting, and using heavy equipment for lifting, including the limited use of small tools, excavators, loaders, compactors, and trucks. The project area is located in a relatively sparsely-populated portion of Alameda County, but there is a single-family residential neighborhood is located just 125 feet south of the project site, within the City of Livermore limits. Furthermore, ranching activities (cattle grazing) may occur on the grasslands immediately adjacent to project site. As discussed below, construction activities would be short-term, temporary, and limited to daytime hours to the extent feasible. In accordance with best practices, PG&E would notify residents and ranchers of construction schedule and would provide contact information for submitting complaints about noise (or other nuisances) from project construction. Notification requirements are outlined in Mitigation Measure AG-1. Temporary noise levels during construction would be also reduced by measures proposed to be taken by PG&E (see Applicant-Proposed Measures), and with these APMs and Mitigation Measure AG-1, impacts would be less than significant.

Little to no noise would be normally generated with operation of the project with the exception of the sound caused by the actuation of the valves. Each actuator purge lasts a few seconds and is loud enough to make conversation next to the purge stack difficult, but not so loud as to require hearing protection. The actuator purge would take place up to 20 times on commissioning day, and both valves would also be maintained twice a year, requiring up to 12 actuator purges on each of two separate days during the year. In all likelihood, this would take place during the day. This operational noise would occur briefly and intermittently and would not be in excess of applicable policies, plans, and ordinances regarding noise, resulting in a less-than-significant impact.

(b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

The proposed grading and excavation activities are not expected to result in groundborne vibration to the residences located near the project area. No pile driving or similar activities that would result in groundborne vibration or groundborne noise would occur, and no impact would result.

(c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

Although the project would result in an expanded valve station with additional infrastructure, noise from actuation of the valves and the actuator purges would only occur briefly and intermittently. No permanent increases in ambient noise levels would occur as a result of operation of the facilities.

(d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Construction activities associated with the proposed project would require earth-moving equipment, trucks, and other equipment that would result in temporary increases in noise levels that exceed normal background levels. Construction would generally occur in the daytime, except for the limited use of small tools, excavators,

[8] One week is worst-case scenario and would not be 7 consecutive days but the cumulative total. Some components of this public safety project, once started, need to be completed promptly (i.e., hydrotest).

loaders, compactors, and trucks. Temporary project-related construction noise may be audible to those living in nearby residences or working on ranching activities, or to grazing cattle. Notification requirements that are outlined in Mitigation Measure AG-1 would also prepare those nearby for potential disruptions due to noise and provide a means for PG&E to address noise complaints. However, the noise impacts would be temporary, limited to the 5-month duration of construction. Most activity would occur between 6 a.m. and 5 p.m. Monday through Saturday; however, night work would be limited in nature as required during planned pipeline outages. With the implementation of MM AG-1 and measures proposed to be taken by PG&E to reduce construction noise, noise impacts would be less than significant.

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

The project is not located within an airport land use plan or within 2 miles of a public airport or public use airport. As such, no impacts would occur.

(f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

The project is not located within the vicinity of a private airstrip. As such, no impacts would occur.

3.12 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 (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☑
(b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☑
(c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☑

3.12.1 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.

3.12.2 Environmental Setting

The project area is located in a relatively sparsely developed area of Alameda County, just north of the City of Livermore. The areas surrounding the existing crossover station and proposed temporary offsite workspace are predominantly rural ranch land. A suburban residential development is located about 125 feet southeast of the crossover station and less than 50 feet east of the southern temporary sniff hole. The proposed project does not include new housing or businesses or land use changes.

The majority of construction workers for the project are expected to come from the local area or commute from neighboring counties and cities. The maximum labor force at any one time during the construction period is not expected to exceed 15 workers per day. The local Bay Area workforce is anticipated to be sufficient, Alameda County has over 29,000 construction workers (U.S. Census, 2012). Operation of the project would not require any additional workers.

3.12.3 Impacts

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

(a) Would the project induce substantial population growth in an area, either directly or indirectly?

The project would modify and update an existing pipeline facility and there would be no increase in utility or infrastructure capacity. The existing workforce is sufficient for the expected up to 15 workers required during the 5 month construction period and would not require workers to relocate to the area. The project would not alter the location, distribution, density, or growth rate of the population and would result in no direct or indirect impacts to population growth.

(b) Would the project displace substantial existing numbers of existing housing units, necessitating the construction of replacement housing elsewhere?

The proposed project would require construction at and near an existing crossover station. It would not displace existing housing; therefore, no housing impacts would result.

(c) Would the project displace substantial numbers of people, necessitating the construction of replacement housing?

The proposed project would require construction at and near an existing crossover station. It would not displace any people; therefore, no construction of replacement housing would be required and there would be no impact.

3.13 Public Services

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
(i) Fire protection?	☐	☐	☐	☑
(ii) Police protection?	☐	☐	☐	☑
(iii) Schools?	☐	☐	☐	☑
(iv) Parks?	☐	☐	☐	☑
(v) Other public facilities?	☐	☐	☐	☑

3.13.1 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. No significant impacts would occur to public services as a result of this project.

3.13.2 Environmental Setting

3.13.2.1 Emergency Services

The Alameda County Fire Department (ACFD) is responsible for providing emergency fire and medical response as well as fire prevention services to residents of the unincorporated areas of Alameda County, including the project area. ACFD serves a daytime population of approximately 394,000 individuals and has 30 fire stations. The ACFD station nearest to the project area is Station 20, located at 7000 East Avenue, L-388 in Livermore, approximately 4.4 miles southwest of the project area. The southern sniff hole would be located within the city of Livermore. The Livermore-Pleasanton Fire Department station nearest to the project area is Station 8, located at 5750 Scenic Avenue in Livermore, approximately 1.3 miles southeast of the project site.

The Safety Element of the County of Alameda East County Area General Plan (2013) indicates that the project area is located within a moderate fire hazard severity zone. Severity is measured using three criteria: fuel loading (vegetation); fire weather (winds, temperatures, humidity levels and fuel moisture contents); and topography (degree of slope).

Law enforcement and emergency services in the project area are provided by the Alameda County Sheriff's Office and the Livermore Police Department.

The nearest medical facilities and hospitals include Valley Care Medical Center (approximately 10.4 miles southwest of the station), San Ramon Regional Med Center (approximately 19.1 miles northwest of the project station), and Sutter Tracy Community Hospital (approximately 18.8 miles east of the station).

3.13.2.2 Schools

The nearest schools to the Dalton crossover station include Andrew N. Christensen Middle School and Christensen Preschool, both located approximately 0.3 mile from the project site.

3.13.2.3 Parks

The East Bay Regional Park District (EBRPD) and the Livermore Area Recreation and Park District (LARPD) administer the regional and local parks within the project vicinity. Nearby recreational uses include Christensen Park, which is located approximately 0.5 mile to the southeast; Summit Park and Northfront Park, located about 1 mile to the southeast; North Livermore Neighborhood Park and Springtown Golf Course, located about 1 mile to the southwest; the Livermore/Pleasanton Rod and Gun Facility about 0.5 mile to the northwest (0.25 mile east of the project's proposed temporary offsite workspace); and Brushy Peak Regional Preserve, which is located approximately 1 mile to the east.

3.13.2.4 Other Public Services

There is a water tower located approximately 950 feet east of the proposed project site.

3.13.3 Applicant-Proposed Measures

The following APM would be implemented:

- **APM-T&T-1: Traffic Coordination.** Emergency service providers will be notified of the timing, location and duration of construction activities. Traffic control devices and signage will be used as needed.

3.13.4 Impacts

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

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

(i) Fire protection?

and

(ii) Police protection?

The proposed project modifies and updates an existing gas transmission pipeline facility and would not increase the capacity of the system. It is part of PG&E's larger effort to enhance the safety of its gas transmission pipeline system. The project would not adversely affect service ratios, response times, or other performance objectives for any of the public services or require new services. PG&E would implement APM-T&T-1 that requires it to notify emergency services providers regarding the timing and location of construction activities to avoid any potential delay in response times in the construction area. No impacts to fire and police protection would occur.

(iii) Schools?

The nearest schools are located approximately one-third mile, over 1,800 feet, from the project area and active construction sites. No impacts to schools would occur as a result of updating and modernizing an existing pipeline facility.

(iv) Parks?

The proposed project would not result in an increase in population or visitors to the project area because it would not increase the capacity of the system. There would be no increased demand on public services or need for governmental facilities, including parks. As a result, impacts related to the provision of or need for these facilities would not occur.

(v) Other public facilities?

The proposed project would not result in an increase in population or visitors to the project area because it would not increase the capacity of the system. No impacts to other public facilities, including medical facilities or the water tower located east of the Dalton crossover station, would occur as a result of the project.

3.14 Recreation

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☑
(b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☑

3.14.1 Introduction

This section evaluates existing recreational opportunities in the project area and the project's potential to cause increases in use or the need for construction and expansion of recreational facilities. The proposed project would not have impacts to recreational opportunities.

3.14.2 Environmental Setting

The EBRPD and the LARPD administer the regional and local parks within the project vicinity. Nearby recreational uses include Christensen Park, which is located approximately 0.5 mile to the southeast; Summit Park and Northfront Park, located about 1 mile to the southeast; North Livermore Neighborhood Park and Springtown Golf Course, located about 1 mile to the southwest; the Livermore/Pleasanton Rod and Gun Facility about 0.5 mile to the northwest (0.25 mile east of the project's proposed temporary offsite workspace); and Brushy Peak Regional Preserve, which is located approximately 1 mile to the east. No parks, trails, or other recreational facilities are located within the project area.

3.14.3 Impacts

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

(a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

The proposed project modifies and updates an existing gas transmission pipeline facility and would not increase the capacity of the system. The estimated peak workforce would be up to 15 people anticipated to come from the existing regional workforce and the project does not involve additional housing or population increases. It would not create a new or increased demand for existing public parks or recreational facilities and no impact would occur.

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

The project does not include recreational facilities or involve the construction or expansion of existing recreational facilities. No impact would occur.

3.15 Traffic and Transportation

	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 non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☐	☑
(b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☑	☐
(c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☑
(d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☑
(e) Result in inadequate emergency access?	☐	☐	☑	☐
(f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☑

3.15.1 Introduction

This section describes existing traffic and transportation conditions in the project area. The project would not result in impacts to traffic and transportation.

3.15.2 Environmental Setting

Roadways and intersections are rated at varying levels of service (LOS). LOS is a measure of roadway operating conditions, ranging from LOS A, which represents the best range of operating conditions to LOS F, which represents the worst. Basic definitions are presented in Table 3.15-1, Level of Service Criteria for Roadways. LOS can be estimated based on the average delay experienced by vehicles on the roadway (City of Livermore, 2013).

TABLE 3.15-1
Level of Service Criteria for Roadways
IS/MND Supporting an ITP and SAA for the PG&E Dalton Crossover Valve Automation Project

LOS	Traffic Flow Characteristics	Average Total Stopped Delay per Vehicle (in Seconds)
A	Free flow; insignificant delays	Less than or equal to 10
B	Stable operation; minimal delays	10–20
C	Stable operation; acceptable delays	20–35
D	Approaching unstable flow; queues develop rapidly but no excessive delays	35–55
E	Unstable operation; significant delays	55–80
F	Forced flow; jammed conditions	Greater than 80

Vasco Road, located 0.5 mile east of the Dalton Crossover Station and just over 1 mile east of the project's temporary offsite workspace at May School Road and Dagnino Road, is the only arterial road in the project vicinity. All other nearby roads are minor local roads. Within the vicinity of the project area, the following intersections are identified as being in LOS E: Vasco Road and I-580 eastbound and westbound ramps; and Vasco Road and Northfront Road.

