PACIFIC GAS AND ELECTRIC'S MISSOURI FLAT-GOLD HILL 115 KV POWER LINE RECONDUCTORING PROJECT CPUC A.13-08-014

Final Initial Study/Mitigated Negative Declaration

Prepared for
California Public Utilities Commission

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505 VAN NESS AVENUE
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MITIGATED NEGATIVE DECLARATION
Missouri Flat-Gold Hill 115 kV Power Line Reconductoring Project

Lead Agency:	California Public Utilities Commission Energy Division 505 Van Ness Avenue, 4th Floor San Francisco, California 94102
Contact:	**Connie Chen,** Project Manager
Proponent:	Pacific Gas and Electric Company 77 Beale Street San Francisco, California 94105 (800) 743-5000

Description of Project

PG&E has submitted an application to construct and operate the Missouri Flat-Gold Hill 115 kV Power Line Reconductoring Project. The Project is located in El Dorado County and in the City of Folsom, in Sacramento County, California, and includes the reconductoring of 12.5 miles of the existing Missouri Flat-Gold Hill Line between the Shingle Springs and Gold Hill substations. In addition, approximately 0.3 mile of the existing power line east of Shingle Springs Substation would be reconductored to facilitate construction activities, and approximately 7 miles of the existing Gold Hill No. 1 60 kV Line would be upgraded temporarily to 115 kV in order to provide backup electric service while the Missouri Flat-Gold Hill Line is being reconductored. The Project also includes minor modifications to be made to substation equipment and facilities at Shingle Springs, Pacific Western Pipe, Limestone, Clarksville, and Gold Hill substations, and Missouri Flat Switching Station, to tie the new conductor into the substations and modify existing equipment to accommodate the line upgrades. All substation and switching station modifications would be completed within existing substation or switching station fence lines and no substation expansions are proposed.

With one exception, the proposed alignment would be located in existing PG&E easements. Additional rights-of way (ROWs) would be required to accommodate the relocation of approximately 150 feet of an existing distribution feeder line associated with Limestone Substation near the intersection of Strolling Hills Road and Ridge Pass Drive. No additional ROW or easement expansions would be needed to accommodate construction or operation and maintenance of the line.

Required Approvals

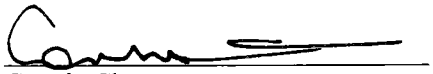
The Project would require federal and state permits associated with ground-disturbing work, and construction in the Pine Hill Reserve. Local permits also would be required for grading and construction within, under, or over roadways.

TABLE 1
PERMITS AND APPROVALS THAT MAY BE REQUIRED

Permit/Authorization	Agency	Purpose
Federal		
Special Use Permit	Bureau of Land Management (BLM)	Project activities in the Pine Hill Preserve
Endangered Species Act Section 7 Consultation (Biological Opinion)	U.S. Fish and Wildlife Service (consulting through the BLM)	Potential impacts to federally listed species
National Historic Preservation Act Section 106 Consultation (consultation)	State Historic Preservation Officer	Consultation with the BLM regarding impacts to cultural resources
Notification of Proposed Construction or Alteration	Federal Aviation Administration (FAA)	Height increase of power line structures
State		
Permit to Construct (PTC)	California Public Utilities Commission (CPUC)	Overall Project approval and CEQA review
California Environmental Quality Act (CEQA) Review/Approval		Issuance of a PTC
Asbestos National Emission Standards for Hazardous Air Pollutants Notification (notification)	California Air Resources Board	Demolition activities in El Dorado County
National Pollutant Discharge Elimination System – General Construction Storm Water Permit (ministerial)	Central Valley Regional Water Quality Control Board	Stormwater discharges associated with construction activities disturbing more than 1 acre of land
Local		
Encroachment Permit (ministerial)	California Department of Transportation	Activities related to the placement of encroachments within, under, or over State highway ROW
Utility Encroachment Permit (ministerial)	El Dorado County	Work within county roads/road ROW or property
Encroachment Permit (ministerial)	City of Folsom	Work within city roads/road ROW or property
Grading Permit (ministerial)	City of Folsom	Disturbance over 800 cubic yards, or 400 cubic yards in a flood hazard/erosion area or is more than 2 feet deep

Environmental Determination

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



Connie Chen
Project Manager

3/17/15
Date

Applicant Proposed Measures and Mitigation Measures

Pursuant to the Public Resources Code and the State CEQA Guidelines, the Lead Agency (CPUC) has prepared an Initial Study for the proposed Project to evaluate the Project's potential effects on the environment. The Initial Study has identified potential impacts associated with Project implementation. Initial Study/Mitigation Negative Declaration (IS/MND) Section 2, Project Description, includes APMs and IS/MND Section 3, Environmental Checklist and Discussion, identifies mitigation measures that collectively would avoid or reduce potential significant impacts to less than significant levels. All avoidance, minimization, and mitigation measures that have been relied on to conclude that the Project would not have a significant effect on the environment are required, enforceable components of the Mitigation, Monitoring, Reporting, and Compliance Program (MMRCP) included in IS/MND Section 5 and set forth below.

Aesthetics

APM AE-1: Include Non-Reflective Finish. Non-specular conductor and a non-reflective finish for the poles will be used to reduce the potential for new sources of glare.

APM AE-2: Minimize Effects of Temporary Nighttime Construction Lighting on Sensitive Receptors. If temporary lighting is required for nighttime construction, it will be focused on work areas and directed on-site to minimize potential effects with respect to nearby sensitive receptors, particularly residences.

Mitigation Measure 3.1-1: Reduce construction night lighting impacts. PG&E shall design and install all lighting at construction and storage yards and staging areas such that light bulbs and reflectors are not visible from public viewing areas; lighting does not cause reflected glare; and illumination of the Project facilities, vicinity, and nighttime sky is minimized.

- Lighting shall be designed so exterior lighting is hooded, with lights directed downward or toward the area to be illuminated so that light trespass to the nighttime sky is minimized. The design of the lighting shall be such that the luminescence or light sources are shielded to minimize light trespass outside the Project boundary.
- All lighting shall be of minimum necessary brightness consistent with worker safety.
- Per APM NO-1, residents affected by nighttime Project construction due to planned clearance restrictions will be notified.

Air Quality

APM AQ-1: Minimize Fugitive Dust. PG&E will minimize fugitive dust during construction by implementing the following measures, which comply with El Dorado County Air Quality Management District (EDCAQMD) and Sacramento Metro Air Quality Management District (SMAQMD) requirements:

- Reduce the amount of the disturbed area where possible.

- Use water trucks or sprinkler systems in sufficient quantity to prevent airborne dust from leaving the site. Increase watering frequency whenever wind speeds exceed 15 miles per hour (mph). Use reclaimed non potable water whenever possible. Do not use non-potable water in or around crops intended for human consumption.
- Implement permanent dust control measures as soon as possible following completion of any soil-disturbing activities.
- Enforce a policy that vehicle speed for all construction vehicles is not to exceed 15 mph on any unpaved surface.
- Water all active construction areas as needed to suppress dust. Base the frequency on the type of operation and the soil and wind exposure.
- Cover or maintain at least two feet of free board space on haul trucks transporting soil, sand, or other loose material on the site.
- Cover inactive storage piles.
- Sweep public roads if visible soil material is carried out from a work site.
- Post a publicly visible sign with the phone number for the EDCAQMD for compliance in reporting any Rule 205 (Nuisance) violations, as well as the telephone number and person to contact regarding dust complaints. Instruct this person to respond to complaints and take corrective action within 48 hours.
- Limit the area of earth-disturbing activities at any one time.

APM AQ-2: Minimize Vehicle and Equipment Emissions. PG&E will minimize vehicle emissions during Project construction by implementing the following measures:

- Maintain construction equipment in proper working conditions in accordance with PG&E standards.
- Minimize unnecessary construction vehicle idling time. The ability to limit construction vehicle idling time will depend 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, so that idling is reduced as far as possible below the maximum of 5 consecutive minutes allowed by California law; if a vehicle is not required for use immediately or continuously for construction activities, its engine will be shut off. Construction foremen will include briefings to crews on vehicle use as part of pre-construction conferences. Those briefings will include discussion of a "common sense" approach to vehicle use.
- Minimize construction equipment exhaust by using low-emission or electric construction equipment where feasible. Portable diesel-fueled construction equipment with engines 50 hp or larger and manufactured in 2000 or later will be registered under the California Air Resources Board (CARB) Statewide Portable Equipment Registration Program.
- Minimize welding and cutting by using compression of mechanical applications where practical and within standards.

- Encourage use of natural gas powered vehicles for passenger cars and light duty trucks where feasible and available.

APM AQ-3: Minimize Potential Naturally Occurring Asbestos Emissions. The Project will develop a preemptive Asbestos Dust Mitigation Plan to identify all necessary best management practices that will be implemented if naturally occurring asbestos (NOA) is encountered at any time during construction. The Asbestos Dust Mitigation Plan will be compliant with the requirements of CARB's Asbestos Airborne Toxic Control Measure (ATCM), EDCAQMD's Rule 223-2 (Fugitive Dust – Asbestos Hazard Mitigation), and SMAQMD's Rule 902 (Asbestos).

Before beginning any earth-disturbing activities in areas identified in Section 3.6, Geology and Soils (i.e., "areas more likely to contain asbestos," "areas where the presence of asbestos is possible but unlikely," "areas moderately likely to contain NOA," or "areas least likely to contain naturally occurring asbestos"), a geological evaluation will be performed by a registered geologist to determine whether NOA is present. In addition, before beginning any earth-disturbing activities that will occur within 50 feet of residences and 500 feet of schools, a geological evaluation also will be performed by a registered geologist, to test for the presence of NOA. If NOA is detected during any geological evaluation or during subsequent construction activities, PG&E will minimize NOA emissions by implementing the Asbestos Dust Mitigation Plan, which will comply with the requirements of CARB's Asbestos ATCM, EDCAQMD's Rule 223-2 (Fugitive Dust – Asbestos Hazard Mitigation), and SMAQMD's Rule 902 (Asbestos).

CARB's Asbestos ATCM includes asbestos management requirements that range from creating and implementing an Asbestos Dust Mitigation Plan, observing pre-notifications of construction activities, maintaining construction best management practices, meeting post-construction stabilization requirements, and performing administrative recordkeeping. Construction best management practices include monitoring all potential NOA emission sources: road dust (e.g., limiting vehicle speeds); earth-disturbing activities (e.g., watering before, during, and after disturbance); track-out from work sites (e.g., washing equipment and vehicle tires); material export (e.g., haul truck material handling requirements); and post-construction stabilization (e.g., covering, chemical stabilizers, or vegetation). In addition, prior to construction, PG&E will consult with the local air district or air pollution control officer, to determine if air monitoring for asbestos will be required. The Project will comply with EDCAQMD's Rule 223-2, which provides a list of best management practices to minimize the generation of asbestos dust from construction activities. The Asbestos Dust Mitigation Plan will include, but will not be limited to measures from EDCAQMD's Rule 223-2, as applicable. Implementation of the following asbestos best management practices for the Project would be required where applicable, to ensure adequate performance of the Asbestos Dust Mitigation Plan:

Backfilling

- Mix backfill soil with water before moving the soil.
- Have a dedicated water truck or a high-capacity hose connected to backfilling equipment.
- Empty the loader bucket slowly to prevent dust plumes from being generated.
- Minimize the drop height from the loader bucket.

Clearing and Grubbing

- Maintain live perennial vegetation where possible.
- Apply water in sufficient quantity to prevent generation of visible dust.

Cut and Fill

- Pre-water with sprinklers or water trucks and allow time for penetration.
- Use water as necessary to minimize dust.
- Install upwind fencing to prevent material movement on site.
- Suspend operations when winds generate visible dust emissions despite control measures.
- Use tarps or other suitable enclosures on haul trucks.
- Provide water while loading and unloading to reduce visible dust plumes.
- If excavated material is classified as a hazardous waste material, verify that off-site transport complies with state and federal rules and regulations.

Disturbed Soil

- Limit vehicular traffic and disturbances on soils where possible.
- Limit vehicle speeds to 15 miles per hour.
- Apply water or a stabilizing agent in sufficient quantities to prevent generation of visible dust plumes.

General Site Management

- Wash mud and soil from equipment and vehicles after completing earth-disturbing activities to prevent them from crusting and drying.
- Prohibit the use of blower devices, dry rotary brushes, or dry brooms.
- Restrict vehicular access to established, unpaved travel paths and parking lots, to meet stabilization requirements.
- Document all locations and quantities of cut and fill, and off-site soil transport.
- Provide signage at work sites that meet Occupational Safety and Health Administration requirements.

Mitigation Measure 3.3-1: The following SCAQMD Rule 403 Best Available Fugitive Dust Control Measures shall be implemented during construction, where applicable, within El Dorado County:

- For inactive disturbed surfaces, either: apply water to at least 80 percent of all inactive disturbed surface areas on a daily basis when there is evidence of wind driven fugitive dust (excluding any areas which are inaccessible due to excessive slope or other safety conditions); or apply dust suppressants to inactive disturbed surface areas in sufficient quantity and frequency to maintain a stabilized surface; or establish a vegetative ground cover within 21 days after active operations have ceased; (ground cover must be of sufficient density to expose less than 30 percent of unstabilized ground within 90 days of planting); or utilize any combination of these controls together to control fugitive dust on all inactive disturbed surface areas.

- Water all unpaved roads used for any vehicular traffic once daily, during dry weather conditions.
- To control track-out, pave or apply chemical stabilization at sufficient concentration and frequency to maintain a stabilized surface starting from the point of intersection with the public paved surface, and extending for a centerline distance of at least 100 feet and a width of at least 20 feet; or pave from the point of intersection with the public paved road surface, and extending for a centerline distance of at least 25 feet and a width of at least 20 feet, and install a track-out control device immediately adjacent to the paved surface such that exiting vehicles do not travel on any unpaved road surface after passing through the track-out control device.
- When wind gusts exceed 25 mph, implement the applicable Best Available Fugitive Dust Control Measures for High Wind Conditions identified in Appendix C-1, Table C.5 of the EDCAQMD Guide to Air Quality Assessment Determining Significance of Air Quality Impact Under the California Environmental Quality Act (EDCAQMD, 2002).

Mitigation Measure 3.3-2: The following SMAQMD Basic Construction Emission Control Practices shall be implemented during construction, where applicable, within Sacramento County:

- Water all exposed surfaces two times daily. Exposed surfaces include, but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads;
- Any haul trucks that would be traveling along freeways or major roadways should be covered; and
- Use wet power vacuum street sweepers to remove any visible track-out mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited.

Biological Resources

APM BIO-1: General Biological Resources Measures

APM BIO-1.1: Worker Environmental Awareness Training Program. A qualified biologist will develop an environmental awareness training program that is specific for the Project. All on-site construction personnel will attend the training before they begin work on the Project. Training will include a discussion of the avoidance and minimization measures that are being implemented to protect biological resources as well as the terms and conditions of Project permits. Training will include information about the Federal Endangered Species Act (FESA) and California Endangered Species Act (CESA), special-status species as defined in the Regulatory Setting (Section 3.4.2) and the Special-Status Species section, and the consequences of noncompliance with these acts. Under this program, workers will be informed about the presence, life history, and habitat requirements of all special-status species that may be affected in the Project area. Training also will include information on State and federal laws protecting nesting birds, wetlands, and other water resources.

An educational brochure will be produced for construction crews working on the Project. The brochure will include color photos of sensitive species as well as a discussion of relevant APMs.

APM BIO-1.2: Identification and Marking of Sensitive Resource Areas. Sensitive resource areas identified during pre-construction surveys in the Project area will be clearly

marked in the field or on Project maps. Sensitive resource areas will include active bird nests within specified buffer zones (see APM BIO-3), special-status plants adjacent to work sites, special-status vegetation types adjacent to work sites, and vernal pool and wetland boundaries in and adjacent to work sites. Such areas will be avoided during construction to the extent practicable.

APM BIO-1.3: Construction Monitoring. A qualified biologist will monitor construction activities in sensitive habitats previously identified by a qualified biologist. The monitor will ensure implementation of and compliance with all avoidance and mitigation measures. The monitor will have the authority to stop or redirect work if construction activities are likely to affect sensitive biological resources.

If a listed wildlife species is encountered during construction, Project activities will cease in the area where the animal is found until the biologist determines the animal has moved out of harm's way, or with prior authorization from the United States Fish and Wildlife Service (USFWS) and/or California Department of Fish and Wildlife (CDFW) if necessary, relocates the animal out of harm's way, and/or takes other appropriate steps to protect the animal. Work may resume once the biologist has determined that construction activities will not harm any listed wildlife species. If recommended by the biologist, a temporary silt-fence barrier will be installed to prevent wildlife species from entering the work area(s) during Project activities. The biological monitor will be responsible for any necessary reporting to USFWS and/or CDFW of any capture and relocation, or inadvertent harm, entrapment or death of a listed species.

APM BIO-1.4: Tree Removal and Mitigation. Trees being felled in the vicinity of a sensitive resource area exclusion zone will be directionally felled away from the zone, where possible. Trees and other vegetation that are removed from the Project area will be removed using equipment and access routes that avoid sensitive resource areas.

Oak tree removal will be minimized to what is required to implement the Project. Oak trees greater than 6 inches diameter at breast height (dbh), or having multiple trunks with an aggregate over 10 inches dbh, that are removed will be documented and replaced based on a 1:1 ratio or other measure derived through coordination with El Dorado County that provides an equal level of compensation**.**

APM BIO-2: Special-Status Species Pre-construction Surveys. Before Project construction begins, a qualified biologist will perform a pre-construction survey for work areas within 100 feet of suitable habitat for special-status species. If any special-status species are found nearby but outside the proposed work area, they will not be disturbed. If recommended by the biologist, a temporary silt-fence barrier will be installed to prevent special-status species from entering the work area(s) during Project activities. If a special-status species is found in a work area prior to construction, the biologist will relocate the species out of harm's way (if prior authorization from USFWS and CDFW is not required for the species), or with prior authorization from USFWS and/or CDFW if necessary, and/or take other appropriate steps to protect the animal.

APM BIO-3: Special-Status Bird Measures. Before Project activities in proximity to nesting birds begins, PG&E will obtain the applicable permit or follow relevant protocol that is authorized by Section 3503 and/or Section 3503.5 of the California Fish and Game Code, or by any regulation adopted pursuant thereto, pertaining to nesting birds. If no such permit or protocol

is available under the above authorities before Project construction begins, PG&E will comply with the following measure:

> ***APM BIO-3.1: Pre-construction Survey and Avoidance of Active Nests.*** For any tree trimming or other potential nest-disturbing activities to be conducted between February 1 and August 31, a qualified biologist will conduct a pre-construction survey for nesting birds. The survey will be conducted no more than one week prior to the start of work activities and will cover all affected 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 biologist. The standard buffers included in PG&E's Avian Conservation Strategy (e.g., 50 to 400 feet from non-special-status bird nests, 75 to 350 feet from non-raptor special-status bird nests, and 300 to 1,320 feet from raptor nests, depending on species) will serve as a guideline for exclusion zones, but may be modified on a site specific basis as determined by the biologist. To the extent practicable, no Project vehicles, chain saws, 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. If it is not practicable to avoid work in an exclusion zone around an active nest (e.g., a bird is sitting on eggs or bird activity is such that the nest could be interpreted as active, per USFWS [2003] Migratory Bird Permit Memorandum), work activities will be modified to minimize disturbance of nesting birds but may proceed in these zones at the discretion of the biologist. 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, determines that particular activities pose a high risk of disturbing an active nest, the biologist will recommend additional, feasible measures to minimize the risk of nest disturbance, potentially including temporary cessation of work activities near active nests.

APM BIO-4: Valley Elderberry Longhorn Beetle Habitat Avoidance and Mitigation. PG&E's Valley Elderberry Longhorn Beetle Conservation Program allows PG&E to perform routine operations and maintenance activities and new construction, subject to certain terms and conditions as specified in the USFWS Biological Opinion (File 1-1-01-F-0114). The Biological Opinion provides for thirty years of incidental take coverage and was initiated on June 27, 2003. It defines reasonable and prudent measures required to avoid and minimize impacts to habitat for the federally listed valley elderberry longhorn beetle (VELB). PG&E will implement the surveying, avoidance, and any necessary compensation measures required for the Conservation Program as authorized by USFWS. These measures may include, for example: (1) surveying for and flagging all elderberry plants with one or more stems measuring 1 inch or more in diameter at ground level that are within 20 feet of work sites; (2) avoiding all such elderberry plants to the extent feasible; and (3) reporting unavoidable impacts to elderberry shrubs to USFWS for coverage under the Conservation Program's funding of VELB habitat acquisition, development, and protection.

APM BIO-5: Special-Status Plant Avoidance and Impact Minimization Measures. In addition to APM BIO-1 and APM BIO-2, the following measures will be implemented in gabbroic chaparral habitat in and immediately east of the Bureau of Land Management (BLM) Pine Hill Preserve, and south of U.S. 50, where the highway borders the BLM Pine Hill Preserve, to avoid and minimize impacts on special-status plants.

APM BIO-5.1: Seasonal Timing Restrictions. If a special-status annual plant species is present, any work that may impact the plant will occur after plant senescence and prior to the first significant rain, to the extent practicable.

APM BIO-5.2: Noxious Weed Assessment and Control Plan. Prior to the commencement of construction activities in the BLM Pine Hill Preserve, a Noxious Weed Assessment and Control Plan will be developed and implemented for work in the BLM Pine Hill Preserve. The plan will assess the areas at risk for noxious weed introduction and/or spread and will identify measures for equipment and vehicle inspection.

APM BIO-5.3: Plant Salvage Requirements. Prior to the commencement of construction activities in the BLM Pine Hill Preserve or other areas within the Project footprint known to support rare plant populations, PG&E will refine its Rare Plant Strategy that specifies salvage and propagation methods for listed plants, as well as pre- and post-Project monitoring methods. The Rare Plant Strategy will be submitted to USFWS for review and approval as may be required in the biological opinion from USFWS. At a minimum, the Strategy will include information such as: methods of collection of reproductive structures from affected plants, restoration techniques for temporarily disturbed occurrences, assessments of potential transplant and enhancement sites, success and performance criteria (e.g., documented germination of collected seed within an equal or larger area than affected by the Project), and monitoring programs (e.g., 3 to 5 years), as well as measures to ensure long-term site sustainability, as required by USFWS during the Section 7 consultation process.

Prior to construction, the location of special-status plants that will be affected by grading and excavation will be surveyed and documented, and the seeds and/or rhizomes of special-status plants that may be destroyed during construction will be collected in accordance with the Rare Plant Strategy. Following construction, which plants were permanently or temporarily impacted by the Project will be determined. Collected seeds and/or rhizomes will be planted per planting guidelines described in the Rare Plant Strategy in coordination with BLM and USFWS. Post-Project monitoring methods will be applied in accordance with the Rare Plant Strategy to determine if propagation activities met the success criteria described in the Rare Plant Strategy.

APM BIO-5.4: Topsoil Stockpiling Requirements. Where grading or excavation is required in gabbroic chaparral habitat, and where noxious weeds are absent, the upper 4 inches of topsoil will be stockpiled separately during grading or excavations, following any necessary plant salvage efforts. When this topsoil is replaced, compaction will be minimized to the extent consistent with utility standards.

APM BIO-5.5: Locking Gate Installation. Following Project completion, and upon agreement of private landowners, locking gates will be installed at the two main roads leading into the BLM Pine Hill Preserve to limit unauthorized vehicle access that may threaten special-status plant populations.

APM BIO-6: Special-Status Plant Impact Mitigation. To compensate for permanent impacts on special-status plants, PG&E will explore options with USFWS, and will implement the preferred option. The options may include: on-site planting of propagated seeds and cuttings in accordance with the USFWS-approved Rare Plant Strategy; and/or providing funding to the BLM

Pine Hill Preserve for the purpose of habitat enhancement, management, and/or monitoring of gabbroic chaparral habitat.

APM BIO-7: Seasonal Wetland Protection. Seasonal wetlands that may provide habitat for special-status species will not be entered. Travel across seasonal wetlands that do not provide such habitat will be limited to the greatest extent feasible. Where travel across seasonal wetlands is necessary, it will occur during dry conditions to avoid soil compaction and mixing. If travel is required during wet conditions, matting and other protection measures will be implemented to avoid soil compaction or mixing. Matting and other protection measures will be approved by the biological monitor before work at that location begins. During construction monitoring, the biological monitor may temporarily stop construction work if matting and protection measures are inadequately applied; construction work may resume after matting and other protection measures are installed effectively to protect seasonal wetlands.

Mitigation Measure 3.4-1: Special-Status Species: Vernal Pool Invertebrates. In areas where construction vehicles require crossing over seasonal wetlands and vernal pools that have the potential to support vernal pool invertebrates (crustacean habitat), the following protective measures would be implemented to reduce the effects of surface disturbance and compaction:

a. No equipment or materials shall be stored in or adjacent to seasonal wetlands or vernal pools.

b. Prior to allowing any vehicles or heavy equipment to cross a seasonal wetland, the Project proponent or its contractor shall employ geotextile fabric, wooden mats, or similar protective materials to protect the ground surface in areas where vehicles would encroach upon vernal pool crustacean habitat. Such materials would distribute the weight of vehicles and equipment over a greater area and prevent significant disturbance of soil in these areas. The Project proponent or its contractor shall ensure that adequate calculations have been conducted prior to implementation of this measure to ensure the wooden mats can adequately distribute the weight of vehicles and heavy equipment to prevent compaction.

c. Materials shall only remain in the wetland areas as long as necessary for the completion of work

Mitigation Measure 3.4-2: Active Nests. The following measure supplements APM BIO-3.1, (i.e. using the nest buffer areas described in APM BIO 3.1 as guidance). The PG&E biologist shall coordinate with CDFW to determine whether work, as modified to minimize disturbance of nesting birds may proceed in an exclusion zone around an active nest (if avoidance is not practicable). If any nests that are fully formed and have the potential to support eggs are found, the biologist shall monitor the nest for potential nesting activities. Project activities are only allowed to commence after it is determined that the nest is not actively being used by nesting birds, unless approved in coordination with CDFW per previous sentence. The biologist will monitor all work occurring within exclusion zones daily when construction is occurring and assess their effect on the nesting birds. If the biologist determines that particular activities pose a high risk of disturbing an active nest, the biologist will recommend additional feasible measures to minimize the risk of nest disturbance, potentially including temporary cessation of work activities within exclusion zones near active nests.

Mitigation Measure 3.4-3: Rare Plants. In addition to the areas within the BLM Pine Hill Preserve, PG&E will apply the measures identified in APM BIO-5.3 to other areas within the Project footprint known to support rare plant populations.

Mitigation Measure 3.4-4: Rare Plants. In addition to the measures described in APM BIO-6, PG&E will provide notification to CDFW at least 10 days prior to affecting special-status plants to allow for the salvage of special-status plants (Fish & Game Code §1913(c)).

Mitigation Measure 3.4-5: Native Trees. Retained oak trees over 6" diameter at breast height (dbh) or having multiple trunks with an aggregate over 10" dbh, or sensitive natural community trees, located adjacent to ground-disturbing construction activities that could damage tree roots, shall be protected through the implementation of the following protective measures:

a. A Tree Protection Zone (TPZ) shall be established between any such retained tree or group of trees and the ground-disturbing construction activities. The TPZ shall be 1.5 times the radius of the dripline (canopy edge). However, a smaller TPZ may be approved by the CPUC monitor in coordination with the qualified biologist and construction personnel if necessary due to topography or other reasons, if the CPUC monitor concludes that the smaller TPZ is adequate to protect the tree(s) from significant impacts.

b. The TPZ of any protected trees shall be marked with high visibility fencing, which shall remain in place for the duration of ground-disturbing construction activities in the area.

c. Construction-related activities, including grading, trenching, or drilling shall be prohibited within the TPZ. No construction-related vehicles, personal vehicles, or machinery shall be operated or parked within the TPZ. No construction materials, equipment, machinery, or other supplies shall be stored within a TPZ. No wires or signs shall be attached to any tree.

d. Where the TPZ cannot be fully implemented as described in Mitigation Measure 3.4-5a through c, and construction-related activities are determined by the CPUC monitor to have a significant impact to a retained oak tree such that tree health may decline over time and result in tree mortality at a rate faster than normally expected, the CPUC monitor will determine whether the tree shall be removed or retained. Mitigation for the removed or retained tree is defined in Mitigation Measure 3.4-6, below.

Mitigation Measure 3.4-6: Native Trees. Removed native oak trees and retained native oak trees (as defined in Policy 7.4.5.2) that are significantly impacted by construction-related activities and determined by the CPUC monitor to potentially decline and result in tree mortality at a rate faster than expected, shall be mitigated through replacement at a 1:1 ratio. The number of trees planted may be greater than the 1:1 ratio to achieve at least 100 percent replacement of impacted trees at the end of the monitoring period. As part of this mitigation, PG&E shall prepare an Oak Mitigation Plan when tree planting locations have been determined. The plan shall include, but is not limited to, details of the number of oak trees to be planted, based on the final total of trees removed or significantly impacted (Mitigation Measure 3.4-5d) by the Project, specific planting locations, maintenance and irrigation needs, monitoring requirements (i.e., at least 5 years monitoring plant vigor and growth), reporting requirements (e.g., annual reporting to the CPUC), and success criteria to be met before monitoring is concluded (e.g., 100 percent survival at a 1:1 replacement ratio; an independent assessment of "good" overall tree vigor; and tree viability

without irrigation). The Oak Mitigation Plan shall be submitted to the CPUC for review and approval prior to implementation.

Cultural and Paleontological Resources

APM CUL-1: Develop and Implement Worker Environmental Awareness Program Prior to Construction. PG&E will design and implement a worker environmental awareness program that will be provided to all Project personnel involved in earth-moving activities. No construction worker will be involved in field operations without having participated in the worker environmental awareness program.

The worker environmental awareness program will include a kick-off tailgate session to present site avoidance requirements and procedures to be followed if unanticipated cultural or paleontological resources are discovered during Project implementation, and a discussion of actions that could be taken against persons violating historic preservation laws and PG&E policies. Key Project workers involved with ground-disturbing activities will receive a pamphlet listing how to identify a cultural resource or fossil and what to do if an unanticipated discovery is made during construction. The worker environmental awareness training may be conducted in concert with other environmental or safety awareness and education training programs for the Project, and may be recorded for use in subsequent training sessions.

APM CUL-2: Manage Unanticipated Cultural Resources Discoveries Properly. In the unlikely event that previously unidentified cultural resources are uncovered during Project implementation, all work within 100 feet of the discovery will be halted and redirected to another location. The find will be secured, and a CPUC-approved, qualified cultural resources specialist/archaeologist will be contacted immediately. The specialist will inspect the discovery and determine whether further investigation is required. If the discovery can be avoided and no further impacts will occur, the resource shall be documented on California State Department of Parks and Recreation cultural resource record forms and no further effort shall be required.

If additional disturbance to the resource cannot be avoided, a CPUC-approved, qualified cultural resources specialist/archaeologist will evaluate the resource's significance and CRHR eligibility and determine whether it is (1) eligible for the California Register of Historical Resources (CRHR) (and thus a historical resource for purposes of CEQA); or (2) a unique archaeological resource as defined by CEQA. If the resource is determined to be neither a unique archaeological nor an historical resource, work may commence in the area.

If the resource meets the criteria for either an historical or unique archaeological resource, or both, work shall remain halted, and the cultural resources specialist/archaeologist shall consult with CPUC staff regarding methods to ensure that no substantial adverse change would occur to the significance of the resource pursuant to CEQA Guidelines Section 15064.5(b). Preservation in place, i.e. avoidance, is the preferred method of mitigation for impacts to cultural resources. Other methods to be considered shall include evaluation, collection, recordation, and analysis of any significant cultural materials in accordance with a Cultural Resources Management Plan prepared by the CPUC approved qualified cultural resource specialist/archaeologist. The methods

and results of evaluation or data recovery work at an archaeological find will be documented in a professional-level technical report to be filed with the North Central Information Center (NCIC).

If previously unidentified cultural resources are uncovered during Project implementation on BLM land, procedures will be similar to those described above; however, if additional disturbance to a cultural resource cannot be avoided, PG&E will evaluate the significance and National Register of Historic Places (NRHP) eligibility per Section 106 of the National Historic Preservation Act (NHPA) in consultation with BLM. Any cultural resource or paleontological work conducted on BLM lands will be conducted under a valid cultural resource and paleontological use permit issued by the BLM California State office, and may require a fieldwork authorization by the local field office. Cultural materials and paleontological resources collected under a BLM-use permit will be curated in an accredited museum repository.

APM CUL-3: Follow Statutory Requirements for Treatment of Human Remains. In the unlikely event that human remains or suspected human remains are uncovered during pre-construction testing or during construction, all work within 100 feet of the discovery will be halted and redirected to another location. The find will be secured, and a CPUC-approved, qualified cultural resources specialist will be contacted immediately to inspect the find and determine whether the remains are human. If the remains are not human, the cultural resources specialist will determine whether the find is an archaeological deposit and whether APM CUL-2 applies. If the remains are human, the cultural resources specialist will immediately implement the provisions in Public Resources Code (PRC) Sections 5097.9 through 5097.996, beginning with the immediate notification to the affected county coroner. The coroner has 2 working days to examine human remains after being notified. If the coroner determines that the remains are Native American, California Health and Safety Code 7050.5 and PRC Section 5097.98 require that the cultural resources specialist contact the Native American Heritage Commission (NAHC) within 24 hours. The NAHC, as required by PRC Section 5097.98, determines and notifies the Most Likely Descendant.

If potential human remains are discovered during any Project activity on lands administered by BLM, the procedures identified in Native American Graves Protection and Repatriation Act (NAGPRA) will be closely adhered to and the following steps will be taken:

1. All activities that may further disturb the potential human remains will cease immediately in the vicinity of the discovery.
2. PG&E will take appropriate steps to secure and protect human remains and any funerary objects from further disturbance.
3. PG&E's cultural resources specialist will notify BLM's archaeologist by telephone within 24 hours of discovery, followed within 3 days by written confirmation. Human remains or associated funerary objects will not be excavated or otherwise removed unless a permit is issued under Archaeological Resource Protection Act (ARPA) and after consultation between the appropriate Native American representative(s), BLM, and PG&E.
4. The activity that resulted in the inadvertent discovery will not resume until clearance is provided by BLM.

APM CUL-4: Flag and Avoid Cultural Resources. The boundaries of all known cultural resources that lie within 100 feet of a designated work area will be marked with flagging tape, safety fencing, and/or a sign designating it as an "environmentally sensitive area" to ensure that PG&E construction crews and heavy equipment will not intrude on these resources during construction. For those eligible or potentially eligible sites that contain an existing access road within their site boundary, the road will be used as-is (i.e., no grading, widening, or other substantial improvements), and signs or safety fencing will be established on either side of the road within the site's boundary to avoid impacts caused by construction vehicles. If it is infeasible or impractical to use an access road as-is, and grading, widening or other substantial improvement is necessary, PG&E will implement mitigation or treatment measures specific to the resource potentially affected by the work. Examples of such measures would include preservation in place, and evaluation, collection, recordation, and analysis of any significant cultural materials.

APM CUL-5: Avoid Paleontologically Sensitive Locations. No direct impacts on fossil-bearing deposits (ground disturbance) will occur within the approximately 0.29-acre Project area containing Quaternary alluvium just west of Empire Ranch Road and the El Dorado-Sacramento County boundary. However, should Project development result in the disturbance of this geologic unit at a depth of 10 feet or greater, a qualified paleontologist will be retained as needed to ensure that impacts on any potential paleontological resources are avoided.

If fossil remains are uncovered during Project implementation, all work within 50 feet of the discovery will be halted and the construction crew immediately will notify PG&E. A paleontologist will be retained by PG&E and approved by the CPUC to evaluate the resource. If the discovery can be avoided and no further impacts will occur, no further effort shall be required. If the resource cannot be avoided and may be subject to further impact, the CPUC-approved paleontologist shall evaluate the resource and determine whether it is "unique" under CEQA, Appendix G, part V. If the resource is determined to not be unique, work may commence in the area. If the resource is determined to be a unique paleontological resource, work shall remain halted, and the paleontologist shall consult with CPUC staff regarding methods to ensure that no substantial adverse change would occur to the significance of the resource pursuant to CEQA. Preservation in place, i.e. avoidance, is the preferred method of mitigation for impacts to paleontological resources. Other methods include ensuring that the fossils are recovered, prepared, identified, catalogued, and analyzed according to current professional standards under the direction of a qualified paleontologist. All recovered fossils shall be curated at an accredited and permanent scientific institution according to Society of Vertebrate Paleontology standard guidelines (SVP [2010]) standards; typically the Natural History Museum of Los Angeles County and UC Berkeley accept paleontological collections at no cost to the donor. Work may commence upon completion of treatment, as approved by the CPUC. Components of the treatment plan related to "unique" fossil specimens that are encountered during construction may include a field survey, additional construction monitoring, specific sampling and data recovery procedures, museum storage coordination for any specimen recovered, and a report of findings.