Impacts from traffic operations would be a function of construction workers traveling to and from the site, construction deliveries, travel between the temporary offsite workspace and the main workspace, and operations staff trips upon project completion. Construction-related traffic on surface streets (i.e., Dagnino Road and Raymond Road) would not significantly impact traffic as existing traffic volumes are minimal. The greatest impacts are likely to be from construction worker trips. An estimated maximum of 15 construction workers per day would be driving to the project area on a daily basis for approximately 5 months. These construction trips would not necessarily occur at the same time, or during the peak period for general traffic.

California Department of Transportation 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.

General Provisions

- The gross weight imposed upon the highway by the wheels on any axle of a vehicle would not exceed 20,000 pounds (lbs.) and the gross weight upon any one wheel, or wheels, supporting one end of an axle, and resting upon the roadway, would not exceed 10,500 lb.
- 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 upon the highway by the wheels on any one axle of a vehicle would not exceed 18,000 lbs. and the gross weight upon any one wheel, or wheels, supporting one end of an axle and resting upon the roadway, would not exceed 9,500 lbs., except that the gross weight imposed upon the highway by the wheels on any front steering axle of a motor vehicle would not exceed 12,500 lb.

Within the vicinity of the project area, designated truck routes include Interstate 580. According to the Circulation Element of the *City of Livermore General Plan* (2013), proposed Intersection Improvements within the vicinity of the project area are planned for Vasco Road and Dalton Avenue, as well as Vasco Road and Scenic Avenue. Roadway widening is proposed for the segment of Vasco Road which runs from north from Interstate-580 to Scenic Avenue. Along this segment, the existing 4 lanes would be increased to 6.

WHEELS, operated by the Livermore Amador Valley Transit Authority (LAVTA), provides fixed-route bus and paratransit services near the project area. Line 15A (Livermore Transit Center – Springtown) provides service 0.25 mile north of the Dalton crossover station at the intersection of Dalton Avenue and Broadmoor Street.

The Bay Area Rapid Transit rail system station closest to the Dalton crossover station includes the Dublin/Pleasanton Station approximately 13 miles to the southwest. The station is near the intersection of Raymond Road and Ames Street, which has a bike lane that serves bicyclists.

3.15.3 Applicant-Proposed Measures

The following APM would be implemented:

- **APM-T&T-1: Traffic Coordination.** Emergency service providers will be notified of the timing, location and duration of construction activities. Traffic control devices and signage will be used as needed.

3.15.4 Impacts

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

(a) Would the project conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

The project involves construction worker travel to and from the site for up to 5 months. Construction and operation of the project does not conflict with any applicable plans or policies regarding traffic or transportation.

(b) Would the project 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?

See response to (a). No impacts would result from construction or operation of the project.

(c) Would the project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

No. The project does not include air traffic.

(d) Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

See response to (a). The project does not include a design feature that pose a hazard to others accessing the project area. No impacts would result.

(e) Result in inadequate emergency access?

Routes for emergency vehicles would be maintained throughout project construction, and impacts would be less than significant with implementation of APM T&T-1.

(f) Would the project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

See response to (a). No impacts would result.

3.16 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 are new or expanded entitlements needed?	☐	☐	☐	☑
(e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☑
(f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☑
(g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☑

3.16.1 Introduction

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

3.16.2 Environmental Setting

3.16.2.1 Water

All new piping would be pressure tested (referred to as hydrostatic testing or hydrotesting) onsite above ground within the temporary construction area before being laid in the trench. Water quality and drainage control measures are discussed in Section 3.8, Hydrology and Water Quality. Water would be brought to the project area by truck for dust control and hydrostatic testing of the pipeline during construction.

3.16.2.2 Wastewater

Portable toilets would be used in the project area and waste would be disposed of at a local wastewater treatment plant by the service provider.

3.16.2.3 Landfills

General types of solid nonhazardous waste produced during construction would include food, glass, paper, plastic, and materials that would be recycled and/or disposed of appropriately. Operation of the project would not generate waste. According to the Alameda County website, there are three landfills within Alameda County: Altamont Landfill and Resource Recovery Facility, Tri-Cities Landfill, and Vasco Road Landfill. Altamont Landfill and Resource Recovery Facility and Tri-Cities Landfill are operated by Waste Management, while Vasco Road Landfill is operated by Republic Services, Inc.

3.16.3 Impacts

The analysis of potential impacts was based on CEQA guidelines for the evaluation of impacts on the environment from a proposed project. The CEQA guidelines ask, would the project:

(a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

Hydrotesting would produce a small amount of discharge water. Hydrotest water would be analyzed prior to the test, the data reviewed, and the pipeline tested. Upon completion of the hydrotest, the test water would be stored onsite and tested to confirm suitability for discharge. Test water would then be hauled offsite and disposed of in accordance with applicable state and federal law. Therefore, there would be no impact.

(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?

The project would not require or result in the construction of new or expansion of existing treatment facilities. Therefore, there would be no impact.

(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?

The project would not require or result in the construction of new stormwater drainage facilities or expansion of existing facilities. Therefore, there would be no impact.

(d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

Water would be brought to the project area by truck for dust control and hydrostatic testing during construction. Approximately 20,000 gallons of test water would be trucked on to the work area from a municipal water source (the City of Livermore). As a result, the project would not require the construction of new or expansion of existing water facilities; existing supplies are sufficient to provide water for dust control and hydrotesting. Therefore, there would be no impact.

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

Portable toilets would be used at construction sites, and waste would be disposed of at a local wastewater treatment plant by the service provider. After hydrotesting is completed, the test water would be hauled offsite to an appropriate disposal site, discharged to a sewer manhole on east side of Ames Street connecting to a publically owned treatment work or used on-site for dust control. There would be no additional operational needs for wastewater disposal. Therefore, there would be no impact.

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

Project construction would result in a small amount of debris such as wrappers for materials, existing piping and valves that would be removed in order to be replaced, and some native soil not used for backfill due to trench volume occupied by engineered fill and new pipeline features. Trash and debris would be managed using dumpsters or rolloff bins. Excess native soil would be managed at the project's temporary work areas.

Debris would be off-hauled for reuse or disposal as appropriate and would not affect permitted capacity at landfills. Operation of the project would not generate waste. Therefore, there would be no impact.

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

General types of solid nonhazardous waste produced during construction 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. Operation of the project would not generate waste. No long-term increase in demand for utilities would result from the project and, therefore, no impacts would occur

3.17 Mandatory Findings of Significance

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☑	☐	☐
(b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)	☐	☐	☑	☐
(c) Does the project have environmental effects which would cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☑

(a) PG&E has submitted applications for a Section 1602 Streambed Alteration Agreement and a Section 2081 Incidental Take Permit with CDFW, a Section 404 Permit with USACE, and a Section 401 water quality certification with the RWQCB. In response to PG&E's application for Nationwide Permit 12, USACE initiated formal consultation with USFWS for potential effects on federally listed species. The project was designed to be consistent with the EACCS and impacts have been minimized to the maximum extent practicable. Compensatory mitigation will be provided for unavoidable impacts through the purchase of offsite mitigation bank credits. Additional measures required by the agencies have been incorporated as appropriate.

Section 3.4, Biological Resources, and Section 3.5, Cultural Resources, discuss the existing resources in the project area and conclude that the project would result in less-than-significant impacts to all biological and cultural resources with implementation of APMs and mitigation measures. Based on the discussion in Sections 3.4 and 3.5, the project does not have the potential to substantially degrade the quality of the environment; substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; substantially reduce the number or restrict the range of a rare or endangered plant or animal; or eliminate important examples of the major periods of California history or prehistory.

(b) Consistent with the revised 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, the effects of present projects, and the effects of probable future projects. Cumulative impacts can result from individually minor but collectively significant effects occurring over a period of time.

The proposed project would result in less-than-significant impacts in all resource areas with implementation of APMs and mitigation measures. According to Alameda County's Construction and Development Services Department, no development projects are proposed for the area in the immediate vicinity of the project area on County land (Alameda County, 2014). Information about proposed projects within City of Livermore jurisdiction was requested from the City of Livermore Planning Department. Multiple contact attempts were made, but no response was received. However, given the small scale of the project and the short duration of construction activities, the project would not represent a considerable contribution to cumulative impacts.

(c) There are no significant environmental impacts resulting from the proposed project and no significant adverse effects on human beings, directly or indirectly, would result from construction or operation of the project.

Appendix A

List of Preparers

Appendix A. List of Preparers/Reviewers

A consultant team headed by Aspen Environmental Group prepared/reviewed this document under the direction of the California Department of Fish and Wildlife (CDFW). Biological resources analysis was led by CDFW. The preparers and technical reviewers of this document are presented below.

Lead Agency

California Department of Fish and Wildlife

Serge Glushkoff, Project Manager ..... Technical Review, Biological Resources

Project Management and Document Production

Aspen Environmental Group

Amy Wilson Morris, Ph.D., Senior Associate ..... Project Manager, Technical Review

Susan Lee, M.S., Vice President ..... Project Oversight

Brewster Birdsall, M.S., P.E., Q.E.P., Senior Associate .. Air Quality, Greenhouse Gas, Noise

Emily Capello, M.P.A., Associate ..... Technical Review, Social Sciences

Sandeep Sabu, M.S., Staff ..... Technical Review, Physical Sciences

Aubrey Mescher, M.S., Associate ..... Technical Review, Hydrology and Water Quality

Elizabeth Bagwell, Ph.D., Associate ..... Cultural and Paleontological Resources

Heather Blair, M.S., Senior Associate ..... Technical Review, Project Management Support

Jody Fessler, Associate ..... Technical Review

Mark Tangard, Senior Associate ..... Document Production

Kati Simpson, Senior Graphics ..... Graphics

Appendix B

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Appendix C

Streambed Alteration Agreement and Biological Opinion

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE
BAY DELTA REGION
7329 SILVERADO TRAIL
NAPA, CALIFORNIA 94558
(707) 944-5500
WWW.WILDLIFE.CA.GOV

STREAMBED ALTERATION AGREEMENT
NOTIFICATION NO. 1600-2014-0028-R3
Unnamed swale tributary to Springtown Alkali Sink Wetlands Preserve
Alameda County

Pacific Gas And Electric Company
Dalton Crossover Valve Automation Project

This Streambed Alteration Agreement (Agreement) is entered into between the California Department of Fish and Wildlife (DFW) and Pacific Gas and Electric Company (Permittee) as represented by Robert Stiving.

RECITALS

WHEREAS, pursuant to Fish and Game Code (FGC) section 1602, Permittee notified DFW on January 23, 2014, that Permittee intends to complete the project described herein.

WHEREAS, pursuant to FGC section 1603, DFW has determined that the project could substantially adversely affect existing fish or wildlife resources and has included measures in the Agreement necessary to protect those resources.

WHEREAS, Permittee has reviewed the Agreement and accepts its terms and conditions, including the measures to protect fish and wildlife resources.

NOW THEREFORE, Permittee agrees to complete the project in accordance with the Agreement.

PROJECT LOCATION

The project is located in Alameda County within and just outside of the northeastern portion of the City of Livermore. Most of the work will occur at the Dalton Crossover Station (APN 99B-5300-007) and the surrounding parcel (APN 99B-5300-006-04), located adjacent the corner of Ames Street and Raymond Road. A sniff hole will be placed in a seasonal wetland, located at Latitude 37.732009 N, Longitude -121.733132 W. A remote staging area is located approximately one mile away (by road) on the southeast corner of Dagnino Road and May School Road (APN 902-0003-001-03).

PROJECT DESCRIPTION

The project expands the existing Dalton Crossover Station and automation of valve facilities. The existing graveled driveway off of Ames Street will be used to access the site during construction. The existing valve station will be expanded to encompass approximately 0.37 acre, which includes the existing 0.07-acre valve station. Total project impacts include 2.51 acres of temporary impacts and 0.37 acre of permanent impacts. Impacts to the seasonal wetland swale include 0.012 acre of temporary impacts.

The 0.97-acre area surrounding the expanded valve station will be graded in a tiered fashion to minimize the potential for erosion. This 0.97-acre graded area will be used for staging during construction. The temporary work area will be revegetated to pre-project or improved conditions, in accordance with the vegetation restoration plan. After construction is complete, future operations and maintenance will be confined to the fenced valve lot, which will be accessed by the existing gravel access road. No construction, operation, or maintenance activities are anticipated outside of the expanded valve station fence after construction is complete.

Two "sniff holes" will be placed on L-114 to alert work crews of gas leaks during construction. One sniff hole will be installed north of the valve station and one sniff hole will be installed south of the valve station. Each sniff hole will require a 30' x 30' workspace (0.02 acre), and will entail excavation to access the pipeline, which is about 5' below the surface. The northern sniff hole workspace is within 0.012 acres of a swale that connects a perennial seep and a seasonal alkaline wetland approximately 300' away. Pipeline integrity information will be collected from the northern sniff hole. Steel plates or high density polyethylene mats will be placed in the northern sniff hole workspace to minimize effects to the swale.

It is not anticipated that there will be surface or subsurface water at the sniff hole during construction. If weather forecasts during construction suggest that flowing water may intrude into the northern sniff hole workspace prior to backfill and restoration, sand bags will be placed upstream to divert water around the sniff hole. Groundwater was not encountered during previous PG&E activities in the area so the need for dewatering the site with pumps is not anticipated. In the unlikely event that the sniff hole must be dewatered by pumping, intakes will be completely screened with wire mesh not larger than 5 millimeters. Water would be released or pumped downstream at an appropriate rate to maintain downstream flows during construction. Upon completion of construction activities, any barriers to flow will be removed in a manner that would allow flow to resume with the least disturbance to the substrate. If pumping is necessary, it would only occur during the installation and removal of the sniff hole.

The remote staging area occupies approximately 1.48 acres. Access will be from May School Road. The remote staging area will be used primarily for the storage and parking of construction-related vehicles, equipment, and materials. No grading will

occur at the site. Following the completion of project activities, the remote staging area will be restored to pre-project conditions in accordance with the vegetation restoration plan.

PROJECT IMPACTS

Existing fish or wildlife resources the project could substantially adversely affect include:

- amphibian species, including California tiger salamander *Ambystoma californiense* (state threatened, federally threatened) and California red-legged frog *Rana draytonii* (federally threatened, state species of special concern)
- invertebrates, including vernal pool fairy shrimp *Branchinecta lynchi* (federally threatened),
- terrestrial species, including avian species, including western burrowing owl *Athene cunicularia* (state species of special concern)
- plant species, including palmate-bracted bird's beak *Chloropyron palmatum* (state endangered, federally endangered),and Livermore tarplant *Deinandra bacigalupii* (CNPS 1B.2)
- grassland habitat,
- riparian (swale) habitat, and
- burrow habitat

The adverse effects the project could have on the fish or wildlife resources identified above include:

- loss of natural swale contour and function,
- short-term release of contaminants,
- temporary loss of habitat
- animal injury or death from construction activities directly or indirectly.
- disruption to nesting birds and other wildlife,
- direct take of terrestrial species,
- capture of terrestrial organisms by construction pits and trenches, and
- impediment of terrestrial animal movement due to permanent and temporary impacts and construction

MEASURES TO PROTECT FISH AND WILDLIFE RESOURCES

1. Administrative Measures

Permittee shall meet each administrative requirement described below.

1.1 Documentation at Project Site. Permittee shall make the Agreement, any extensions and amendments to the Agreement, and all related notification materials and California Environmental Quality Act (CEQA) documents, readily available at the project site at all times

and shall be presented to DFW personnel, or personnel from another state, federal, or local agency upon request.

1.2 Providing Agreement to Persons at Project Site. Permittee shall provide copies of the Agreement and any extensions and amendments to the Agreement to all persons who will be working on the project at the project site on behalf of Permittee, including but not limited to contractors, subcontractors, inspectors, and monitors.

1.3 Notification of Conflicting Provisions. Permittee shall notify DFW if Permittee determines or learns that a provision in the Agreement might conflict with a provision imposed on the project by another local, state, or federal agency. In that event, DFW shall contact Permittee to resolve any conflict.

1.4 Site Inspection. DFW personnel or its agents may inspect the work performed at the project site at any time. As a result of field inspection, DFW may require that additional conditions be applied to protect sensitive biological resources. Such conditions may be amended into this Agreement with the agreement of both parties.

1.5 Notification of Work Initiation/Completion. Permittee will notify DFW Bay Delta Region **7 calendar days** prior to the initiation, and at least 7 calendar days following completion, of work. Notification shall be emailed to Serge Glushkoff, Senior Environmental Scientist, at Serge.Glushkoff@wildlife.ca.gov.

1.6 No Trespass. To the extent that any provisions of this Agreement provide for activities that require the Permittee to traverse another owner's property, such provisions are agreed to with the understanding that the Permittee possesses the legal right to so traverse. In the absence of such right, any such provision is void.

1.7 Compliance with California Endangered Species Incidental Take Permit 2081-2014-017-03. Permittee shall comply with all provisions of the Incidental Take Permit for this project once the Permit has been finalized.

2. Avoidance and Minimization Measures

To avoid or minimize adverse impacts to fish and wildlife resources identified above, Permittee shall implement each measure listed below.

Work Periods and Planning

2.1 Work period. Work within the project area as described in the project description shall be terminate by October 15, 2014 and resume between April 15 and October 15 in 2015. The jurisdictional area subject to Department of Fish and Game Code section 1600 et. seq. is further defined as the entirety of the swale that crosses the project area.

2.2 Work Period Modification. If the Permittee needs more time to complete the authorized activity, the work period may be extended at the discretion of DFW. Contact Serge Glushkoff, Environmental Scientist at (707) 944-5571 or the Yountville office at (707) 944-5520.

2.3 Work Period in Dry Weather Only. Project activities within ten feet of the swale shall be restricted to periods of no swale flow and dry weather. Precipitation forecasts and potential increases in stream flow shall be considered when planning construction activities. Construction activities shall cease and all necessary erosion control measures shall be implemented prior to the onset of precipitation. No work shall occur during a dry-out period of 24 hours after a period of wet weather.

Compliance Monitoring

2.4 Qualified Biologist. A qualified biologist is an individual with a combination of academic training and professional experience in the biological sciences.

2.5 Biological Monitor. A biological monitor is an individual experienced with construction level biological monitoring and who is able to recognize species that may be present in the project area and who is familiar with the habits and behavior of those species.

2.6 On-site Education. Permittee shall conduct an education program for all persons employed or otherwise working on the project site prior to performing any work on-site. The program shall consist of a presentation from a qualified biologist that includes a discussion of the biology of the habitats and species identified in this Agreement and present at this site. The qualified biologist shall also include as part of the education program information about the penalties for violations and project-specific protective measures included in this Agreement. Interpretation shall be provided for non-English

speaking workers, and the same instruction shall be provided for any new workers prior to their performing work on-site. After completion of the training, workers should sign a log that is kept at the project site and can be presented to DFW upon request.

2.7 Qualified Biologist Authority. The biological monitor or qualified biologist shall have the authority to immediately stop any activity that is not in compliance with this Agreement, and/or to order any reasonable measure to avoid or minimize impacts to fish and wildlife resources. Neither the biological monitor nor the DFW shall be liable for any costs incurred as a result of compliance with this measure. This includes cease-work orders issued by the DFW.

2.8 Biological Monitor Responsibilities. The Biological Monitor shall be responsible for all project activities and on-site compliance with all conditions of this Agreement. A DFW approved biological monitor shall be on site during all construction activities.

2.9 Designated Biologist Monitoring. The Designated Biologist shall survey the area immediately prior to the initial ground disturbance. The Designated Biologist shall also investigate areas of disturbed soil for signs of special status species within 30 minutes following the initial disturbance of that given area.

2.10 Access Route Inspection. Before the start of work each morning, the Designated Biologist shall survey the access routes within the Project Area for special status species. If a special status species is discovered by the Designated Biologist or anyone else, DFW shall be notified immediately.

Wildlife Protection and Prevention

2.11 Federal and State Listed Species. The project site has been identified as an area that is potentially inhabited by species listed under the federal Endangered Species Act, the California Endangered Species Act, and/or state species of special concern, including California tiger salamander *Ambystoma californiense* (state threatened, federally threatened), Califorinia red-legged frog *Rana draytonii* (federally threatened, state species of special concern), and vernal pool fairy shrimp *Branchinecta lynchi* (federally threatened). This agreement does not authorize for the take, or incidental take of any State or Federal listed threatened or endangered listed species. The Permittee is required to consult with the appropriate agency prior to commencement of the project, and to comply with any CDFW

incidental take permit or USFWS Biological Opinion issued for this project. Any unauthorized take of listed species may result in prosecution.

2.12 Special Status Plant Species. This site has the potential to support special status plant species, including state and federally listed species, including palmate-bracted bird's beak *Cordylanthus palmatus* (state endangered, federally endangered), and Livermore tarplant *Deinandra bacigalupii* (CNPS List 1B.2). This agreement does not authorize for the take, or incidental take of any State or Federal listed threatened or endangered listed species. The Permittee is required to consult with the appropriate agency prior to commencement of the project, and to comply with any USFWS Biological Opinion issued for this project. Any unauthorized take of listed species may result in prosecution.

2.13 Special Status Species encountered during work. The Designated Biologist will be the primary contact for any employee or contractor who observes a special-status species in the project area. The Designated Biologist will immediately coordinate with the PG&E biologist, and the appropriate regulatory agencies will be notified by telephone within one business day. Follow-up formal notification will be provided in writing. Any work in the vicinity of a special-status species will be stopped and the PG&E biologist will be contacted immediately; work will not resume until the individual has left the construction area of its own accord or is relocated by the appropriately permitted biologist, following coordination with the appropriate agency(ies). Any threatened or endangered species found dead or injured will be turned over immediately to USFWS and/or CDFW for care, analysis, or disposition. PG&E will maintain a record of all special-status species encountered during construction and will provide a report to USFWS and/or CDFW upon request.

2.14 Daily Work Window. Permittee shall terminate all Project Activities 30 minutes before sunset and shall not resume Project Activities until 30 minutes after sunrise during the amphibian migration/active season from October 15 to April 15. The Permittee shall use sunrise and sunset times established by the U.S. Naval Observatory Astronomical Applications Department for determining when Project Activities shall terminate and resume.

2.15 Wildlife Exclusion Fencing. Exclusion fencing approved by DFW shall be installed around the Project site. After installation of the fence barrier, a biological monitor shall daily inspect the Project work area prior to the commencement of activities. If the biological

monitor determines that sensitive species are not within the work area, equipment or materials may be moved onto the work site under the observation of the biological monitor.

2.16 Burrow avoidance. Grading activities shall be conducted to minimize or eliminate effects to rodent burrows. Areas with high concentrations of burrows and large burrows suitable for San Joaquin kit fox dens shall be avoided by grading activities to the maximum extent possible. In addition, when concentrations of burrows or large burrows are observed within the site these areas shall be staked and flagged to ensure construction personnel are aware of their location and to facilitate avoidance of these areas when possible.