Geology and Soils

APM GEO-1: Minimization of Construction in Soft or Loose Soils. Where soft or loose soils are encountered during Project construction, appropriate measures will be implemented to avoid, accommodate, replace, or improve such soils. Depending on site-specific conditions and permit requirements, these measures may include:

- locating construction facilities and operations away from areas of soft and loose soil;
- over-excavating soft or loose soils and replacing them with engineered backfill materials;
- increasing the density and strength of soft or loose soils through mechanical vibration and/or compaction;
- installing material over access roads such as aggregate rock, steel plates, or timber mats; and
- treating soft or loose soils in place with binding or cementing agents.

APM GEO-2: Reduction of Slope Instability during Construction. Existing natural or temporarily constructed slopes affected by construction or operations will be evaluated for stability by qualified construction staff at the beginning of each construction day that employees may be exposed to the areas immediately upslope or downslope from the area of concern can be reasonably anticipated. In developing grading and construction procedures for access roads, the stability of both temporary and permanent cut, fill, and otherwise affected slopes will be analyzed. Construction slopes and grading will be designed to limit the potential for slope instability and minimize the potential for erosion and flooding during construction. During construction, slopes affected by construction activities will be monitored by qualified construction staff and maintained in a stable condition. Construction activities likely to result in slope instability will be suspended, as necessary, during and immediately following periods of heavy precipitation when unstable slopes are more susceptible to failure.

Mitigation Measure 3.6-1: If grading plans are required, designs will be signed by a professional engineer and submitted to CPUC for approval within a reasonable timeframe prior to construction initiation.

Greenhouse Gases

APM GHG-1: Minimize GHG Emissions

- Maintain construction equipment in proper working conditions in accordance with PG&E standards.
- Minimize unnecessary construction vehicle idling time. The ability to limit construction vehicle idling time will depend 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, so that idling is reduced as far as possible below the maximum of 5 consecutive minutes allowed by California law; if a vehicle is not

required for use immediately or continuously for construction activities, its engine will be shut off. Construction foremen will include briefings to crews on vehicle use as part of pre-construction conferences. Those briefings will include discussion of a "common sense" approach to vehicle use.

- Minimize construction equipment exhaust by using low-emission or electric construction equipment where feasible. Portable diesel fueled construction equipment with engines 50 hp or larger and manufactured in 2000 or later will be registered under the CARB Statewide Portable Equipment Registration Program.
- Minimize welding and cutting by using compression of mechanical applications where practical and within standards.
- Encourage use of natural gas powered vehicles for passenger cars and light-duty trucks where feasible and available.

APM GHG-2: Minimize SF6 Emissions

- Incorporate the new breakers at Gold Hill Substation into PG&E's system-wide SF6 emission reduction program. CARB has adopted the Regulation for Reducing Sulfur Hexafluoride Emissions from Gas Insulated Switchgear sections 95350 to 95359, title 17, California Code of Regulations, which requires that company-wide SF6 emission rate not exceed 1 percent by 2020. Since 1998, PG&E has implemented a programmatic plan to inventory, track, and recycle SF6 inputs, and inventory and monitor system-wide SF6 leakage rates to facilitate timely replacement of leaking breakers. PG&E has improved its leak detection procedures and increased awareness of SF6 issues within the company. X-ray technology is now used to inspect internal circuit breaker components to eliminate dismantling of breakers, reducing SF6 handling and accidental releases. As an active member of EPA's SF6 Emission Reduction Partnership for Electrical Power Systems, PG&E has focused on reducing SF6 emissions from its transmission and distribution operations and has reduced the SF6 leak rate by 89 percent and absolute SF6 emissions by 83 percent.
- Require that breakers to be replaced at Gold Hill Substation have a manufacturer's guaranteed maximum leakage rate of 0.5 percent per year or less for SF6.
- Maintain substation breakers in accordance with PG&E's maintenance standards.
- Comply with CARB Early Action Measures as these policies become effective.

Hazards

APM HAZ-1: Hazardous-Substance Control and Emergency Response. PG&E will implement a Hazardous Substance Control and Emergency Response Plan, which will identify methods and techniques to minimize exposure of the public and construction workers to potentially hazardous materials during all phases of Project implementation. The Hazardous Substance Control and Emergency Response Plan shall be submitted to the CPUC prior to the start of construction activities. The procedures require PG&E to provide worker training in hazardous-substance control and emergency response that is appropriate to the workers' roles. The procedures also require implementation of appropriate control methods and approved containment and spill-control practices for construction and materials stored in the Project area. If it is necessary to store chemicals, the chemicals will be managed in accordance with all

applicable regulations. Material safety data sheets will be maintained and kept available in the Project area, as applicable.

Project construction may require blading/leveling of the soil surface and excavation or auguring to a depth of approximately 24 feet. However, if soils suspected of contamination (based on visual, olfactory, or other evidence) are removed during grading or excavation/auguring activities, the excavated soil will be tested. If they are contaminated above hazardous-waste levels, those soils will be contained and disposed of at a licensed waste facility. Any known or suspected contaminated soil will undergo testing and investigation procedures, supervised by a qualified person as appropriate, to meet the requirements of 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 will include but will not be limited to the following measures:

- proper disposal of potentially contaminated soils;
- establishment of Project area–specific buffers for construction vehicles and equipment located near sensitive resources; and
- implementation of emergency-response and reporting procedures to address spills of hazardous materials.

APM HAZ-2: Smoking and Fire Rules. Smoking will be permitted only in designated smoking areas or within the cabs of vehicles or equipment.

APM HAZ-3: Fire Risk Management. Project personnel will be directed to park away from dry vegetation. During fire season in designated SRAs, all motorized equipment driving off paved or maintained gravel/dirt roads will have federally approved or State-approved spark arrestors. All off-road vehicles will be equipped with a backpack pump (filled with water) and a shovel. Fire-resistant mats and/or windscreens will be used when welding. In addition, during fire "red flag" conditions (as determined by CAL FIRE), welding will be curtailed. Every fuel truck will carry a large fire extinguisher with a minimum rating of 40 B:C, and all flammable materials will be removed from equipment parking and storage areas.

Hydrology and Water Quality

APM HYDRO-1: Stormwater Pollution Prevention Plan.: PG&E will file a Notice of Intent with the State Water Resources Control Board (SWRCB) for coverage under the General Construction Storm Water Permit and will prepare and implement an Storm Water Pollution Prevention Plan (SWPPP) in accordance with General Order No. 2009-0009-DWQ, as amended, which typically includes measures such as placement of straw wattles or silt fencing, flagging, mulching, seeding and other means to help stabilize disturbed areas and reduce erosion and sedimentation.

APM HYDRO-2: Water Feature Protection Requirements. Where access through hydrologic resources are required, PG&E shall install temporary bridges or plates over drainages (spanning the ordinary high water mark) and install fiberglass or wood matting in wetland features to reduce water quality impacts to these features.

Noise

APM NO-1: Minimize Noise-Related Disruption by Notifying Residents. Should nighttime Project construction be necessary because of planned clearance restrictions, affected residents will be notified at least 7 days in advance by mail, personal visit, or door hanger and informed of the expected work schedule.

APM NO-2: Minimize Noise with Portable Barriers. Compressors and other small stationary equipment used during Project construction will be shielded with portable barriers if the equipment is located near noise-sensitive receptors.

Mitigation Measure 3.12-1: Construction activity shall be limited to between the hours of 7:00 a.m. and 6:00 p.m., Monday through Friday, and 8:00 a.m. and 5:00 p.m. on weekends, and on federally-recognized holidays, except with CPUC approval to conduct certain work during electrical line clearances pursuant to Mitigation Measure 3.12-2, or where necessary to ensure worker safety.

Mitigation Measure 3.12-2: In the event that limited nighttime (i.e., between 6:00 p.m. and 7:00 a.m.) construction activity is determined to be necessary for safety reasons or for line clearance reasons within 500 feet of an occupied residential dwelling unit, a nighttime noise reduction plan shall be developed by PG&E and submitted to the CPUC for review and approval at least 30 days prior to commencement of construction activities. The noise reduction plan shall include a set of site-specific noise attenuation measures that apply state of the art noise reduction technology to ensure that nighttime construction noise levels and associated nuisance are reduced. The measures shall include, but not be limited to, the control strategies and methods for implementation that are listed below.

- Plan construction activities to minimize the amount of nighttime construction.
- Provide notice to all residences within 500 feet of planned nighttime construction activities that includes the specific night(s) and approximate timeframe when construction activities would occur.
- Offer temporary relocation of residents within 200 feet of nighttime construction activities that would occur after 10:00 p.m.
- Temporary noise barriers, such as acoustical shields and/or blankets, shall be installed immediately adjacent to all nighttime stationary noise sources (e.g., generators, pumps) that block the line of sound between nighttime activities and the closest residences.

Mitigation Measure 3.12-3: PG&E and/or the construction contractor shall employ noise-reducing practices during construction of the Project, including, but not necessarily limited to: locating equipment as far as practical from noise sensitive uses; requiring that all construction

equipment powered by gasoline or diesel engines have sound-control devices that are at least as effective as those originally provided by the manufacturer; ensuring that all equipment be operated and maintained to minimize noise generation; and prohibiting gasoline or diesel engines from having unmuffled exhaust.

Mitigation Measure 3.12-4: At least 30 days prior to the start of construction, PG&E or the construction contractor shall notify residences (and other noise-sensitive receptors) within 200 feet of the construction areas of the construction schedule and the associated potential nuisance in writing.

Mitigation Measure 3.12-5: At least 30 days prior to the start of helicopter-related construction activities, written notifications shall be provided to residences and other noise-sensitive receptors within 500 feet of the helicopter landing zone, tower modification site, and flight path that include the specific dates and time of day that the helicopter-related activities are expected to occur.

Recreation

APM REC-1: Coordination with Park and Open Space Management and Signage. PG&E will coordinate closely with park and open space management for temporary public land closures during Project construction activities. If traditional access is temporarily unavailable, signs advising recreational facility users of construction activities, including directions to alternative trails and/or bikeways, will be posted at entrance gates to park and open space areas. Signage will be posted at least 1 week in advance of construction, near parks and open space areas.

Transportation and Traffic

APM TRA-1: Air Transit and Neighborhood Coordination. PG&E will implement the following protocols that pertain to helicopter use during construction and air traffic:

- PG&E will comply with all applicable Federal Aviation Administration (FAA) regulations regarding air traffic within 2 miles of the Project alignment.
- PG&E's helicopter operator will coordinate all Project helicopter operations with the local airport before and during Project construction.
- PG&E does not anticipate that residents will be required to temporarily vacate their homes or businesses. In the unlikely event that final construction plans require otherwise, PG&E will coordinate with potentially affected residents or businesses to minimize the duration of the necessary work and any resultant inconvenience.

APM TRA-2: Temporary Traffic Controls. PG&E will obtain any necessary transportation and/or encroachment permits, including those for the U.S. 50 crossings and transport of oversized loads and certain materials, and will comply with permit requirements designed to prevent excessive congestion or traffic hazards during lane closures. PG&E will develop lane closure/width reduction or traffic diversion plans as required by the encroachment permits. Construction activities that are in, along, or cross local roadways will follow best management practices and/or local jurisdictional encroachment permit requirements, to minimize impacts to traffic and transportation in the Project area.

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ACRONYMS AND ABBREVIATIONS

AA	all aluminum
AB	Assembly Bill
ABAG	Association of Bay Governments
ac	acre
ACSS	aluminum conductor steel supported
ags	above ground surface
AIA	Airport Influence Area
ALUC	Airport Land Use Commission
ALUCP	Airport Land Use Compatibility Plan
amsl	above mean sea level
APM	Applicant Proposed Measure
APN	Assessor's Parcel Number
ARPA	Archaeological Resource Protection Act
ASCE	American Society of Civil Engineers
ATCM	Airborne Toxic Control Measure
BAAQMD	Bay Area Air Quality Management District
BLM	United States Department of Interior, ~~U.S.~~ Bureau of Land Management
BMP	Best Management Practice
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
Cal/EPA	California Environmental Protection Agency
CAL FIRE	California Department of Forestry and Fire Protection
Cal/OSHA	California Occupational Safety and Health Administration
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CBC	California Building Code
CCR	California Code of Regulations
CDC	California Department of Conservation
CDFG	California Department of Fish and Game
CDFW	California Department of Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CGS	California Geological Survey
CH_4	methane
CIWMP	Countywide Integrated Waste Management Plan

CMP	Congestion Management Plan
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources
CRPR	California Rare Plant Rank
CWA	Federal Water Pollution Control Act (Clean Water Act)
dB	decibel
dBA	A-weighted decibel
dbh	diameter at breast height
DHS	California Department of Health Services
DOGGR	Division of Oil, Gas, and Geothermal Resources
DOT	United States Department of Transportation
DPM	diesel particulate ~~exhaust~~ matter
DTSC	United States Department of Toxic Substance Control
DWR	California Department of Water Resources
EDCAQMD	El Dorado County Air Quality Management District
EDCTC	El Dorado County Transportation Commission
EIR	Environmental Impact Report
EMF	Electric and Magnetic Fields
EPRI	Electric Power Research Institute
ESA	Environmental Science Associates
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FHA	Federal Highway Administration
FMMP	Farmland Mapping and Monitoring Program
ft	foot
FTA	Federal Transit Authority
GHG	greenhouse gas
GIS	Geographic Information System
GO	General Order
GWP	global warming potential
Ha	hectare
HFC	hydrofluorocarbon
Hz	hertz

I	Interstate
IARC	International Agency for Research on Cancer
IBC	International Building Code
IEEE	Institute of Electrical and Electronic Engineers
in.	inches
INRMP	Integrated Natural Resources Management Plan
IPCC	Intergovernmental Panel on Climate Change
IS	Initial Study
IS/MND	Initial Study/Mitigated Negative Declaration
KOP	Key Observation Point
km	kilometer
kV	kilovolt
LDR	Low-Density Residential
LDS	light-duty steel
L_{dn}	day-night noise level
L_{eq}	equivalent sound level
L_{max}	maximum sound level
L_{min}	minimum sound level
LOS	Level of Service
LST	lattice steel tower
L_x	The sound level that is equaled or exceeded x percent of a specified time period.
m	meter
MBTA	Migratory Bird Treaty Act
MCAB	Mountain Counties Air Basin
mi	mile
MMRCP	Mitigation Monitoring, Reporting, and Compliance Program
MND	Mitigated Negative Declaration
mph	miles per hour
MRDS	Mineral Resources Data System
MRZ	Mineral Resource Zone
MSDS	Material Safety Data Sheet
msl	mean sea level
MW	megawatt
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCIC	North Central Information Center
NAGPRA	Native American Graves Protection and Repatriation Act
NHPA	National Historic Preservation Act
NO	nitric oxide
NO_2	nitrogen dioxide

NOA	naturally occurring asbestos
NOI	Notice of Intent
NOP	Notice of Preparation
NO_x	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
O&M	Operation and Maintenance
OEHHA	Office of Environmental Health Hazard Assessment
OHWM	Ordinary High Water Mark
OSHA	Occupational Safety and Health Administration
PEA	Proponent's Environmental Assessment
PGA	peak ground acceleration
PG&E	Pacific Gas and Electric Company
PM10	particulate matter less than 10 microns in diameter
PM2.5	particulate matter less than 2.5 microns in diameter
PRC	California Public Resources Code
PPV	peak particle velocity
Project	Missouri Flat-Gold Hill 115 kV Power Line Reconductoring Project
PSHA	Probabilistic Seismic Hazard Assessment
PTC	Permit to Construct
QSP	qualified SWPPP practitioner
RCRA	Resource Conservation and Recovery Act
RMS	root mean square
ROG	reactive organic gases
ROW	rights-of-way
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCAQMD	South Coast Air Quality Management District
SDC	Seismic Design Category
SF_6	sulfur hexafluoride
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SLF	Sacred Land Files
SMARTS	Stormwater Multiple Applications and Report Tracking Systems
SMAQMD	Sacramento Metro Air Quality Management District
SO_2	sulfur dioxide
SPCC	Spill Prevention and Control Countermeasures
SVAB	Sacramento Valley Air Basin
SVRA	State Vehicular Recreation Area

SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	Toxic Air Contaminant
TPZ	Tree Protection Zone
TSP	tubular steel pole
UBC	Uniform Building Code
UCMP	University of California's Museum of Paleontology
USACE	United States Army Corps of Engineers
USC	United States Code
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
v/c	volume/capacity ratio
VELB	valley elderberry longhorn beetle
WDR	waste discharge requirement

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EXECUTIVE SUMMARY

Introduction

Pacific Gas and Electric Company (PG&E), in its California Public Utilities Commission (CPUC) application (A.13-08-014), filed on August 13, 2013, requests to reinforce the electric transmission and distribution system in El Dorado County by replacing existing conductor (reconductoring), replacing existing poles, and modifying existing lattice steel towers on the Missouri Flat-Gold Hill 115 kilovolt (kV) Power Line (Missouri Flat-Gold Hill Line), pursuant to CPUC General Order (GO) 131-D. The application includes the Proponent's Environmental Assessment (PEA) prepared pursuant to Rule 2.4 of the CPUC's Rules of Practice and Procedure.

PG&E owns and operates the Missouri Flat-Gold Hill Line, as well as the El Dorado-Missouri Flat 115 kV Power Line (El Dorado-Missouri Flat Line) and the Gold Hill-Clarksville 115 kV Power Line (Gold Hill-Clarksville Line). The Missouri Flat-Gold Hill Line is an approximately 12.5-mile, double-circuit power line between the City of Folsom in Sacramento County and the community of Shingle Springs in El Dorado County. The Missouri Flat-Gold Hill 115 kV Power Line Reconductoring Project (Project) also would modify and upgrade existing substations and temporarily convert the Gold Hill No. 1 60 kV Power Line (Gold Hill No. 1 Line), an existing 60 kV power line, to 115 kV to provide power to customers during construction of the Project.

With one exception, the proposed alignment would be located in existing PG&E easements. Additional rights-of way (ROW) would be required to accommodate the relocation of approximately 150 feet of an existing distribution feeder line associated with Limestone Substation near the intersection of Strolling Hills Road and Ridge Pass Drive. No additional ROW or easement expansions would be needed to accommodate construction or operation and maintenance of the line.

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

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

Project Description

The proposed Project consists of the following primary components:

- **Missouri Flat-Gold Hill Line Reconductoring:** Approximately 12.5 miles of the existing 115 kV double-circuit (No. 1 and No. 2) power line between Shingle Springs and Gold Hill substations would be reconductored. In addition, approximately 0.3 mile of the existing power line east of Shingle Springs Substation would be reconductored to facilitate construction activities. The Missouri Flat-Gold Hill Line travels in a generally east-west direction from Shingle Springs Substation in El Dorado County to Gold Hill Substation in the City of Folsom. It generally parallels Highway 50 for approximately 6.4 miles and crosses the highway at five locations.

- **Gold Hill No. 1 Line Reconductoring:** Approximately 7 miles of the existing Gold Hill No. 1 60 kV Line would be upgraded in order to provide backup electric service while the Missouri Flat-Gold Hill Line is being reconductored. The portion of the Gold Hill No. 1 Line that would be upgraded begins approximately 0.6 mile east of Shingle Springs Substation in the community of Shingle Springs and continues west to Clarksville Substation. The line closely parallels the Missouri Flat-Gold Hill Line; however, the two alignments slightly diverge in three locations. Upon completion of this reconductoring, the voltage would be returned to 60 kV; however, the upgraded structures and facilities would remain in place.

- **Substation and Switching Station Modifications:** Minor modifications would be made to substation equipment and facilities at Shingle Springs, Pacific Western Pipe, Limestone, Clarksville, and Gold Hill substations, and Missouri Flat Switching Station to tie the new conductor into the substations and modify existing equipment to accommodate the line upgrades. All substation equipment would be sized adequately to match or exceed new line requirements. All substation and switching station modifications would be completed within existing substation or switching station fence lines and no substation expansions are proposed.

Environmental Determination

The IS/MND was prepared to identify the potential environmental effects resulting from implementation of the proposed Project, evaluate the level of significance of these effects, and identify the revisions in the Project agreed to by PG&E that would avoid the effects or mitigate them to a point where they are not significant. The IS/MND relies on information from PG&E's Application for a Permit to Construct, the Proponent's Environmental Assessment, Project site reconnaissance, PG&E's responses to data requests by the CPUC, and the environmental expertise of the CPUC's consultant, who prepared the MND.

PG&E identified a number of applicant proposed measures (APMs) to avoid or reduce potential impacts associated with the proposed Project. All APMs are considered part of the proposed Project for the purpose of this IS/MND and, upon adoption of the Final MND, would become part of the Mitigation Monitoring, Reporting, and Compliance Program; therefore, implementation of and compliance with the APMs would be monitored and enforced by the CPUC. Based on the analysis documented in the IS/MND, mitigation measures are recommended ~~to~~ for the following resource areas, to ensure that impacts of the proposed Project would be less than significant~~.~~: Aesthetics; Air Quality; Biological Resources; Geology, Soils, and Seismicity; and Noise. The mitigation measures either supplement or supersede the APMs as indicated. PG&E has agreed to implement all of the recommended mitigation measures as part of the proposed Project. Upon adoption of the Final MND, the recommended mitigation measures~~, and they~~ would ~~also~~ become part of the Project Mitigation Monitoring, Reporting, and Compliance Program.

~~**Table ES-1** provides a complete, condensed presentation of the e~~Environmental impacts, APMs[1], and mitigation measures for the proposed Project are provided in Section 3 of this IS/MND. ~~A full description of t~~The Mitigation Monitoring, Reporting, and Compliance Plan is included in Section 5 of this IS/MND.

[1] The APMs that were previously listed in Table ES-1 are now listed in the Mitigated Negative Declaration as well as the Mitigation Monitoring, Reporting, and Compliance Plan in Section 5 of this IS/MND.

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SECTION 1
Introduction

CEQA Process

Pursuant to the requirements of the California Environmental Quality Act (CEQA) and California Public Utilities Commission (CPUC) General Order (GO) 131-D, the CPUC prepared an Initial Study (IS) to evaluate potential environmental impacts of the application from Pacific Gas and Electric Company (PG&E) (A.13-08-014) for a Permit to Construct (PTC) the proposed Missouri Flat-Gold Hill 115 kV Power Line Reconductoring Project (Project). The IS determined that the Project would not have a significant adverse effect on the environment, and a Draft Mitigated Negative Declaration (Draft MND) was prepared by the CPUC.

On December 23, 2014, the CPUC filed a Notice of Completion (NOC) with the Governor's Office of Planning and Research (State Clearinghouse), published a Notice of Intent (NOI) [see Appendix D] to Adopt a Mitigated Negative Declaration, and released the Draft IS/MND for a 45-day public review period. The Draft IS/MND was distributed to federal, state, and local agency representatives, and the NOI was distributed to property owners within 300 feet of the Project and other interested individuals, as outlined in Appendix C of the IS/Draft MND. Additionally, a Public Notice was published on December 24, 2014 in the Mountain Democrat newspaper, and on December 31, 2014 in the Folsom Telegraph announcing the availability of the Draft IS/MND for public review in compliance with CEQA (see Appendix E). In accordance with Section 15105(b) of the CEQA Guidelines, the public review and comment period began on December 23, 2014, and ended on February 6, 2015. Five written comments were received. Copies of all written comments received on the Draft IS/MND are contained in Section 6 of this Final IS/MND.

This Final IS/MND has been prepared pursuant to CEQA and the CEQA Guidelines,[1] which outline all aspects of the preparation of the Draft IS/MND and its review, as well as the subsequent steps to preparing a Notice of Determination. This document incorporates comments received during the public review period, and contains responses by the Lead Agency (the CPUC) to those comments. The comments received resulted in minor changes to the IS contained in the Draft IS/MND. Those changes are reflected in Section 3, *Environmental Checklist and Discussion*, and Section 5, *the Mitigation Monitoring, Reporting, and Compliance Plan (MMRCP)*. Some additional minor changes were made to improve the clarity of the Draft IS/MND. Changes are shown using <u>underline</u> to denote new language, and ~~strike-through~~ to

[1] Public Resources Code Section 21000 et seq.; Title 14, California Code of Regulations, Chapter 3, Sections 15000 through 15387 and Appendices, accessible at http://ceres.ca.gov/topic/env_law/ceqa/guidelines/.

denote deleted language. The sole intent and purpose of the Final IS/MND is to provide corrections and clarity to certain facts set forth in the IS/Draft MND, if necessary, to ensure accuracy. No new significant environmental impacts are identified in this IS/Final MND.

Additionally, no mitigation measures presented in the Draft IS/MND were deleted in this Final IS/MND, but one minor modification was made to Mitigation Measure 3.4-4, as shown in Section 3.4, *Biological Resources* (p. 3.4-49) and Section 5, *MMRCP* (p. 5-34).

The Final IS/MND is an informational document prepared by the CPUC to be considered by decision makers before approving or denying a proposed project. Consistent with CEQA Guidelines Section 15071, this Final IS/MND consists of the following:

(a) A description of the Project (Section 2);

(b) The location of the Project and the name of Project components (Section 2);

(c) A finding that the Project would not have a significant effect on the environment (MND);

(d) An IS documenting reasons to support this finding, updated to address comments received on the Draft IS/MND published December 23, 2014 (Section 3);

(e) Mitigation Measures included in the Project to avoid potentially significant effects (Section 3 and Section 5).

This Final IS/MND also includes:

(f) A list of persons, organizations, and public agencies who commented on the Draft IS/MND and responses to those comments and recommendations (Section 6).

Public Review Process

On December 23, 2014, the CPUC mailed a notice to relevant agencies, organizations, and individuals residing in the Project area, announcing that the Draft IS/MND was available for public review (recipients are identified in Appendix C). The CPUC established a comment fax line (415) 896-0322, e-mail addresses (MissouriFlat@esassoc.com), and web site (http://www.cpuc.ca.gov/Environment/info/esa/missouri_flat/index.html) to enable the public to ask questions, provide comments, and obtain additional information on the Project analyzed in the Draft IS/MND.

In accordance with Section 15105(b) of the CEQA Guidelines, the public review and comment period for the Draft IS/MND began on December 23, 2014, and ended on February 6, 2015. Five comment letters were received. All comments received are presented and discussed in this Final IS/MND in Section 6.

SECTION 2
Project Description

2.1 Introduction

Pacific Gas and Electric Company (PG&E), in its California Public Utilities Commission (CPUC) application (A.13-08-014), filed on August 13, 2013, requests to reinforce the electric transmission and distribution system in El Dorado County by replacing existing conductor (reconductoring), replacing existing poles, and modifying existing lattice steel towers on the Missouri Flat-Gold Hill 115 kilovolt (kV) Power Line (Missouri Flat-Gold Hill Line), pursuant to CPUC General Order (GO) 131-D. The application includes the Proponent's Environmental Assessment (PEA) prepared pursuant to Rule 2.4 of the CPUC's Rules of Practice and Procedure.

PG&E owns and operates the Missouri Flat-Gold Hill Line, as well as the El Dorado-Missouri Flat 115 kV Power Line (El Dorado-Missouri Flat Line) and the Gold Hill-Clarksville 115 kV Power Line (Gold Hill-Clarksville Line). The Missouri Flat-Gold Hill Line is an approximately 12.5-mile, double-circuit power line between the City of Folsom in Sacramento County and the community of Shingle Springs in El Dorado County. The Missouri Flat-Gold Hill 115 kV Power Line Reconductoring Project (Project) also would modify and upgrade existing substations and temporarily convert the Gold Hill No. 1 60 kV Power Line (Gold Hill No. 1 Line), an existing 60 kV power line, to 115 kV to provide power to customers during construction of the Project.

With one exception, the proposed alignment would be located in existing PG&E easements. Additional rights-of way (ROW) would be required to accommodate the relocation of 150 feet of an existing distribution feeder line associated with Limestone Substation near the intersection of Strolling Hills Road and Ridge Pass Drive. No additional ROW or easement expansions are anticipated to be needed to accommodate construction or operation and maintenance of the line.

This IS/MND identifies the potential environmental effects of the Project, evaluates their level of significance, and identifies the revisions in the Project agreed to by PG&E that would avoid the effects or mitigate them below the level of significance. The information presented here is based on PG&E's Application for a Permit to Construct (PTC) (PG&E, 2013a), the Proponent's Environmental Assessment (PEA) (PG&E, 2013b), and PG&E's responses to data requests by the CEQA Tteam identified in Section 4 (PG&E, 2013c). This information is intended to describe provide a detailed description of Project construction, operation and maintenance requirements and activities , serving to inform an analysis of the Project's potential environmental effects. provide a common understanding of the Project parameters.

2.2 Project Location

The Project is ~~largely~~ located primarily in El Dorado County, extending from the community of Shingle Springs in El Dorado County to the City of Folsom, in Sacramento County (see **Figure 2-1**). The Missouri Flat-Gold Hill Line and Gold Hill No. 1 Line would mostly traverse lands within the existing PG&E ROW along Highway 50 and through the City of Folsom, the communities of El Dorado Hills, Cameron Park, and Shingle Springs, and also a parcel managed by the United States Department of the Interior's ~~U.S.~~ Bureau of Land Management (BLM) ~~parcel~~, the Pine Hill Preserve, which is located northwest of Shingle Springs Substation. The developed portions of the Project area are predominantly residential with some light-industrial and commercial development. Rolling grasslands and oak woodlands dominate the areas outside the existing communities.

2.3 Existing System

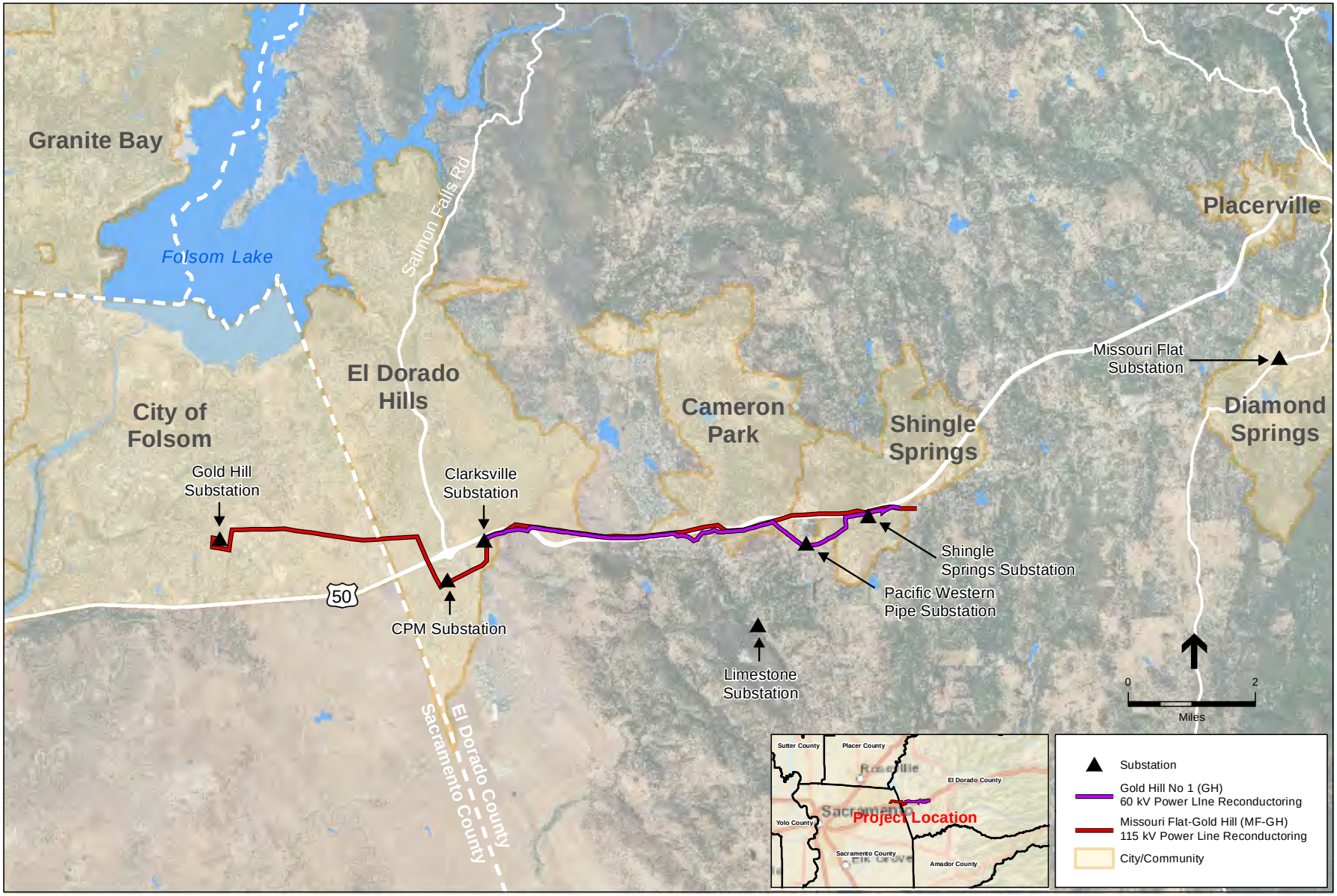
El Dorado County is currently served by a number of substations and transmission lines, as well as an extensive network of distribution lines carrying lower voltage electricity from the substations to PG&E residential, commercial, and private customers. Six distribution substations—Apple Hill, Placerville, Diamond Springs, El Dorado, Shingle Springs, and Clarksville substations—are connected to the 115 kV transmission network to serve customers. Electric power is delivered to these substations through three area power lines: the El Dorado-Missouri Flat Line (No. 1 and No. 2), the Missouri Flat-Gold Hill Line (No. 1 and No. 2), and the Gold Hill-Clarksville Line.[1]

The Missouri Flat-Gold Hill Line is a double-circuit line that travels generally in an east-west direction, interconnecting Diamond Springs, Shingle Springs, Clarksville, and Gold Hill substations and Missouri Flat Switching Station. The nearest electric power generation facility is a 30 megawatt (MW) hydroelectric generation facility located approximately 30 miles east of the City of Folsom and is connected to Placerville and El Dorado substations.

There is also an underlying 60 kV system interconnecting El Dorado County to Amador County, which includes the Gold Hill No. 1 Line, (an approximately 28-mile-long, single-circuit power line, interconnecting Gold Hill and Martell substations). Customers in this region are served by two PG&E-owned distribution substations—Limestone and Oleta distribution substations—and one privately owned distribution substation—Pacific Western Pipe Substation.

El Dorado County's population is expected to increase approximately 2 percent per year for the next 10 years, which will create increasing demand for electric power (PG&E 2013b). The majority of El Dorado County's current load is served by the Missouri Flat-Gold Hill and Gold Hill-Clarksville lines through Clarksville and Shingle Springs substations, and much of the future growth is expected to occur in the areas served by these substations. The increased demand for electricity has put PG&E's local 115 kV power line system at risk of overloading in the event of an outage on either circuit of the Missouri Flat-Gold Hill Line. When the demand on the equipment exceeds its rated capacity, the equipment becomes overheated and may be irreversibly

[1] The Gold Hill-Clarksville and Gold Hill No. 1 lines generally run adjacent to the Missouri Flat-Gold Hill Line on separate, double-circuit structures.



SOURCE: AECOM, 2013

Missouri Flat Project . D207584.16

Figure 2-1
Project Location

damaged. The electric system is designed with protective equipment to prevent this type of damage by automatically disconnecting equipment from service during equipment failures or when pre-set design limits are reached, which causes power outages in the areas served by the affected equipment. For example, in 2009, approximately 18,600 customers served from Clarksville Substation were without power when a single electric outage led to a local area blackout due to cascading equipment shut-downs and ensuing outages (PG&E 2013b).