2.17 Equipment Inspection. Before the start of work each morning, the Designated Biologist shall check for special status species under any equipment such as vehicles and stored pipes. The Designated Biologist shall check all excavated steep-walled holes or trenches greater than 6-inches deep for any special status species.

2.18 Cap Pipes. Because the special status species are attracted to cave-like structures such as pipes and may enter stored pipes and become trapped, Permittee shall ensure that all construction pipes, culverts, or similar structures that are stored in the Project Area for one or more overnight periods are either securely capped prior to storage or thoroughly inspected by the Designated Biologist and/or the construction foreman/manager for these animals before the pipe is subsequently buried, capped, or otherwise used or moved in any way.

2.19 Open Excavation and Trenches. To prevent the accidental entrapment of special status species during construction, all excavated holes or trenches deeper than 6 inches will be covered at the end of each work day with plywood or similar material with no cracks or open spaces. Edges of plywood shall be sealed with dirt and plywood shall be weighted down to prevent movement. Foundation trenches or larger excavations that cannot easily be covered will be ramped at the end of the work day to allow trapped animals an escape method. The ramp may be constructed of either dirt fill or wood planking or other suitable material that is placed at an angle no greater than 30 degrees.

2.20 Trench inspection. Trenches and excavated holes shall be examined by a qualified biologist each morning. Prior to the filling of such holes, these areas will be thoroughly inspected for special status species by a qualified biologist. If a trapped animal is observed,

construction will cease until the individual escapes or is relocated per the guidance of the appropriate agencies.

2.21 Staging and Storage. Staging and storage areas for equipment, materials, fuels, lubricants and solvents, shall be located outside of the stream channel and banks, avoiding areas of concentrated ground squirrel burrows suitable for use by California tiger salamander or burrowing owls. Stationary equipment such as motors, pumps, generators, compressors and welders, located within or adjacent to the stream shall be positioned over drip pans. Any equipment or vehicles driven and/or operated within or adjacent to the stream must be checked and maintained daily, to prevent leaks of materials that if introduced to water could be deleterious to aquatic life. Vehicles must be moved away from the stream prior to refueling and lubrication.

2.22 Spoil Placement. Spoils shall be placed avoiding areas of concentrated ground squirrel burrows suitable for use by California tiger salamander or burrowing owls.

2.23 Wetland avoidance. The portions of the seasonal and perennial wetlands adjacent to the northern sniff hole temporary work area will be marked with orange construction fencing and erosion control fencing and will be avoided during Project Activities. Exclusion zones will be designated around aquatic habitats onsite that will not be subject to project impacts. Orange construction fencing will be installed around the perennial wetland adjacent to the southern sniff hole, and it will be avoided during project activities. The area within 250 feet of the perennial stock pond located north of the valve station will be designated as environmentally sensitive and will be flagged for avoidance during project activities.

2.24 Breeding Bird Survey Before Commencement. If construction, grading, or other project-related improvements are scheduled during the nesting season of protected raptors and migratory birds (February 1 to August 31), a focused survey for active nest of such birds shall be conducted by a qualified biologist or a biological monitor no more than one week prior to the beginning to project-related activities. The results of the survey shall be faxed to (707) 944-5553 or emailed to Serge.Glushkoff@wildlife.ca.gov. Refer to Notification Number 1600-2014-0028-R3 when submitting the survey to the DFW. If non-raptor nests may be impacted by project activities or raptor nests are located within 250 feet of project area, Permittee shall consult with the DFW and the United States Fish & Wildlife Service (USFWS) regarding appropriate action to comply with the Migratory Bird Treaty Act of 1918 and the Fish & Wildlife

Code of California. If a lapse in project-related work of 5 days or longer occurs, another focused survey and if required, consultation with the DFW and USFWS, shall be required before project work can be reinitiated.

2.25 Survey for Burrowing Owls Prior to Clearing. Permittee shall have qualified wildlife biologist pre-approved by the Department perform a survey for burrowing owls within 60 days and not less than 30 days prior to clearing any area.

2.26 Notification to the California Natural Diversity Database. If any special status species are observed in project surveys, Permittee or designated representative shall submit Natural Diversity Data Base (NDDB) forms to the NDDB for all preconstruction survey data within five (5) working days of the sightings, and provide to the Department's Regional office three (3) copies of the NDDB forms and survey maps.

2.27 Allow Wildlife To Leave Unharmed. Permittee shall allow any wildlife encountered during the course of construction to leave the construction area unharmed. This authorization does not allow for the trapping, capture, or relocation of any state or federally listed species.

2.28 Demarcate Work Area Boundary. The qualified biologist shall demarcate the outer perimeter of the work area to prevent damage to adjacent habitat and to provide visual orientation to its limits. Marking shall be in place during all periods of operation. All persons employed or otherwise working on the project site shall be instructed about the restrictions that the marking represents.

Construction Avoidance/Minimization Measures

2.29 Staging Areas. Equipment staging areas shall be located outside the bed, bank or channel of any drainage swales or wetland areas.

2.30 Vegetation Removal. Disturbance or removal of vegetation shall be kept to the minimum necessary to complete project related activities.

2.31 Refueling of equipment. Refueling of construction equipment and vehicles shall not occur within 200 feet of any watercourse, or anywhere that spilled fuel could drain to a watercourse. Tarps or similar material shall be placed underneath the construction equipment and vehicles, when refueling, to capture incidental spillage of fuels. Equipment and vehicles operating in the project

area shall be checked and maintained daily to prevent leaks of fuels, lubricants, or other liquids. When refueling of equipment outside of the channel is infeasible, refueling activities shall be conducted in such a way that spilled petroleum products will not enter the watercourse.

2.32 Erosion control during construction. Erosion control measures shall be utilized throughout all phases of operation where sediment runoff from exposed slopes threatens to enter waters of the State. At no time shall silt laden runoff be allowed to enter the swale or swale network or directed to where it may enter these features.

2.33 Cover Exposed Spoils. The contractor shall have readily available plastic sheeting or visquine and will cover exposed spoil piles and exposed areas to prevent these areas from losing loose soil into any unnamed drainage. These covering materials shall be applied when it is evident rainy conditions threaten to erode loose soils into state waters.

2.34 Hazardous Substances. Raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances which could be hazardous to aquatic life, resulting from project related activities, shall be prevented from contaminating the soil and/or entering the waters of the state. Any of these materials, placed within or where they may enter the stream by Permittee or any party working under contract, or with the permission of Permittee, shall be removed immediately.

2.35 Water pollution. Debris, soil, silt, bark, rubbish, creosote-treated wood, raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances which could be hazardous to aquatic life, resulting from project related activities, shall be prevented from contaminating the soil and/or entering the waters of the State. Any of these materials, placed within or where they may enter the stream or lake, by Permittee or any party working under contract, or with permission of the Permittee, shall be removed immediately.

2.36 Erosion Control Maintenance. Permittee shall make modifications, repairs and improvements to erosion control measures whenever it is needed. Materials used to repair or improved erosion control measures shall not pose a risk to fish or wildlife.

2.37 Water in and around sniff hole. If standing or ponded water is observed, or anticipated to occur due to pending precipitation within the northern sniff hole or within any portion of the swale that may be affected by work activities, Permittee shall shall position sandbag barriers in the swale to isolate the work area from the flowing water. The sandbags shall be filled with clean sand and placed by hand. The sandbag barrier shall remain in place as necessary until all work in the swale is complete or water is no longer present and no rise in subsurface water can reasonably be anticipated.

2.38 Dewatering. In the event that the sniff hole must be dewatered by pumping, intakes shall be completely screened with wire mesh not larger than 5 millimeters. Water shall be released or pumped downhill at an appropriate rate to maintain downstream flows during construction. Upon completion of construction activities, any barriers to flow will be removed in a manner that would allow flow to resume with the least disturbance to the substrate.

Site Restoration

2.39 Conserve Top Soil. The Permittee shall remove and stockpile separately, the top six (6) to twelve (12) inches of soils within the swale. This stockpiled top soil material shall be placed back so as to replicate the original soil stratigraphy at the end of construction, and the swale returned to pre-project grade.

2.40 Restore Swale. Permittee shall return swale contour as near as possible to pre-project grade and conditions.

2.41 The seasonal alkali wetland swale shall be seeded with a custom blend of saltgrass (*Distichlis spicata*) and alkali heath (*Frankinia salina*)

2.42 Treat exposed areas. Permittee shall stabilize all disturbed soils within the Project site to reduce erosion potential, both during and following construction. All exposed/disturbed areas and access points within the stream zone left barren of vegetation as a result of the construction activities shall be restored by seeding with a blend of native erosion control grass seeds. Seeded areas shall be mulched. All other areas of disturbed soil which drain toward the stream channel shall be seeded with erosion control grass seeds.

2.43 Revegetation. Revegetation shall be completed as soon as possible after construction activities in those areas cease. Seeding placed

between October 15 and April 15 must be covered with broadcast straw, jute netting, coconut fiber blanket or similar erosion control blanket. Monofilament or woven plastic strands shall not be used.

2.44 Prohibited Plant Species. Permittee shall not plant, seed or otherwise introduce invasive exotic plant species. Prohibited exotic plant species include those identified in the California Exotic Pest Plant Council's database, which is accessible at: http://www.cal-ipc.org/paf/.

2.45 Remove Temporary Flagging, Fencing, and Barriers. Permittee shall remove all temporary flagging, fencing, and/or barriers from the project site and vicinity of the stream upon completion of project activities.

2.46 Site Restoration/Stabilization Success. To ensure that site restoration and erosion control measures are successful, and as proposed in the Vegetation Restoration Plan dated January 2014, Permittee shall be required to monitor site conditions for three years following project completion. Site visits will 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 there is an increase in erosion or bank instability, as determined by CDFW, the Permittee will be required to consult with CDFW on corrective actions and monitor the location for another twelve months.

2.47 Genetic Material for Mitigation Plantings. In addition to compliance with Condition 2.46 above, plant material used for re-vegetation shall be sourced locally and shall consist of native vegetation. Original genetic material for all mitigation plantings shall have been collected from within 50 miles of the project site. However, the plants/seed may have been propagated by a grower outside of this area.

3. Reporting Measures

Permittee shall meet each reporting requirement described below. Include the notification number when submitting all reports and plans to DFW.

3.1 Photographic Documentation of Work. Prior to commencement of work, the Permittee shall flag a minimum of four (4) vantage points that offer representative views of the project site and work areas. The Permittee shall photograph the project area from each of the flagged points, noting the direction and magnification of each photo. Upon completion of construction, the Permittee 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 DFW within thirty (30) days of completion of the project. Please refer to Notification 2014-0028-3 when notifying the Department.

3.2 Rare Plant Survey Methods and Results. Permittee shall submit to DFW a report on any rare plant survey methodology and results of the survey as they become available. Within one week of survey completion send reports to: Serge.Glushkoff@wildlife.ca.gov.

CONTACT INFORMATION

Any communication that Permittee or DFW submits to the other shall be in writing and any communication or documentation shall be delivered to the address below by U.S. mail, fax, or email, or to such other address as Permittee or DFW specifies by written notice to the other.

To Permittee:

Pacific Gas and Electric Company
Mr. Rob Stiving
6111 Bollinger Canyon Road, Office 3230B
San Ramon CA 94583
(925) 244-3672

To DFW:

Department of Fish and Wildlife
Bay Delta Region
7329 Silverado Trail
Napa, CA 94558
Attn: Lake and Streambed Alteration Program – Serge Glushkoff
Notification #1600-2014-0028-R3
Fax (707) 944-5553
Phone (707) 944-5571
Serge.Glushkoff@wildlife.ca.gov

LIABILITY

Permittee shall be solely liable for any violations of the Agreement, whether committed by Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents or contractors and subcontractors, to complete the project or any activity related to it that the Agreement authorizes.

This Agreement does not constitute DFW's endorsement of, or require Permittee to proceed with the project. The decision to proceed with the project is Permittee's alone.

SUSPENSION AND REVOCATION

DFW may suspend or revoke in its entirety the Agreement if it determines that Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, is not in compliance with the Agreement.

Before DFW suspends or revokes the Agreement, it shall provide Permittee written notice by certified or registered mail that it intends to suspend or revoke. The notice shall state the reason(s) for the proposed suspension or revocation, provide Permittee an opportunity to correct any deficiency before DFW suspends or revokes the Agreement, and include instructions to Permittee, if necessary, including but not limited to a directive to immediately cease the specific activity or activities that caused DFW to issue the notice.

ENFORCEMENT

Nothing in the Agreement precludes DFW from pursuing an enforcement action against Permittee instead of, or in addition to, suspending or revoking the Agreement.

Nothing in the Agreement limits or otherwise affects DFW's enforcement authority or that of its enforcement personnel.

OTHER LEGAL OBLIGATIONS

This Agreement does not relieve Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, from obtaining any other permits or authorizations that might be required under other federal, state, or local laws or regulations before beginning the project or an activity related to it.

This Agreement does not relieve Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, from complying with other applicable statutes in the FGC including, but not limited to, FGC sections 2050 et seq. (threatened and endangered species), 3503 (bird nests and eggs), 3503.5 (birds of prey), 5650 (water pollution), 5652 (refuse disposal into water), 5901 (fish passage), 5937 (sufficient water for fish), and 5948 (obstruction of stream).

Nothing in the Agreement authorizes Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, to trespass.

AMENDMENT

DFW may amend the Agreement at any time during its term if DFW determines the amendment is necessary to protect an existing fish or wildlife resource.

Permittee may amend the Agreement at any time during its term, provided the amendment is mutually agreed to in writing by DFW and Permittee. To request an amendment, Permittee shall submit to DFW a completed DFW "Request to Amend Lake or Streambed Alteration" form and include with the completed form payment of the corresponding amendment fee identified in DFW's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5).

TRANSFER AND ASSIGNMENT

This Agreement may not be transferred or assigned to another entity, and any purported transfer or assignment of the Agreement to another entity shall not be valid or effective, unless the transfer or assignment is requested by Permittee in writing, as specified below, and thereafter DFW approves the transfer or assignment in writing.

The transfer or assignment of the Agreement to another entity shall constitute a minor amendment, and therefore to request a transfer or assignment, Permittee shall submit to DFW a completed DFW "Request to Amend Lake or Streambed Alteration" form and include with the completed form payment of the minor amendment fee identified in DFW's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5).

EXTENSIONS

In accordance with FGC section 1605(b), Permittee may request one extension of the Agreement, provided the request is made prior to the expiration of the Agreement's term. To request an extension, Permittee shall submit to DFW a completed DFW "Request to Extend Lake or Streambed Alteration" form and include with the completed form payment of the extension fee identified in DFW's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5). DFW shall process the extension request in accordance with FGC 1605(b) through (e).

If Permittee fails to submit a request to extend the Agreement prior to its expiration, Permittee must submit a new notification and notification fee before beginning or continuing the project the Agreement covers (Fish & G. Code, § 1605, subd. (f)). .

EFFECTIVE DATE

The Agreement becomes effective on the date of DFW's signature, which shall be: 1) after Permittee's signature; 2) after DFW complies with all applicable requirements

under the California Environmental Quality Act (CEQA); and 3) after payment of all applicable FGC costs.

TERM

This Agreement shall expire on December 31, 2018, unless it is terminated or extended before then. All provisions in the Agreement shall remain in force throughout its term. Permittee shall remain responsible for implementing any provisions specified herein to protect fish and wildlife resources after the Agreement expires or is terminated, as FGC section 1605(a)(2) requires.

AUTHORITY

If the person signing the Agreement (signatory) is doing so as a representative of Permittee, the signatory hereby acknowledges that he or she is doing so on Permittee's behalf and represents and warrants that he or she has the authority to legally bind Permittee to the provisions herein.

AUTHORIZATION

This Agreement authorizes only the project described herein. If Permittee begins or completes a project different from the project the Agreement authorizes, Permittee may be subject to civil or criminal prosecution for failing to notify DFW in accordance with FGC section 1602.

CONCURRENCE

The undersigned accepts and agrees to comply with all provisions contained herein. Review of this project pursuant to the California Environmental Quality Act may result in the need for DFW and Permittee to mutually approve further measures to avoid, minimize or compensate for significant environmental impacts

PACIFIC GAS AND ELECTRIC COMPANY

Robert Q. Stiving — 4/3/14

Robert Stiving — Date

Manager, Environmental Planning and Permitting

FOR DEPARTMENT OF FISH AND WILDLIFE

Craig J. Weightman
Environmental Program Manager

Date

Prepared by: Serge Glushkoff
Senior Environmental Scientist

Date Sent: April 1, 2014

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Suite W-2605
Sacramento, California 95825-1846

In Reply Refer to:
FF08ESMF00-
2014-F-0194

MAY 15 2014

Ms. Jane M. Hicks
Chief, Regulatory Division
Attn: Christina Cavett-Cox
San Francisco District
U. S. Army Corps of Engineers
1455 Market Street
San Francisco, California 94103-1398

Subject: Appending the Dalton Crossover Valve Automation Project in Alameda County, California (U.S. Army Corps of Engineers (Corps) File Number 2013-00434S) to the May 31, 2012 *Programmatic Biological Opinion for U.S. Army Corps of Engineers (Corps) Permitted Projects Utilizing the East Alameda County Conservation Strategy that May Affect Federally Listed Species in East Alameda County, California* (Corps File Number 2011-00230S)

Dear Ms. Hicks:

This letter is in response to the Corps' December 19, 2013, request for consultation with the U.S. Fish and Wildlife Service (Service) on the Pacific Gas and Electric's (PG&E) Dalton Crossover Valve Automation Project north of the City of Livermore, Alameda County, California. Your letter was received in our office on December 23, 2013. At issue are the potential effects of the proposed project on the federally endangered longhorn fairy shrimp (*Branchinecta longiantenna*), the threatened vernal pool fairy shrimp (*Branchinecta lynchi*) and its critical habitat, the threatened California red-legged frog (*Rana draytonii*) and its critical habitat, the threatened Central California Distinct Population Segment (DPS) of the California tiger salamander (*Ambystoma californiense*) (Central California tiger salamander), the endangered San Joaquin kit fox (*Vulpes macrotis mutica*), and the endangered palmate-bracted bird's beak (*Cordylanthus palmatus*). This document is issued under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (Act).

The Service has determined that the Dalton Crossover Valve Automation Project may affect, but is not likely to adversely affect designated critical habitat for the California red-legged frog. The proposed project is located within designated California red-legged frog critical habitat unit CCS-2B. However, based on the small project area, the temporary nature of most project effects, and the implementation of the proposed Conservation Measures, effects of the project on primary constituent elements (PCEs) for California red-legged frog will be insignificant and discountable.

Your letter requested that the proposed project be appended to the May 31, 2012 Programmatic Biological Opinion for U.S. Army Corps of Engineers (Corps) Permitted Projects Utilizing the East Alameda County Conservation Strategy that May Affect Federally Listed Species in East Alameda County, California (Programmatic Biological Opinion). The proposed project meets the suitability criteria and is within the geographic area analyzed in the Programmatic Biological Opinion. This letter is an agreement by the Service to append the proposed project to the Programmatic Biological Opinion and represents the Service's biological opinion on the effects of the proposed action on the California red-legged frog, Central California tiger salamander, San Joaquin kit fox, longhorn fairy shrimp, and vernal pool fairy shrimp and its critical habitat. A copy of the Programmatic Biological Opinion is available on our website at http://www.fws.gov/sacramento/es/Consultation/Programmatic-Consultations/Documents/East_Alameda_Strategy_BO.pdf and the East Alameda County Conservation Strategy website at http://eastalco-conservation.org/index.html.

This document is based on: (1) the Programmatic Biological Opinion; (2) the December 2013, biological assessment; (3) emails and phone conversations regarding the project; (4) the East Alameda County Conservation Strategy (Conservation Strategy); and (5) other information available to the Service.

Consultation History

December 23, 2013:	The Service received the Corps' letter requesting initiation of consultation for the proposed project.
February 28, 2014:	The Service provided a draft project description to PG&E and requested additional information.
March 10, 2014:	The Service attended a site visit.
March-April 2014:	The Service and PG&E exchanged emails and telephone calls regarding the proposed project.

BIOLOGICAL OPINION

Description of the Proposed Action

The proposed Dalton Crossover Valve Automation Project will install valve automation facilities at the existing Dalton Crossover valve station, located on the corner of Ames Street and Raymond Road, north of Livermore, California. PG&E is proposing this project to enhance the safety of its gas transmission pipeline system by adding automated or remote-control valves at locations where the technology will have the most benefit. These valves will provide operators with the capability to remotely isolate sections of larger diameter and higher pressure natural gas transmission pipelines that transverse heavily populated areas. In addition, PG&E will add pressure transmitters and flow meters to provide operators with more information about the state of the pipeline. This will allow operators to more rapidly detect a pipeline rupture and isolate a pipeline segment to minimize damages.

The V-046 Dalton Crossover has been identified as one of the automation locations on gas transmission pipelines L-114 and L-303. In addition to adding automated valves at this location, PG&E will install an ILI receiver and launcher traps on L-114 and add pressure transmitters and flow meters.

Project Location

The project is located in eastern Alameda County, north of the City of Livermore in the East Alameda County Conservation Strategy (Conservation Strategy) Conservation Zone CZ4. There will be two main work areas: the Dalton Crossover Station work area (including two adjacent sniff hole locations) and a remote staging area. The Dalton Crossover Station, including the adjacent sniff hole work areas, will be the main work area and will encompass approximately 1.45 acres located within an undeveloped parcel containing open space with low hills and scattered rock outcrops present to the north and east.

A 1.48-acre remote staging area, located approximately 1.25 miles northwest of the valve station, will be utilized during construction. It is located on the southeast corner of May School Road and Dagnino Road. The staging area is a flat grazed field that will not require any grading. The remote staging area is accessible by vehicles from both Dagnino Road and May School Road.

Remote Staging Area

The remote staging area will be used primarily for the storage and parking of project-related vehicles, equipment, and materials during construction; it may also be used as a preparation site for some components of construction. For example, segments of new pipe may be welded at the remote staging area and then trucked over to the valve station for final assembly and installation. No grading will occur on the remote staging area. Geotextile fabric will be laid over mowed vegetation in the staging area and gravel will be placed on top of the fabric. In order to avoid the ditch located adjacent to the remote staging area along Dagnino Road, construction access will be from May School Road. The remote staging area will be fenced with temporary orange fencing to ensure that the seasonal wetland located east of the remote staging area is avoided. When project work is completed, gravel and geotextile fabric will be removed from the site.

Sniff Holes

During construction, the mainline will be taken out of service. Two "sniff holes" will be placed on L-114, one approximately 125 feet north of the valve station temporary work area and one approximately 100 feet south of the valve station temporary work area. Each sniff hole will be fitted with a "sav-a-valve" that includes a piece of 2-inch diameter or smaller steel pipe approximately 3- 4 inches long with a cap and an internal plug. At each sniff hole location, a probe with an electronic gas detector will be inserted into the existing pipeline. The probe will detect gas leaks during construction and will provide work crews with early warning, should one of the gas isolation points fail.