2.4 PG&E's Project

The Project consists of the following activities; a more detailed description of the individual components is included in Section 2.5:

- **Missouri Flat-Gold Hill Line Reconductoring:** Approximately 12.5 miles of the existing 115 kV double-circuit (No. 1 and No. 2) power line between Shingle Springs and Gold Hill substations would be reconductored. In addition, 0.3 mile of the existing 115 kV power line east of Shingle Springs Substation would be reconductored to facilitate construction activities. The Missouri Flat-Gold Hill Line travels in a generally east-west direction from Shingle Springs Substation, located near the intersection of Haven Lane and Durock Road in the community of Shingle Springs, to Clarksville Substation, located near the intersection of Highway 50 and Silva Valley Parkway in the community of El Dorado Hills, to Gold Hill Substation, located just west of the intersection of Clarksville Road and East Bidwell Street in the City of Folsom. It generally parallels Highway 50 for approximately 6.4 miles and crosses the highway at five locations. A 0.4 mile section of the eastern portion of the alignment crosses a BLM parcel—Pine Hill Preserve—located northwest of Shingle Springs Substation. In addition, approximately 1,000 feet of existing 21 kV overhead distribution line would be placed underground along Platt Circle (between Arches Avenue and Finders Way) in the community of El Dorado Hills to meet conductor clearance requirements.

- **Gold Hill No. 1 Line Reconductoring:** Approximately 7 miles of the existing Gold Hill No. 1 60 kV Line would be upgraded in order to provide backup electric service while the Missouri Flat-Gold Hill Line is being reconductored. Upon completion of this reconductoring, the voltage would be returned to 60 kV; however, the upgraded structures and facilities would remain in place. This portion of the line begins 0.6 mile east of Shingle Springs Substation in the community of Shingle Springs and continues west to Shingle Springs Substation. From the substation, the alignment continues westerly, closely paralleling the Missouri Flat-Gold Hill Line; however, the two alignments slightly diverge in three primary locations, including:

    - At 0.3 mile east of Clarksville Substation, where the Missouri Flat-Gold Hill Line crosses from the south side of Highway 50 to the north side and the Gold Hill No. 1 Line continues south of U.S. 50 for 0.4 mile;

    - In the community of Cameron Park near the Highway 50 and Cambridge Road crossing, where the Missouri Flat-Gold Hill Line continues to parallel the north side of Highway 50 and the Gold Hill No. 1 Line crosses to the south side of the highway and parallels Crazy Horse Road for 0.9 mile; and

    - Between the communities of Cameron Park and Shingle Springs at the eastern terminus of Coach Lane, where the Missouri Flat-Gold Hill Line crosses to the north side of Highway 50 (traversing the BLM's Pine Hill Preserve) and the Gold Hill No. 1 Line continues south of Highway 50 (paralleling Durock Road) for 2.2 miles.

In addition, to maintain distribution feeder line service to the Limestone Substation during construction, approximately 150 feet of the distribution feeder line north of the intersection of Strolling Hills Road and Ridge Pass Drive would be relocated within 80 feet of the existing distribution line. The preliminary design includes replacement of three existing structures with two new wood poles. The relocated distribution line would remain in place after construction.

- **Substation and Switching Station Modifications:** Minor modifications would be made to substation equipment and facilities at Shingle Springs, Pacific Western Pipe, Limestone, Clarksville, and Gold Hill substations, and Missouri Flat Switching Station to tie the new conductor into the substations and modify existing equipment to accommodate the line upgrades. All substation equipment would be sized adequately to match or exceed new line requirements. All substation and switching station modifications would be completed within existing substation or switching station fence lines and no substation expansions are proposed.

Figures 2-2 through **2-8** show detailed alignment maps of the ~~proposed~~ Project.

2.5 Project Components

A summary of the key components of the Project is provided **Table 2-1**, followed by a more detailed discussion by component.

2.5.1 Missouri Flat-Gold Hill Pole Segment

The Missouri Flat-Gold Hill Pole Segment would consist of a 9.6-mile section of the existing 115 kV power line, beginning 0.3-mile east of the Shingle Springs Substation and continuing west to the intersection of Empire Ranch Road and Broadstone Parkway in the City of Folsom, in Sacramento County. The existing circuit is supported by approximately 60 double-circuit tubular steel poles (TSPs) and one single-circuit TSP. The existing TSPs would be removed and replaced at an approximately one-to-one ratio with new TSPs within the existing ROW. New TSPs would be placed within 20 feet of existing pole locations; with the exception of four TSPs that would be placed within 40-85 feet of existing pole locations.

The Missouri Flat-Gold Hill Pole Segment would include replacement of approximately 60 existing TSPs with new TSPs. The new TSPs would be constructed to the following heights compared to the existing TSPs:

- 42 would be 3 - 20 feet taller than the existing TSPs,
- 2 would be 25-30 feet taller than existing TSPs.
- 16 would be within three feet in height of ~~as~~ the existing poles.

As a result, most new TSPs would range in height from approximately 55 to 135 feet above ground surface (ags) with the exception of two poles that would be up to 145 ags.

The span distances between structures would vary from 50 to 1,400 feet, with an average span length of approximately 850 feet. To optimize operations and maintenance activities, insulators would be replaced during construction with ceramic insulators. As part of the TSP replacement, other equipment on the existing poles would be transferred to the new TSPs.

TABLE 2-1
SUMMARY OF PROJECT COMPONENTS

Missouri Flat-Gold Hill Line Reconductoring - Pole Segment

- *Line length*: 9.6 miles.
- *Conductor*: Replace existing 715 all aluminum (AA), 0.974-inch-diameter conductor with 1.092-inch-diameter, non-specular (dulled finish) type 795 aluminum conductor steel supported (ACSS).
- *Poles:* Replace approximately 60 double-circuit TSPs and one single-circuit TSP with new TSPs.
- *Structure heights*: 55 to 145 feet ags. Preliminary engineering indicates 44 of the 60 poles would be raised 3 to 20 feet. Two poles would be raised 25-30 feet higher than existing poles.
- *Span lengths*: Between 50 and 1,400 feet, with an average span length of 850 feet.
- *Insulators*: Replace existing with ceramic insulators
- *Footings*: Majority of TSPs would have below ground concrete-pier foundations. Several TSPs along this alignment may require the use of micropile foundations to minimize the amount of ground disturbance or because of site-specific substrate constraints.
- *Distribution Line Undergrounding*: 1,000 feet of existing 21 kV overhead distribution line would be placed underground along Platt Circle, between Arches Avenue and Finders Way in the community of El Dorado Hills, to meet conductor clearance requirements.

Missouri Flat-Gold Hill Line Reconductoring - Tower Segment

- *Line length*: 2.9 miles.
- *Conductor*: Replace existing 715 AA, 0.974-inch-diameter conductor with 1.092-inch-diameter, non-specular (dulled finish) type 795 ACSS.
- *Towers:* Modify 13 of 17 existing double-circuit lattice steel towers. Majority of tower modifications would include structural reinforcements and/or cross-arm replacement. One tower would require new bracings and leg reinforcements; one tower would be raised from approximately 93 feet up to 100 feet with the installation of a leg extension.
- *Insulators*: Replace existing with new ceramic insulators made of glass or porcelain.

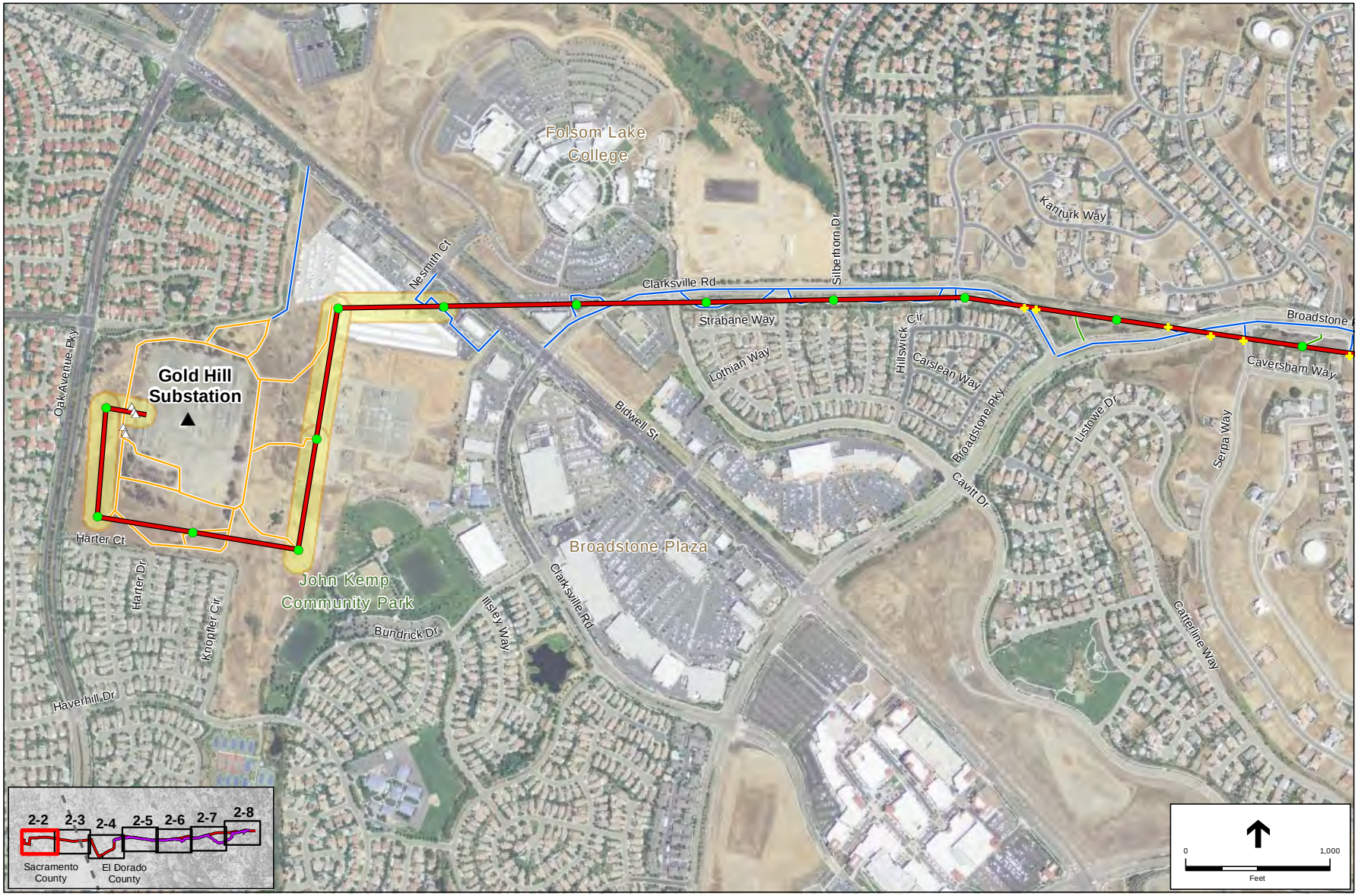
Gold Hill No. 1 Line Reconductoring

- *Line length*: 7 miles.
- *Conductor*: Replace existing 397 AA, 0.724-inch-diameter conductor with 715 AA, 0.974-inch-diameter conductor.
- *Poles:* Replace 80 of existing 120 poles with new wood or light-duty steel (LDS) poles and one new TSP. Up to seven interset wood or LDS poles would also be installed. Between 1-3 existing wood switch poles would be replaced with TSPs to accommodate a new transmission switch. The new TSPs would be up to 90 feet tall and stabilized by concrete-pier foundations.
- *Distribution Feeder Line Relocation:* Up to150 feet of existing distribution feeder line would be relocated by replacing three existing distribution wood pole structures with two new wood poles within 80 feet of the existing structures.
- *Structure heights*: Between 55 and 90 feet ags, and up to 25 feet taller than existing wood poles.
- *Span lengths*: Between 40 to 550 feet, with an average span length of 250 feet.
- *Insulators*: Replace along the entire line length.
- *Footings*: The wood and LDS poles would be direct-bury, with no foundations required. The TSP poles would have a below ground concrete-pier foundation, measuring 5 to 8 feet in diameter.

Substation and Switching Station Modifications

- Minor modifications to substation and switching station equipment and facilities at Shingle Springs, Pacific Western Pipe, Limestone, Clarksville, and Gold Hill substations and Missouri Flat Switching Station
- Replace circuit breakers, switches, conductor, busses, jumpers, and line relays.
- Install junction boxes and pull boxes for new equipment.
- Upgrading existing supervisory control and data acquisition systems.

SOURCE: PG&E, 2013b.



Existing Features
- Substation
- Gold Hill No 1 (GH) 60 kV Power LIne Reconductoring
- Missouri Flat-Gold Hill (MF-GH) 115 kV Power Line Reconductoring

Existing Structures
- Lattice Steel Towers
- Tubular Steel Pole
- GH Wood Pole
- Distribution Wood Pole

Temporary Features*
- Guard Structure
- Staging Area
- Temporary Line Pole
- Helicopter Landing Zone
- Potential Pull Site

Access Routes
- Existing Dirt/Gravel Road
- Existing Paved Road
- Existing Unpaved Access Road Requiring Improvement
- New Unpaved Access Road
- Overland

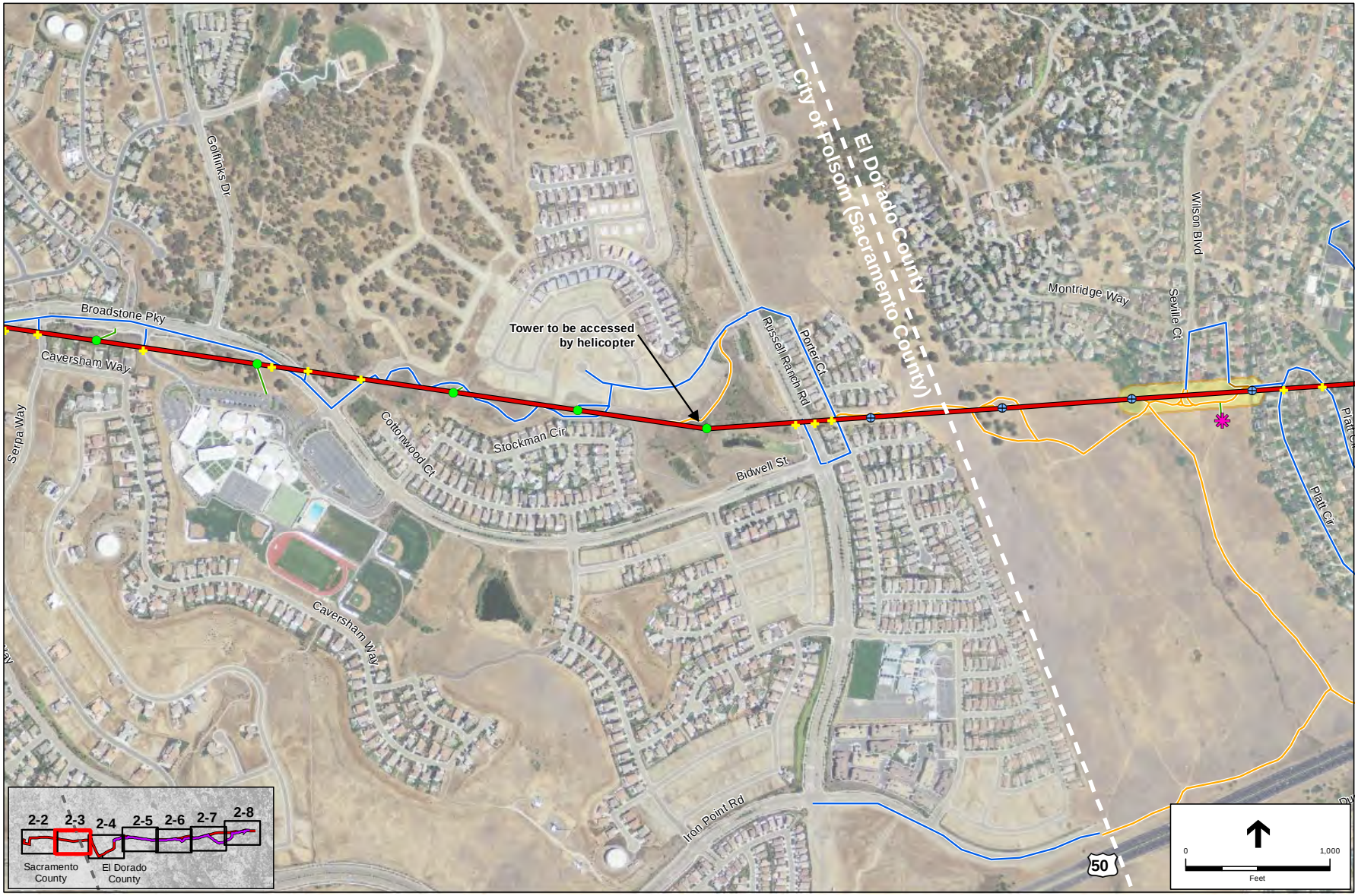
* Based on preliminary design; locations are approximate and may be modified based on final design.

SOURCE: AECOM, 2013

Missouri Flat Project . D207584.16

Figure 2-2

Proposed Project: Detailed Alignment (Panel 1 of 7)



Existing Features
- Substation
- Gold Hill No 1 (GH) 60 kV Power LIne Reconductoring
- Missouri Flat-Gold Hill (MF-GH) 115 kV Power Line Reconductoring

Existing Structures
- Lattice Steel Towers
- Tubular Steel Pole
- GH Wood Pole
- Distribution Wood Pole

Temporary Features*
- Guard Structure
- Staging Area
- Temporary Line Pole
- Helicopter Landing Zone
- Potential Pull Site

Access Routes
- Existing Dirt/Gravel Road
- Existing Paved Road
- Existing Unpaved Access Road Requiring Improvement
- New Unpaved Access Road
- Overland

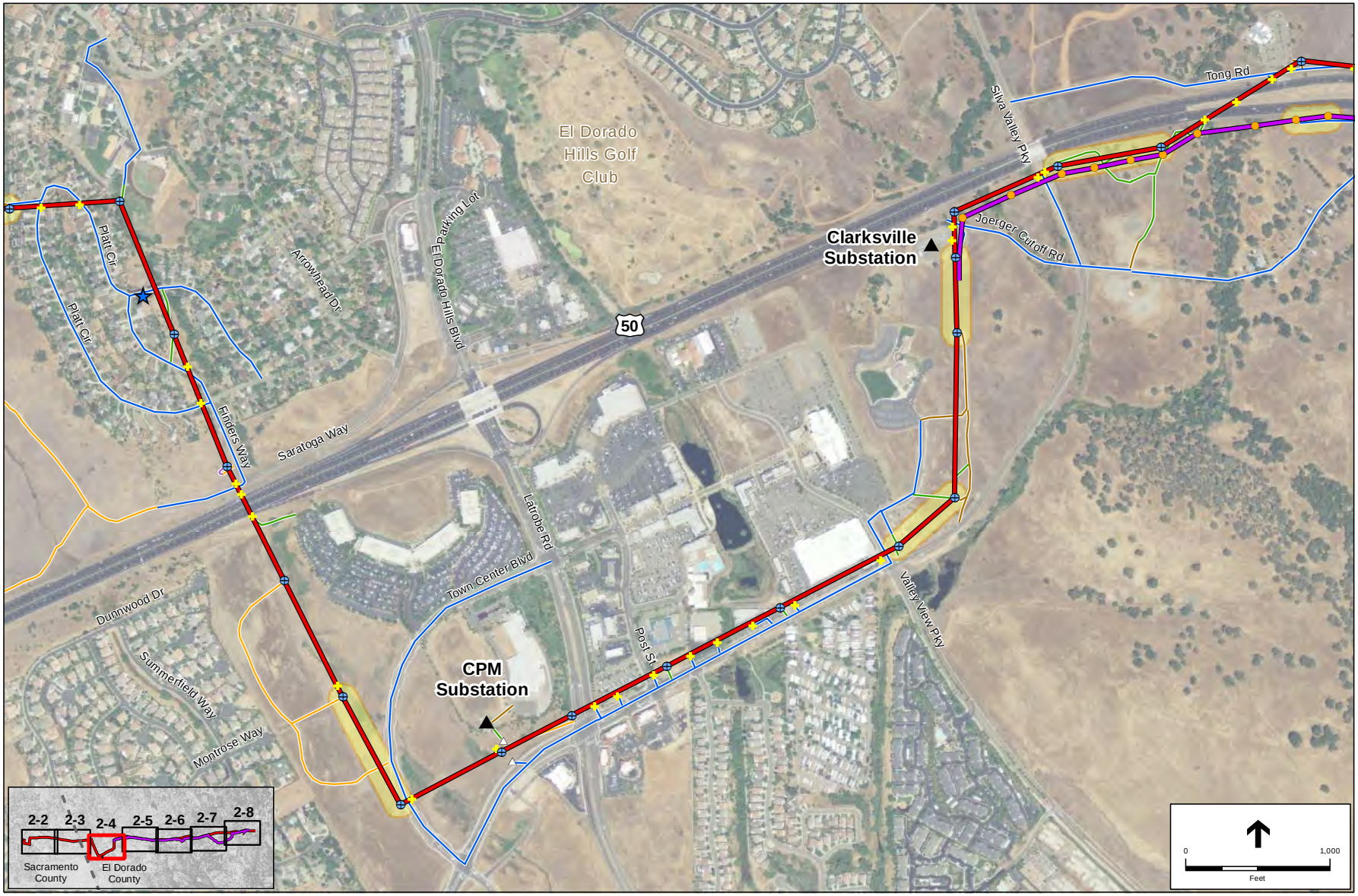
* Based on preliminary design; locations are approximate and may be modified based on final design.

SOURCE: AECOM, 2013

Missouri Flat Project . D207584.16

Figure 2-3

Proposed Project: Detailed Alignment (Panel 2 of 7)



Existing Features
- Substation
- Gold Hill No 1 (GH) 60 kV Power LIne Reconductoring
- Missouri Flat-Gold Hill (MF-GH) 115 kV Power Line Reconductoring

Existing Structures
- Lattice Steel Towers
- Tubular Steel Pole
- GH Wood Pole
- Distribution Wood Pole

Temporary Features*
- Guard Structure
- Staging Area
- Temporary Line Pole
- Helicopter Landing Zone
- Potential Pull Site

Access Routes
- Existing Dirt/Gravel Road
- Existing Paved Road
- Existing Unpaved Access Road Requiring Improvement
- New Unpaved Access Road
- Overland

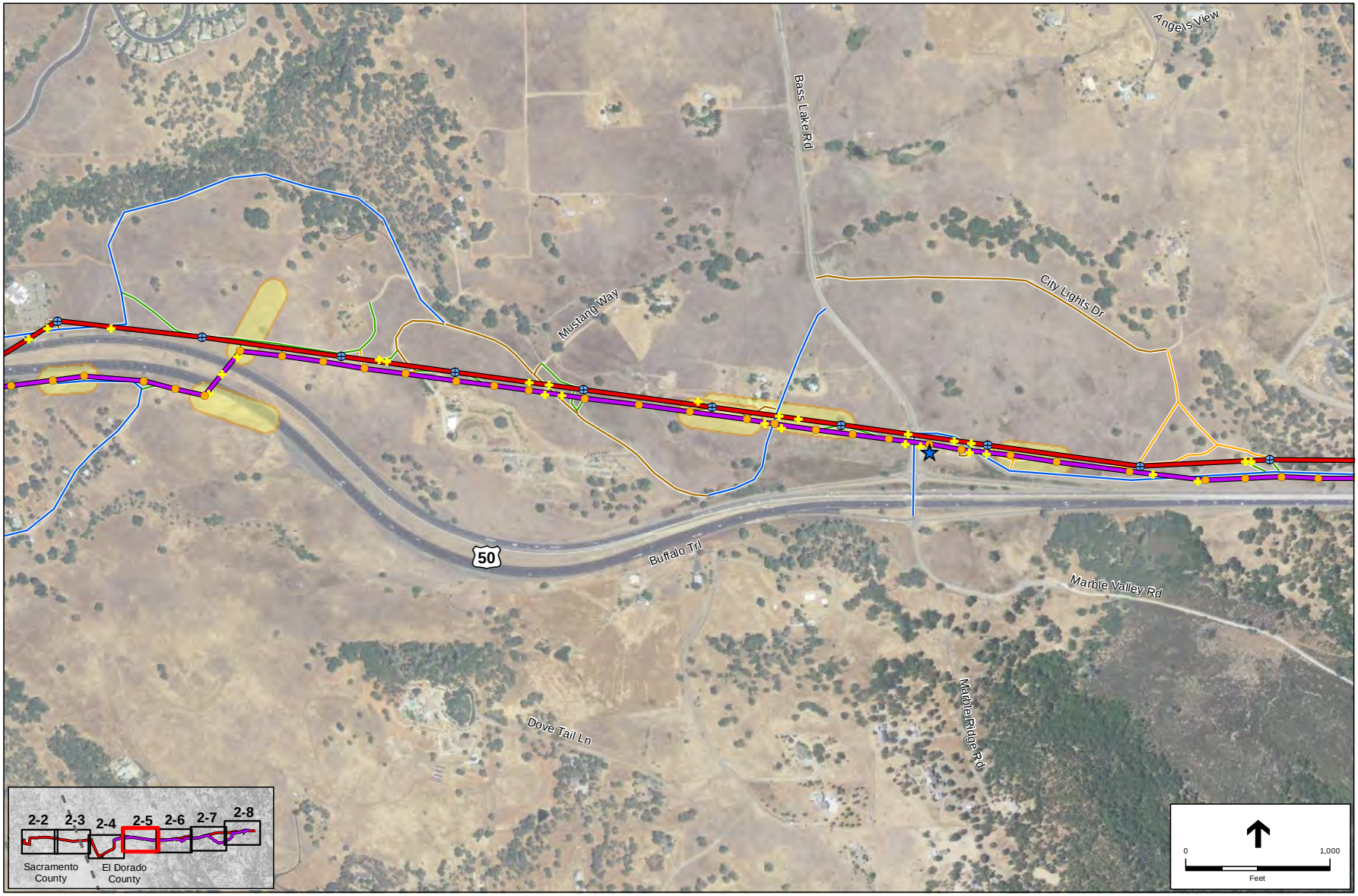
* Based on preliminary design; locations are approximate and may be modified based on final design.

SOURCE: AECOM, 2013

Missouri Flat Project . D207584.16

Figure 2-4

Proposed Project: Detailed Alignment (Panel 3 of 7)



Existing Features
- Substation
- Gold Hill No 1 (GH) 60 kV Power LIne Reconductoring
- Missouri Flat-Gold Hill (MF-GH) 115 kV Power Line Reconductoring

Existing Structures
- Lattice Steel Towers
- Tubular Steel Pole
- GH Wood Pole
- Distribution Wood Pole

Temporary Features*
- Guard Structure
- Staging Area
- Temporary Line Pole
- Helicopter Landing Zone
- Potential Pull Site

Access Routes
- Existing Dirt/Gravel Road
- Existing Paved Road
- Existing Unpaved Access Road Requiring Improvement
- New Unpaved Access Road
- Overland

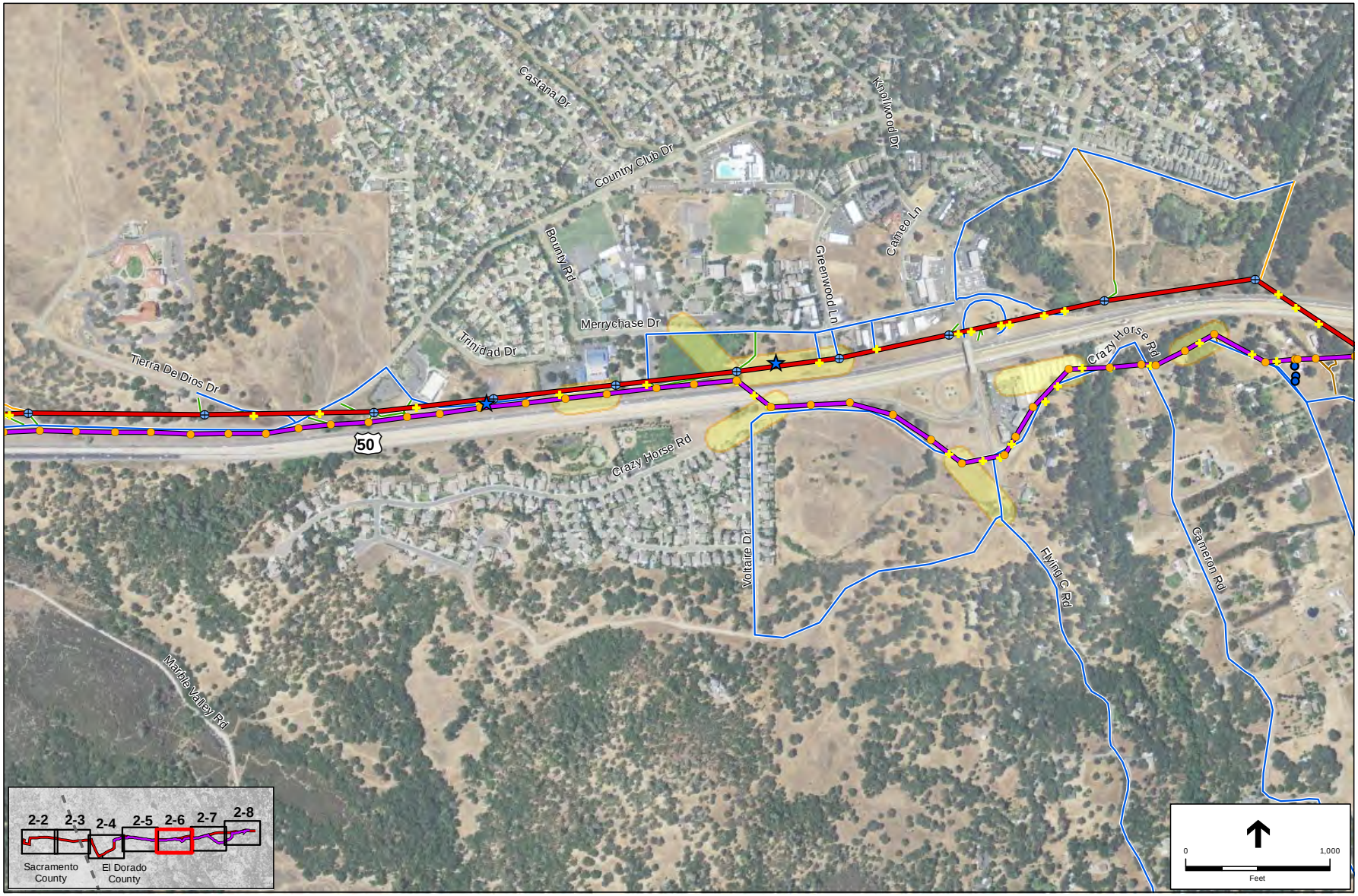
* Based on preliminary design; locations are approximate and may be modified based on final design.

SOURCE: AECOM, 2013

Missouri Flat Project . D207584.16

Figure 2-5

Proposed Project: Detailed Alignment (Panel 4 of 7)



Existing Features
- Substation
- Gold Hill No 1 (GH) 60 kV Power LIne Reconductoring
- Missouri Flat-Gold Hill (MF-GH) 115 kV Power Line Reconductoring

Existing Structures
- Lattice Steel Towers
- Tubular Steel Pole
- GH Wood Pole
- Distribution Wood Pole

Temporary Features*
- Guard Structure
- Staging Area
- Temporary Line Pole
- Helicopter Landing Zone
- Potential Pull Site

Access Routes
- Existing Dirt/Gravel Road
- Existing Paved Road
- Existing Unpaved Access Road Requiring Improvement
- New Unpaved Access Road
- Overland

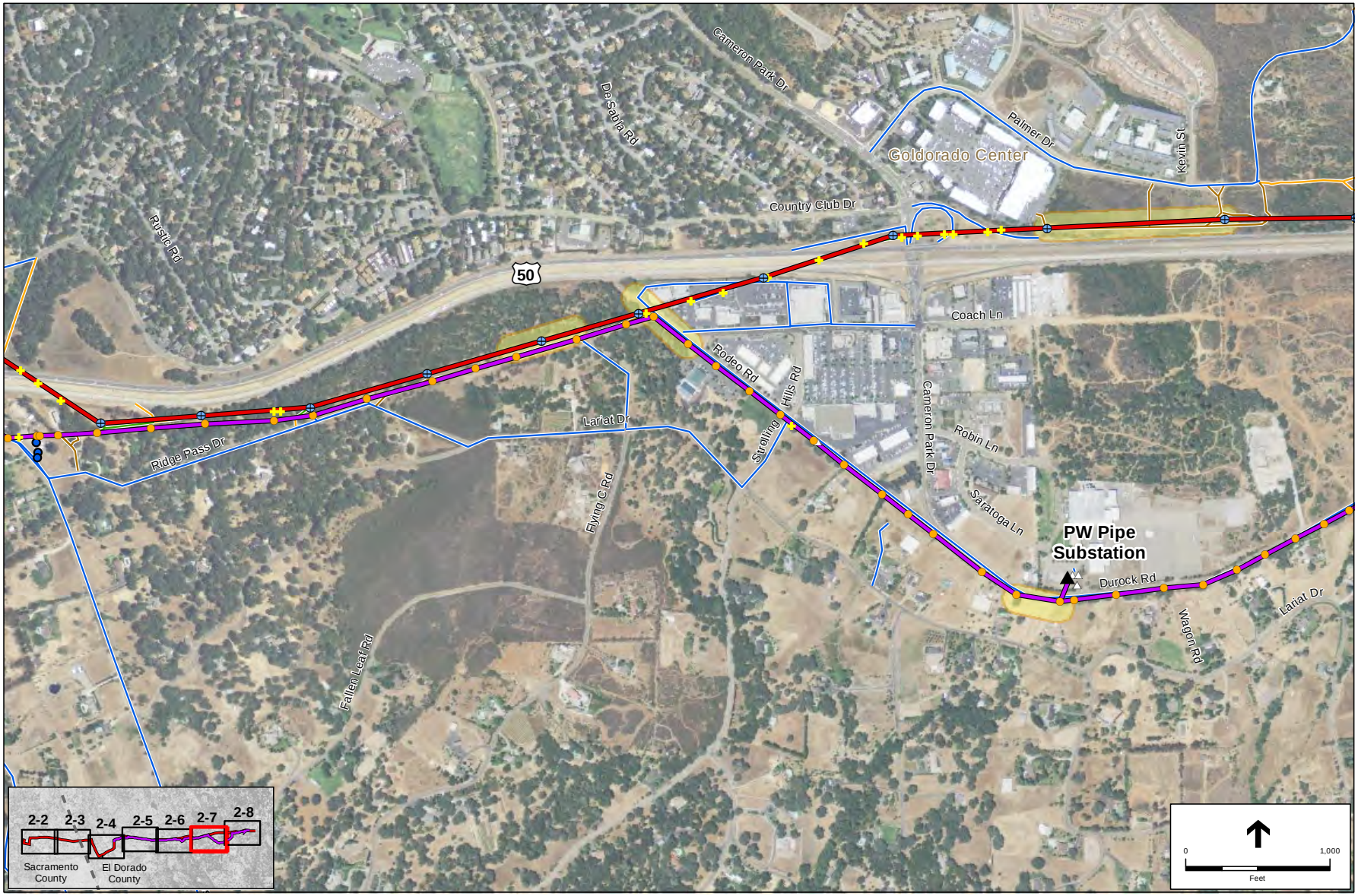
* Based on preliminary design; locations are approximate and may be modified based on final design.

SOURCE: AECOM, 2013

Missouri Flat Project . D207584.16

Figure 2-6

Proposed Project: Detailed Alignment (Panel 5 of 7)



Existing Features
- Substation
- Gold Hill No 1 (GH) 60 kV Power LIne Reconductoring
- Missouri Flat-Gold Hill (MF-GH) 115 kV Power Line Reconductoring

Existing Structures
- Lattice Steel Towers
- Tubular Steel Pole
- GH Wood Pole
- Distribution Wood Pole

Temporary Features*
- Guard Structure
- Staging Area
- Temporary Line Pole
- Helicopter Landing Zone
- Potential Pull Site

Access Routes
- Existing Dirt/Gravel Road
- Existing Paved Road
- Existing Unpaved Access Road Requiring Improvement
- New Unpaved Access Road
- Overland

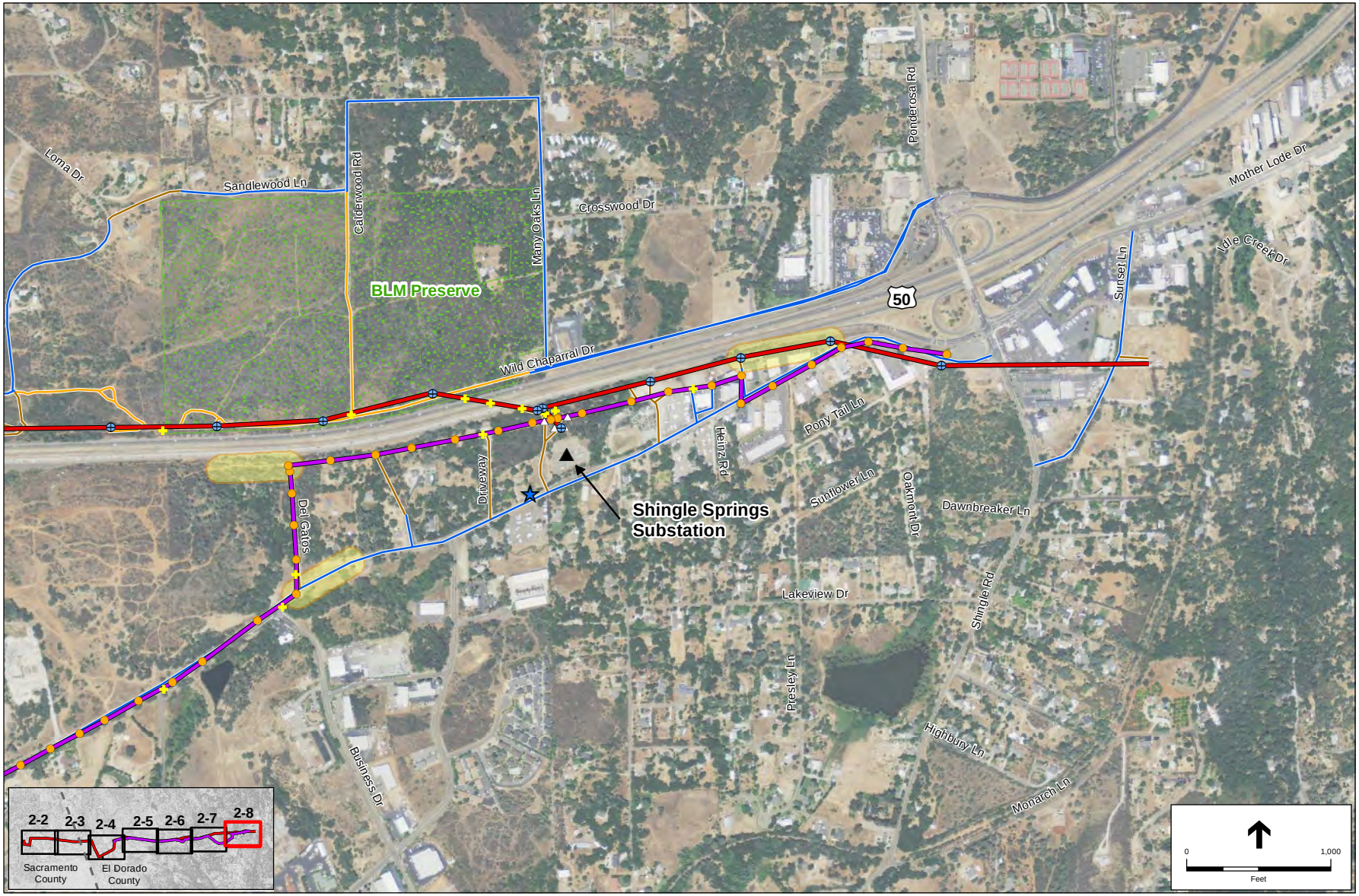
* Based on preliminary design; locations are approximate and may be modified based on final design.

SOURCE: AECOM, 2013

Missouri Flat Project . D207584.16

Figure 2-7

Proposed Project: Detailed Alignment (Panel 6 of 7)



Existing Features
- Substation
- Gold Hill No 1 (GH) 60 kV Power LIne Reconductoring
- Missouri Flat-Gold Hill (MF-GH) 115 kV Power Line Reconductoring

Existing Structures
- Lattice Steel Towers
- Tubular Steel Pole
- GH Wood Pole
- Distribution Wood Pole

Temporary Features*
- Guard Structure
- Staging Area
- Temporary Line Pole
- Helicopter Landing Zone
- Potential Pull Site

Access Routes
- Existing Dirt/Gravel Road
- Existing Paved Road
- Existing Unpaved Access Road Requiring Improvement
- New Unpaved Access Road
- Overland

* Based on preliminary design; locations are approximate and may be modified based on final design.

SOURCE: AECOM, 2013

Missouri Flat Project . D207584.16

Figure 2-8

Proposed Project: Detailed Alignment (Panel 7 of 7)

The distance from the ground to the lowest conductor and distance between conductors would vary along the Project route. The minimum ground-to-conductor distance would not be less than 25 feet and the minimum distance between conductors would not be less than 7 feet. For clearances above roads and highways, PG&E uses a minimum clearance from ground to conductor of 32 feet normal clearance[2] and 29 feet emergency clearance[3] in accordance with PG&E design standards. For clearance above railroad tracks, PG&E uses a minimum clearance from ground to conductor of 34 feet normal clearance and 32.3 feet emergency clearance. The Project does not cross over rivers or involve any other special crossings.

The typical clearances between conductors on the steel poles and towers would be 10 feet. Wood poles on the distribution line have a different transmission framing and generally include a mix of pole configurations, including vertical (approximately 8 feet-6 inches vertical conductor spacing) and delta (approximately 4 feet-3 inches vertical conductor spacing). The distribution under-build is typically 10 to 12 feet below the lowest transmission wires on the wood poles.

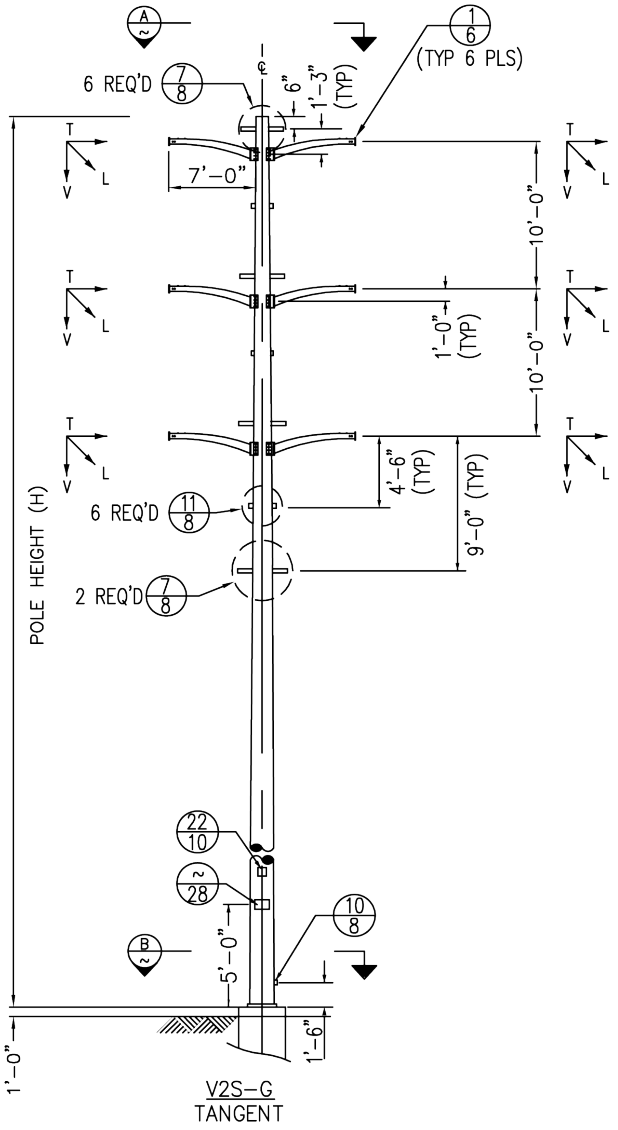
The majority of the new TSPs would have belowground concrete-pier foundations for stabilization. The concrete-pier footings would measure 5 to 8 feet in diameter and 15 to 23 feet in depth, with an average footing diameter of approximately 6 feet and an average depth of approximately 21 feet. A diagram of a typical TSP with a concrete-pier foundation is provided in **Figure 2-9**. Several TSPs may require the use of micropile foundations to minimize the amount of ground disturbance or because of site-specific substrate constraints. Micropile foundation systems would include four to 12 composite piles constructed in a 5- to 6-foot-diameter array at the ground line. Composite piles would be constructed using up to 9-inch high-strength steel casing, high-strength all-thread rebar, and grout. The steel casings would project a minimum of 1 foot aboveground and the piles would connect to TSPs by either a steel cap or cast-in-place concrete cap connection. The maximum depth for each composite micropile would be 30 feet belowground surface. A diagram of a typical TSP with a micropile foundation is provided in **Figure 2-10**. In addition, approximately 1,000 feet of existing 21 kV overhead distribution line would be placed underground along Platt Circle, between Arches Avenue and Finders Way, in the community of El Dorado Hills, to meet ground-to-conductor clearance requirements for the reconductored Missouri Flat-Gold Hill Line. This work would include installing an interset pole adjacent to the east side of Platt Circle approximately 300 feet southeast of the intersection of Platt Circle and Arches Avenue, installing a riser pole at the northeast corner of the intersection of Platt Circle and Finders Way, and removing existing power line poles, which also support the existing distribution line.

[2] Normal clearance is the distance on an average day or during typical weather conditions and average conductor loading.

[3] Emergency clearance is the distance the conductor sags at its maximum point as a result of a temporary weather condition or above-average conductor loading.

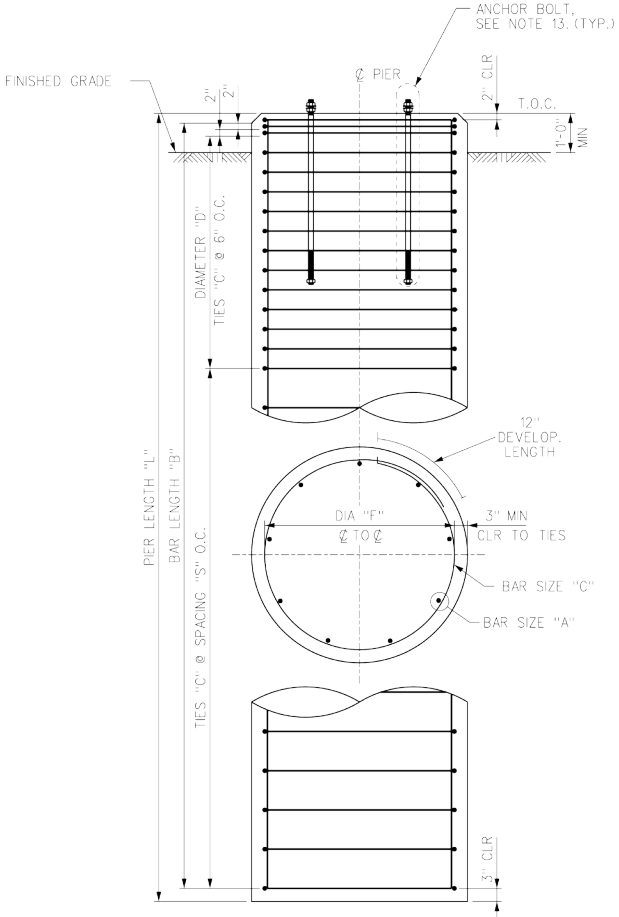
Tubular Steel Pole - Aboveground

*Not to Scale



Concrete-Pier Foundation - Belowground

*Not to Scale



Preliminary and subject to change based on California Public Utilities requirements, final engineering and other factors.

Missouri Flat Project . D207584.16

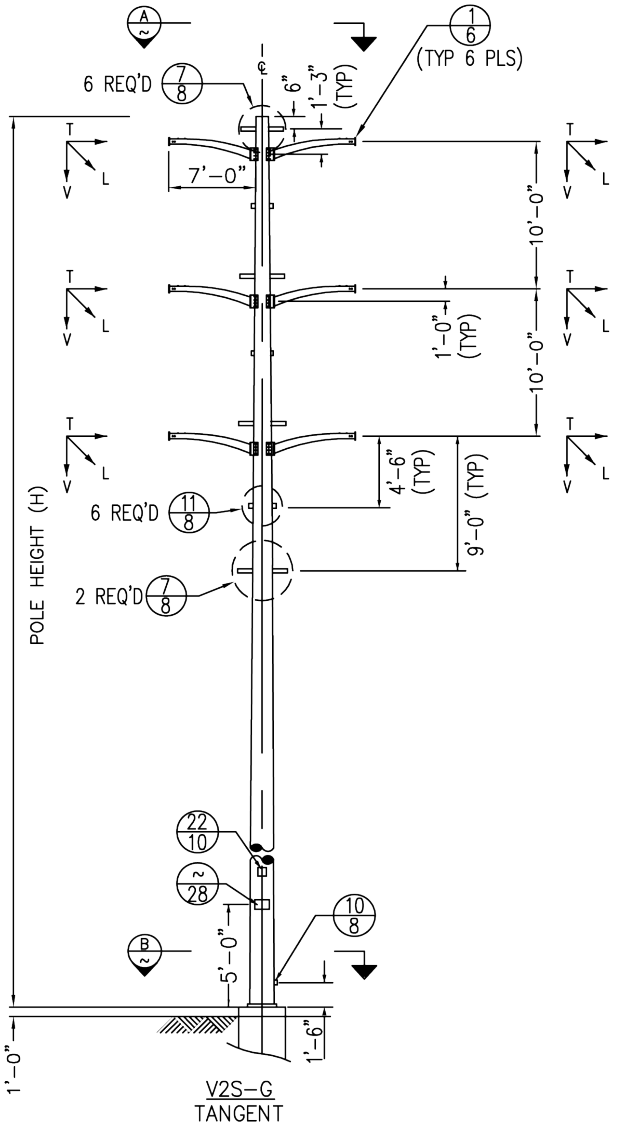
SOURCE: AECOM, 2013

Figure 2-9

Typical Tubular Steel Pole Drawing - Concrete-Pier Foundation

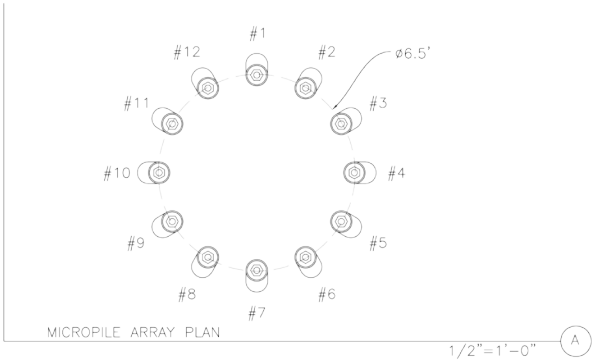
Tubular Steel Pole - Aboveground

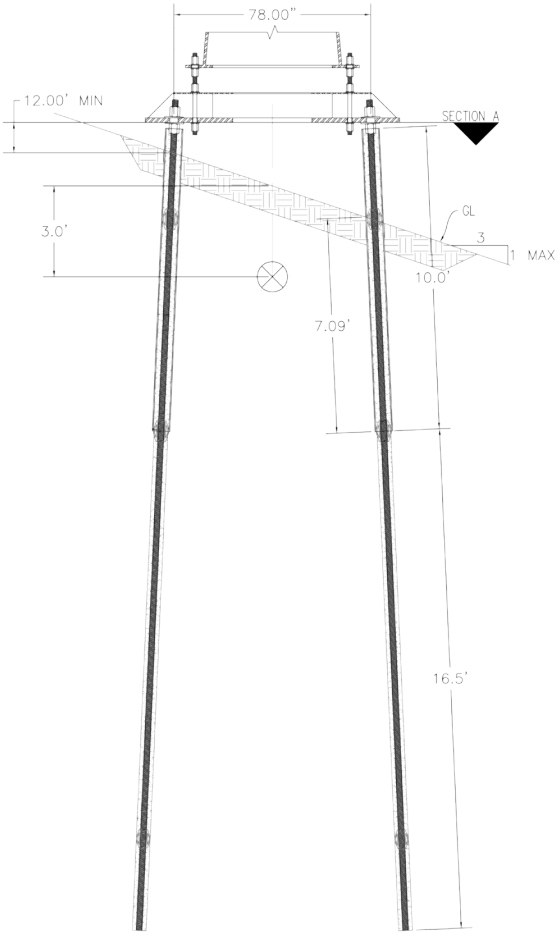
*Not to Scale



Micropile Foundation - Belowground

*Not to Scale





Preliminary and subject to change based on California Public Utilities requirements, final engineering and other factors.

Missouri Flat Project . D207584.16

SOURCE: AECOM, 2013

Figure 2-10

Typical Tubular Steel Pole Drawing – Micro-Pile Foundation

2.5.2 Missouri Flat-Gold Hill Tower Segment

The Missouri Flat-Gold Hill Tower Segment would consist of approximately 2.9-mile section of the existing 115 kV power line, beginning near the intersection of Empire Ranch Road and Broadstone Parkway in the City of Folsom and continuing west to Gold Hill Substation. The existing circuit is supported by approximately 17 double-circuit lattice steel towers (LSTs), 13 of which would be modified as part of the Project. The heights of existing LSTs range from 75 feet to 135 feet, with an average height of 105 feet. The typical width of the top of the existing LSTs is approximately 18 feet (from cross-arm tip-to-tip). The width of LST bases range from 17 feet to 25 feet, with an average base width of 21 feet.

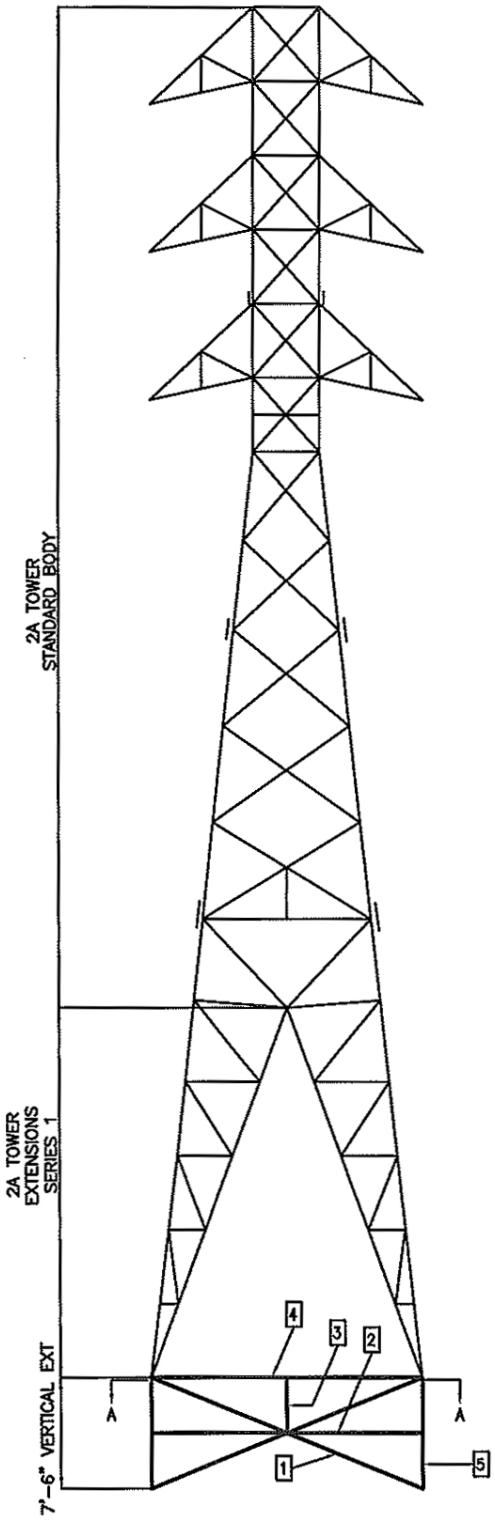
The majority of the tower modifications would be minor, including structural reinforcements and/or cross-arm replacement. Six suspension LSTs would have cross-arms replaced for greater electrical clearances (conductor to structure) that will maintain the same width and will appear similar to existing configurations. Six dead-end LSTs will require cross-arm extensions that would increase the tower width at the top from 18 feet to 23 feet. The conductor attachment locations on the cross-arms for the larger dead-end structures would not change from existing conditions. The Project does not include any increase or expansion of LST bases.

One tower, located south of the intersection of Nesmith Court and East Bidwell Street, would require new bracings and leg reinforcements. Another tower, located approximately 650 feet east of Gold Hill Substation, would be raised from 93 feet up to a maximum of 100 feet with the installation of a leg extension. The towers would be equipped with new ceramic insulators made of glass or porcelain. Other equipment that is collocated on the existing towers would be replaced or maintained, as needed. A typical lattice steel tower diagram is provided in **Figure 2-11**.

2.5.3 Gold Hill No.1 Line Reconductoring

Approximately 7 miles of the existing 60 kV Gold Hill No.1 Line would be upgraded and temporarily converted to 115 kV voltage to provide electric service during reconductoring of the 115 kV Missouri Flat-Gold Hill Line. Upon completion of this reconductoring, the voltage would be returned to 60 kV; however, the upgraded structures and facilities would remain in place. The Gold Hill No. 1 Line reconductoring would extend from just beyond Shingle Springs Substation west to Clarksville Substation. This 7-mile segment is supported by approximately 120 wood poles that range in height from 45 to 95 feet. The span distances between structures vary from 40 to 550 feet, with an average span length of 250 feet.

The Project would include replacement of 80 existing wood poles with new wood or LDS poles and one new TSP. The remaining 40 existing poles would require only minor modifications (e.g., reframing, installing new clamps) to existing poles. In addition, seven new interset poles would be added to the existing alignment. To optimize operations and maintenance activities, insulators along the entire 7-mile-long portion would be replaced during construction. Other existing lines, equipment, and utilities that are collocated on the existing poles would be transferred to the new poles.



Preliminary and subject to change based on California Public Utilities requirements, final engineering and other factors.

*Not to Scale

SOURCE: AECOM, 2013

Missouri Flat Project . D207584.16

Figure 2-11
Typical Lattice Steel Tower Drawing

The typical clearances between conductors on wood poles range between 4 feet-3 inches to 8 feet-6 inches vertical conductor spacing. The distribution under-build is typically 10 to 12 feet below the lowest transmission wires on the wood poles.

Replacement wood or LDS poles, which would be located within 20 feet of existing pole locations, would range in height from 55 to 90 feet, and would be up to 25 feet taller than existing wood poles. Replacement poles would be direct-bury poles (not requiring a foundation) and placed generally in line with the existing alignment. A drawing of a typical wood or LDS pole structure is provided in **Figure 2-12**.

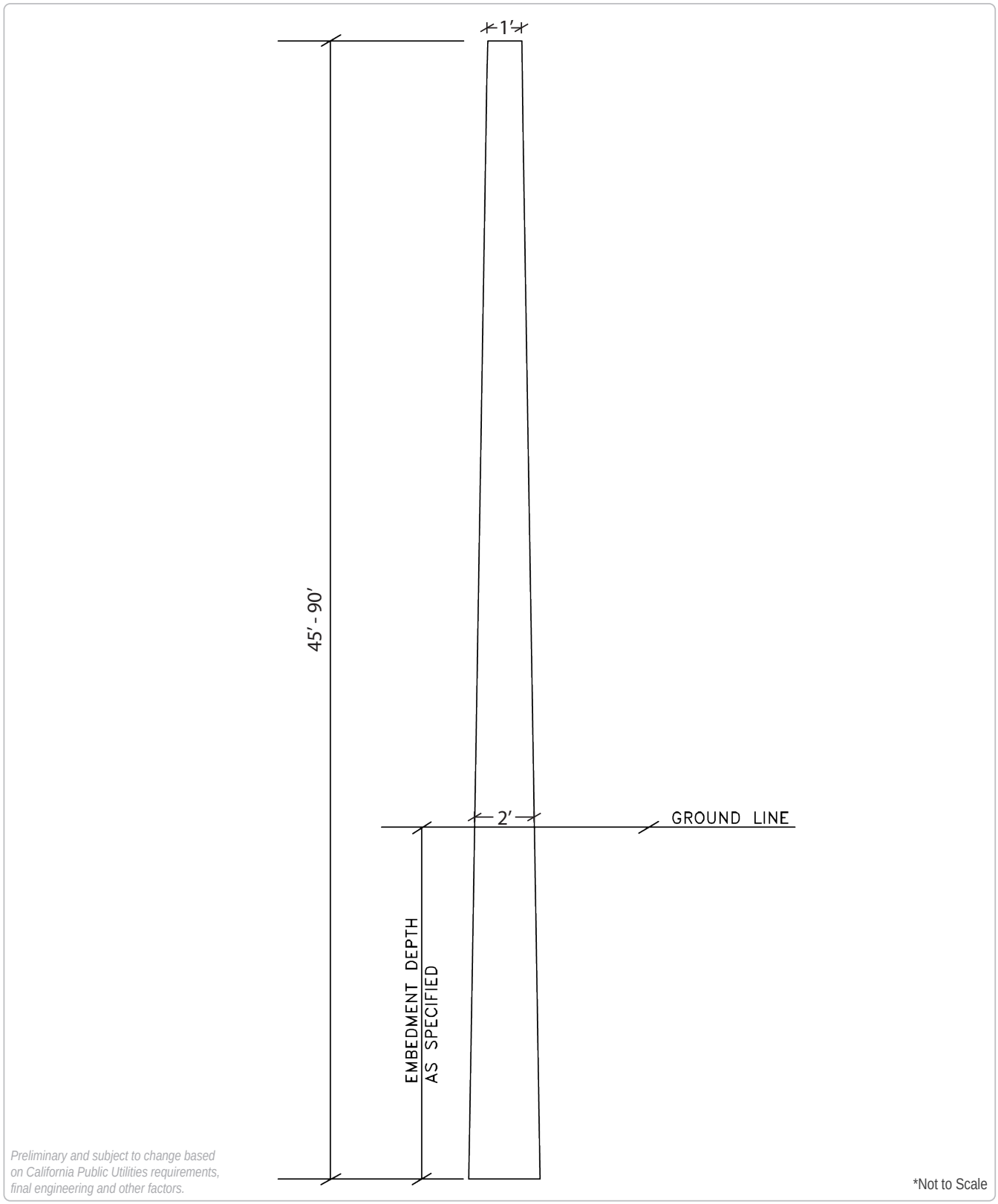
To ensure adequate ground-to-conductor clearance, seven new interset wood or LDS poles would be installed generally in line with the existing Gold Hill No. 1 Line alignment, where the line crosses Strolling Hills Road and parallels Ridge Pass Drive south of the community of Cameron Park. The new poles would be up to 75 feet tall.

Between one and three existing wood switch poles may need to be replaced with up to 90-foot-tall TSPs to accommodate a new transmission switch. The new TSPs would be stabilized by a concrete-pier foundation and would be up to 90 feet tall. The first TSP replacement would be located approximately 700 feet east of the intersection of Strolling Hills Road and Lariat Road in the community of Cameron Park and would be up to 27 feet taller than the existing wood pole. A second wood switch pole to TSP replacement may be required north of the intersection of Strolling Hills Road and Ridge Pass Drive and would be up to 13 feet taller than the existing pole. A third wood switch pole to TSP replacement would be located along the south side of Durock Road and would be up to 17 feet taller than the existing pole.

Approximately 150 feet of existing distribution feeder line connecting the Gold Hill No. 1 Line to the Limestone Substation would be relocated within 80 feet of the existing feeder line in order to maintain service to the Limestone Substation during construction. The distribution feeder line is located in the community of Cameron Park, north of the intersection of Strolling Hills Road and Ridge Pass Drive. The distribution line would be relocated by replacing three existing distribution wood pole structures (one wood H-frame structure and two wood poles) with two new wood poles. The relocated distribution line would remain in place after construction.

2.5.4 Substation and Switching Station Modifications

Modifications would be made to substation and switching station equipment and facilities at Shingle Springs, Pacific Western Pipe, Limestone, Clarksville, and Gold Hill substations and Missouri Flat Switching Station to tie the upgraded lines into the existing system and accommodate construction activities. Because modifications are being made at existing facilities, no changes to existing operation and maintenance activities are anticipated with Project implementation. All substation equipment would correspond to match or exceed the new line requirements. Modifications would include, replacing circuit breakers, switches, conductor, busses, jumpers, and line relays; installing junction boxes and pull boxes for new equipment; and upgrading existing supervisory control and data acquisition systems. All work at the substations and the switching station would be completed within existing fence lines, and no facility expansions are proposed.



Missouri Flat Project . D207584.16

SOURCE: AECOM, 2013

Figure 2-12
Typical Wood Pole Drawing

2.6 Right-of-Way Requirements

The Missouri Flat-Gold Hill Line is located within an existing 80-foot-wide PG&E easement, which would be used throughout the Project. No additional ROW or easement expansions would be needed to accommodate construction or operation and maintenance of the line.

The Gold Hill No. 1 Line easement varies in width up to 120 feet wide, with the majority of the easement being 40 feet wide. The existing easement would be used throughout the Project, and no additional ROW or easement expansions would be needed to accommodate construction or operation and maintenance of the line.

Near the intersection of Strolling Hills Road and Ridge Pass Drive, an approximately 150 foot length of an existing distribution feeder line associated with Limestone Substation would be relocated within 80 feet of the existing line. Additional ROW would be required to accommodate the relocation.

2.7 Construction

This section describes the construction methods that would be used to complete the various components of the Project, including replacing existing conductor (reconductoring), replacing existing poles, and modifying existing lattice steel towers on the Missouri Flat-Gold Hill Line.

2.7.1 Power Line Reconductoring

Power line reconductoring would require:

- staging areas/helicopter landing zones/pull sites;
- access roads;
- removal of existing poles and topping of existing wood poles;
- tower modifications;
- new structure installation;
- substation modifications;
- vegetation clearance and removal;
- erosion and sediment control and pollution prevention;
- best management practices (BMPs); and
- site cleanup and waste disposal.

2.7.1.1 Staging Areas/Work Areas/Helicopter Landing Zone/Pull Sites

Staging Areas

Construction of the Project would require temporary staging and storage areas to store materials and equipment during the construction process. Materials and equipment typically staged at these areas would include, but would not be limited to:

- Construction materials (tower steel bundles, tubular poles, anchor bolts, rebar, conductor, insulators and hardware);

- Construction vehicles and facilities (heavy equipment, light trucks, construction trailers with electrical and communications connections, and portable sanitation facilities);
- Crew vehicles;
- Material that would be removed from the existing subtransmission lines (conductor, steel, concrete, and other debris). These materials would be temporarily stored in staging areas as the material awaits salvage, recycling, or disposal; and
- Portable stations for concrete clean-up. The establishment of such stations at staging areas throughout the Project area would minimize time between the concrete pour and truck cleanout. The locations of all such stations would be approved by an environmental monitor. Each cleaning station would include dike walls and tarping to allow washed materials to be contained properly for disposal.

It is anticipated that five staging areas, each 5 acres or less in size, would be required during construction. The footprints would vary depending on the area available for use at the time of construction and Project needs. No substantial site preparation would be necessary.

Various existing PG&E industrial facilities or private parcels in the general Project area may be used as temporary staging areas to facilitate Project activities throughout the duration of construction, including, but not limited to:

- An existing industrial site located west of Shingle Springs Substation off Durock Road;
- An undeveloped lot approximately 600 feet southwest of the intersection of Greenwood Lane and Merrychase Drive in the community of Cameron Park;
- A paved parking lot approximately 700 feet southeast of the intersection of Country Club Drive and El Norte Road in the community of Cameron Park;
- An undeveloped lot at the intersection of Bass Lake Road and Country Club Drive in the community of El Dorado Hills; and
- PG&E facilities, such as Missouri Flat Switching Station and Shingle Springs, Limestone, Clarksville, and Gold Hill substations.

Conversion of the existing overhead 21 kV distribution line to underground would require an up to 1.4-acre staging area, which is planned to be located within the paved area of Platt Circle in the community of El Dorado Hills. Proposed staging areas are illustrated in Figures 2-2 through 2-8.

Towers and Poles Work Areas

Modifications to towers, removal of existing poles, and assembly and installation of new poles would require an up to 0.30-acre work area at each tower and pole location along the Missouri Flat-Gold Hill Line and a 0.05- to 0.10-acre work area at each pole location along the Gold Hill No. 1 Line. Site preparation is not expected to be necessary for the majority of the tower and pole staging areas; however, some limited surface blading, grading, and filling to create a stable and level work pad may occur on an as-needed basis. Vegetation removal, tree trimming, and matting or plating of drainage crossings may be required for vehicle access.

Construction materials would be delivered using line trucks and staged near existing structures. Construction vehicles would access staging areas using existing paved, dirt, and gravel roads and overland travel routes, with the exception of one tower and one pole, one of which may be accessed by helicopter and one would require a new gravel road. The tower located near the intersection of Broadstone Parkway and Empire Ranch Road is located within a seasonal pond and may require helicopter access; however, depending on site-specific conditions at the time of construction, other construction methods may be employed, including accessing the tower on foot and using pulley equipment staged outside of the pond or completing tower work only during the dry season and staging construction equipment on temporary matting. The construction of a new gravel road would be required for work at one pole located approximately 170 feet northwest of the intersection of Finders Way and Saratoga Way in El Dorado Hills.

Helicopter Landing Zone

Modifications to one tower, located approximately 800 feet northwest of the intersection of Broadstone Parkway and Empire Ranch Road, may require use of a helicopter to facilitate access to the tower staging area. To accommodate use of a helicopter, a helicopter landing zone has been identified approximately 560 feet southeast of the intersection of Montridge Way and Wilson Boulevard in an undeveloped area of El Dorado County (shown on Figure 2-3). This landing zone (approximately 0.7 mile east of the proposed tower modification) would have a temporary footprint of not more than 1 acre; however, the exact location and footprint would depend on conditions on the ground and would not be determined until just prior to construction. The helicopter landing zone would be used to support helicopter operations (e.g., transport materials to and from the tower), as well as facilitate other activities, including, but not limited to, staging and storing construction materials and equipment, refueling, and assembling construction materials. Ground access to the helicopter landing zone would be by overland access routes. Some limited surface blading, grading, and filling to create a stable and level area may occur as-needed. Vegetation removal, tree trimming, and matting or plating of drainage crossings may be required for vehicle access.

Pull Sites

Up to 14 pull sites would be located generally in line with the existing Missouri Flat-Gold Hill Line and up to 15 pull sites would be located generally in line with the existing Gold Hill No. 1 Line (shown on Figures 2-2 through 2-8). The average distance between pull sites along the Missouri Flat-Gold Hill Line would be approximately 1.2 miles; the average distance between pull sites along the Gold Hill No. 1 Line would be approximately 0.4 mile. These pull sites would be used during construction to stage conductor-pulling trucks and conductor reel trucks to install the new conductors onto the lattice steel towers, TSPs, and wood or LDS poles. Pull sites for the Missouri Flat-Gold Hill Line would average 400 feet in length by 100 feet in width. Pull sites for the Gold Hill No. 1 Line would average 250 feet in length by 50 feet in width. Each site would have a footprint of up to 2.4 acres along the Missouri Flat-Gold Hill Line and up to 0.8 acre along the Gold Hill No. 1 Line.

The locations of the pull sites would be sited within the larger potential pull site siting areas; identified on Figures 2-2 through 2-8. Actual pull sites would not require use of the entire area identified on these figures. The exact locations and footprints of the sites would depend on

conditions on the ground and would not be determined until just prior to construction. Site preparation is not expected to be necessary for the majority of the pull sites; however, some limited surface blading, grading, and filling to create a stable and level staging area would occur as-needed. Vegetation removal, tree trimming, and matting or plating of drainage crossings may be required for vehicle access to pull sites. Construction vehicles and equipment needed at the pull sites would be parked or staged within the Project ROW or alongside access roads. Transport vehicles (e.g., crew-cab trucks and half-ton pickups) would be used to transport personnel to pull sites. To haul the conductor to the site, reel trailers with reel stands would be mounted on a line truck. On the line truck, pullers would be mounted to install the conductor. The old conductor would be removed from the sites on a line truck.

2.7.1.2 Access/Spur Roads

The Project would be accessed via existing roads, new permanent access roads to be constructed, and overland access routes. **Table 2-2** presents estimated miles of each type of access road required for the Project. Planned access routes may change depending on construction needs and site conditions at the time of construction. As shown, 22.8 miles of existing paved roads that would be used for the Project would not require any substantial upgrades prior to Project construction. 4.2 miles of existing dirt/gravel roads would be used that would typically require minor repair and maintenance. 6.6 miles of existing unpaved roads would be upgraded to access the Project. Upgrades would occur within the existing access road corridor and would include vegetation removal, grading, filling, or other repair and maintenance. Portions of some unpaved access roads may need to be reestablished and maintained through tree trimming, vegetation clearing, the addition of substrate, and some minor grading/blading.