Each sniff hole will require a temporary excavation area of approximately 10 feet by 10 feet surrounded by a temporary work area footprint. The total temporary work space for each sniff hole

location, including the excavation site, will be 30 feet by 30 feet or 0.02 acre. Excavation will be performed using vacuum extraction trucks. Due to the location of the northern sniff hole within a seasonal wetland, either steel plates or high density polyethylene mats, approximately 8 feet by 12 feet in size, will be temporarily placed over vegetation within the northern sniff hole work area to minimize damage to the wetland resulting from access to the sniff hole. Ground disturbance at each sniffhole work area will be limited to the installation and removal of the sniff hole and restoration activities.

Dalton Crossover Station

The majority of project activities, including pipeline replacement and automated valve installation, will take place within the existing Dalton Crossover Station. The area immediately surrounding the expanded station (the temporary construction area) will be graded and sloped. The existing station is currently accessed via a graveled driveway off of Ames Street. The existing driveway will be used to access the site during construction.

The existing valve station will be expanded to encompass approximately 0.37 acre, which includes the existing 0.07 acre valve station. To accomplish this, PG&E's existing underground pipelines within the station first will be located using a technique called "potholing" where high pressure water from a truck is used to break apart the soil while a vacuum removes the water/soil mix to expose the top of the underground pipelines. After each pipeline is located, several trenches and holes will be dug within the permanent expansion area to access and replace the pipelines. Excavation will be performed using backhoes, excavators, vacuum extraction trucks and other typical digging equipment. Spoils will either be hauled off-site or will be temporarily stockpiled on-site within the temporary construction area surrounding the expanded station footprint. After the existing pipelines are exposed, a main line valve and existing pipe within an approximately 250 linear foot area will be removed and new pipe and valve assemblies will be brought in from the remote staging area and connected to the existing pipeline in the valve station.

The following activities also will take place within the permanently-impacted upland area within the expanded station:

- Install an actuator on the existing main line valve on Line 303
- Upgrade the existing 20-inch ball valve with a 24-inch ball valve and actuator on Line 114
- Install a 24-inch pig receiver and associated valves on Line 114
- Install a 36-inch pig launcher and associated valves on Line 114
- Install a 12-inch blow down valve
- Install 4 new Pressure Indicating Transmitters
- Install a new Remote Terminal Unit and Supervisory Control and Data Acquisition equipment in station
- Install new power supply to station
- Install an approximately 15 to 40-foot tall communications antenna

After backfilling is complete, gravel will be placed throughout the permanently-impacted area of the expanded station and may also be placed on top of the existing graveled access road, as necessary, upon the completion of construction. Permanent fencing (7-foot-high chain-link with three rows of barbed wire) will be installed along the entire perimeter of the new crossover station. After construction is complete, future operations and maintenance will be confined to the fenced valve lot, which will be accessed by the existing gravel access road. Maintenance of the valves in the expanded lot will occur approximately once a year. In addition, the pipeline will be "pigged" approximately every ten years; this operation will take approximately two weeks. "Pigging" is a method to clean or inspect a segment of pipeline by running an electronic device ("pig") from the pig launcher in the valve station.

Temporary Construction Area

Because a significant amount of grading will be necessary to create a flat work space to expand the existing valve lot, the surrounding 0.97-acre area will be graded and sloped to minimize the potential for erosion into the expanded valve lot after construction. This area will be used during construction for staging, stockpiling, welding (including X-ray inspection of welds), and hydrotesting. No construction, operation, or maintenance activities are anticipated outside of the expanded valve lot fence after the construction is complete. The temporary construction area will be revegetated to pre-project or improved conditions, in accordance with a vegetation restoration plan.

Hydrostatic Testing

All new piping will be hydrostatically pressure-tested (hydrotested) above ground before being laid in the trench, in order to ensure its integrity. Approximately 20,000 gallons of test water will be trucked onto the work area from a municipal water source. Once the piping is filled, the water pressure will be slowly raised to the appropriate test pressure for a minimum of 8 hours. The majority of hydrotesting will occur within the valve station work area. However, there is a possibility that some hydrotesting will occur in the remote staging area.

At the end of the test, the piping will be emptied of water and the water will be collected into liquid storage tanks staged within the existing station area or the temporary work area. After hydrotesting is completed, the test water will be hauled off-site to an appropriate disposal site, discharged to a sewer manhole on the east side of Ames Street that connects to a publically owned treatment work, or used on-site for dust control. If used for on-site dust control, free standing water will not be allowed to collect on-site.

Restoration

Upon project completion, construction material will be removed from all work areas and debris will be removed and disposed of at an appropriate landfill. Vegetation within all temporarily affected work areas will be restored to pre-project conditions. Although the temporary work area surrounding the expanded valve station will not be restored to pre-project grade and contour, it will be revegetated per an approved vegetation restoration plan.

Schedule

Construction is anticipated to take up six months to complete and will extend from May 1 through September 30, 2014. Crews typically will work from approximately 6:00 a.m. to 5:00 p.m., Monday through Saturday, and up to one week of night work may be required during pipeline outages. If at any point it becomes evident that construction will not be completed prior by September 30, 2014, PG&E will immediately notify the Service, CDFW, USACE, and Regional Water Quality Control Board and request an extension. PG&E will implement additional minimization measures, as directed by these agencies.

Impacts

The proposed project will affect a total of approximately 2.88 acres outside of the existing station. Of this, 2.51 acres will be temporarily disturbed and 0.37 acre will be permanently impacted (see Table 1). The project's aquatic impacts will include excavation of approximately 0.012 acre of a 0.056-acre seasonal wetland located at the northern sniff hole site.

Table 1. Dalton Crossover Valve Automation Project Temporary and Permanent Impacts

Location of Activities	**Approximate Area (Acres)**	
	Temporary	**Permanent**
Dalton Station Work Area (Excludes 3,000 sq. ft. existing graveled lot and 16,000 sq. ft. permanent expansion area)	0.97	0
Southern Sniff Hole Work Area	0.02	0
Northern Sniff Hole Work Area	0.02	0
Access route to Southern Sniff Hole	0.02	0
Access Route to Northern Sniff Hole[a]	0	0
Remote Staging Area	1.48	0
Dalton Station Expansion Area	0	0.37
Total	**2.51**	**0.37**

[a] An existing dirt access road will be used to access the northern sniff hole

Conservation Measures

Except as noted below, PG&E will implement the proposed project using the Minimization Measures described in the Programmatic Biological Opinion and the Avoidance and Minimization measures described by the Conservation Strategy.

All measures: All measures will be modified to include involvement of CDFW for project review, coordination, and completion.

Programmatic Biological Opinion General Minimization Measures

Measure 6: Replace all references to "translocation" with "relocation."

Measure 10: Measure 10 is amended to read: "To the maximum extent feasible, all construction activities will cease one half hour before sunset and will not begin prior to one half hour after sunrise. If nighttime construction cannot be avoided, PG&E will contact the Service to seek approval of limited night time work. The duration and timing of night time work must be approved by the Service and will be limited in extent, duration, and brightness to the maximum extent feasible. Lighting will be faced downward and will only be utilized in the immediate workspace. A Service- and CDFW-approved biologist will be present during all construction activities including all night work.

Measure 11: Add the following: "Should work need to be extended beyond October 1, PG&E will request authorization from the Service's Sacramento Field Office at least 30 days prior of the date of the proposed extension. Work will be conducted in accordance with the Service's approval.

Programmatic Biological Opinion Palmate-bracted Bird's Beak Minimization Measures

Measure 1: Measure 1 is amended to read: A qualified botanist will conduct a focused survey for palmate-bracted bird's beak in all suitable habitat within the action area during the blooming season of the species. If the survey finds the species to be present, to the maximum extent feasible, project work locations will be adjusted to avoid impacts to the species. If complete avoidance to palmate-bracted bird's beak is not feasible, PG&E will provide mitigation at a 5:1 ratio as described in the Conservation Strategy. The portions of the seasonal and perennial wetlands adjacent to the northern sniff hole temporary work area will be marked with orange construction fencing and erosion control fencing and will be avoided during project activities.

Conservation Strategy General Avoidance and Minimization Measures to Reduce Effects on Focal Species (Table 3-2 of Conservation Strategy and Appendix A of the Programmatic Biological Opinion)

GEN-17: Add the following: "Trenches may also be covered at the end of each work day to prevent wildlife entrapment."

Conservation Strategy Species Specific Avoidance and Minimization Measures (Table 3-3 of the Conservation Strategy and Appendix B of the Programmatic Biological Opinion)

INV-1	Bullets number 2 and 3 in Measure INV-1 are amended to read: •The portions of the seasonal and perennial wetlands adjacent to the northern sniff hole temporary work area will be marked with orange construction fencing and erosion control fencing and will be avoided during project activities. •Work will be conducted between May and September.
AMPH-1	Measure AMPH-1 is amended to read: The portions of the seasonal and perennial wetlands adjacent to the northern sniff hole temporary work area will be marked with orange construction fencing and erosion control fencing and will be avoided during project activities. Exclusion zones will be designated around aquatic habitats onsite that will not be subject to project impacts. Orange construction fencing will be installed around the perennial wetland adjacent to the southern sniff hole, and it will be avoided during project activities. The area within 250 feet of the perennial stock pond located north of the valve station will be designated as environmentally sensitive and will be flagged for avoidance during project activities.

Additional Measures

PG&E will implement the following additional project-specific conservation measures to further minimize project-related effects:

1. In order to reduce the amount of disturbance to the seasonal wetland, protective mats will be installed within portions of the wetland that will be subject to the movement of vehicles or construction equipment.

2. PG&E will compensate for permanent and temporary effects to upland habitat by purchasing 3.4 acres of multi-species credits for California red-legged frog, Central California tiger salamander, and San Joaquin kit fox upland habitat at Mountain House Conservation Bank (this total is calculated using a ratio of 3:1 for permanent effects adjusted to reflect the impact scoring correction calculated per Appendix E of the Conservation Strategy) and compensation for temporary impacts at a ratio of 1:1. Purchase of credits will be completed prior to start of project work with proof of payment submitted to the Service.

3. PG&E will compensate for effects to listed vernal pool branchiopods by purchasing 0.67 acre of credits for vernal pool fairy shrimp at the Elsie Gridley Multi-Species Conservation Bank (total based on 12:1 ratio adjusted to reflect impact scoring corrections calculated per Appendix E of the Conservation Strategy). Alternatively, PG&E may propose and implement an alternative compensation strategy that would meet Conservation Strategy goals by preserving, restoring, or improving habitat for vernal pool branchiopods at the City of Livermore's Springtown Preserve (an area known to support vernal pool fairy shrimp and within designated critical habitat for vernal pool fairy shrimp). The proposal must include compensation equivalent to the purchase of credits consistent with the Conservation

Strategy and must be reviewed and approved by the Service prior to implementation. Service-approved compensation for vernal pool branchiopods shall be completed and documentation provided to the Service within 6 months of the start of project-related work.

Action Area

The action area is defined in 50 CFR §402.02, as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action." For the purposes of the effects analysis, the action area includes the 2.88-acre project footprint (including the work area, associated sniff holes, and remote staging area) plus the entirety of the 0.056-acre seasonal wetland within which project-related work will occur.

Status of the Species

California Red-Legged Frog

Refer to page 28 of the Programmatic Biological Opinion for the current Status of the Species.