TABLE 2-2
ACCESS ROADS

Type of Access	Description	Potential Improvements Required	Approximate Distance (miles)
Existing paved roads	Typically a highway (U.S. 50) or two-lane county road	None	22.8
Existing dirt/gravel roads	Typically a previously graded road with a dirt or gravel base	Minor road repair and maintenance, as needed	4.2
Existing unpaved road requiring improvement	Typically an unmaintained previously graded road with a dirt or gravel base	Vegetation removal, grading, filling, or other repair and maintenance, as needed	6.6
New unpaved road	Typically located in areas with problematic access to establish a road to facilitate operation and maintenance	Vegetation removal, grading, and/or fill, as needed to establish road	0.02 (100 feet)
Overland route	Typically relatively flat grassy areas	Mowing as needed	2.9

SOURCE: PG&E, 2013b.

Access to one pole located north of the intersection of Finders Way and Saratoga Way in El Dorado Hills would require construction of a new graded and graveled road. The 100-foot-long spur road is anticipated to be 12 to 18 feet wide.

Typical construction equipment required for the construction of unpaved roads includes a grader, bulldozer, compactor, and haul trucks. Along access routes within the Pine Hill Preserve and parcels immediately adjacent to the preserve, existing gates may be repaired or replaced and new gates may be installed on an as-needed basis in coordination with the BLM and relevant landowners. Overland travel would occur on 2.9 miles of relatively flat, grassy areas to reach various work sites. These overland routes are not expected to require grading, or filling; however, mowing of vegetation may be required.

Construction crews would access the Project area primarily by using Highway 50 and traveling along East Bidwell Street, Broadstone Parkway, Silva Valley Parkway, Latrobe Road, Old Bass Lake Road, White Rock Road, Country Club Drive, Crazy Horse Road, Flying C Road, Strolling Hills Road, Ridge Pass Drive, Rodeo Road, Durock Road, and Merrychase Drive, which are all existing paved roads.

2.7.1.3 Pole Removal

Project construction would include removal of 61 existing TSPs and 80 wood poles.

Tubular Steel Poles

To remove the existing TSPs, a crane would be rigged to the top of the pole, and the pole would be cut off below the bottom arms with a torch and lowered to the ground. The bottom section of the pole would be supported by the same crane and cut with the torch at ground level and lowered to the ground.

Existing foundations would be removed to 2 to 4 feet below grade, including concrete and steel. The excavation would be filled in with the spoils from the new foundations. Existing TSP foundations within environmentally sensitive areas, such as the Pine Hill Preserve, may be abandoned in place to minimize ground-disturbing impacts. Should TSP foundations be abandoned, the steel pole portion would be removed using the same methods described above. The abandoned foundation would contain a void and, to avoid potential safety concerns, a cement truck would be mobilized to fill the void with slurry. The foundation would then be left in place. The crane, cement truck, and other construction equipment would be staged outside of environmentally sensitive areas, matted, or otherwise protected.

Wood Poles

A hydraulic jack mounted on a line truck would be used to loosen wood poles and replacement or temporary wood poles would be installed to accommodate construction. Wood poles that would be removed and replaced as part of the Project consist of treated wood. Removed poles would be placed in bins and transported to an appropriate disposal facility in accordance with applicable regulations. If the poles need to be cut prior to transport, plastic sheeting would be placed under the saw equipment area to gather all shavings. Shavings would also be placed in bins for transport

to the appropriate disposal facility. Poles would be cut into two sections and then removed using a line truck with a trailer. Once the poles are removed, the soil removed while auguring the new pole hole would be used to backfill the remaining void. Any unused soil would be feathered in around the new pole site.

2.7.1.4 Tower Modifications

Tower Reinforcement and Antennae Installation

The reinforcement of eight towers would be accomplished with crew trucks, pickups, and boom trucks. Some towers may be accessed on foot where only light modifications are needed. One tower with cellular equipment mounted at the top of the tower would require substantial reinforcement of the tower body. The cellular equipment that may interfere with work would be removed prior to modification of the tower. The reinforcement would be accomplished using pickups trucks and boom trucks. Once tower modifications are completed, any cellular equipment removed would be reinstalled on the tower.

Tower Raise

The vertical tower raise within Gold Hill Substation would utilize a tower lifter, which would be mobilized to the tower from Gold Hill Substation, to install the leg extension. The equipment would be positioned beneath the tower and lift the structure to facilitate installation of the new extension steel.

Helicopter Staging and Use

The Project would require only limited use of a helicopter for the modification of one tower, located approximately 800 feet northwest of the intersection of Broadstone Parkway and Empire Ranch Road. A helicopter may be used to facilitate access to the tower staging area as a result of its location in a seasonal pond (shown on Figure 2-3). The helicopter likely would be stationed at Sacramento Mather Airport, a public-use airport located approximately 12 miles southwest of the proposed tower modification or at Auburn Airport, a public-use airport located approximately 20 miles north of the proposed tower modification. The helicopter flight path would generally follow the existing alignment and avoid flying over residences. The helicopter type would depend on availability at the time of construction; however, the actual helicopter to be used would not be larger than a Bell L3 (long ranger) with a load capacity of approximately 1,200 pounds. The total hours of operation for the helicopter would be an estimated 20 hours (5 days of operation, 4 hours of operation per day, and 2 landings/take-offs per day), with a maximum of up to 30 hours (5 days of operation, 6 hours of operation per day, and 4 landings/take-offs per day). It is not anticipated that residents would be required to temporarily vacate their homes; however, in the unlikely event that final construction plans require otherwise, all Federal Aviation Administration (FAA) requirements would be met and PG&E would coordinate with potentially affected residents (providing a minimum of 30 days advance notice) to minimize the necessary work duration and any resultant inconvenience. Applicant Proposed Measures (APMs) to avoid and minimize potential impacts from helicopter use are listed in Section 2.9, Applicant Proposed Measures.

2.7.1.5 New Structure Installation

Temporary Structures

To facilitate safe conductor installation, temporary guard structures, snub poles, and line poles would be installed prior to reconductoring.

Guard Structures

Guard structures would be installed alongside roadways or at utility crossings to prevent conductor from sagging or falling into traveled lanes or into contact with other utility lines if the conductor loses tension during reconductoring activities. Guard structures would be installed at crossing locations before conductor pulling activities begin. The structures typically consist of paired, single-Y configured pole structures or paired wood poles with cross bracing designed to catch falling conductor; a network of cables and netting may also be tied onto these poles. An up to 40- by 40-foot staging area would be used to install the guard structures. The structures would be temporary direct-bury wood poles that typically extend up to 50 feet aboveground and 7 feet belowground. These poles would have a minimum of 25 feet of ags clearance. Final design would determine guard structure staging area locations. Guard structures would be installed from paved roads whenever possible, and would be located along roadsides in disturbed areas, causing relatively limited disturbance. Where this is not feasible, guard structure sites would be accessed by existing dirt roads and structures would be installed in a way that minimizes soil disturbance. As an alternative to the installation of guard structures, line or bucket trucks may be staged at crossings to minimize ground disturbance or to accommodate other construction-related needs. PG&E would obtain any necessary city, county, or state encroachment permits. The installation of guard structures may require temporary lane closures at the seven crossings along Highway 50, as required by the California Department of Transportation (Caltrans) for safety. Following reconductoring activities, guard structures would be removed, the holes would be backfilled, and the disturbed areas would be recontoured and reseeded as needed.

Snub Poles

Snub poles are single wood poles that would be used to facilitate pulling operations. Up to two poles would be installed at pull sites where the conductor cannot be directly attached to the structure because of structure design. Snub poles typically extend 70 feet aboveground and 10 feet belowground.

Snub poles are directly buried and may be guyed for stability. A line truck would be used to auger and set the wood poles. Following reconductoring activities, snub poles would be removed, the holes would be backfilled, and the disturbed areas would be recontoured and reseeded as needed.

Temporary Line Poles

Five temporary lines are planned as part of the Project to accommodate required line outages during construction. Specifically, temporary lines would be installed within or immediately adjacent to the boundaries of the Shingle Springs Substation, Pacific Western Pipe Substation, the private CPM tap, Clarksville Substation, and Gold Hill Substation, as all of these facilities must remain energized throughout construction. The temporary lines would be supported by wood poles and three-pole wood structures that would be guyed for stability and range in height from

approximately 40 to 65 feet, with the exception of the temporary line at Clarksville Substation, which may be up to approximately 90 feet height. Drawings of a typical three-pole structure are provided in **Figure 2-13**.

New Pole Installation

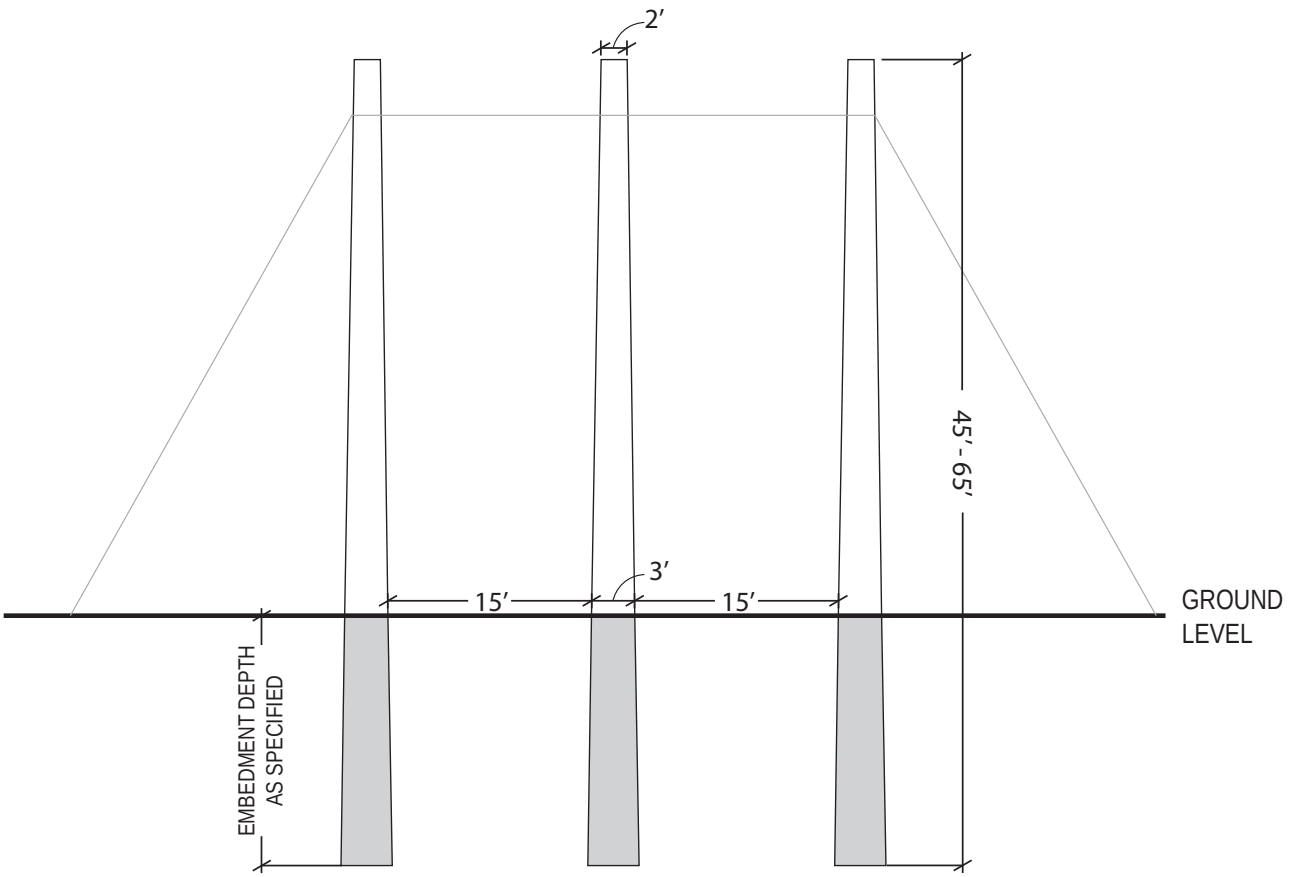
Typical dimensions for TSPs and wood and LDS poles are provided in **Table 2-3**. Pole installation would occur during daylight hours and would typically require four to five truck trips to each pole location to install new poles and remove existing poles. The typical construction sequence for pole installation is shown in **Figure 2-14**.

TABLE 2-3
SUMMARY OF TYPICAL STRUCTURE DIMENSIONS

Structure Feature	Structure Type	Approximate Metrics
Pole Diameter	TSP	30 inches to 50 inches
	Wood and LDS Pole	1 to 2 feet
	Temporary Wood Pole	16 to 24 inches
	Lattice Steel Tower	Not Applicable (NA)
Auger Hole Depth	TSP	19 to 24 feet
	Wood and LDS Pole	7 to 10 feet
	Temporary Wood Pole	6.5 to 16 feet
	Lattice Steel Tower	NA
Footprint	TSP	5 to 8 square feet (permanent)
	Wood and LDS Pole	1 to 3 square feet (permanent)
	Temporary Wood Pole	1 to 3 square feet (temporary)
	Lattice Steel Tower	600 to 800 square feet (permanent)
Number of Poles/Towers	TSP	60
	Wood and LDS Pole	122
	Temporary Wood Pole	321
	Lattice Steel Tower	13
Average Pole/Tower Work Area	TSP	0.3 acre
	Wood and LDS Pole	0.05 acre
	Temporary Wood Pole	0.06 acre
	Lattice Steel Tower	0.3 acre
Approximate Total New Permanent Pole/Tower Footprint Acreage[a]		**0.002 acre**

NOTES:

[a] Because the Project involves replacement of existing structures at an approximately one-to-one ratio, the total permanent pole/tower footprint acreage includes the permanent footprints for new additional structures only.



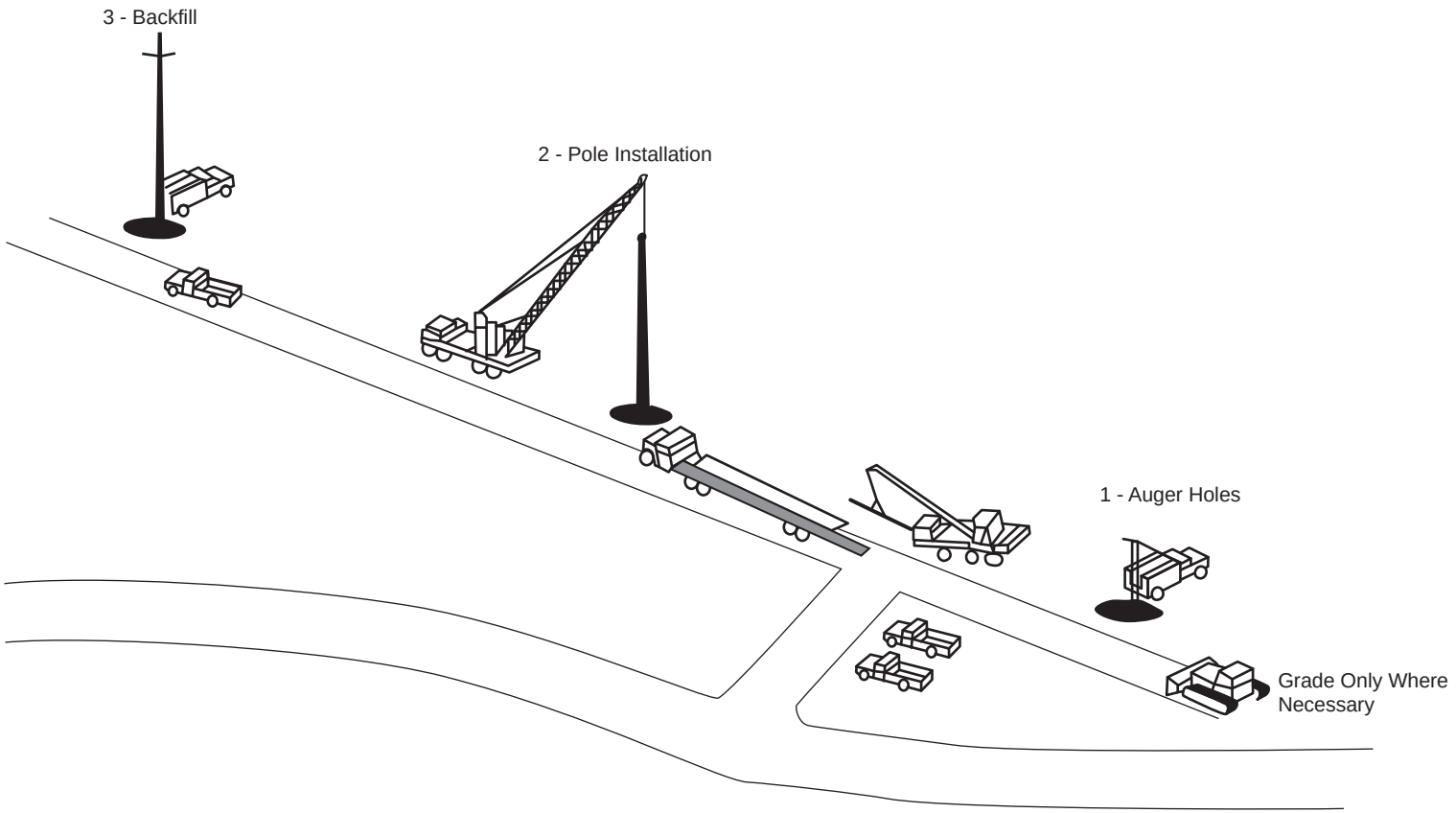
Preliminary and subject to change based on California Public Utilities requirements, final engineering and other factors.

*Not to Scale

Missouri Flat Project . D207584.16

SOURCE: AECOM, 2013

Figure 2-13
Typical Three-Pole Structure Drawing



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SOURCE: ESA

Missouri Flat Project . D207584.16

Figure 2-14
Typical Construction Sequence

Tubular Steel Poles

Each new TSP would be delivered and staged next to the TSP that it would be replacing, and a crane would be used to assemble the TSP. Installation of TSPs typically would include the following steps for site preparation, foundation installation, and TSP installation. To prepare the site, required ~~best management practice (~~BMP~~s)~~ ~~measures~~ would be implemented. A work area would be prepared by surface blading or minor grading to create a level surface at TSP locations on an as-needed basis. Once TSP work areas are prepared, a line truck or boom truck with a small crane mounted on a flatbed would be used to haul foundation forms, anchor bolts, rebar, and pole structures to the TSP locations. The truck would also be used to place foundation forms, anchor bolts, and rebar prior to pouring the concrete for the foundations. A concrete truck (i.e., a four-wheel-drive mixer capable of delivering 10 yards of concrete) would then deliver and pour concrete for the TSP foundations. Depending on site-specific conditions, one of two construction methods—concrete-pier or micropile foundation—would be employed to construct the TSP foundation.

Concrete-Pier Foundations. Concrete-piers foundations would be 5 to 8 feet in diameter and 18 to 23 feet in depth. They generally are constructed using the following steps:

1) Auger new hole using drill rig (track or wheel mounted)
2) Install foundation forms, rebar, and anchor bolts
3) Pour concrete foundation
4) Remove forms and place gravel around and groom the base area

Micropile Foundations. Micropile foundations consist of up to 12 composite piles constructed in a 5-to-6-foot-diameter array. Individual composite piles consist of up to a 9-inch high-strength steel casing, high-strength all-thread rebar, and grout. Composite piles would be imbedded up to 30 feet below ground. Micropile foundations are generally constructed using the following steps:

1) Drill multiple batter shafts 6 to 8 inches in diameter with platform mounted drill rig
2) Install anchor bolts in batter shafts, grout/slurry backfill on shafts
3) Install steel/concrete cap on micropiles

Following the installation of concrete-pier and micropile foundations, a line or boom truck would be used to remove the form. The new TSP would then be installed using a crane to place the TSP on the foundation. The existing conductor would then be transferred to the new TSP using a line truck or by hand using ropes and the new conductor would be pulled while existing conductor is removed. Once the conductor has been replaced, the existing poles would then be removed by crane and the remaining void would be backfilled. Excess soil on site would be feathered around the work area or placed consistent with applicable requirements and in consultation with the landowner. A backhoe would be used to place gravel around the TSP foundation after the formwork has been removed and to groom the area surrounding the TSP installations.

Portable washing stations would be established at various locations throughout the Project alignment to minimize time between the concrete pour and truck clean out. These stations would include dike walls and tarping, allowing washed materials to be contained and disposed of in

accordance with applicable laws. Alternatively, self-washing concrete trucks with mobile containment may be used or equipment would be washed and contained in accordance with local encroachment permits. Excess construction materials would be transported to an area service center or other appropriate facility for disposal in accordance with applicable laws. Washed materials are typically allowed to dry before transport and disposal.

Wood and Light-Duty Steel Poles

The first step to install wood and LDS poles, including temporary and permanent wood poles, would be to excavate a pole hole using an auger. Depending on the pole size, the hole dimensions would range between 3 to 4 feet in diameter and 7 to 10 feet in depth. Following excavation, the poles, insulators, and hardware would be delivered to the pole work area and assembled. The poles would then be placed in the hole using line trucks or cranes, the remaining void would be backfilled, and the surrounding area would be compacted. Poles would be direct buried (no foundation or footing) and may be guyed for stability. Once the pole is embedded and the surrounding area is compacted, additional hardware would be installed using a bucket truck. LDS poles would be manufactured in two pieces that are engineered specific to a pole location. The pole pieces are closed at each end. The bottom piece of the pole would be placed in the hole; the top piece would have the hardware assembled to it on the ground. The poles would be assembled by having a truck-mounted crane lift the top piece and lower it onto the lower pole section. Soil would be backfilled around the newly installed pole to fill any remaining void.

Distribution Line – Undergrounding

Approximately 1,000 feet of existing 21 kV overhead distribution line would be placed underground along Platt Circle in the community of El Dorado Hills to meet ground-to-conductor clearance requirements for the reconductored Missouri Flat-Gold Hill Line. This work would include installing an interset pole adjacent to the east side of Platt Circle approximately 300 feet southeast of the intersection of Platt Circle and Arches Avenue, installing a riser pole at the northeast corner of the intersection of Platt Circle and Finders Way, and removing existing power line poles, which also support the existing distribution line. Using a backhoe, an up to 20-inch-wide trench with a minimum depth of 42 inches would be excavated. After the trench is excavated, cable and conduit would be installed using 2- to 6-inch-diameter casing or duct and the trench would be backfilled and the soil compacted. In-ground splice boxes, which are approximately 5.5 feet in width, 9.5 feet in length, and 7 feet in depth, would be installed as needed. The paved roadway then would be repaved to required specifications.

Distribution Line – Relocation

Approximately 150 feet of existing distribution feeder line connecting the Gold Hill No. 1 line to the Limestone Substation would be relocated within 80 feet of the existing feeder line in order to maintain service to the Limestone Substation during construction. The distribution feeder line is located in the community of Cameron Park, north of the intersection of Strolling Hills Road and Ridge Pass Drive. The distribution line would be relocated by replacing three existing distribution wood pole structures (one wood H-frame structure and two wood poles) with two new wood poles. The relocated distribution line would remain in place after construction.

Reconductoring

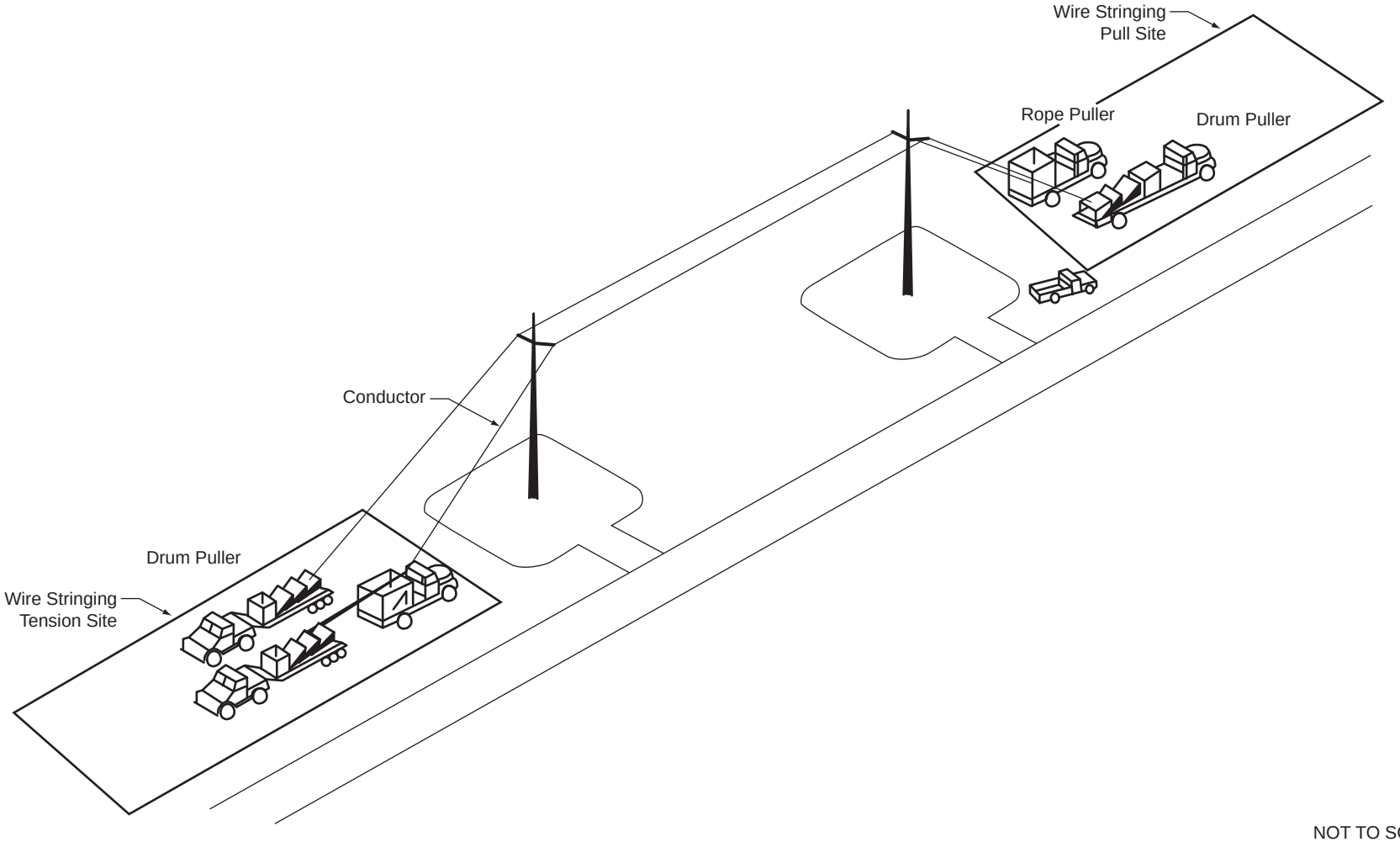
Reconductoring Activities

During reconductoring activities, when existing conductor is replaced with new conductor, the existing power line and any distribution lines that cross or are collocated on the line would be taken out of service (known as "taking a clearance"). To avoid potential safety concerns, a road closure or a rolling stop would be arranged for any locations where lines cross over roads before conductor installation begins. Any road closures that must occur on private and county roads typically would not exceed a few minutes in duration and would be coordinated with the county or landowner. Alternatively, guard structures may be installed at road crossings in lieu of road closures.

To replace a conductor with a new conductor, the existing conductor first would be detached from its support structure and temporarily lifted. Rollers then would be installed at the conductor's attachment point, and the conductor would be placed onto the rollers. The rollers would allow the conductor to be pulled through each structure until the conductor is ready to be pulled up to the final tension position. Installing rollers and detaching the existing conductor typically would require one bucket truck. Crews would access each tower or pole staging area by pick-up truck or bucket truck using existing access roads. Crews may also need to access mid-span locations to structurally reinforce splices (joints where conductor is connected) along the existing conductor to avoid conductor breakage during pulling operations. These locations may be accessed by truck, helicopter, or foot, depending on site conditions at the time of construction. The Missouri Flat-Gold Hill Line crosses Highway 50 at five locations and the Gold Hill No. 1 Line crosses the highway at two locations. The reconductoring work would not require closure of Highway 50 or use of a helicopter at any of the proposed seven crossing locations. As indicated above in Section 2.7.1.5, temporary lane closures may be required during the installation of guard structures.

Once the rollers are in place for an entire section of conductor, the existing conductor would be pulled out of place. A cable would be attached between the old conductor and new conductor, which would be on a reel attached to a line truck at a pull site. A line truck with a drum puller and empty conductor reel would pull the old conductor onto the reel, where it would be collected for salvage. Reel stands mounted on a line truck at the pull site would feed new conductor along the rollers that were previously installed at each structure, while also maintaining tension in the line so that it does not sag to the ground. After the conductor is pulled into place, conductor sags would be adjusted to required tensions. The conductor would then be clamped to the end of each insulator as the rollers are removed. The final step in the conductor installation would be to install vibration dampers and other accessories as necessary. Old conductor would be removed from sites on a line truck. Typical construction stringing activity is shown in **Figure 2-15**.

Packing crates, spare bolts, and construction debris would be picked up and hauled away for recycling or disposal during construction. PG&E would conduct a final inspection to confirm that cleanup activities have been successfully completed.



NOT TO SCALE

SOURCE: ESA

Missouri Flat Project . D207584.16

Figure 2-15

Typical Construction Stringing Activity

Distribution Switching Operations

To reconductor both the Missouri Flat-Gold Hill and Gold Hill No. 1 lines, PG&E would temporarily take out of service specific sections of distribution lines that cross the power line or are co-located on the power line (also known as taking clearances). As part of ongoing operation and maintenance of the distribution system, PG&E's Distribution System Operations group would manage distribution clearances and balance the system by routing power to different lines. This normally involves turning existing distribution switches on and off, and installing additional switches if needed. Distribution switches may be located along the distribution lines that are being taken out of service or along other distribution lines that may be affected by taking a line out of service. Some switches are operated at a central location, such as a substation, or are controlled remotely. Other switches are operated manually in the field by operations personnel, using a bucket truck or similar equipment. The location where switching activities would be required would vary depending on daily and seasonal power demand scenarios and generally is not possible to determine in advance. PG&E crews would perform this work as needed to comply with safety procedures, limit customer outages, and manage the operational needs of the system.

2.7.1.6 Substation Modifications and Construction

All modifications to existing substations would be completed within substation or switching station fence lines and no substation expansions are proposed. All substation equipment would be sized adequately to match or exceed new line requirements. As only minor modifications would be made, no changes to existing operation and maintenance activities would result from Project implementation. Substation modification activities would include replacing circuit breakers, switches, conductor, busses, jumpers, and line relays; installing junction boxes and pull boxes for new equipment; and upgrading existing supervisory control and data acquisition systems.

2.7.1.7 Vegetation Clearance and Tree Removal

The Project includes vegetation trimming and tree or shrub removal of up to 8 acres of land, including the removal of approximately 225 trees along proposed access roads and temporary work areas in order to accommodate construction vehicles and equipment. The majority of vegetation removal, including tree removal, would be required at two primarily undeveloped sections of the Project alignment that are each approximately 1 mile long. The first is between Strolling Hills Road and Rodeo Road, where the Project traverses oak woodland vegetation and the second is between Palmer Drive and Shingle Springs Substation, where the Project traverses multiple parcels comprised of mixed chaparral vegetation, including the Pine Hill Preserve, one parcel west of the preserve, and another parcel south of Highway 50. Approximately 60 percent of trees that may be removed are native species, and a majority of these are oak trees. Native trees that may be removed have an average height of approximately 30 feet (range = 12 to 50 feet) and an average diameter at breast height (dbh) of 9 inches (range = 4 to 20 inches). Approximately 40 percent of the trees that may be removed are non-native, ornamental species, such as eucalyptus and various fruit trees. The non-native trees have an average height of approximately 30 feet (range = 10 to 50 feet) and an average dbh of 11 inches (range = <4 to 20 inches) (PG&E 2013b).

Shrubs would be mowed and shredded or removed from access roads using an all-season vehicle mower or similar equipment on rubber tracks to clear access roads for subsequent grading. Up to four vegetation management crews would be used, typically consisting of two to three workers per truck. Crews would access work areas with lift trucks equipped with hydraulic buckets to reach areas requiring high pruning work, where accessible. Chippers, which would be used to process wood of up to 4 inches in diameter, would be towed to work sites by lift trucks, climb trucks (with no hydraulic buckets), or four-wheel drive pick-up trucks. On sensitive or remote sites, remote-controlled track chippers that can process wood of up to 12 inches in diameter may be utilized. In some areas, limbs and pruning debris would be lopped and scattered outside the power line ROW, to less than 18 inches in depth. Wood chips would be spread on site, where appropriate, and/or hauled away from work sites, depending on landowner preferences.

Vegetation management equipment typically would include manual clippers, hand saws, pole saws, chainsaws, and shredders. For brush and tree species that are prone to resprouting and where trees have been removed along roads, an approved herbicide would be applied to control resprouting and maintain a clear ROW for continued emergency and service access and to encourage the growth of ROW-compatible grasses and low-growing brush species. Generally, removed vegetation would be shredded in place and spread nearby. During clearing activities, vegetation would be mowed or grubbed, leaving root systems intact wherever possible to encourage resprouting and to minimize erosion.

2.7.1.8 Land Disturbance

The Project is anticipated to require a total of up to 29 acres of soil disturbance distributed throughout the entire Project alignment. Activities requiring soil disturbance include recontouring (e.g., minor grading, blading, etc.) of some access roads, pull sites, and pole and tower work areas to accommodate construction vehicles and equipment.

The total approximate amount of soil that would be excavated for installation of TSP and LDS or wood poles is 3,050 cubic yards, assuming that each concrete-pier TSP would require an average excavation diameter of 8 feet and depth of 24 feet; each micro-pile TSP would require up to 12 pilings with an average excavation diameter 0.75 feet and depth of 30 feet; and each LDS or wood pole would have an average excavation diameter of 4 feet and depth of 10 feet.

The total approximate amount of concrete or backfill required for TSP and LDS or wood pole installation is approximately 2,700 cubic yards, assuming that 22 to 24 cubic yards would be needed for each TSP and 15.5 cubic yards for each LDS or wood pole.

2.7.1.9 Erosion and Sediment Control and Pollution Prevention during Construction

Construction activities include ground-disturbing activities such as grading and vegetation removal. Small, temporary stockpiles of excavated dirt may be located near the excavations for the new TSP foundations and wood or LDS poles. These materials will be used to backfill the holes left by removal of the existing TSPs and wood poles. Stockpiles would be located away from or downgradient from waterways, and other sediment control BMPs ~~best management~~

~~practices (BMP)~~ would be implemented to manage temporary stockpiles. Construction debris, including removed TSPs and wood poles, would be taken on a line truck with a trailer to an area service center for recycling or disposal.

Because these activities would result in excess of 1 acre of disturbance, PG&E would obtain coverage under the California State Water Resources Control Board (SWRCB) General Permit for Storm Water Discharges Associated with Construction Activity Order Number 2009-0009-DWQ (General Permit). To obtain coverage under the permit, PG&E would develop and submit Permit Registration Documents (including a Notice of Intent, a stormwater pollution prevention plan (SWPPP), a risk assessment, a site map, certification, and an annual fee) to the SWRCB prior to initiating construction activities.

In conjunction with the SWPPP, appropriate BMPs would be developed for each activity that has the potential to degrade surrounding water quality through erosion, sediment run-off, and other pollutants. These BMPs would then be implemented and monitored throughout construction by a qualified SWPPP practitioner. APMs to reduce and avoid erosion and control sediment and pollution during construction are provided in Section 2.9, Applicant Proposed Measures.

2.7.1.10 Best Management Practices

Construction crews working on PG&E projects routinely use relevant BMPs to ensure crew and public safety and to avoid and minimize impacts on resources. At a minimum, the following BMPs would be implemented during construction of the Project:

- **Litter and Trash Management.** All food scraps, wrappers, food containers, cans, bottles, and other trash from the project area will be deposited in closed trash containers.

- **Parking Requirements.** Vehicles and equipment will be parked on pavement, existing roads, and previously disturbed or developed areas or work areas, as identified in this document. Off-road parking will only be permitted in previously identified and designated work areas.

- **Route and Speed Limitations.** Vehicles will be confined to established roadways and pre-approved access roads, overland routes, and access areas. Access routes and temporary work areas will be limited to the minimum necessary to achieve the project goals. Routes and boundaries of work areas, including access roads, will be clearly mapped prior to initiating project construction. Vehicular speeds will be kept to 15 mph on unpaved roads with no posted speed limit.

- **Maintenance and Refueling Requirements**. All equipment will be properly maintained for the duration of construction. All refueling and maintenance of vehicles and other construction equipment will be restricted to designated work areas and located at least 100 feet from any downgradient aquatic habitat, unless otherwise isolated from habitat. Proper spill prevention and cleanup equipment will be maintained in all refueling areas.

- **Prohibited Activities**. Trash dumping, firearms, open fires (such as barbecues), hunting, and pets will be prohibited at work sites.

- **Erosion Control Materials.** Only tightly woven netting or similar material will be used for erosion control materials, such as coir rolls and geo-textiles, within or adjacent to suitable habitat for sensitive species. No plastic monofilament matting will be used.

2.7.1.11 Cleanup and Post-Construction Restoration

During construction, construction debris would be picked up from work areas and stored in approved containers on site, and would be hauled to an area service center or other appropriate facility for recycling or disposal periodically during construction. PG&E would conduct a final inspection to ensure that cleanup activities have been successfully completed. Restoration activities would be conducted as needed and in coordination with landowners.

2.7.2 Construction Workforce and Equipment

On a typical work day, 15 to 20 construction workers would be at the Project site; however, because of the variety of work activities that may be completed concurrently, up to 45 workers may be on site at any time. During line work, crews typically would be working at adjacent poles. **Table 2-4** provides the typical number of construction workers and equipment generally required for each construction activity and **Table 2-5** details the equipment that is planned for use. Not all equipment or workers may be used during all stages of the activity. This table represents a preliminary equipment list; additional equipment and/or workers may be identified once Project design is finalized or during construction if unexpected conditions are encountered.

As described below in Table 2-4, 45 workers per day would be required to construct the Project at its peak. Construction would be performed by either PG&E construction crews or contractors, depending on the availability of PG&E construction personnel at the time of construction. Contractor construction personnel would likely be from within El Dorado or

Sacramento Counties or adjacent areas and would be managed by PG&E construction management personnel. Construction efforts would occur in accordance with accepted construction industry standards. Construction activities generally would be scheduled during daylight hours (7:00 a.m. to 6:00 p.m.); nighttime construction would occur only if necessary for safety reasons or if electrical outages (clearances) are scheduled at night to facilitate construction. These activities would be infrequent, temporary and short term. Advance notice of known night work would be provided to affected residents.

Construction vehicles and equipment would be staged or parked within the Project area rights-of-way, approved temporary construction easements, or alongside access roads. Although vehicles and equipment are anticipated to park primarily outside of travel lanes on public roadways, if road closures become necessary, they would be temporary and short-term and coordinated with the California Department of Transportation and/or local jurisdictions.

TABLE 2-4
TYPICAL CONSTRUCTION WORKERS AND EQUIPMENT

Activity	Number of Construction Workers	Equipment Quantity and Type
Site Preparation	5	1 backhoe 1 small bulldozer 1 truck with trailer 1 500-gallon water truck 1 light-duty pickup truck
Auger Holes	3	1 water truck 1 pickup truck 1 line truck with auger attachment
Haul Material	3	1 line truck with trailer
Tubular Steel Pole Installation	6 per crew	1 line truck with boom and crane 2 crew-cab pickup trucks 1 light-duty pickup truck 1 hole digger 3 cement trucks 1 backhoe
Tubular Steel Pole Delivery	2	1 pole delivery truck 1 pickup truck
Wood and LDS Pole Installation	20	3 pickups 1 35-ton crane 3 line trucks 3 bucket trucks 3 light-duty pickup trucks 2 tractors 3 backhoes 8 small line/bucket trucks 1 dump truck 3 water trucks
Wood Pole Removal	6 per crew	2 crew-cab trucks 1 line truck with bucket and trailer
Tower Modification	6	1 200-ton crane
Conductor Installation	6 per crew	1 line truck or semi-truck with conductor reel 2 pickup trucks 2 line trucks with bucket/crane 1 line truck with conductor puller 1 line truck with conductor tensioner
Distribution Placement Underground	5	1 wet vacuum trailer 1 saw cutter 1 dump truck 1 trailer with backhoe 1 crew truck 1 water truck
Substation Modification	5	1 pickup truck 1 line truck 1 bucket truck

TABLE 2-5
ANTICIPATED CONSTRUCTION EQUIPMENT

Equipment	Use
Aerial Lift	Lift crew members to make line connections
Auger	Drill holes for pole installation
Crane	Lift heavy equipment and materials
Crew-cab truck or pickup truck	Transport workers
Dump truck	Remove trash
Excavator	Install mats, trenching
Fork lifts	Install mats
Gas crew truck (26,000 lbs) with trailer	Transport equipment and materials
Generator set	Generate power for operation of tools
Hand-digging equipment	Use for air or hydrologic-operated tooling
Helicopter	Transport personnel workers and equipment
Line truck (with auger, puller, worker-lift bucket, and crane/boom)	Install and remove holes, poles, and conductor
Mechanics service trucks	Service and repair vehicles
Motor grader	Grade work areas and access roads
Pickup truck (1 ton)	Transport equipment and materials
Plate compactor	Grade
Puller/Tensioner/Reel (line truck or trailer-mounted)	Install conductor
Pump	Dewater if groundwater is encountered; water for dirt suppression, if necessary
Reel trailers with reel stands (semi-trailer or truck-mounted type)	Haul conductor
Saw-cutting equipment	Cut pavement for distribution placement underground
Semi-truck (with trailer)	Haul motor grader, conductor reel, or tubular steel pole
Sweeper/Scrubber	Clean roads, if necessary
Tensioner (line truck-mounted)	Install conductor
Tractor/loader/backhoe	Grade and remove foundation; backfill holes
Trencher	Excavate for placing distribution line underground
Vacuum trailer	Clean up potential concrete washout during foundation installation
V-groove puller	Install conductor
Water truck	Suppress dust
Worker-lift (truck-mounted)	Lift workers to perform work on structures

2.7.3 Construction Schedule

Construction is scheduled to begin in summer 2015 and is estimated to be completed by summer 2017. The proposed construction timetable for reconductoring and substation work is provided below in **Table 2-6**. The schedule is preliminary and subject to change.

TABLE 2-6
PROPOSED CONSTRUCTION TIMETABLE

Project Component	Length	Duration (months)	Approximate Progression Rate (feet per week)	Estimated Schedule (based on Summer 2015 start date)
Missouri Flat-Gold Hill Line Reconductoring	12.5 miles	18	2,500	10/15-6/17
Establish staging areas Road construction	NA	8	NA	
Modifying 13 existing lattice steel towers	2.9 miles	7	561	
Replace 60 existing TSPs	9.6 miles	9	1,310	
Access road construction	100 feet	8	NA	
Distribution line undergrounding	1,000 feet	4	NA	
Gold Hill No. 1 Line Reconductoring	7 miles	6	1,540	10/15-4/16
Establish staging areas Road construction	NA	2	NA	
Replace 80 existing wood poles / modify 40 existing poles	7 miles	6	1,540	
Distribution feeder line relocation	150 feet	2	NA	
Substation Modifications	NA	8	NA	4/16-12/16

2.8 Operation and Maintenance

No changes to existing operation and maintenance activities are anticipated with Project implementation. Reconductoring of the Missouri Flat-Gold Hill Line and Gold Hill No. 1 Line would result in less conductor breakage from corrosion and brittleness, thereby improving reliability. Less breakage is anticipated to result in fewer events or incidents that require emergency responses and inspections.

The existing power lines are inspected yearly, or as needed when driven by an event or incident, such as an emergency. A detailed ground inspection is required every other year, with a subsequent aerial patrol in between those years. The routine annual inspections, detailed ground inspections, and aerial patrols would not change from existing conditions with Project implementation. Any existing access roads that are reestablished during the Project would be used. As maintenance needs arise, repairs and preventative maintenance would continue to be fulfilled by the PG&E transmission line crew (approximately five trained employees).

2.9 Applicant Proposed Measures

PG&E proposes to implement certain Project design features (the APMs listed in **Table 2-7**) to avoid or reduce impacts that otherwise could be caused by the Project. These Project features are discussed in the context of the relevant environmental resource analyses presented in ~~Chapter~~ Section 3.

TABLE 2-7
APPLICANT PROPOSED MEASURES

Section 3.1 – Aesthetics
APM AE-1: Include Non-Reflective Finish Non-specular conductor and a non-reflective finish for the poles will be used to reduce the potential for new sources of glare.
APM AE-2: Minimize Effects of Temporary Nighttime Construction Lighting on Sensitive Receptors If temporary lighting is required for nighttime construction, it will be focused on work areas and directed on-site to minimize potential effects with respect to nearby sensitive receptors, particularly residences.
Section 3.3- Air Quality
APM AQ-1: Minimize Fugitive Dust PG&E will minimize fugitive dust during construction by implementing the following measures, which comply with EDCAQMD and SMAQMD requirements: • Reduce the amount of the disturbed area where possible. • Use water trucks or sprinkler systems in sufficient quantity to prevent airborne dust from leaving the site. Increase watering frequency whenever wind speeds exceed 15 miles per hour (mph). Use reclaimed non-potable water whenever possible. Do not use non-potable water in or around crops intended for human consumption. • Implement permanent dust control measures as soon as possible following completion of any soil-disturbing activities. • Enforce a policy that vehicle speed for all construction vehicles is not to exceed 15 mph on any unpaved surface. • Water all active construction areas as needed to suppress dust. Base the frequency on the type of operation and the soil and wind exposure. • Cover or maintain at least two feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. • Cover inactive storage piles. • Sweep public roads if visible soil material is carried out from a work site. • Post a publicly visible sign with the phone number for the EDCAQMD for compliance in reporting any Rule 205 (Nuisance) violations, as well as the telephone number and person to contact regarding dust complaints. Instruct this person to respond to complaints and take corrective action within 48 hours. • Limit the area of earth-disturbing activities at any one time.
APM AQ-2: Minimize Vehicle and Equipment Emissions PG&E will minimize vehicle emissions during project construction by implementing the following measures: • Maintain construction equipment in proper working conditions in accordance with PG&E standards. • Minimize unnecessary construction vehicle idling time. The ability to limit construction vehicle idling time will depend 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, so that idling is reduced as far as possible below the maximum of 5 consecutive minutes allowed by California law; if a vehicle is not required for use immediately or continuously for construction activities, its engine will be shut off. Construction foremen will include briefings to crews on vehicle use as part of pre-construction conferences. Those briefings will include discussion of a “common sense” approach to vehicle use. • Minimize construction equipment exhaust by using low-emission or electric construction equipment where feasible. Portable diesel-fueled construction equipment with engines 50 hp or larger and manufactured in 2000 or later will be registered under the CARB Statewide Portable Equipment Registration Program. • Minimize welding and cutting by using compression of mechanical applications where practical and within standards. • Encourage use of natural gas powered vehicles for passenger cars and light duty trucks where feasible and available.

TABLE 2-7 (Continued)
APPLICANT PROPOSED MEASURES

Section 3.3- Air Quality (cont.)

APM AQ-3: Minimize Potential Naturally Occurring Asbestos Emissions

The project will develop a preemptive Asbestos Dust Mitigation Plan to identify all necessary best management practices that will be implemented if NOA is encountered at any time during construction. The Asbestos Dust Mitigation Plan will be compliant with the requirements of CARB's Asbestos ATCM, EDCAQMD's Rule 223-2 (Fugitive Dust – Asbestos Hazard Mitigation), and SMAQMD's Rule 902 (Asbestos).

Before beginning any earth-disturbing activities in areas identified in Section 3.6, Geology and Soils (i.e., "areas more likely to contain asbestos," "areas where the presence of asbestos is possible but unlikely," "areas moderately likely to contain NOA," or "areas least likely to contain naturally occurring asbestos"), a geological evaluation will be performed by a registered geologist to determine whether NOA is present. In addition, before beginning any earth-disturbing activities that will occur within 50 feet of residences and 500 feet of schools, a geological evaluation also will be performed by a registered geologist, to test for the presence of NOA. If NOA is detected during any geological evaluation or during subsequent construction activities, PG&E will minimize NOA emissions by implementing the Asbestos Dust Mitigation Plan, which will comply with the requirements of CARB's Asbestos ATCM, EDCAQMD's Rule 223-2 (Fugitive Dust – Asbestos Hazard Mitigation), and SMAQMD's Rule 902 (Asbestos).

CARB's Asbestos ATCM includes asbestos management requirements that range from creating and implementing an Asbestos Dust Mitigation Plan, observing pre-notifications of construction activities, maintaining construction best management practices, meeting post-construction stabilization requirements, and performing administrative recordkeeping. Construction best management practices include monitoring all potential NOA emission sources: road dust (e.g., limiting vehicle speeds); earth-disturbing activities (e.g., watering before, during, and after disturbance); track-out from work sites (e.g., washing equipment and vehicle tires); material export (e.g., haul truck material handling requirements); and post-construction stabilization (e.g., covering, chemical stabilizers, or vegetation). In addition, prior to construction, PG&E will consult with the local air district or air pollution control officer, to determine if air monitoring for asbestos will be required. The project will comply with EDCAQMD's Rule 223-2, which provides a list of best management practices to minimize the generation of asbestos dust from construction activities. The Asbestos Dust Mitigation Plan will include, but will not be limited to measures from EDCAQMD's Rule 223-2, as applicable. Implementation of the following asbestos best management practices for the project would be required where applicable, to ensure adequate performance of the Asbestos Dust Mitigation Plan:

Backfilling

- Mix backfill soil with water before moving the soil.
- Have a dedicated water truck or a high-capacity hose connected to backfilling equipment.
- Empty the loader bucket slowly to prevent dust plumes from being generated.
- Minimize the drop height from the loader bucket.

Clearing and Grubbing

- Maintain live perennial vegetation where possible.
- Apply water in sufficient quantity to prevent generation of visible dust.

Cut and Fill

- Pre-water with sprinklers or water trucks and allow time for penetration.
- Use water as necessary to minimize dust.
- Install upwind fencing to prevent material movement on site.
- Suspend operations when winds generate visible dust emissions despite control measures.
- Use tarps or other suitable enclosures on haul trucks.
- Provide water while loading and unloading to reduce visible dust plumes.
- If excavated material is classified as a hazardous waste material, verify that off-site transport complies with state and federal rules and regulations.

Disturbed Soil

- Limit vehicular traffic and disturbances on soils where possible.
- Limit vehicle speeds to 15 miles per hour.
- Apply water or a stabilizing agent in sufficient quantities to prevent generation of visible dust plumes.

General Site Management

- Wash mud and soil from equipment and vehicles after completing earth-disturbing activities to prevent them from crusting and drying.
- Prohibit the use of blower devices, dry rotary brushes, or dry brooms.
- Restrict vehicular access to established, unpaved travel paths and parking lots, to meet stabilization requirements.
- Document all locations and quantities of cut and fill, and off-site soil transport.
- Provide signage at work sites that meet Occupational Safety and Health Administration requirements.

TABLE 2-7 (Continued)
APPLICANT PROPOSED MEASURES

Section 3.4 – Biological Resources

APM BIO-1: General Biological Resources Measures

APM BIO-1.1: Worker Environmental Awareness Training Program

A qualified biologist will develop an environmental awareness training program that is specific for the project. All on-site construction personnel will attend the training before they begin work on the project. Training will include a discussion of the avoidance and minimization measures that are being implemented to protect biological resources as well as the terms and conditions of project permits. Training will include information about the FESA and CESA, special-status species as defined in the Regulatory Setting (Section 3.4.2) and the Special-Status Species section, and the consequences of noncompliance with these acts. Under this program, workers will be informed about the presence, life history, and habitat requirements of all special-status species that may be affected in the project area. Training also will include information on State and federal laws protecting nesting birds, wetlands, and other water resources.

An educational brochure will be produced for construction crews working on the project. The brochure will include color photos of sensitive species as well as a discussion of relevant APMs.

APM BIO-1.2: Identification and Marking of Sensitive Resource Areas

Sensitive resource areas identified during pre-construction surveys in the project area will be clearly marked in the field or on project maps. Sensitive resource areas will include active bird nests within specified buffer zones (see APM BIO-3), special-status plants adjacent to work sites, special-status vegetation types adjacent to work sites, and vernal pool and wetland boundaries in and adjacent to work sites. Such areas will be avoided during construction to the extent practicable.

APM BIO-1.3: Construction Monitoring

A qualified biologist will monitor construction activities in sensitive habitats previously identified by a qualified biologist. The monitor will ensure implementation of and compliance with all avoidance and mitigation measures. The monitor will have the authority to stop or redirect work if construction activities are likely to affect sensitive biological resources.

If a listed wildlife species is encountered during construction, project activities will cease in the area where the animal is found until the biologist determines the animal has moved out of harm's way, or with prior authorization from the USFWS and/or CDFW if necessary, relocates the animal out of harm's way, and/or takes other appropriate steps to protect the animal. Work may resume once the biologist has determined that construction activities will not harm any listed wildlife species. If recommended by the biologist, a temporary silt-fence barrier will be installed to prevent wildlife species from entering the work area(s) during project activities. The biological monitor will be responsible for any necessary reporting to USFWS and/or CDFW of any capture and relocation, or inadvertent harm, entrapment or death of a listed species.

APM BIO-1.4: Tree Removal and Mitigation

Trees being felled in the vicinity of a sensitive resource area exclusion zone will be directionally felled away from the zone, where possible. Trees and other vegetation that are removed from the project area will be removed using equipment and access routes that avoid sensitive resource areas.

Oak tree removal will be minimized to what is required to implement the project. Oak trees greater than 6 inches diameter at breast height (dbh), or having multiple trunks with an aggregate over 10 inches dbh, that are removed will be documented and replaced based on a 1:1 ratio or other measure derived through coordination with El Dorado County that provides an equal level of compensation.

APM BIO-2: Special-Status Species Pre-construction Surveys

Before project construction begins, a qualified biologist will perform a pre-construction survey for work areas within 100 feet of suitable habitat for special-status species. If any special-status species are found nearby but outside the proposed work area, they will not be disturbed. If recommended by the biologist, a temporary silt-fence barrier will be installed to prevent special-status species from entering the work area(s) during project activities. If a special-status species is found in a work area prior to construction, the biologist will relocate the species out of harm's way (if prior authorization from USFWS and CDFW is not required for the species), or with prior authorization from USFWS and/or CDFW if necessary, and/or take other appropriate steps to protect the animal.

APM BIO-3: Special-Status Bird Measures

Before project activities in proximity to nesting birds begins, PG&E will obtain the applicable permit or follow relevant protocol that is authorized by Section 3503 and/or Section 3503.5 of the California Fish and Game Code, or by any regulation adopted pursuant thereto, pertaining to nesting birds. If no such permit or protocol is available under the above authorities before project construction begins, PG&E will comply with the following measure:

APM BIO-3.1: Pre-construction Survey and Avoidance of Active Nests

For any tree trimming or other potential nest-disturbing activities to be conducted between February 1 and August 31, a qualified biologist will conduct a pre-construction survey for nesting birds. The survey will be conducted no more than one week prior to the start of work activities and will cover all affected 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 biologist. The standard buffers included in PG&E's Avian Conservation Strategy (e.g., 50 to 400 feet from non-special-status bird nests, 75 to 350 feet from non-raptor special-status bird nests, and 300 to 1,320 feet from raptor nests, depending on species) will serve as a guideline for exclusion zones, but may be modified on a site-

TABLE 2-7 (Continued)
APPLICANT PROPOSED MEASURES

Section 3.4 – Biological Resources (cont.)
specific basis as determined by the biologist. To the extent practicable, no project vehicles, chain saws, 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. If it is not practicable to avoid work in an exclusion zone around an active nest (e.g., a bird is sitting on eggs or bird activity is such that the nest could be interpreted as active, per USFWS [2003] *Migratory Bird Permit Memorandum),* work activities will be modified to minimize disturbance of nesting birds but may proceed in these zones at the discretion of the biologist. 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, determines that particular activities pose a high risk of disturbing an active nest, the biologist will recommend additional, feasible measures to minimize the risk of nest disturbance, potentially including temporary cessation of work activities near active nests.
APM BIO-4: Valley Elderberry Longhorn Beetle Habitat Avoidance and Mitigation PG&E's Valley Elderberry Longhorn Beetle Conservation Program allows PG&E to perform routine operations and maintenance activities and new construction, subject to certain terms and conditions as specified in the USFWS Biological Opinion (File 1-1-01-F-0114). The Biological Opinion provides for thirty years of incidental take coverage and was initiated on June 27, 2003. It defines reasonable and prudent measures required to avoid and minimize impacts to habitat for the federally listed valley elderberry longhorn beetle (VELB). PG&E will implement the surveying, avoidance, and any necessary compensation measures required for the Conservation Program as authorized by USFWS. These measures may include, for example: (1) surveying for and flagging all elderberry plants with one or more stems measuring 1 inch or more in diameter at ground level that are within 20 feet of work sites; (2) avoiding all such elderberry plants to the extent feasible; and (3) reporting unavoidable impacts to elderberry shrubs to USFWS for coverage under the Conservation Program's funding of VELB habitat acquisition, development, and protection.
APM BIO-5: Special-Status Plant Avoidance and Impact Minimization Measures In addition to APM BIO-1 and APM BIO-2, the following measures will be implemented in gabbroic chaparral habitat in and immediately east of the BLM Pine Hill Preserve, and south of U.S. 50, where the highway borders the BLM Pine Hill Preserve, to avoid and minimize impacts on special-status plants. ***APM BIO-5.1: Seasonal Timing Restrictions*** If a special-status annual plant species is present, any work that may impact the plant will occur after plant senescence and prior to the first significant rain, to the extent practicable. ***APM BIO-5.2: Noxious Weed Assessment and Control Plan*** Prior to the commencement of construction activities in the BLM Pine Hill Preserve, a Noxious Weed Assessment and Control Plan will be developed and implemented for work in the BLM Pine Hill Preserve. The plan will assess the areas at risk for noxious weed introduction and/or spread and will identify measures for equipment and vehicle inspection. ***APM BIO-5.3: Plant Salvage Requirements*** Prior to the commencement of construction activities in the BLM Pine Hill Preserve or other areas within the Project footprint known to support rare plant populations, PG&E will refine its Rare Plant Strategy that specifies salvage and propagation methods for listed plants, as well as pre- and post-Project monitoring methods. The Rare Plant Strategy will be submitted to USFWS for review and approval as may be required in the biological opinion from USFWS. At a minimum, the Strategy will include information such as: methods of collection of reproductive structures from affected plants, restoration techniques for temporarily disturbed occurrences, assessments of potential transplant and enhancement sites, success and performance criteria (e.g., documented germination of collected seed within an equal or larger area than affected by the project), and monitoring programs (e.g., 3 to 5 years), as well as measures to ensure long-term site sustainability, as required by USFWS during the Section 7 consultation process. Prior to construction, the location of special-status plants that will be affected by grading and excavation will be surveyed and documented, and the seeds and/or rhizomes of special-status plants that may be destroyed during construction will be collected in accordance with the Rare Plant Strategy. Following construction, which plants were permanently or temporarily impacted by the project will be determined. Collected seeds and/or rhizomes will be planted per planting guidelines described in the Rare Plant Strategy in coordination with BLM and USFWS. Post-project monitoring methods will be applied in accordance with the Rare Plant Strategy to determine if propagation activities met the success criteria described in the Rare Plant Strategy. ***APM BIO-5.4: Topsoil Stockpiling Requirements*** Where grading or excavation is required in gabbroic chaparral habitat, and where noxious weeds are absent, the upper 4 inches of topsoil will be stockpiled separately during grading or excavations, following any necessary plant salvage efforts. When this topsoil is replaced, compaction will be minimized to the extent consistent with utility standards. ***APM BIO-5.5: Locking Gate Installation*** Following project completion, and upon agreement of private landowners, locking gates will be installed at the two main roads leading into the BLM Pine Hill Preserve to limit unauthorized vehicle access that may threaten special-status plant populations.

TABLE 2-7 (Continued)
APPLICANT PROPOSED MEASURES

Section 3.4 – Biological Resources (cont.)
APM BIO-6: Special-Status Plant Impact Mitigation To compensate for permanent impacts on special-status plants, PG&E will explore options with USFWS, and will implement the preferred option. The options may include: on-site planting of propagated seeds and cuttings in accordance with the USFWS-approved Rare Plant Strategy; and/or providing funding to the BLM Pine Hill Preserve for the purpose of habitat enhancement, management, and/or monitoring of gabbroic chaparral habitat.
APM BIO-7: Seasonal Wetland Protection Seasonal wetlands that may provide habitat for special-status species will not be entered. Travel across seasonal wetlands that do not provide such habitat will be limited to the greatest extent feasible. Where travel across seasonal wetlands is necessary, it will occur during dry conditions to avoid soil compaction and mixing. If travel is required during wet conditions, matting and other protection measures will be implemented to avoid soil compaction or mixing. Matting and other protection measures will be approved by the biological monitor before work at that location begins. During construction monitoring, the biological monitor may temporarily stop construction work if matting and protection measures are inadequately applied; construction work may resume after matting and other protection measures are installed effectively to protect seasonal wetlands.
Section 3.5 – Cultural and Paleontological Resources
APM CUL-1: Develop and Implement Worker Environmental Awareness Program Prior to Construction PG&E will design and implement a worker environmental awareness program that will be provided to all project personnel involved in earth-moving activities. No construction worker will be involved in field operations without having participated in the worker environmental awareness program. The worker environmental awareness program will include a kick-off tailgate session to present site avoidance requirements and procedures to be followed if unanticipated cultural or paleontological resources are discovered during project implementation, and a discussion of actions that could be taken against persons violating historic preservation laws and PG&E policies. Key project workers involved with ground-disturbing activities will receive a pamphlet listing how to identify a cultural resource or fossil and what to do if an unanticipated discovery is made during construction. The worker environmental awareness training may be conducted in concert with other environmental or safety awareness and education training programs for the project, and may be recorded for use in subsequent training sessions.
APM CUL-2: Manage Unanticipated Cultural Resources Discoveries Properly In the unlikely event that previously unidentified cultural resources are uncovered during project implementation, all work within 100 feet of the discovery will be halted and redirected to another location. The find will be secured, and a CPUC-approved, qualified cultural resources specialist/archaeologist will be contacted immediately. The specialist will inspect the discovery and determine whether further investigation is required. If the discovery can be avoided and no further impacts will occur, the resource shall be documented on California State Department of Parks and Recreation cultural resource record forms and no further effort shall be required. If additional disturbance to the resource cannot be avoided, a CPUC-approved, qualified cultural resources specialist/archaeologist will evaluate the resource's significance and CRHR eligibility and determine whether it is (1) eligible for the CRHR (and thus a historical resource for purposes of CEQA); or (2) a unique archaeological resource as defined by CEQA. If the resource is determined to be neither a unique archaeological nor an historical resource, work may commence in the area. If the resource meets the criteria for either an historical or unique archaeological resource, or both, work shall remain halted, and the cultural resources specialist/archaeologist shall consult with CPUC staff regarding methods to ensure that no substantial adverse change would occur to the significance of the resource pursuant to CEQA Guidelines Section 15064.5(b). Preservation in place, i.e. avoidance, is the preferred method of mitigation for impacts to cultural resources. Other methods to be considered shall include evaluation, collection, recordation, and analysis of any significant cultural materials in accordance with a Cultural Resources Management Plan prepared by the CPUC approved qualified cultural resource specialist/archaeologist. The methods and results of evaluation or data recovery work at an archaeological find will be documented in a professional-level technical report to be filed with the NCIC. If previously unidentified cultural resources are uncovered during project implementation on BLM land, procedures will be similar to those described above; however, if additional disturbance to a cultural resource cannot be avoided, PG&E will evaluate the significance and NRHP eligibility per Section 106 of the NHPA in consultation with BLM. Any cultural resource or paleontological work conducted on BLM lands will be conducted under a valid cultural resource and paleontological use permit issued by the BLM California State office, and may require a fieldwork authorization by the local field office. Cultural materials and paleontological resources collected under a BLM-use permit will be curated in an accredited museum repository.

TABLE 2-7 (Continued)
APPLICANT PROPOSED MEASURES

Section 3.5 – Cultural and Paleontological Resources (cont.)
APM CUL-3: Follow Statutory Requirements for Treatment of Human Remains In the unlikely event that human remains or suspected human remains are uncovered during pre-construction testing or during construction, all work within 100 feet of the discovery will be halted and redirected to another location. The find will be secured, and a CPUC-approved, qualified cultural resources specialist will be contacted immediately to inspect the find and determine whether the remains are human. If the remains are not human, the cultural resources specialist will determine whether the find is an archaeological deposit and whether APM CUL-2 applies. If the remains are human, the cultural resources specialist will immediately implement the provisions in PRC Sections 5097.9 through 5097.996, beginning with the immediate notification to the affected county coroner. The coroner has 2 working days to examine human remains after being notified. If the coroner determines that the remains are Native American, California Health and Safety Code 7050.5 and PRC Section 5097.98 require that the cultural resources specialist contact the NAHC within 24 hours. The NAHC, as required by PRC Section 5097.98, determines and notifies the Most Likely Descendant. If potential human remains are discovered during any project activity on lands administered by BLM, the procedures identified in NAGPRA will be closely adhered to and the following steps will be taken: 1. All activities that may further disturb the potential human remains will cease immediately in the vicinity of the discovery. 2. PG&E will take appropriate steps to secure and protect human remains and any funerary objects from further disturbance. 3. PG&E's cultural resources specialist will notify BLM's archaeologist by telephone within 24 hours of discovery, followed within 3 days by written confirmation. Human remains or associated funerary objects will not be excavated or otherwise removed unless a permit is issued under ARPA and after consultation between the appropriate Native American representative(s), BLM, and PG&E. 4. The activity that resulted in the inadvertent discovery will not resume until clearance is provided by BLM.
APM CUL-4: Flag and Avoid Cultural Resources The boundaries of all known cultural resources that lie within 100 feet of a designated work area will be marked with flagging tape, safety fencing, and/or a sign designating it as an "environmentally sensitive area" to ensure that PG&E construction crews and heavy equipment will not intrude on these resources during construction. For those eligible or potentially eligible sites that contain an existing access road within their site boundary, the road will be used as-is (i.e., no grading, widening, or other substantial improvements), and signs or safety fencing will be established on either side of the road within the site's boundary to avoid impacts caused by construction vehicles. If it is infeasible or impractical to use an access road as-is, and grading, widening or other substantial improvement is necessary, PG&E will implement mitigation or treatment measures specific to the resource potentially affected by the work. Examples of such measures would include preservation in place, and evaluation, collection, recordation, and analysis of any significant cultural materials.
APM CUL-5: Avoid Paleontologically Sensitive Locations No direct impacts on fossil-bearing deposits (ground disturbance) will occur within the approximately 0.29-acre project area containing Quaternary alluvium just west of Empire Ranch Road and the El Dorado-Sacramento County boundary. However, should project development result in the disturbance of this geologic unit at a depth of 10 feet or greater, a qualified paleontologist will be retained as needed to ensure that impacts on any potential paleontological resources are avoided. If fossil remains are uncovered during project implementation, all work within 50 feet of the discovery will be halted and the construction crew immediately will notify PG&E. A paleontologist will be retained by PG&E and approved by the CPUC to evaluate the resource. If the discovery can be avoided and no further impacts will occur, no further effort shall be required. If the resource cannot be avoided and may be subject to further impact, the CPUC-approved paleontologist shall evaluate the resource and determine whether it is "unique" under CEQA, Appendix G, part V. If the resource is determined to not be unique, work may commence in the area. If the resource is determined to be a unique paleontological resource, work shall remain halted, and the paleontologist shall consult with CPUC staff regarding methods to ensure that no substantial adverse change would occur to the significance of the resource pursuant to CEQA. Preservation in place, i.e. avoidance, is the preferred method of mitigation for impacts to paleontological resources. Other methods include ensuring that the fossils are recovered, prepared, identified, catalogued, and analyzed according to current professional standards under the direction of a qualified paleontologist. All recovered fossils shall be curated at an accredited and permanent scientific institution according to Society of Vertebrate Paleontology standard guidelines (SVP [2010]) standards; typically the Natural History Museum of Los Angeles County and UC Berkeley accept paleontological collections at no cost to the donor. Work may commence upon completion of treatment, as approved by the CPUC. Components of the treatment plan related to "unique" fossil specimens that are encountered during construction may include a field survey, additional construction monitoring, specific sampling and data recovery procedures, museum storage coordination for any specimen recovered, and a report of findings.

TABLE 2-7 (Continued)
APPLICANT PROPOSED MEASURES

Section 3.6 – Geology and Soils

APM GEO-1: Minimization of Construction in Soft or Loose Soils

Where soft or loose soils are encountered during project construction, appropriate measures will be implemented to avoid, accommodate, replace, or improve such soils. Depending on site-specific conditions and permit requirements, these measures may include:

- locating construction facilities and operations away from areas of soft and loose soil;
- over-excavating soft or loose soils and replacing them with engineered backfill materials;
- increasing the density and strength of soft or loose soils through mechanical vibration and/or compaction;
- installing material over access roads such as aggregate rock, steel plates, or timber mats; and
- treating soft or loose soils in place with binding or cementing agents.

APM GEO-2: Reduction of Slope Instability during Construction

Existing natural or temporarily constructed slopes affected by construction or operations will be evaluated for stability by qualified construction staff at the beginning of each construction day that employees may be exposed to the areas immediately upslope or downslope from the area of concern can be reasonably anticipated. In developing grading and construction procedures for access roads, the stability of both temporary and permanent cut, fill, and otherwise affected slopes will be analyzed. Construction slopes and grading will be designed to limit the potential for slope instability and minimize the potential for erosion and flooding during construction. During construction, slopes affected by construction activities will be monitored by qualified construction staff and maintained in a stable condition. Construction activities likely to result in slope instability will be suspended, as necessary, during and immediately following periods of heavy precipitation when unstable slopes are more susceptible to failure.

Section 3.7 – Greenhouse Gas Emissions

APM GHG-1: Minimize GHG Emissions

- Maintain construction equipment in proper working conditions in accordance with PG&E standards.
- Minimize unnecessary construction vehicle idling time. The ability to limit construction vehicle idling time will depend 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, so that idling is reduced as far as possible below the maximum of 5 consecutive minutes allowed by California law; if a vehicle is not required for use immediately or continuously for construction activities, its engine will be shut off. Construction foremen will include briefings to crews on vehicle use as part of pre-construction conferences. Those briefings will include discussion of a "common sense" approach to vehicle use.
- Minimize construction equipment exhaust by using low-emission or electric construction equipment where feasible. Portable diesel fueled construction equipment with engines 50 hp or larger and manufactured in 2000 or later will be registered under the CARB Statewide Portable Equipment Registration Program.
- Minimize welding and cutting by using compression of mechanical applications where practical and within standards.
- Encourage use of natural gas powered vehicles for passenger cars and light-duty trucks where feasible and available.

APM GHG-2: Minimize SF_6 Emissions

- Incorporate the new breakers at Gold Hill Substation into PG&E's system-wide SF_6 emission reduction program. CARB has adopted the Regulation for Reducing Sulfur Hexafluoride Emissions from Gas Insulated Switchgear sections 95350 to 95359, title 17, California Code of Regulations, which requires that company-wide SF_6 emission rate not exceed 1 percent by 2020. Since 1998, PG&E has implemented a programmatic plan to inventory, track, and recycle SF_6 inputs, and inventory and monitor system-wide SF_6 leakage rates to facilitate timely replacement of leaking breakers. PG&E has improved its leak detection procedures and increased awareness of SF_6 issues within the company. X-ray technology is now used to inspect internal circuit breaker components to eliminate dismantling of breakers, reducing SF_6 handling and accidental releases. As an active member of EPA's SF_6 Emission Reduction Partnership for Electrical Power Systems, PG&E has focused on reducing SF_6 emissions from its transmission and distribution operations and has reduced the SF_6 leak rate by 89 percent and absolute SF_6 emissions by 83 percent.
- Require that breakers to be replaced at Gold Hill Substation have a manufacturer's guaranteed maximum leakage rate of 0.5 percent per year or less for SF_6.
- Maintain substation breakers in accordance with PG&E's maintenance standards.
- Comply with CARB Early Action Measures as these policies become effective.