Central California Tiger Salamander

Refer to page 33 of the Programmatic Biological Opinion for the current Status of the Species.

San Joaquin Kit Fox

Refer to the San *Joaquin Kit Fox (Vulpes macrotis mutica) 5-Year Review: Summary and Evaluation* (Service 2010) for the current Status of the Species.

Longhorn Fairy Shrimp

Refer to the *Longhorn Fairy Shrimp (Branchinecta longiantenna) 5-Year Review: Summary and Evaluation* (Service 2007a) for the current Status of the Species.

Vernal Pool Fairy Shrimp

Refer to the *Vernal Pool Fairy Shrimp (Branchinecta lynchi) 5-Year Review: Summary and Evaluation* (Service 2007b) for the current Status of the Species.

Vernal Pool Fairy Shrimp Critical Habitat

Refer to page 27 of the Programmatic Biological Opinion for the current Status of vernal pool fairy shrimp critical habitat.

Palmate-bracted Bird's Beak

Refer to the *Palmate-bracted bird's-beak (Cordylanthus palmatus = Chloropyron palmatum) 5-Year Review: Summary and Evaluation* (Service 2009) for the current Status of the Species.

Environmental Baseline

The action area is located in northeastern Alameda County in an area characterized by rolling hills and non-native annual grasslands with scattered wetlands. The main work area is bounded to the east and north by undeveloped grasslands with scattered rock outcrops; to the west by a private rural residence containing pastures and livestock enclosures; and to the south by a paved access road that intersects with the corner of Raymond Road and Ames Street. A residential development lies south of the paved access road to the east of the main work area. The City of Livermore's Springtown preserve property is located immediately south of Raymond Road. The Springtown preserve property is approximately 300 acres and is comprised of an alkali wetland complex that supports numerous special-status plant and animal species.

The existing valve station and adjacent parking area are developed and covered with gravel; non-native annual grassland is the dominant vegetation type within other portions of the action area. Grasslands include non-native annual grasses and forbs, such as wild oat (*Avena barbata*), ripgut brome (*Bromus diandrus*), and soft chess brome (*Bromus hordeaceous*). A 0.056-acre seasonal wetland located within a drainage swale overlaps with the northern sniff hole work area. The seasonal wetland is downslope from a spring-fed perennial wetland located to the north of the action area. The seasonal wetland follows the topography of the swale and drains in a southwestern direction toward the Springtown preserve property. A small perennial wetland dominated by slender cattail (*Typha augustifolia*) is also located just to the south of the action area (south of the southern sniff hole) on an undeveloped parcel immediately east of Ames Street.

The remote staging area is located on an area with low topographic relief dominated by non-native annual grassland vegetation. No drainage features are present within the staging area, but a shallow swale is present beyond its eastern edge that conveys runoff south from the parcel north of May School Road. The western and northern edges of the staging area near Dagnino Road and May School Road are subject to regular disturbance by blading to create fire breaks.

<u>California Red-Legged Frog</u>

The proposed project is located in the East San Francisco Bay Core Area of the East San Francisco Bay Recovery Unit number 16 for the California red-legged frog (Service 2002). Recovery unit 16 extends from the northernmost portion of Contra Costa County including a portion of San Joaquin County, south to Santa Clara County, and includes the eastern portion of San Mateo County, and all of San Francisco County. Within this Recovery Unit, California red-legged frogs appear to have been largely eliminated from the western lowland areas near urbanization. However, isolated populations occur in the East Bay foothills (between Interstate 580 and Interstate 680) and the species is abundant in several areas in eastern Alameda and Contra Costa counties. This Recovery Unit is essential to the survival and recovery of California red-legged frog, as it contains the largest number of occupied drainages in the northern portion of the species' range. The action area is also located within designated critical habitat unit CCS-2B for California red-legged frog.

The California Natural Diversity Database (CNDDB) contains three records of California red-legged frogs within one mile of the action area. The nearest record consists of two adult California red-legged frogs observed in the small stock pond located approximately 400 feet north of the action area (CDFW 2013). California red-legged frogs were also observed at stock ponds located

approximately 0.5 mile northeast and northwest of the crossover station (CDFW 2013). Several other ponds that provide potential breeding habitat for California red-legged occur within dispersal distance of the action area.

There is no breeding habitat for California red-legged frog within the action area. However, annual grasslands as well as the seasonal wetland within the action area provide upland foraging, sheltering, and dispersal habitat. Based on documented occurrences near the action area, the presence of suitable habitat, and the biology and ecology of the species, it is likely that California red-legged frogs occur in the action area.

Threats to California red-legged frogs in the action area include habitat modification, degradation, and fragmentation from residential development, roads, and agriculture; competition and predation by introduced species and/or feral animals; and mortality due to vehicle strikes.

Central California Tiger Salamander

Several occurrences of Central California tiger salamander have been documented in the vicinity of the action area (CDFW 2013). The nearest occurrence includes multiple observations of Central California tiger salamander larvae, juveniles, and adults within pools located on the Springtown preserve property immediately south of the action area. Two adult salamanders were also observed near a pond along Vasco Road, approximately 0.4 mile northeast of the action area and multiple other occurrences have been documented within one mile of the action area (CDFW 2013)

The seasonal wetland within the action area likely does not support ponding adequate to provide breeding habitat for Central California tiger salamander. However, there are several potentially suitable breeding pools in the immediate vicinity of the action area and the action areas provides suitable upland refugia habitat. Based on the presence of documented breeding pools adjacent to the action area, the presence of suitable habitat in the action area, and the biology and ecology of the species, it is likely that Central California tiger salamanders inhabit the action area.

Threats to Central California tiger salamanders in the action area include habitat modification, degradation, and fragmentation from residential development, roads, and agriculture; competition and predation by introduced species and/or feral animals; and mortality due to vehicle strikes.

San Joaquin Kit Fox

The project is located within the San Joaquin kit fox recovery satellite population S1. In addition to protection of core areas, protection of at least three satellite populations is required to downlist the San Joaquin kit fox to threatened status and protection of additional satellite populations with three or more showing stable or increasing populations during one precipitation cycle is required for delisting (Service 1998). According to the 5-year review (Service 2010) the S1 population has declined with no known breeding. The recovery plan (Service 1998) lists protecting habitat in the northern, northeastern, and northwestern segments of the range and existing connections between habitat in those areas and habitat south as a recovery action.

Approximately 33 occurrences of San Joaquin Kit Fox have been documented within a 10-mile radius of the action area with the majority occurring east of Vasco Road (CDFW 2013). The nearest

and most recent occurrence of San Joaquin kit fox was recorded in 2002 from the Brushy Peak Regional Preserve, located on the east side of Vasco Road 3.3 miles northeast of the action area. Other nearby records include a natal den observed in 1989 in the vicinity to Morgan Territory Road, approximately 5 miles north of the project, and several observations from between 1967 and 1989 southwest of Byron, approximately 5.5 miles northeast of the action area (CDFW 2013).

The action area is dominated by annual grasslands that support small mammal burrows; this grassland habitat provides potential foraging, dispersal, and denning habitat and an available prey base for San Joaquin kit fox. Based on documented occurrences of San Joaquin kit fox in the vicinity of the action area, the mobile nature of the species and their ability to cover relatively long distances, the presence of suitable habitat, and the biology and ecology of the species, San Joaquin kit fox may use the action area for foraging, denning, or dispersal.

Threats to San Joaquin kit fox in the action area include loss and modification of habitat due to infrastructure construction or agricultural conversion, use of pesticides and rodenticides, and competition and predation by feral animals or coyotes.

Longhorn Fairy Shrimp

The proposed project is located within the Altamont Hills Core Recovery Area in the Livermore Vernal Pool Region (Service 2005). General recovery criteria for vernal pool species include: (1) habitat protection; (2) adaptive management and monitoring; (3) status surveys; (4) research; and (5) participation and outreach. The recovery plan established the following criteria for downlisting the longhorn fairy shrimp in the Altamont Hills Core Recovery Area: (1) 100 percent protection of known occurrences range-wide, and (2) 95 percent protection of suitable habitat in this core area.

Several pools within the Brushy Peak Preserve located northeast of the action area are known to support longhorn fairy shrimp (Service 2007a) and there is the potential for longhorn fairy shrimp to occur in other areas that have not been surveyed, particularly in areas south of the Brushy Peak Preserve (Service 2007a). Although longhorn fairy shrimp in the project vicinity are known from sandstone outcroppings, in other portions of their range, they occur in other types of seasonal wetland habitats. The 0.056-acre seasonal wetland in the action area is located within alkaline soils that impede water penetration and it is likely to hold water for a period adequate to support longhorn fairy shrimp in most years. Therefore, based on the biology and ecology of the species and the presence of suitable habitat it is reasonable to conclude that longhorn fairy shrimp could occur in the seasonal wetlands in the action area.

Threats to longhorn fairy shrimp within the action area include habitat loss in the form of habitat alteration and degradation as a result of development, agricultural conversion, changes to natural hydrology, erosion, incompatible grazing regimes, or establishment of invasive weeds.

Vernal Pool Fairy Shrimp

The proposed project is located within the Altamont Hills Core Recovery Area in the Livermore Vernal Pool Region (Service 2005). General recovery criteria for vernal pool species include: (1) habitat protection; (2) adaptive management and monitoring; (3) status surveys; (4) research; and (5) participation and outreach. The recovery plan established the following criteria for delisting the

vernal pool fairy shrimp in the Altamont Hills Core Recovery Areas: (1) 80 percent protection of known occurrences range-wide, and (2) 85 percent protection of suitable habitat in this core area. The proposed project is also located entirely within subunit 19C of designated critical habitat for vernal pool fairy shrimp in the Altamont Hills Critical Habitat Unit (Service 2006).

Vernal pool fairy shrimp have been documented in several pools within the Springtown preserve property located immediately south of the action area (CDFW 2013). The 0.056- acre seasonal wetland in the action area is located within alkaline soils that impede water penetration and it is likely to hold water for a period adequate to support vernal pool fairy shrimp in most years. Therefore, based on the biology and ecology of the species and the presence of suitable habitat, it is reasonable to conclude that vernal pool fairy shrimp could occur in the seasonal wetlands in the action area.

Threats to vernal pool fairy shrimp within the action area include habitat loss in the form of habitat alteration and degradation as a result of development, agricultural conversion, changes to natural hydrology, erosion, incompatible grazing regimes, or establishment of invasive weeds.

Vernal Pool Fairy Shrimp Critical Habitat

The proposed project is located entirely within designated critical habitat subunit 19C of the Altamont Hills Critical Habitat Unit. The Altamont Hills Critical Habitat Unit is comprised of three subunits (19A-19C), and includes approximately 7,892 acres in Contra Costa and Alameda Counties (Service 2006). The Altamont Hills Critical Habitat Unit was known to be occupied by vernal pool fairy shrimp at the time of listing, is currently occupied, and contains the following vernal pool and associated upland elements that are essential for the conservation of the species: mound and inter-mound topography within a matrix of surrounding upland habitat that provides for cyst dispersal and adequate pool hydroperiods (PCE 1, PCE 2), and vernal pool wetland features within a matrix of upland habitat which provide for food, shelter, hatching, growth, and reproduction (PCE 3, PCE 4). The Alameda Hills Critical Habitat Unit contains the only known locations where vernal pool fairy shrimp occur within sandstone outcrop pools (Eriksen and Belk 1999). Special management considerations within this unit include: habitat conversion to urban uses or intensive agriculture, hydrologic disruptions or modifications which may disturb vernal pool habitats and restrict or isolate vernal pool fairy shrimp distribution, management of grazing animals, management of off-road recreational vehicles, and control of invasive plant species.