TABLE 2-7 (Continued)
APPLICANT PROPOSED MEASURES

Section 3.8 – Hazards and Hazardous Materials
APM HAZ-1: Hazardous-Substance Control and Emergency Response PG&E will implement a Hazardous Substance Control and Emergency Response Plan, which will identify methods and techniques to minimize exposure of the public and construction workers to potentially hazardous materials during all phases of project implementation. The Hazardous Substance Control and Emergency Response Plan shall be submitted to the CPUC prior to the start of construction activities. The procedures require PG&E to provide worker training in hazardous-substance control and emergency response that is appropriate to the workers' roles. The procedures also require implementation of appropriate control methods and approved containment and spill-control practices for construction and materials stored in the project area. If it is necessary to store chemicals, the chemicals will be managed in accordance with all applicable regulations. Material safety data sheets will be maintained and kept available in the project area, as applicable. Project construction may require blading/leveling of the soil surface and excavation or auguring to a depth of approximately 24 feet. However, if soils suspected of contamination (based on visual, olfactory, or other evidence) are removed during grading or excavation/auguring activities, the excavated soil will be tested. If they are contaminated above hazardous-waste levels, those soils will be contained and disposed of at a licensed waste facility. Any known or suspected contaminated soil will undergo testing and investigation procedures, supervised by a qualified person as appropriate, to meet the requirements of 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 will include but will not be limited to the following measures: • proper disposal of potentially contaminated soils; • establishment of project area–specific buffers for construction vehicles and equipment located near sensitive resources; and • implementation of emergency-response and reporting procedures to address spills of hazardous materials.
APM HAZ-2: Smoking and Fire Rules Smoking will be permitted only in designated smoking areas or within the cabs of vehicles or equipment.
APM HAZ-3: Fire Risk Management Project personnel will be directed to park away from dry vegetation. During fire season in designated SRAs, all motorized equipment driving off paved or maintained gravel/dirt roads will have federally approved or State-approved spark arrestors. All off-road vehicles will be equipped with a backpack pump (filled with water) and a shovel. Fire-resistant mats and/or windscreens will be used when welding. In addition, during fire "red flag" conditions (as determined by CAL FIRE), welding will be curtailed. Every fuel truck will carry a large fire extinguisher with a minimum rating of 40 B:C, and all flammable materials will be removed from equipment parking and storage areas.
Section 3.9 – Hydrology and Water Quality
APM HYDRO-1: Stormwater Pollution Prevention Plan PG&E will file a Notice of Intent with the SWRCB for coverage under the General Construction Storm Water Permit and will prepare and implement an SWPPP in accordance with General Order No. 2009-0009-DWQ, as amended, which typically includes measures such as placement of straw wattles or silt fencing, flagging, mulching, seeding and other means to help stabilize disturbed areas and reduce erosion and sedimentation.
APM HYDRO-2: Water Feature Protection Requirements Where access through hydrologic resources are required, PG&E shall install temporary bridges or plates over drainages (spanning the ordinary high water mark) and install fiberglass or wood matting in wetland features to reduce water quality impacts to these features.
Section 3.12 – Noise
APM NO-1: Minimize Noise-Related Disruption by Notifying Residents Should nighttime project construction be necessary because of planned clearance restrictions, affected residents will be notified at least 7 days in advance by mail, personal visit, or door hanger and informed of the expected work schedule.
APM NO-2: Minimize Noise with Portable Barriers Compressors and other small stationary equipment used during project construction will be shielded with portable barriers if the equipment is located near noise-sensitive receptors.

TABLE 2-7 (Continued)
APPLICANT PROPOSED MEASURES

Section 3.15 – Recreation
APM REC-1: Coordination with Park and Open Space Management and Signage PG&E will coordinate closely with park and open space management for temporary public land closures during project construction activities. If traditional access is temporarily unavailable, signs advising recreational facility users of construction activities, including directions to alternative trails and/or bikeways, will be posted at entrance gates to park and open space areas. Signage will be posted at least 1 week in advance of construction, near parks and open space areas.
Section 3.16 – Transportation and Traffic
APM TRA-1: Air Transit and Neighborhood Coordination PG&E will implement the following protocols that pertain to helicopter use during construction and air traffic: • PG&E will comply with all applicable FAA regulations regarding air traffic within 2 miles of the project alignment. • PG&E's helicopter operator will coordinate all project helicopter operations with the local airport before and during project construction. • PG&E does not anticipate that residents will be required to temporarily vacate their homes or businesses. In the unlikely event that final construction plans require otherwise, PG&E will coordinate with potentially affected residents or businesses to minimize the duration of the necessary work and any resultant inconvenience.
APM TRA-2: Temporary Traffic Controls PG&E will obtain any necessary transportation and/or encroachment permits, including those for the U.S. 50 crossings and transport of oversized loads and certain materials, and will comply with permit requirements designed to prevent excessive congestion or traffic hazards during lane closures. PG&E will develop lane closure/width reduction or traffic diversion plans as required by the encroachment permits. Construction activities that are in, along, or cross local roadways will follow best management practices and/or local jurisdictional encroachment permit requirements, to minimize impacts to traffic and transportation in the project area.

2.10 Electric and Magnetic Fields Summary

2.10.1 Electric and Magnetic Fields

This IS ~~Initial Study~~ does not consider electric and magnetic fields (EMF) in the context of the CEQA analysis of potential environmental impacts because [1] there is no agreement among scientists that EMF creates a potential health risk, and [2] there are no defined or adopted CEQA standards for defining health risk from EMF. However, recognizing that there is a great deal of public interest and concern regarding potential health effects from human exposure to EMF from transmission lines, this document does provide information regarding EMF associated with electric utility facilities and human health and safety.

Exposure to *electric fields* from transmission lines (i.e., the effect produced by the existence of an electric charge, such as an electron, ion, or proton, in the volume of space or medium that surrounds it) typically does not present a human health risk since electric fields are effectively shielded by materials such as trees, walls, etc. Therefore, the majority of the following information related to EMF focuses primarily on exposure to *magnetic fields* (i.e., the invisible fields created by moving charges) from transmission lines. Additional information on electric and magnetic fields generated by transmission lines is presented in Appendix A.

After several decades of study regarding potential public health risks from exposure to power line EMF, research results remains inconclusive. Several national and international panels have

conducted reviews of data from multiple studies and state that there is not sufficient evidence to conclude that EMF causes cancer. Most recently the International Agency for Research on Cancer and the California Department of Health Services both classified EMF as a *possible* carcinogen.

Presently, there are no applicable federal, State or local regulations related to EMF levels from power lines or related facilities, such as substations. However, the CPUC has implemented a decision (D.06-01-042) requiring utilities to incorporate "low-cost" or "no-cost" measures for managing EMF from power lines up to approximately four percent of total Project cost. Using the four percent benchmark, PG&E has incorporated low-cost and no-cost measures to reduce magnetic field levels along the subtransmission corridor.

2.10.2 EMF and the Project

In accordance with the standard EMF Design Guidelines for Electrical Facilities, filed with the CPUC in compliance with CPUC Decision No. D.06-01-042, the Project would implement the following "no-cost and low-cost" magnetic field reduction measures. The field reduction measures would include:

- Increase the height of 13 poles along the Missouri Flat-Gold Hill Line in the school and residential land use areas by 10 feet to reduce magnetic field strength at ground level.
- Increase the height of 29 poles along the Gold Hill No. 1 Line in the high density residential land use areas by 10 feet.
- On the Missouri Flat-Gold Hill Line, install conductors with optimal phasing to reduce the magnetic field at the edge of the ROW. Phases of the new Missouri Flat-Gold Hill 115 kV line #2 would be arranged for minimum magnetic field at the edge of the ROW. Phases would be arranged A-B-C (Top, Middle, Bottom).
- Operating voltage of the Gold Hill No. 1 Line would be temporarily increased to 115 kV, which would reduce magnetic field levels by 47 percent.

2.11 Required Permits and Approvals

The CPUC is the lead state agency for the Project under CEQA because the CPUC's discretionary approval of a PTC would be ~~is~~ required in accordance with Section III.B of CPUC General Order 131-D. General Order 131-D contains the permitting requirements for the construction of transmission and power line facilities. In addition to the PTC, PG&E would obtain all applicable permits for the Project from federal, state, and local agencies. **Table 2-8** provides the potential permits and approvals that may be required for Project construction.

TABLE 2-8
PERMITS AND APPROVALS THAT MAY BE REQUIRED

Permit/Authorization	Agency	Purpose
Federal		
Special Use Permit	BLM	Project activities in the Pine Hill Preserve
Section 7 Consultation (Biological Opinion)	U.S. Fish and Wildlife Service (consulting through the BLM)	Potential impacts to federally listed species
Section 106 Consultation (National Historic Preservation Act) (consultation)	State Historic Preservation Officer	Consultation with the BLM regarding impacts to cultural resources
Notification of Proposed Construction or Alteration	FAA	Height increase of power line structures
State		
PTC	CPUC	Overall project approval and CEQA review
CEQA Review/Approval		Issuance of a PTC
Asbestos National Emission Standards for Hazardous Air Pollutants Notification (notification)	California Air Resources Board	Demolition activities in El Dorado County
National Pollutant Discharge Elimination System – General Construction Storm Water Permit (ministerial)	Central Valley Regional Water Quality Control Board	Stormwater discharges associated with construction activities disturbing more than 1 acre of land
Local		
Encroachment Permit (ministerial)	California Department of Transportation	Activities related to the placement of encroachments within, under, or over State highway rights-of-way
Utility Encroachment Permit (ministerial)	El Dorado County	Work within county roads/road ROW or property
Encroachment Permit (ministerial)	City of Folsom	Work within city roads/road ROW or property
Grading Permit (ministerial)	City of Folsom	Disturbance over 800 cubic yards, or 400 cubic yards in a flood hazard/erosion area or is more than 2 feet deep

References – Project Description

Pacific Gas and Electric Company (PG&E), 2013a. *Application of Pacific Gas and Electric Company for a Permit to Construct the Missouri Flat-Gold Hill 115 kV Power Line Reconductoring Project*, filed August 23, 2013.

PG&E, 2013b. *Proponent's Environmental Assessment for the Application of Pacific Gas and Electric Company for a Permit to Construct the Missouri Flat-Gold Hill 115 kV Power Line Reconductoring Project*, filed August 23, 2013.

PG&E, 2013c. *PG&E Responses to CPUC Data Request 1 for the Missouri Flat-Gold Hill 115 kV Power Line Reconductoring Project*, submitted to the CPUC on December 6, 2013.

PG&E, 2014a. *PG&E Responses to CPUC Data Request 2 for the Missouri Flat-Gold Hill 115 kV Power Line Reconductoring Project*, submitted to the CPUC on February 13, 2014.

PG&E, 2014b. Revisions to the proposed project provided via electronic communication from Jo Lynn Lambert, March 14, 2014 and Jillian Blanchard, April 9, 2014, respectively.

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SECTION 3
Environmental Checklist and Discussion

3.1 Aesthetics

Issues (and Supporting Information Sources):		*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
1.	**AESTHETICS—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 daytime or nighttime views in the area?	☐	☒	☐	☐

3.1.1 Environmental Setting

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

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

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

- ***Landscape visual quality*:** the overall visual impression or attractiveness of an area as determined by the particular landscape characteristics, including landforms, rock forms, water features, and vegetation patterns.

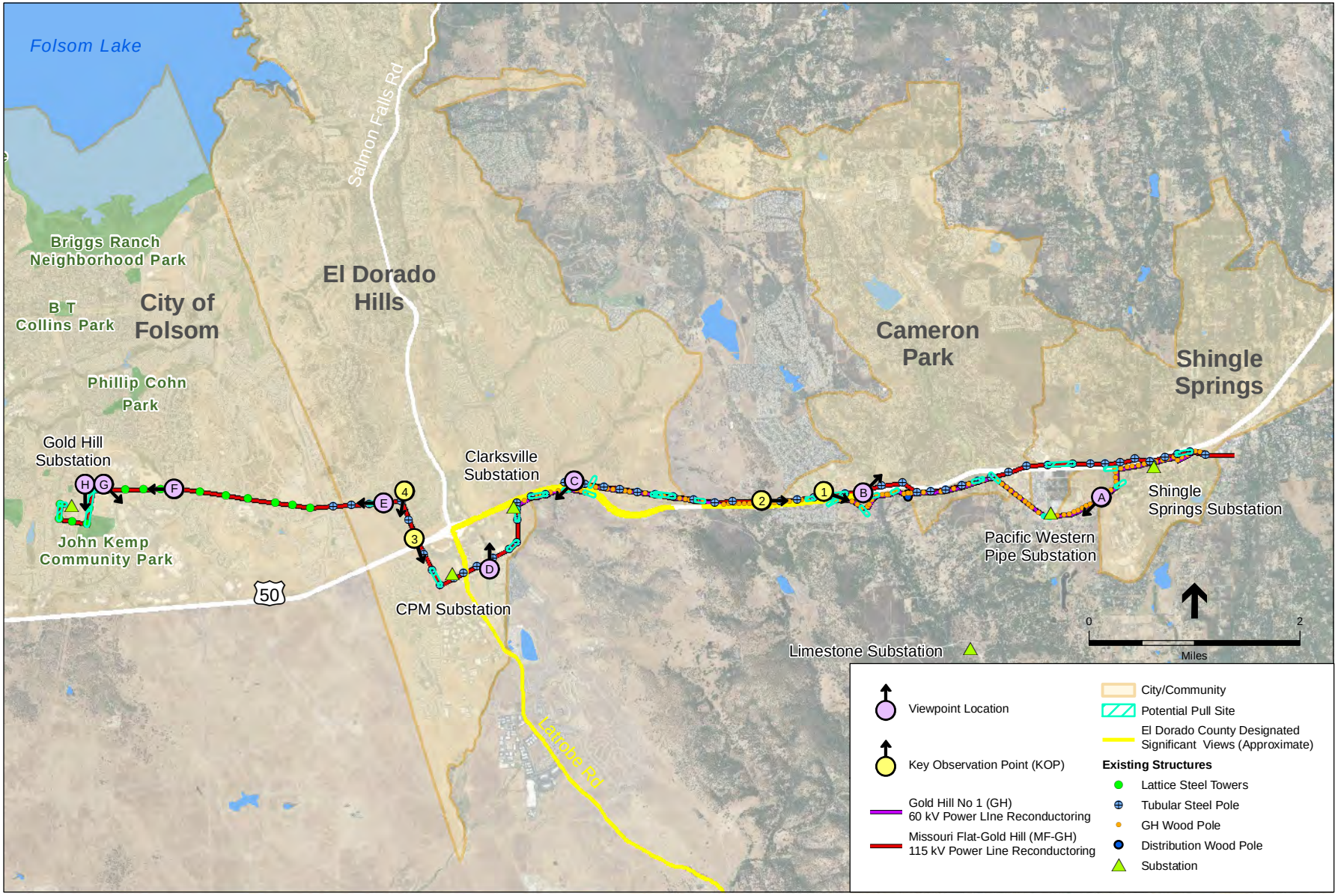
- ***Viewer types*:** the types of people viewing the affected landscape including, for example, motorists on U.S. 50 and other specified roadways, park and other recreational area users, and neighborhood residents in the City of Folsom, El Dorado Hills, Cameron Park, and Shingle Springs (see Figure 3.1-1). Land uses that derive value from the quality of their settings are considered potentially sensitive to changes in visual setting conditions. Viewpoints which have been chosen to complete the analysis from include locations where project-related changes will be seen from sensitive viewing locations; such as roads, parks and trails. The primary viewpoints used in the analysis include Key Observation Points (KOPs), which have been designated at Christa McAuliffe Park, Tierra de Dios Road, White Rock Road, and Bertelsen Park/William Brooks Elementary School. These (viewpoint) locations were selected because from them, the proposed Project would be most visible to the public or would be seen by the greatest number of viewers. Visual simulations of the Project were prepared for the KOPs. Other viewpoints used in the analysis include trails along Montridge Way and Scholar Way, roads with designated significant views (such as U.S. 50 in El Dorado County), and parks such as Creekside Greens Park. Viewpoint Locations and Key Observation Points are depicted on Figure 3.1-1.
- ***Exposure conditions*:** landscape visibility, viewing distance, viewing angle, extent of visibility, and duration of view.

CEQA distinguishes between public and private views by focusing on whether a project would affect the environment of persons in general, not on whether a project would affect particular persons. Land uses that derive value from the quality of their settings are considered potentially sensitive to changes in visual setting conditions. In analyzing the potential aesthetic effects of this Project, the CPUC exercised its discretion to prioritize public views accessible to a broader spectrum of the public over private views from specific developments or neighborhoods. Accordingly, views from private residences are not considered visually sensitive locations, and are not discussed in the impact analysis. Nevertheless, for informational purposes, Project elements would be visible from individual residences in the City of Folsom and communities of El Dorado Hills, Cameron Park, and Shingle Springs.

Existing Visual Quality of the Region

The Project, consisting of portions of eastern Sacramento County and western El Dorado County, is characterized by rolling grasslands and oak woodlands intermixed with suburban and rural communities. The area includes commercial buildings, schools, community parks and existing infrastructure such as roadways, U.S. Highway (U.S.) 50, fences, substations, and utility lines. Utility lines include the existing Pacific Gas and Electric (PG&E) Missouri Flat-Gold Hill 115 kV and Gold Hill No. 1 60 kV power lines that the Project would replace. *Section 2.1, Project Description,* describes the Project area in greater detail and an overview map of the Project is shown on Figure 2-1.

Figure 3.1-1 shows viewpoints that have been selected for context photographs and Key Observation Points (KOPs) from which simulations of the Project have been completed by PG&E. **Figures 3.1-2** and **3.1-3** present eight photographs taken from representative vantage points in the vicinity of the Project that portray the existing visual character of the area. The photographs are labeled by order of mention in the following subsections, which describe the existing visual character of the study area by component. The photographs are limited in the sense that they provide only fixed viewpoints and do not capture all views of or from the Project.



SOURCE: AECOM, 2013

Missouri Flat Project . D207584.16

Figure 3.1-1

Location of Key Observation Points (KOPs) and Context Photographs

Photo A – View from Durock Rd near Shingle Lime Mine Rd looking southwest

Photo B – View from Highway 50 near Cambridge Rd looking northeast

Photo C – View from Tong Rd looking southwest

Photo D – View from Creekside Greens Park near White Rock Rd looking north

SOURCE: ESA

Missouri Flat Project . D207584.16

Figure 3.1-2
Context Photographs

Photo E – View from trail near Montridge Way looking west

Photo F – View from trail along Scholar Way looking west

Photo G – View from E Bidwell St and Nesmith Court looking southeast

Photo H – View from trail near Camberwell Way looking south

SOURCE: ESA

Figure 3.1-3
Context Photographs

Gold Hill No. 1 60 kV Line

The Gold Hill No. 1 60kV Line proposed reconductoring project begins 0.6 mile east of the Shingle Springs Substation in the community of Shingle Springs and continues west to the substation. The Project would be located within existing PG&E rights-of-way (ROW). From the substation, the proposed alignment continues west, closely paralleling the Missouri Flat-Gold Hill line to the Clarksville Substation, with the exception of a 2.2-mile section which runs west along Durock Road, south of U.S. 50 and the Missouri Flat-Gold Hill line. This portion of the Project consists of a landscape more rural in character with winding roadways, rolling grasslands, oak savannahs, and utility lines of various scales. Photo A shows the view of the existing line and landscape along Durock Road.

Missouri Flat-Gold Hill 115kV Line

The 12.5 mile Missouri Flat-Gold Hill Line interconnects Shingle Springs, Clarksville, and Gold Hill substations, and the Project is located entirely within existing PG&E ROW, beginning approximately 0.3 mile east of the Shingle Springs Substation. The reconductoring existing alignment originates near a U.S. 50 intersection with South Shingle Road and a cluster of commercial buildings with new multi-family residential construction surrounded by small to medium-acre rural residences with fields and fences.

From its origination point, the Project would head west and mostly parallel U.S. 50 for approximately 6.4 miles and cross U.S. 50 at five locations, as shown in Figure 3.1-1. U.S. 50 is a four to six-lane divided highway with a planted median (lawn), signs, medians, guardrails, lighting (including street lights and vehicle headlights), and fencing in locations along the route. The landscape adjacent to both of sides of U.S. 50 is mostly commercial and light industrial in appearance at South Shingle Road, transitioning to fields and oak woodlands heading west. The topography appears flat in this area, and U.S. 50 does not offer vistas containing distant horizons to motorists. The highway mostly feels enclosed and surrounded by trees, with utilities (including Missouri Flat to the north) along both sides of the road. The woodlands are intermittently broken up by fields, churches, and residences. Photo B shows the Project from the Cambridge Road overpass, looking northeast. The Missouri Flat-Gold Hill line is on the left side of the photograph, and crosses to the right. Continuing west, the views begin to open up to the rolling hills and residential neighborhoods near Cameron Park. Commercial land uses are clustered at the Cameron Park Drive intersection. Further west, the landscape becomes more developed in nature with residential neighborhoods interspersed with gentle rolling hills of woodlands and grasslands. Photo C shows a typical view of the landscape pattern in this area, as viewed from Tong Road, east of Silva Valley Parkway. The next concentrated commercial development is located at the intersection of El Dorado Hills Boulevard. Here, the Missouri Flat line jogs to the south towards Clarksville Substation, continues west to CPM Substation, and then jogs north, crossing U.S. 50 just west of El Dorado Boulevard. Photo D is an image of the Project paralleling White Rock Road, which is located between a housing development and commercial area. In the image, the Project is shown as viewed from Creekside Greens Park with the commercial area in the background. The line then travels in a general northwest direction, through the suburban developments of El Dorado Hills. Photo E shows a typical view of open grassland separating neighborhoods in El Dorado Hills, as viewed from a local trail. The line then crosses into Sacramento County and the City of Folsom where it reaches

the Gold Hill Substation, which is located near a large-scale commercial and industrial area with wide arterial roads and utility lines traversing suburban neighborhoods, community parks, and schools. Photo F shows a typical suburban road in Folsom with an adjacent trail (City of Folsom, 2014), paralleled by the Missouri Flat-Gold Hill portion of the Project that contains lattice steel towers. Photo G shows E Bidwell St with the Project, commercial buildings, and rolling hills in the background. Finally, Photo H exhibits the nature of the western end of the Project, which contains a large-scale utility corridor that converges at the Gold Hill Substation. Shown in the photo is a community trail that parallels the utility corridor. These photos show that utility lines are an existing feature within the landscape, including the existing PG&E transmission line, towers, and poles as well as existing distribution lines.

A set of four comparisons of existing conditions to simulated conditions are shown in **Figures 3.1-4** through **3.1-7**.

Recreation Areas

As discussed in *Section 3.15, Recreation*, the Project would be located in the vicinity of federal, state, and local recreational resources. The Project would parallel the Carson Route of the National Park Service's (NPS) California National Historic Trail. The historic route consists of U.S. 50 from Nevada to Sacramento and is primarily described as an "auto tour route." (NPS, 2014) Motorists on the route would have views of the Project between Shingle Springs and El Dorado Hills. Views would range from fully visible to screened (partially to fully) by intervening topography and vegetation.

The Project would also be located in the vicinity of and visible from local parks such as Christa McAuliffe Park in Cameron Park; Creekside Greens Park and Bertelsen Memorial Park in El Dorado Hills; and John Kemp Community Park and Nisenan Park in Folsom. The Project would also be visible from several community trails, specifically those in El Dorado Hills and Folsom in the vicinity of Gold Hill Substation. Views of the Project from local recreational facilities would range from immediate and adjacent to distant and fully and/or partially screened by topography or vegetation.

The Project would be located within approximately 3 miles of three state parks: Folsom Powerhouse State Historic Park, Folsom Lake State Recreation Area, and Prairie City State Vehicular Recreation Area. However, it would not be visible from them.

3.1.2 Regulatory Setting

State

California Scenic Highway Program

In 1963, the California legislature created the Scenic Highway Program to protect scenic highway corridors from changes that would diminish the aesthetic value of lands adjacent to the highways. The state regulations and guidelines governing the Scenic Highway Program are found in the Streets and Highways Code, Section 260 et seq. A highway may be designated as "scenic" depending on how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the travelers' enjoyment of the view.

Existing View from McAuliffe Park looking southeast

Simulated View

Missouri Flat Project . D207584.16

SOURCE: PG&E, 2013

Figure 3.1-4

KOP 1 Visual Simulation – Christa McAuliffe Park

Existing View from Tierra de Dios Road near Country Club Drive looking east

Simulated View

SOURCE: PG&E, 2013

Missouri Flat Project . D207584.16

Figure 3.1-5

KOP 2 Visual Simulation – Tierra de Dios Road

Existing View from Saratoga Way near Finders Way looking southeast toward White Rock Road

Simulated View

Missouri Flat Project . D207584.16

SOURCE: PG&E, 2013

Figure 3.1-6

KOP 3 Visual Simulation – White Rock Road

Existing View from Bertelsen Park near Redwood Lane looking west

Simulated View

Missouri Flat Project . D207584.16

SOURCE: PG&E, 2013

Figure 3.1-7

KOP 4 Visual Simulation – Bertelsen Park

Local

El Dorado County General Plan

There are no County-designated scenic routes, vistas, or resources listed in the *El Dorado County General Plan* (El Dorado County, 2004). However, some of the guidelines and policies of the General Plan may be relevant to the Project. Included is Policy 2.6.1.3 in the Land Use Element, which states the following (El Dorado County, 2004a):

- Discretionary projects reviewed prior to the adoption of the Scenic Corridor Ordinance, that would be visible from any of the important public scenic viewpoints identified in Table 5.3-1 and Exhibit 5.3-1 of the El Dorado County General Plan Environmental Impact Report (EIR), shall be subject to design review, and Policies 2.6.1.4, 2.6.1.5, and 2.6.1.6 shall be applicable to such projects until scenic corridors have been established.

The General Plan lists significant scenic views that were identified through a series of public workshops that were held during the development of a Scenic Highway Ordinance as called for in the General Plan. This ordinance was never adopted by the County. Many of these viewpoints are areas along highways where viewers can see large water bodies (e.g., Lake Tahoe and Folsom Reservoir), river canyons, rolling hills, or forests (El Dorado County, 2004). The following roadways are designated as scenic views in the EIR, would have views of the Project, and are shown on Figure 3.1-1:

- U.S. 50 east of Bass Lake Road, views south to Marble Valley
- U.S. 50 at Bass Lake Grade, views west to Sacramento Valley
- Latrobe Road, from White Rock Road south to county line, views in all directions to rolling hills with glimpses of Sacramento Valley in places

Other relevant policies from the General Plan are included below.

Land Use Element

Objective 2.6.1: Scenic Corridor Identification

Identification of scenic and historical roads and corridors.

Policy 2.6.1.1: A Scenic Corridor Ordinance shall be prepared and adopted for the purpose of establishing standards for the protection of identified scenic local roads and State highways. The ordinance shall incorporate standards that address at a minimum the following:

A. Mapped inventory of sensitive views and viewsheds within the entire County;

B. Criteria for designation of scenic corridors;

C. State Scenic Highway criteria;

D. Limitations on incompatible land uses;

E. Design guidelines for project site review, with the exception of single family residential and agricultural uses;

F. Identification of foreground and background;

G. Long distance viewsheds within the built environment;

H. Placement of public utility distribution and transmission facilities and wireless communication structures;

I. A program for visual resource management for various landscape types, including guidelines for and restrictions on ridgeline development;

J. Residential setbacks established at the 60 Community Noise Equivalent Level (CNEL) noise contour line along State highways, the local County scenic roads, and along the roads within the Gold Rush Parkway and Action Program;

K. Restrict sound walls within the foreground area of a scenic corridor; and

L. Grading and earthmoving standards for the foreground area.

Policy 2.6.1.2*:* Until such time as the Scenic Corridor Ordinance is adopted, the County shall review all projects within designated State Scenic Highway corridors for compliance with State criteria.

Policy 2.6.1.5: All development on ridgelines shall be reviewed by the County for potential impacts on visual resources. Visual impacts will be assessed and may require methods such as setbacks, screening, low-glare or directed lighting, automatic light shutoffs, and external color schemes that blend with the surroundings in order to avoid visual breaks to the skyline.

Policy 2.6.1.6: A Scenic Corridor (-SC) Combining Zone District shall be applied to all lands within an identified scenic corridor. Community participation shall be encouraged in identifying those corridors and developing the regulations.

City of Folsom General Plan

The Open Space and Conservation Element (Section 24), of the *City of Folsom General Plan* (City of Folsom, 1988), contains policies and implementation measures directed to the preservation and enhancement of important natural features. In setting forth land uses, the protection of scenic vistas, in addition to natural features, waterways, vernal pools, riparian habitats, trees, ridge lines, and other special natural features were given high priority. The following policy pertains to aesthetic resources:

Policy 24.7**:** The City shall adopt a Scenic Corridor Plan for the identified scenic corridors including but not limited to:

1) Folsom Boulevard Scenic Corridor from Highway 50 to Sutter Street

2) Greenback Lane Scenic Corridor, from the City Limits to Riley Street

3) East Natoma Street Scenic Corridor, from the proposed Oak Avenue Parkway to the EI Dorado County Line

4) Folsom-Auburn Road Scenic Corridor, from the City Limits to Greenback Lane

None of the roads identified for inclusion in a scenic corridor plan would have views of the Project. Therefore, *Policy 24-7* would not be relevant to the Project.

Bass Lake Hills Specific Plan

As part of the preparations of the review draft El Dorado County Scenic Highways Ordinance date June 1992, a viewshed study was conducted which identified the foreground and background

viewsheds along U.S. 50 from the City of Placerville to the El Dorado County/Sacramento County border. The portion of the plan area located within the foreground viewshed of U.S. 50 is located within the Rural Region and is designated Low Density Residential (LDR) by the General Plan. The plan allows for a maximum density of one dwelling unit per 5 acres. This regulation is consistent with the General Plan and protects the foreground viewshed from U.S. 50 by maintaining existing zoning and density. (El Dorado County, 2004 and El Dorado County, 1995)

Within the Bass Lake Hills Specific Plan, scenic hillsides are defined as elevated land formations with unique visual character, especially those which fall within the identified foreground of the Highway 50 corridor.

3.1.3 Applicant Proposed Measures

PG&E proposes certain design features, including the following Applicant Proposed Measures (APM), which would be implemented to minimize impacts on aesthetic resources from the Project.

APM AE-1: Include Non-Reflective Finish

Non-specular conductor and a non-reflective finish for the poles will be used to reduce the potential for new sources of glare.

APM AE-2: Minimize Effects of Temporary Nighttime Construction Lighting on Sensitive Receptors

If temporary lighting is required for nighttime construction, it will be focused on work areas and directed on-site to minimize potential effects with respect to nearby sensitive receptors, particularly residences.

3.1.4 Environmental Impacts and Mitigation Measures

Visual analysis focuses on two components. The first is visual sensitivity, which is a composite measurement of the overall susceptibility of an area or viewer group to adverse visual or aesthetic impacts, given the combined factors of landscape visual quality, viewer types, and exposure conditions. The second is the degree of visual change that construction, operation and maintenance of the Project would have on the site.

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

There are no designated scenic vistas in the vicinity of the Project. However, the roadways in the viewshed of the Project that have been identified as having significant scenic views of the surrounding rolling hills and valleys are evaluated as scenic vistas in this analysis. Significant views identified in the General Plan EIR (El Dorado County, 2014a) include those west into Sacramento Valley from U.S. 50 at the Bass Lake grade, south to Marble Valley from U.S. 50 east of Bass Lake Road, and to the surrounding hills from Latrobe Road between White Rock Road and the county line.

The Bass Lake grade scenic views are within the Project viewshed between Cameron Park and El Dorado Hills. Existing TSPs of the Missouri Flat-Gold Hill line can be seen along U.S. 50 between White Rock Road and Bass Lake Road. In this location, the Project would include minor changes to existing infrastructure, including the replacement of TSPs on the Missouri Flat-Gold Hill Line and new wood or LDS poles along the Gold Hill No. 1 line. Changes in appearance of the existing conditions created by the Project would not likely be perceived by motorists driving on U.S. 50 because the change would be extremely minor compared to existing conditions.

The Project would be located within views north from Latrobe Road just south of White Rock Road, the northern boundary of the designated scenic corridor. The view includes existing lattice steel towers on the Missouri Flat-Gold Hill line. At this location, the Project would include minor changes to the existing lattice steel towers as described in *Chapter 2, Project Description*. Based on the comparison shown between the existing condition and the simulated condition on Figure 3.1-6, the changes would not likely be perceived by motorists and other viewers on Latrobe Road because views before and after the Project would be so similar.

Construction-related impacts to visual quality from the presence of construction equipment, materials, helicopter activity, and work crews along the power line proposed alignments and on local access roads and staging areas would be relatively short-term (i.e., approximately 24 months). Disturbed areas would be reseeded upon completion of construction and would naturalize over time. As such, temporary impacts to scenic views related to construction activities would be less than significant.

Operational impacts to scenic vistas could occur because new poles would replace existing poles within significant viewsheds. In addition, approximately seven new interset wood or LDS poles would be installed along the Gold Hill No. 1 line. However, the new poles would be located within the existing alignment, no more than 20 feet from the current location of the existing structures. Along the Missouri Flat-Gold Hill transmission line route, the existing TSPs would be removed and replaced at an approximately one-to-one ratio generally in line with new TSPs within approximately 20 feet of existing pole locations; with the exception of four TSPs that would be placed within 40-85 feet of existing pole locations. Replacement TSPs for approximately 40 of the existing TSPs would be approximately 3 to 20 feet taller in height, and two poles would be raised up approximately 25-30 feet. The remaining TSPs would be replaced with new TSPs of approximately the same height. As a result, all new TSPs would range in height from approximately 55 to 235 feet. The Gold Hill No. 1 transmission line would require minor modifications to 40 poles, replacement of 80 poles, and the installation of approximately seven new interset poles. The 80 replacement poles would be replaced at an approximately one-to-one ratio with new wood or LDS poles and approximately one TSP. Replacement wood or LDS poles would be located within approximately 20 feet of existing pole locations, would range in height from approximately 55 to 90 feet, and would be up to approximately 25 feet taller than the existing wood poles. One existing wood switch pole, located approximately 700 feet east of the intersection of Strolling Hills Road and Lariat Road in the community of Cameron Park, would be replaced with a TSP. The existing wood pole is approximately 70 feet tall and the new TSP would be approximately 90 feet tall. The new inset wood or LDS poles would be installed generally in line with the existing Gold Hill No. 1 Line alignment, where the line crosses

Strolling Hills Road and parallels Ridge Pass Drive south of the community of Cameron Park. The new poles would be approximately 75 feet tall.

Overall, the new transmission line structures would be taller or equivalent in height. The proposed route alignment and appearance as the existing structures would be similar to existing conditions. Therefore, with respect to visual change and aesthetic impacts, the operation and maintenance of the Project would not have a significant adverse impact on a scenic vista. Impacts would be less than significant.

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

According to the California Scenic Highway Mapping System, Scenic Highway Routes map for El Dorado and Sacramento counties, the Project would not traverse or be visible from a designated or eligible state scenic highway corridor (Caltrans, 2011); therefore, the Project would not affect scenic resources within a state scenic highway. There would be no impact.

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

Construction-related activities could degrade the existing visual character or quality of the site and its vicinity as a result of the presence of construction equipment, materials, and work crews along the proposed power line alignments and on local access roads, staging areas, pull sites, and at temporary shoo-fly connection areas. Disturbance of existing site conditions would be limited, and site restoration would not be necessary. Temporary roads or routes would be allowed to revegetate naturally after Project completion, or they would be restored in coordination with landowners. The majority of vegetation removal, including tree removal, would be required in two primarily undeveloped sections of the proposed alignment that are each approximately 1 mile long. These sections are located behind rural residences and would not be visible from the residential neighborhoods shown on Figure 3.1-1, or U.S. 50. Crews would be required to maintain clean work areas as they proceed along the line and would not leave any debris behind at any stage of the Project. The construction impacts to visual quality would be relatively short-term (i.e., approximately 24 months) and spread out along different portions of the proposed alignments. Taking into account the moderate number of public views along the proposed alignments, the short duration of views, and the relatively short duration of construction, potential visual impacts during construction activities would be less than significant.