All PCEs associated with vernal pool fairy shrimp critical habitat are present within the action area. The seasonal wetland in the action area is located within a swale that directs overland flow toward the wetland (PCE-1), and the wetland itself is located on alkaline soils that impede water penetration and are likely to allow it to hold water for at least 18 days in most years (PCE-2). The seasonal wetland also may provide for food, shelter, growth, and reproduction (PCE-3 and PCE-4) for vernal pool fairy shrimp.

Palmate-Bracted Bird's Beak

The palmate-bracted bird's beak is found in multiple locations throughout the Springtown preserve property located immediately to the south of the action area (CDFW 2013). The seasonal wetland in the action area provides potential habitat for palmate-bracted bird's beak. Soils within the

wetland are similar to those found within the Springtown Preserve; however, the elevation in the action area (540 feet above mean sea level) is slightly higher than other documented occurrences of palmate-bracted bird's beak which generally occur at elevations less than 500 feet above mean sea level (Service 1998). Based on documented occurrences near the action area, the presence of potentially suitable habitat within the action area, and the biology and ecology of the species, palmate-bracted bird's beak could occur in the action area.

Threats to palmate-bracted bird's beak in the action area include habitat loss in the form of habitat alteration and degradation as a result of changes to hydrology, invasive species, agricultural conversion, or incompatible grazing regimes.

Effects of the Proposed Action

California Red-legged Frog, Central California Tiger Salamander, and San Joaquin Kit Fox

In addition to the effects analyzed in the Programmatic Biological Opinion, the proposed project will result in the temporary disturbance of 2.51 acres of upland habitat, and the permanent removal of 0.37 acre of upland habitat for California red-legged frog, Central California tiger salamander, and San Joaquin kit fox. To minimize the effects of temporal and permanent loss of upland habitat PG&E will purchase 3.4 acres of multi-species credits for California red-legged frog, Central California tiger salamander, and San Joaquin kit fox upland habitat at Mountain House Conservation Bank located in northeastern Alameda County. Contributing to the conservation of land for these species lands will help maintain the geographic distribution of California red-legged frog, Central California tiger salamander, and San Joaquin kit fox and will contribute to species recovery by increasing the amount of habitat that is secure from development threats and other factors that can be addressed by habitat protection and management.

Longhorn Fairy Shrimp and Vernal Pool Fairy Shrimp

In addition to the effects analyzed in the Programmatic Biological Opinion, the proposed project will result in direct and indirect effects to 0.056 acre of habitat for longhorn fairy shrimp and vernal pool fairy shrimp. The excavation of the northern sniff hole within the wetland could result in changes to the hydrology of the wetland and could result in the permanent degradation or loss of habitat for longhorn fairy shrimp and longhorn fairy shrimp. To minimize the effects of temporal and permanent loss of habitat for these species PG&E will purchase 0.67 acre of credits for vernal pool fairy shrimp at the Elsie Gridley Multi-Species Conservation Bank or will preserve, restore, or improve habitat for vernal pool branchiopods at the City of Livermore's Springtown preserve property. Contributing to the conservation of land for these species lands will help maintain the geographic distribution of longhorn fairy shrimp and vernal pool fairy shrimp and will contribute to species recovery by increasing the amount of habitat that is secure from development threats and other factors that can be addressed by habitat protection and management.

Venal Pool Fairy Shrimp Critical Habitat

In addition to the effects analyzed in the Programmatic Biological Opinion, the proposed action will result in direct and indirect impacts to a 0.056-acre seasonal wetland that provides PCE1, PCE2, PCE3, and PCE4 for vernal pool fairy shrimp.

Because the proposed project will result in effects to only a very small portion of critical habitat within subunit 19C for vernal pool fairy shrimp and because work within the seasonal wetland will be temporary in nature and disturbed areas will be restored according to an approved restoration plan, PCEs in this unit will remain intact, contributing to the high conservation value of the unit as a whole, and sustaining the unit's role in the conservation and recovery of the species.

Palmate-bracted Bird's Beak

In addition to the effects analyzed in the Programmatic Biological Opinion, the proposed project will result in direct and indirect impacts to a 0.056-acre seasonal wetland that provides suitable habitat for palmate bracted bird's beak. However, if pre-construction surveys find any palmate bracted bird's beak plants present in the work area, to the maximum extent feasible, project work locations will be adjusted to avoid impacts to the plants. If complete avoidance of palmate-bracted bird's beak plants is not feasible, PG&E will provide mitigation at a 5:1 ratio as described in the Conservation Strategy. Contributing to the conservation of land occupied by palmate-bracted bird's beak would help maintain the geographic distribution of the species and contribute to species recovery by increasing the amount of habitat that is secure from development threats and other factors that can be addressed by habitat protection and management.

Conclusion

The proposed project, as described, fits within the parameters of the level of effects analyzed in the Programmatic Biological Opinion and is not likely to jeopardize the continued existence of the California red-legged frog, Central California tiger salamander, San Joaquin kit fox, longhorn fairy shrimp, vernal pool fairy shrimp, or palmate-bracted bird's beak or result in the adverse modification or destruction of critical habitat for vernal pool fairy shrimp.

Sections 7(b)(4) and 7(o)(2) of the Act generally do not apply to listed plant species. However, limited protection of listed plants from take is provided to the extent that the Act prohibits the removal or reducing to possession of federally listed plants from areas under Federal jurisdiction; the malicious damage or destruction of any such species on such areas; and the removal, destruction or damage of such species in violation of state laws, including state criminal trespass law (16 USC 1538(a)(2)(B)) .

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harass is defined by the Service as an intentional or negligent act or omission which creates the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding or sheltering. Harm is defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section

7(b)(4) and section 7(o)(2), taking incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act, provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The measures described below are non-discretionary, and must be undertaken by the Corps so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, for the exemption in section 7(o)(2) to apply. The Corps has a continuing duty to regulate the activity covered by this incidental take statement. If the Corps (1) fails to assume and implement the terms and conditions or (2) fails to require the (applicant) to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, the Applicant must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement [50 CFR §402.14(i)(3)].

Amount or Extent of Take

The Service anticipates that incidental take of the California red-legged frog will be difficult to detect because of their life history. Specifically, when California red-legged frogs are not in their breeding ponds, they may be difficult to locate due to their cryptic appearance and behavior; they may be located a distance from the breeding ponds; and the finding of an injured or dead individual is unlikely because of their relatively small body size. Losses of these species also may be difficult to quantify due to seasonal fluctuations in their numbers, random environmental events, changes in water regime at their breeding ponds, or additional environmental disturbances. Therefore, the Service anticipates that all California red-legged frogs inhabiting the 2.88-acre project footprint will be subject to incidental take in the form of non-lethal harm and harassment. In addition, the Service anticipates that no more than one (1) California red-legged frog will be subject to incidental take in the form of death or injury as a result of construction-related activities. Upon implementation of the following Reasonable and Prudent Measures, incidental take of the California red-legged frog associated with the Dalton Crossover Valve Automation Project will become exempt from the prohibitions described under section 9 of the Act.

The Service anticipates that incidental take of the Central California tiger salamander will be difficult to detect because when this amphibian is not in their breeding ponds, or foraging, migrating, or conducting other surface activity, it inhabits the burrows of ground squirrels or other rodents; the burrows may be located a distance from the breeding ponds; the migrations occur on a limited period during rainy nights in the fall, winter, or spring; and the finding of an injured or dead individual is unlikely because of their relatively small body size. Losses of this species also may be difficult to quantify due to seasonal fluctuations in their numbers, random environmental events, changes in water regime at their breeding ponds, or additional environmental disturbances. Therefore, the Service anticipates that all Central California tiger salamanders inhabiting the 2.88-acre project footprint will be subject to incidental take in the form of non-lethal harm and harassment. In addition, the Service anticipates that no more than one (1) Central California tiger salamander will be subject to incidental take in the form of death or injury as a result construction-related activities. Upon implementation of the following Reasonable and Prudent Measures, incidental take of the Central California tiger salamander associated with the Dalton Crossover Valve Automation Project will become exempt from the prohibitions described under section 9 of the Act.

The Service expects that incidental take of the San Joaquin kit fox will be difficult to detect or quantify because this mammal inhabits dens or burrows when it is not foraging, mating, or conducting other surface activity; the animal may range over a large territory; it is primarily active at night, and the finding of an injured or dead individual is unlikely because of their relatively small body size. Losses of this species also may be difficult to quantify due to seasonal fluctuations in their numbers. Therefore, the Service is estimating that all of the San Joaquin kit foxes inhabiting or utilizing the 2.88-acre project footprint will be subject to incidental take in the form of non-lethal harm and harassment. Upon implementation of the Reasonable and Prudent Measures, incidental take of the San Joaquin kit fox associated with the Dalton Crossover Valve Automation Project in the form of non-lethal harassment and harm caused by the project will become exempt from the prohibitions described under section 9 of the Act. Lethal incidental take of the San Joaquin kit fox is not exempt from the prohibitions described under section 9 of the Act.

The Service anticipates that incidental take of the longhorn fairy shrimp and vernal pool fairy shrimp will be difficult to detect because when these crustaceans are not in their active adult stage, their cysts are difficult to locate and the finding of an injured or dead individual is unlikely because of their small body size. Losses of these species also may be difficult to quantify due to seasonal fluctuations in their numbers, random environmental events, changes in water regime, or additional environmental disturbances. Therefore, the Service is estimating that all longhorn fairy shrimp and vernal pool fairy shrimp inhabiting the 0.056- acre seasonal wetland that will be directly and indirectly affected by the proposed action will be subject to incidental take in the form of harm, harassment, injury, and death. Upon implementation of the following Reasonable and Prudent Measures, incidental take of longhorn fairy shrimp and vernal pool fairy shrimp associated with the Dalton Crossover Valve Automation Project will become exempt from the prohibitions described under section 9 of the Act.

Effect of the Take

In the accompanying biological opinion appending to the Programmatic Biological Opinion, the Service determined that the level of anticipated take is not likely to result in jeopardy to these species.

Reasonable and Prudent Measures

The Service has determined that the following Reasonable and Prudent Measure is necessary and appropriate to minimize the effects of the Dalton Crossover Valve Automation Project on the California red-legged frog, Central California tiger salamander, San Joaquin kit fox, longhorn fairy shrimp, vernal pool fairy shrimp, and palmate-bracted bird's beak:

1. The Corps and PG&E shall minimize adverse effects to listed species.

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, the Corps shall ensure compliance with the following terms and conditions, which implement the reasonable and prudent measure described above and outline required reporting/monitoring requirements. These Terms and Conditions are nondiscretionary.

The following Terms and Conditions implement the Reasonable and Prudent Measure:

1. PG&E shall fully implement the proposed project, including the Conservation Measures as described in this biological opinion and the Programmatic Biological Opinion.

REINITIATION--CLOSING STATEMENT

This concludes formal consultation on the proposed Dalton Crossover Valve Automation Project. As provided in 50 CFR 402.16, reinitiating of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this biological opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any additional take will not be exempt from the prohibitions of section 9 of the Act, pending reinitiation.

If you have any questions regarding this response, please contact Stephanie Jentsch (Stephanie_Jentsch@fws.gov), Fish and Wildlife Biologist, or Ryan Olah, Coast Bay/Forest Foothills Division Chief (Ryan_Olah@fws.gov) at the letterhead address or telephone (916) 414-6600.

Sincerely,

For Jennifer M. Norris
Field Supervisor

cc:
Serge Glushkoff , California Department of Fish and Wildlife, Napa, California
Cori Mustin, Pacific Gas and Electric Company, San Ramon, California

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