The proposed pole and tower replacements for the Project would generally represent an incremental change to the visual character or quality of views currently experienced by the public in the vicinity of the existing and proposed alignments. As discussed in the setting, viewers would include motorists, neighborhood residents, and recreational users of trails and parks in El Dorado and Sacramento counties. The Project would replace existing structures in existing PG&E ROW. The height of the lattice steel tower located approximately 650 feet east of Gold Hill Substation would increase by approximately 7.5 feet due to a leg extension; however, the appearance of the structure would be unchanged to the common observer, including motorists along Oak Avenue

Parkway and East Bidwell Street, park users at the adjacent pocket park north of Gold Hill substation and John Kemp Community to the southeast, and trail users of the adjacent multiple use trails. The majority of structural replacements, including approximately 60 TSPs on the Missouri Flat-Gold Hill Line and approximately 80 wood poles on the Gold Hill No. 1 Line, would result in height increases of 3 to 20 feet. Some wood and LDS poles would be up to 25 feet taller. The replacement TSPs would be non-reflective steel with slightly modified overhead equipment.

The location of each simulation is shown as a KOP in Figure 3.1-1. Figure 3.1-4 shows the simulated Project as viewed from Christa McAuliffe Park. Views toward the proposed alignments would partially be obstructed by vegetation and topography. Existing TSPs of the Missouri Flat-Gold Hill Line and wood poles of the Gold Hill No. 1 Line are visible in the foreground (the nearest poles would be approximately 400 ft from the viewer). Views toward the proposed alignments would be normal (viewer level with object). Durations of views would be long, as people are visiting the park for passive and active recreational purposes. It is assumed that in some cases, viewers would be more focused on active recreation rather than views from the park, whereas passive recreationists may have longer views of the proposed alignments. In the simulation, the two replaced TSPs on the left side of the image reflect a height increase of 5 feet and 10 feet, respectively. In addition, the two replaced wood poles shown on the right reflect, with each pole resulting in a height increase of approximately 15 feet.

Figure 3.1-5 represents a motorist's view from Tierra de Dios Road and approximates the view of nearby residents, churchgoers, and school traffic at the edge of Cameron Park. Views toward the proposed alignments from this location are relatively unobstructed, although vegetation in nearby wooded areas and buildings provide some obstruction and screening. Existing TSPs of the Missouri Flat-Gold Hill Line and wood poles of the Gold Hill No. 1 Line are visible in the foreground (the nearest pole would be immediately adjacent to the road). Views toward the proposed alignments would be superior (viewer above object). Durations of views would be brief, as people are moving along the road and not viewing the Project from a stationary position. In the simulation, the furthest TSP includes a cellular antenna, which would result in a total height increase of the structure by approximately 20 feet. In addition, several replaced wood poles are shown on the right, with an average height increase of up to 15 feet.

Figure 3.1-6 shows existing views from Saratoga Way overlooking U.S. 50 and White Rock Road to the south. As seen from this view, a series of TSPs are located in the foreground on the left, moving back to the right (the nearest pole would be approximately 900 ft from the viewer). In addition, another row of TSPs and wood poles supporting another power line, unrelated to the Project, is visible and parallel to the proposed alignment on the right. In the background, developments, rolling hillsides, and other utilities are visible. Views toward the proposed alignment would be normal (viewer level with object). Durations of views would be brief, as people are moving along the road and not viewing the Project from a stationary position. The simulation shows the replacement TSPs, including a 10-foot height increase on the second pole, 20-foot height increase on the third pole, and slight horizontal shifts of all three poles.

Figure 3.1-7 shows existing views from a hillside overlooking Bertelsen Park, William Brooks Elementary School to the north, and residences in the background. This photograph presents a view that would be shared by residences, recreationalists, and school-goers (including employees, visitors, and students), and it approximates a motorist's view from local roads. The existing Missouri Flat-Gold Hill Line as well as adjacent power lines and structures are also visible from this location and located in the foreground (the nearest pole would be approximately 500' from the viewer). Views toward the proposed alignment would be normal (viewer level with object). Durations of views would be long, as people are visiting the park for passive and active recreational purposes. It is assumed that in some cases, viewers would be more focused on active recreation rather than views from the park, whereas passive recreationists may have longer views of the proposed alignment. The simulation shows minor Project changes, including replacement TSPs with height increases up to 20 feet at the two farthest TSPs in view, and slight horizontal shifts up to 15 feet. The simulation shows that the specification of the new TSP with a non-reflective treatment would improve the visual quality of the view, as the darker color would recede into the background.

The four simulations illustrate that the Project changes would be minor and not apparent to the common observers noted in the description of each visual simulation, above. Therefore, impacts of the Project from operation and maintenance would be less than significant.

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

Construction-related lighting could adversely affect nighttime views. As discussed under APM AES-2, if temporary lighting is required for nighttime construction, it would be focused on work areas and directed on-site to minimize potential effects. As noted above, if night construction would be required, temporary lighting would be needed for security, safety, and operational reasons at the Project facilities, including the staging areas, and pull/tension sites. Night lighting could potentially result in impacts to visual resources by increasing ambient light to surrounding areas, creating distracting glare, and reducing sky or star visibility. Nearby land uses, including residences, businesses, and roadways provide lighting of their own. However, the Project under construction at night would result in increased lighting contrast compared to current conditions. Therefore, nighttime lighting could have a potentially significant impact to nighttime views in the Project vicinity; however, this impact would be temporary due to the relatively short duration of construction and the fact that work in any one location would be of much shorter duration. As noted in the proposed construction timetable (Table 2-6 in the Project Description), work along the Missouri Flat-Gold Hill Line and the Gold Hill No. 1 Line would progress at approximately 2,500 and 1,540 feet per week, respectively. With implementation of Mitigation Measure 3.1-1, impacts of new sources of light on nighttime views and sensitive receptors would be reduced to less than significant.

Glare exists when a high degree of contrast between bright and dark areas in a field of view makes it difficult for the human eye to adjust to differences in brightness. The Project includes electric transmission, distribution, and substation facilities that are visible within the public viewshed. Potential glare from overhead conductors would be similar to what currently exists within the proposed alignment under baseline conditions. The replacement of existing steel poles

with TSPs could result in potentially reflective surfaces, which in turn could cause glare. However, in accordance with APM AE~~S~~-1, the replacement TSPs would be treated to attain a rusted brown weathered appearance. This treatment would reduce the potential for glare to the extent that the new poles would not adversely affect daytime or nighttime views in the area. The new conductor on all poles and towers would be non-specular, which would also result in the reduction of potential for glare. Therefore, impacts from potential glare during operation and maintenance would be less than significant.

Mitigation Measure 3.1-1: Reduce construction night lighting impacts. PG&E shall design and install all lighting at construction and storage yards and staging areas such that light bulbs and reflectors are not visible from public viewing areas; lighting does not cause reflected glare; and illumination of the Project facilities, vicinity, and nighttime sky is minimized.

- Lighting shall be designed so exterior lighting is hooded, with lights directed downward or toward the area to be illuminated so that light trespass to the nighttime sky is minimized. The design of the lighting shall be such that the luminescence or light sources are shielded to minimize light trespass outside the Project boundary.
- All lighting shall be of minimum necessary brightness consistent with worker safety.
- Per APM NO-1, residents affected by nighttime project construction due to planned clearance restrictions will be notified.

Significance after Mitigation: Less than Significant.

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3.2 Agriculture and Forestry Resources

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
2. AGRICULTURE AND FORESTRY RESOURCES In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. **Would the project:**				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
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 in Public Resources Code section 4526) or timberland zoned Timberland Production (as defined by Government Code section 51104(g)?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

3.2.1 Environmental Setting

The Project would be constructed, operated, and maintained primarily within existing PG&E easements. Neither the soil conditions nor current land uses within the Project boundary support agricultural use, and none of the land is dedicated to the conservation or protection of private land for agricultural or open space uses. As discussed in *Section 3.10*, *Land Use and Planning*, the undeveloped portions of the Project alignment consist of agriculture, grasslands and oak woodlands. None of this land is zoned for timberland production and none of the land is used to grow trees for the commercial production of timber or other forest products.

3.2.2 Regulatory Setting

State

California Farmland Mapping and Monitoring Program

The California Department of Conservation, Division of Land Resource Protection (CDC) maps important farmlands throughout California through the Farmland Mapping and Monitoring

Program (FMMP). Farmland is classified into the following categories based on soil conditions (i.e., their suitability for agriculture) and current land use.

> **Prime Farmland:** Land that has the best combination of physical and chemical characteristics for long-term crop production. It has the soil quality, growing season, and moisture supply needed to produce sustained high yields of crops when appropriately treated and managed. In addition, the land must have been used for irrigated agricultural production in the last four years to qualify under this category.
>
> **Farmland of Statewide Importance:** Land that is similar to Prime Farmland in that it has a good combination of physical and chemical characteristics for crop production, but with minor shortcomings such as greater slopes and less ability to store moisture.
>
> **Unique Farmland:** Land that does not meet the criteria for Prime Farmland or Farmland of Statewide Importance but has been used for the production of the state's leading agricultural crops. This land is usually irrigated, but may include the types of non-irrigated orchards or vineyards that are found in some climatic zones of California. Unique Farmland must have been in agricultural production at some time during the four years prior to the mapping date.
>
> **Farmland of Local Importance:** Land of importance to the local agricultural economy as determined by the county. This land is either currently producing crops or has the capability of production, but does not meet the criteria of the preceding categories.
>
> **Grazing Land:** Land on which the existing vegetation is suited to the grazing of livestock.

The FMMP monitors the conversion of the State's farmland and produces a biennial report on the amount of land converted from agricultural to non-agricultural use. The FMMP is an informational service only and does not have regulatory jurisdiction over local land use decisions. For the purpose of this environmental analysis, the term "Farmland" includes Prime Farmland, Unique Farmland, and Farmland of Statewide Importance.

California Land Conservation Act of 1965 (Williamson Act)

The California Land Conservation Act of 1965, also known as the Williamson Act, is the state's primary program aimed at conserving private land for agricultural and open space uses. The Williamson Act provides a mechanism through which private landowners can contract with counties and cities to voluntarily restrict their land to agricultural and compatible open-space uses. In return, Williamson Act contracts offer tax incentives by ensuring that land is assessed for its agricultural productivity rather than its highest and best use. Contracts typically restrict land use for a period of 10 years; however, some jurisdictions exercise the option to extend the term for up to 20 years. Contracts are automatically renewed unless the landowner files for non-renewal or petitions for cancellation. The California Department of Conservation prepares countywide maps of lands enrolled in Williamson Act contracts.

Forest Land and Timberland Zoning

Section 12220(g) of the California Public Resources Code defines forest land as "land that can support 10 percent native tree cover of any species, including hardwoods, under natural

conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits." Timberland is land (other than land owned by the federal government and land designated by the California Board of Forestry and Fire Protection as experimental forest land) that is available for and capable of growing trees of any commercial species used to produce lumber and other forest products.

Local

County of El Dorado General Plan

Lands surrounding or within the Project alignment are not designated as agricultural lands or agricultural district by the El Dorado County General Plan (El Dorado County, 2004).

City of Folsom General Plan

The City of Folsom General Plan does not designate any agricultural lands along the Project alignment (City of Folsom, 1988).

County of El Dorado Zoning Ordinance

The Project would be adjacent to or traverse parcels designated as *Agricultural,* and *Exclusive Agriculture* in the El Dorado County Zoning Ordinance. The *Agricultural* designation is intended "provide for the orderly development of land having sufficient space and natural conditions compatible to horticultural and agricultural pursuits and to promote and encourage these pursuits by providing additional opportunities for the sale, packing, processing, and other related activities which tend to increase their economic viability and to provide for the protection from encroachment of unrelated uses tending to have adverse effects on the development of the area." The *Exclusive Agriculture* designation applies only to those lands subject to the Land Conservation Act of 1965 (El Dorado County, 2010).

City of Folsom Zoning Ordinance

The Project would traverse parcels designated as *Agricultural Reserve* by the City of Folsom Zoning Ordinance. The *Agricultural Reserve* designation to provide areas for interim agricultural and livestock grazing uses until community services are available for urban development, and to direct the orderly expansion of urban development consistent with the City of Folsom General Plan (City of Folsom, 1990).

3.2.3 Applicant Proposed Measures

No APMs are intended to address potential impacts to agriculture or forestry resources.

3.2.4 Environmental Impacts and Mitigation Measures

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

The California Department of Conservation's Important Farmland Maps for El Dorado County and Sacramento County indicated that the Project would not cross land identified as important farmland (Department of Conservation 2012, 2013). Furthermore, construction work areas or activities, including stringing or laydown activities, would not be located on any lands categorized as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. As such, no Important Farmland would be affected by the Project.

b) Whether the Project would conflict with existing zoning for agricultural use, or a Williamson Act contract: *NO IMPACT*.

The Project would not conflict with existing zoning for agricultural uses, as it would generally replace existing power lines in an existing utility corridor and minor modifications made to the substation would not expand the existing facilities. In addition, utility corridors are generally considered to be a compatible land use with agricultural land because the installation of overhead lines does not affect the continued use of the underlying ground for agricultural uses. See *Section 3.10, Land Use and Planning,* for further discussion on existing zoning and land use designations in the Project area.

The Project alignment traverses one mapped area of Williamson Act Non-Prime Agricultural Land in non-renewal, located just east of El Dorado Hills Boulevard and straddling both sides of Highway 50, in El Dorado County. This area is mapped as Grazing Land and Other Land (Department of Conservation, 2013). Williamson Act Non-Prime Agricultural Land is land enrolled under California Land Conservation Act contract and does not meet any of the criteria for classification as Prime Agricultural Land. Work at this location consists of replacing TSPs along approximately 2,000 feet of the Missouri Flat-Gold Hill Line, replacing wood poles along approximately 3,000 feet of the Gold Hill No. 1 Line, and reconductoring activities on both lines. The Project would not remove any land from Williamson Act contracts and existing agricultural land uses would resume after completion of Project construction. Based upon the proposed construction timetable (Table 2-6 in the Project Description), work at this location would take about two weeks. Therefore, there would be no impact related to Williamson Act contracts.

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

There is no statutorily-defined forest land or timberland located within or adjacent to the Project boundary, and none of the land that could be affected by the Project is zoned Timberland Production. Therefore the Project would not conflict with the existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production.

d) Whether the Project would result in the loss of forest land or conversion of forest land to non-forest use: *NO IMPACT*.

As discussed under criterion c), there is no forest land within or adjacent to the Project area. Therefore the Project would not result in the loss of forest land or the conversion of forest land to a non-forest use. See *Section 3.4 Biological Resources*, and *Section 3.10, Land Use and Planning*, for analysis of the Project's proposed removal of approximately 225 trees, primarily including native oak trees.

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

The Project does not propose and would not result in or otherwise involve additional changes in the existing environmental that, due to their location or nature, could permanently result in conversion of Farmland to non-agricultural use or of forest land to a non-forest use. As indicated under criterion b), a portion of the Project alignment crosses an area designated as Grazing Land. Work at this location could temporarily preclude use of a portion of this area for grazing purposes. Both of the power lines are located either on or near the boundary of this farmland; therefore, the area temporarily affected during the approximate two-week construction period would be very limited. As noted above, there is no forestland within or adjacent to the project area. The presence of the Project is generally a compatible use with existing agricultural zoning and land uses along the alignment. Furthermore, the Project does not include any features that would indirectly result in the conversion of such lands. As such, the Project would have no impact on the permanent conversion of agricultural land or forest land resulting from other changes in the environment.

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3.3 Air Quality

Issues (and Supporting Information Sources):		*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
3.	**AIR QUALITY —** Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. **Would the project:**				
a)	Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b)	Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☒	☐	☐
c)	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☒	☐	☐
d)	Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e)	Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

3.3.1 Environmental Setting

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

Regional Topography, Meteorology, and Climate

The Project would be located in southwestern El Dorado County and northeastern Sacramento County. El Dorado County is part of the Mountain Counties Air Basin (MCAB), which includes all of Amador, Calaveras, Mariposa, Nevada, Plumas, Sierra, and Tuolumne counties and the majority of El Dorado and Placer counties. The MCAB spans from the northern Sierra Nevada Mountains to near the eastern edge of the Central Valley, covering an area of approximately 11,000 square miles. The MCAB ranges in elevation from approximately 10,000 feet above sea level in the mountains to several hundred feet above sea level at the Sacramento-El Dorado County border, where the Project is located. Sacramento County is part of the Sacramento Valley Air Basin (SVAB), which includes all of Butte, Colusa, Glenn, Sacramento, Shasta, Sutter, Tehama, Yolo, and Yuba counties, the northeast portion of Solano County, and the western portion of Placer County. The SVAB is bounded by the Coast Ranges on the west and the Sierra Nevada Mountains on the east, and is due west of the MCAB. Overall, the topography of the SVAB is very flat, in contrast to the MCAB.

Airflow in the Project area is affected by the mountains and hills that direct surface air flows, cause shallow vertical mixing, and hinder dispersion, creating areas of high pollutant concentrations. Inversion layers frequently occur and trap pollutants close to the ground, creating pollution hot spots (EDCAQMD, 2002). In the summer, strong upwind air flowing into the MCAB from the SVAB transports ozone precursors and ozone generated in the Bay Area and the Sacramento and San Joaquin valleys. These transported pollutants are the primary cause of ozone in the Project area (EDCAQMD, 2002).

The closest metrological monitoring station to the Project area is the Represa monitoring station in Folsom, which is approximately 3 miles north-northwest of Gold Hill Substation. Climate data collected from this monitoring station is generally representative of the Project area. The Project area typically has average maximum and minimum winter (i.e., January) temperatures of 53.3 degrees Fahrenheit (ºF) and 39.3 ºF, respectively, while average summer (i.e., July) maximum and minimum temperatures are 89.5 ºF and 62.6 ºF, respectively. Precipitation in the Project area averages approximately 23 inches per year (WRCC, 2014).

Criteria Air Pollutants

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

Ozone

Ozone (O_3) is a respiratory irritant and an oxidant that increases susceptibility to respiratory infections and that can cause substantial damage to vegetation and other materials. Ozone is not emitted directly into the atmosphere, but is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving reactive organic gases (ROG) and oxides of nitrogen (NO_x), including nitrogen dioxide (NO_2). ROG and NO_x are known as precursor compounds for ozone. Significant ozone production generally requires ozone precursors to be present in a stable atmosphere with strong sunlight for approximately 3 hours.

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

Particulate Matter

PM10 and PM2.5 represent fractions of particulate matter that can be inhaled into air passages and the lungs and can cause adverse health effects. Particulate matter in the atmosphere results from many kinds of dust- and fume-producing industrial and agricultural operations, fuel combustion, and atmospheric photochemical reactions. Some sources of particulate matter, such as demolition and construction activities, are more local in nature, while others, such as vehicular traffic, have a

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

Other Criteria Pollutants

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

Sulfur dioxide (SO_2) is produced through combustion of sulfur or sulfur-containing fuels such as coal. SO_2 is also a precursor to the formation of atmospheric sulfate and particulate matter (PM10 and PM2.5) and contributes to potential atmospheric sulfuric acid formation that could precipitate downwind as acid rain. Lead has a range of adverse neurotoxin health effects, and was formerly released into the atmosphere primarily via leaded gasoline. The phase-out of leaded gasoline has resulted in decreasing levels of atmospheric lead.

Toxic Air Contaminants

Toxic Air Contaminants (TACs) are airborne substances that are capable of causing short-term (acute) and/or long-term (chronic or carcinogenic, i.e., cancer-causing) adverse human health effects (i.e., injury or illness). TACs include both organic and inorganic chemical substances. They may be emitted from a variety of common sources including gasoline stations, automobiles, dry cleaners, industrial operations, and painting operations. The current California list of TACs includes approximately 200 compounds, including diesel particulate matter (DPM) emissions from diesel-fueled engines (CARB, 2014a).

Naturally Occurring Asbestos

Asbestos is the common name for a group of naturally occurring fibrous silicate minerals that can separate into thin but strong and durable fibers. Asbestos can be found in serpentine, and other ultramafic and volcanic rock. Naturally occurring asbestos is in many parts of California, including the Project area, where serpentine soils are present. When rock containing naturally occurring asbestos is broken or crushed, asbestos may become released and become airborne, causing a potential health hazard (EDCAQMD, 2014).

The portion of the Project alignment in El Dorado County is in areas that are considered “areas more likely to contain asbestos” and “areas where the presence of asbestos is possible but unlikely.” These areas are located north of U.S. Highway 50, east of Tierra del Dios Road, and along the easternmost portion of the alignment near South Shingle Road (i.e., east of Shingle Springs Substation). The Project alignment portions that are located in “areas where the presence

of asbestos is possible but unlikely" are in the Pine Hill Intrusive Complex-altered gabbro, which is west of Cameron Park Drive, south of U.S. Highway 50, and west of South Shingle Road. In addition, the portion of the Project alignment in the City of Folsom is located in areas that are considered "areas moderately likely to contain naturally occurring asbestos" and "areas least likely to contain naturally occurring asbestos." The City of Folsom Project alignment is located primarily in "areas moderately likely to contain naturally occurring asbestos," which contain the Copper Hill and Gopher Ridge Volcanics. A portion of the City of Folsom project alignment also contains Salt Springs Slate and is categorized as an "area least likely to contain naturally occurring asbestos" (El Dorado County, 2005; CDC, 2006).

Naturally occurring asbestos has been positively identified in ultramafic rocks in the Project area. In an area just southwest of Cameron Park, the proposed locations of Poles 25/195, 25/196, 25/197, and 24/193 would be located in or near areas that are composed on ultramafic rocks (Kleinfelder, 2011).

Existing Air Quality

El Dorado County Air Quality Management District (EDCAQMD) and Sacramento Metro Air Quality Management District (SMAQMD) operate a regional monitoring network that measures the ambient concentrations of criteria pollutants in the Project area. Background ambient concentrations of pollutants are determined by pollutant emissions in a given area as well as wind patterns and meteorological conditions for that area. As a result, background concentrations can vary among different locations within an area. However, areas located close together and exposed to similar wind conditions can be expected to have similar background pollutant concentrations. Existing levels of air quality in the Project area can generally be inferred from ambient air quality measurements conducted at its closest station. The nearest monitoring station to the Project alignment is at the Gold Nugget Way station in Placerville, located approximately 2 miles northeast of the Project alignment at the closest distance, and approximately 18 miles northeast at the furthest distance. However, this monitoring station only measures ozone. NO_2, CO, PM10, and PM2.5 were measured at the Sacramento-Del Paseo Manor station, located approximately 13 miles west-southwest of the western extent of the Project alignment. In general, the ambient air-quality measurements from these stations are the most representative of the air quality in the vicinity of the Project alignment.

Table 3.3-1 shows a 5-year (2008 – 2012) summary of monitoring data collected by EDCAQMD and SMAQMD. The data are compared to the most stringent of either the California Ambient Air Quality Standards (CAAQS) and/or National Ambient Air Quality Standards (NAAQS). As indicated in the table, the state 1-hour ozone standard and the national and state 8-hour ozone standards were both exceeded numerous times between 2008 and 2012. The state's CO and NO_2 standards were not exceeded between 2008 and 2012. The national 24-hour PM10 standard was not exceeded between 2008 and 2012; however, it is estimated that the state 24-hour PM10 standard was exceeded approximately 12 times in 2008 and 2011, and the state annual average PM10 standard was also exceeded in 2008 and 2011. The national 24-hour PM2.5 standard was exceeded numerous times in 2008, 2009, and 2011. The state and national annual average PM2.5 standards were also exceeded in 2008 and 2009.

TABLE 3.3-1
AIR QUALITY DATA SUMMARY (2008–2012) FOR THE PROJECT AREA

Pollutant	Standard	Monitoring Data by Year				
		2008	2009	2010	2011	2012
Ozone, O_3						
Highest 1-Hour Average, ppm		**0.14**	**0.11**	**0.10**	**0.10**	**0.11**
Days over State Standard	0.09	16	6	3	2	6
Highest 8-Hour Average, ppm		**0.118**	**0.09**	**0.10**	**0.09**	**0.10**
Days over State/National Standards	0.070/0.075	52/36	32/20	19/8	16/5	50/20
Carbon Monoxide, CO						
Highest 8-Hour Average, ppm		2.49	2.77	1.60	2.27	1.51
Days over State Standards	9.0	0	0	0	0	0
Nitrogen Dioxide, NO_2						
Highest 1-Hour Average, ppm		0.06	0.05	0.05	0.05	0.05
Days over State/National Standards	0.18/0.100	0	0	0	0	0
Annual Average, ppm		0.01	0.01	0.008	0.009	0.009
Exceed State/National Standards?	0.030/0.053	No	No	No	No	No
Fine Particulate Matter, PM10						
Maximum 24-Hour Average ($\mu g/m^3$)	50	**93**	45	44	**62**	41
Estimated Days over State Standard		12.1	0.0	0.0	12.2	0.0
State Annual Average ($\mu g/m^3$)	20	**23.2**	18.7	16.3	**20.7**	15.8
Exceed State Standard?		Yes	No	No	Yes	No
Fine Particulate Matter, PM2.5						
Highest 24-Hour Average, $\mu g/m^3$		**74.4**	**49.8**	33.9	**54.3**	35.3
Estimated days over National Standard	35	24.1	8.9	0.0	9.5	0.0
Annual Average, $\mu g/m^3$		18.9	15.5	8.7	11.6	9.2
Exceed State/National Standards?	12/12.0*	Yes	Yes	No	No	No

NOTES: Ozone was measured at the Placerville-Gold Nugget Way station. NO_2, CO, PM10, and PM2.5 were measured at the Sacramento-Del Paseo Manor station. Generally, state standards are not to be exceeded and national standards are not to be exceeded more than once per year. Values in bold are in excess of applicable standard; ppm = parts per million; and $\mu g/m^3$ = micrograms per cubic meter.

* The new national PM2.5 annual average standard was strengthened to12.0 $\mu g/m^3$ on December 14, 2012.The national PM2.5 annual average standard in affect during the study period was 15 $\mu g/m^3$.

SOURCE: CARB, 2014b.

Attainment Status

The EDCAQMD is considered in attainment or unclassified for most of the criteria pollutants for state and federal considerations with the exception of ozone, PM10, and PM2.5. EDCAQMD is designated as nonattainment for the state 1- and 8-hour ozone standards and the state PM10 standard. EDCAQMD is also designated as nonattainment for the federal 8-hour ozone standard and the western portion of El Dorado County is designated as nonattainment with the federal PM2.5 standard. SMAQMD is designated as nonattainment for the state 1- and 8-hour ozone, PM10, and PM2.5 standards. In addition, SMAQMD is designated as nonattainment for the federal 8-hour ozone standard, PM10, and PM2.5 standards. Refer to **Table 3.3-2** for the current attainment status of the Project area.

TABLE 3.3-2
PROJECT AREA ATTAINMENT STATUS

Pollutant	Federal	State
Ozone (one-hour standard)	---a	Nonattainment
Ozone (eight-hour standard)	Nonattainment	Nonattainment
Carbon Monoxide (CO)	Unclassified/Attainment	Unclassified- El Dorado Attainment - Sacramento
Nitrogen Dioxides (NO_2)	Unclassified/Attainment	Attainment
Inhalable Particulates (PM10)	Unclassified- El Dorado Attainment- Sacramento	Nonattainment
Fine Particulates (PM2.5)	Nonattainment	Unclassified- El Dorado Nonattainment- Sacramento

[a] The Federal one-hour standard was revoked on June 15, 2005.

SOURCE: CARB, 2014c.

Sensitive Receptors

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

The Project would largely be located within the existing PG&E power line right-of-way and traverses adjacent to residential, light industrial, and open space areas. Some construction activities would occur in areas that are within approximately 50 feet of sensitive receptors (i.e., residences). Over the entire alignment, there are nearly 100 residences located within 50 feet of the alignment. These are largely located in the City of Folsom and in the communities of El Dorado Hills, Cameron Park, and Shingle Springs. In addition, the following six schools are located within approximately 500 feet of proposed construction sites (PG&E, 2013):

- Blue Oak Elementary and Charter Montessori School (within approximately 370 feet);
- Camerado Springs Middle School (within approximately 315 feet);
- William Brooks Elementary School (within approximately 105 feet);
- Holy Trinity School (within approximately 420 feet);
- Vista del Lago High School (within approximately 315 feet); and
- Los Rios Community College (within approximately 155 feet).

3.3.2 Regulatory Setting

Criteria Air Pollutants

Regulation of air pollution is achieved through both national and state ambient air quality standards and emission limits for individual sources of air pollutants. As required by the federal Clean Air Act (CAA), the USEPA has identified criteria pollutants and has established NAAQS to protect public health and welfare. NAAQS have been established for ozone, CO, NO_2, SO_2, PM10, PM2.5, and lead. To protect human health and the environment, the USEPA has set "primary" and "secondary" maximum ambient standards for each of the criteria pollutants. Primary standards were set to protect human health, particularly sensitive individuals such as children, the elderly, and individuals suffering from chronic lung conditions such as asthma and emphysema. Secondary standards were set to protect the natural environment and prevent further deterioration of animals, crops, vegetation, and buildings.

The NAAQS are defined as the maximum acceptable concentration that may be reached, but not exceeded more than once per year. California has adopted more stringent ambient air quality standards for most of the criteria air pollutants. Table 3.3-2, above, presents the Project area's attainment status for the ozone, CO, NO_2, PM10, and PM2.5 NAAQS and CAAQS. California has also established state ambient air quality standards for sulfates, hydrogen sulfide, and vinyl chloride.

Toxic Air Contaminants

The Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588) seeks to identify and evaluate risk from air toxics sources, but does not directly regulate air toxics emissions. Under the Act, TAC emissions from individual facilities are quantified and prioritized. "High-priority" facilities are required to perform a health risk assessment and, if specific thresholds are violated, are required to communicate the results to the public in the form of notices and public meetings. Depending on the risk levels, emitting facilities are required to implement varying levels of risk reduction measures. The EDCAQMD and SMAQMD are responsible for implementing AB 2588, and are responsible for prioritizing facilities that emit air toxics, reviewing health risk assessments, and implementing risk reduction procedures. Pursuant to the requirements of AB 2588, the EDCAQMD and SMAQMD publish air toxics emissions inventories that detail the TAC emissions of facilities throughout their districts.

Federal

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

State

California Clean Air Act

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

Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying, and Surface Mining Operations

CARB has established the Asbestos Airborne Toxic Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations to minimize the generation of asbestos from earth disturbance (17 Cal. Code Regs. §93105). The Asbestos ATCM applies to any project that will include sites to be disturbed in a geographic ultramafic rock unit area or an area where naturally occurring asbestos, serpentine, or ultramafic rocks are determined to be present. Serpentine soils may be present in the Project area; therefore, the Project would be subject to the Asbestos ATCM.

Local

Sacramento Metro Region Air Quality Management Plans

The Sacramento Metro Region air quality management plans described below are applicable to the Project area in both the SMAQMD and the EDCAQMD.

1994 Sacramento Area Regional Ozone Attainment Plan

The *1994 Sacramento Area Regional Ozone Attainment Plan* is a regional planning document prepared by SMAQMD and EDCAQMD in coordination with the air quality management districts and air pollution control districts of Placer, Solano, Sutter, and Yolo counties. The 1994 Sacramento Regional Ozone Attainment Plan addresses compliance with the California CAA and the region's nonattainment status for ozone and, to a lesser extent, CO and PM10 in particular. The 1994 plan undergoes a triennial assessment relative to the extent of air quality improvements and emission reductions that have been achieved through the use of control measures. Triennial reports were prepared in 1997, 2000, 2003, and 2009, in compliance with the California CAA (CARB, 2014d).

2013 SIP Revision for the 1997 8-hour Ozone Standard

Sacramento County and the western portion of El Dorado County are part of the Sacramento Federal Ozone Nonattainment Area, which also includes Yolo County and portions of Placer, and Solano counties. The 2013 SIP Revision for the 1997 8-hour Ozone Standard for the Sacramento Metropolitan Area was adopted by CARB on November 21, 2013. The plan demonstrated progress toward attainment of the federal 8-hour ozone standard; however, it concluded that the

region would not be able to achieve attainment of the 8-hour ozone standard by the required 2013 deadline and requested an extension of the attainment deadline to June 15, 2019. As a result, the region was reclassification as a "severe" 8-hour ozone nonattainment area (CARB, 2013).

El Dorado County Air Quality Management District

EDCAQMD is responsible for attaining and/or maintaining air quality in El Dorado County respect to the federal and state air quality standards. Specifically, the EDCAQMD has the responsibility to monitor ambient air pollutant levels throughout El Dorado County and to develop and implement strategies to attain the applicable federal and state standards. EDCAQMD also adopts rules and regulations to control air pollutant emissions. The EDCAQMD rules summarized below would apply to the Project (CARB, 2014e).

Rule 202: Visible Emissions

Rule 202 prohibits a person from discharging into the atmosphere from any single source of emission whatsoever any air contaminant for a period or periods aggregating more than 3 minutes in any 1 hour which is: (a) as dark or darker in shade as that designated as number 1 on the Ringelmann Chart, as published by the U.S. Bureau of Mines, or (b) of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in (a).

Rule 205: Nuisance

This rule prohibits persons from discharging from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons, or to the public, or which endanger the comfort, repose, health or safety of any such persons, or the public, or which cause to have a natural tendency to cause injury or damage to business or property.

Rule 223: Fugitive Dust - General Requirements

The purpose of this rule is to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (human-made) fugitive dust sources by requiring actions to prevent, reduce, or mitigate fugitive dust emissions.

Rule 223-1: Fugitive Dust - Construction, Bulk Material Handling, Blasting, Other Earthmoving Activities and Carryout and Track-out Prevention

The purpose of this rule is to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (human-made) fugitive dust sources by requiring actions to prevent, reduce, or mitigate fugitive dust emissions.

Rule 223-2: Fugitive Dust - Asbestos Hazard Mitigation

The purpose of this rule is to reduce the amount of asbestos particulate matter entrained in the ambient air as a result of any construction related activities that disturbs or potentially disturbs naturally occurring asbestos by requiring actions to prevent, reduce, or mitigate airborne asbestos emissions.

Sacramento Metropolitan Air Quality Management District

SMAQMD oversees air quality conditions in Sacramento County. Sacramento County was designated as a moderate federal non-attainment area for PM10 in 1994 and USEPA determined that the County had achieved attainment of the federal PM10 AAQS in 2002 based on SMAQMD's *Implementation/Maintenance Plan and Redesignation Request for Sacramento County*. The plan describes measures to ensure maintenance of the attainment status through 2022 (SMAQMD, 2010). Specific SMAQMD rules applicable to project construction may include, but are not limited to, the following (SMAQMD, 2014a):

Rule 201: General Permit Requirements

This rule regulates the use of equipment capable of releasing emissions to the atmosphere, and requires operators of portable construction equipment (e.g., generators, compressors, pile drivers, lighting equipment) with an internal combustion engine over 50 horsepower (hp) to have a SMAQMD permit or the equipment must be included in the CARB portable equipment registration.

Rule 403: Fugitive Dust

This rule requires the developer or contractor to control dust emissions from earthmoving activities or any other construction activity to prevent airborne dust from leaving the project area.

Rule 902: Asbestos

To purpose of this rule is to limit the emission of asbestos to the atmosphere.

3.3.3 Applicant Proposed Measures

PG&E has proposed the following APMs to minimize air pollutant emissions from Project construction activities.

APM AQ-1: Minimize Fugitive Dust

PG&E will minimize fugitive dust during construction by implementing the following measures, which comply with EDCAQMD and SMAQMD requirements:

- Reduce the amount of the disturbed area where possible.
- Use water trucks or sprinkler systems in sufficient quantity to prevent airborne dust from leaving the site. Increase watering frequency whenever wind speeds exceed 15 miles per hour (mph). Use reclaimed non potable water whenever possible. Do not use non-potable water in or around crops intended for human consumption.
- Implement permanent dust control measures as soon as possible following completion of any soil-disturbing activities.
- Enforce a policy that vehicle speed for all construction vehicles is not to exceed 15 mph on any unpaved surface.
- Water all active construction areas as needed to suppress dust. Base the frequency on the type of operation and the soil and wind exposure.

- Cover or maintain at least two feet of free board space on haul trucks transporting soil, sand, or other loose material on the site.
- Cover inactive storage piles.
- Sweep public roads if visible soil material is carried out from a work site.
- Post a publicly visible sign with the phone number for the EDCAQMD for compliance in reporting any Rule 205 (Nuisance) violations, as well as the telephone number and person to contact regarding dust complaints. Instruct this person to respond to complaints and take corrective action within 48 hours.
- Limit the area of earth-disturbing activities at any one time.

APM AQ-2: Minimize Vehicle and Equipment Emissions

PG&E will minimize vehicle emissions during project construction by implementing the following measures:

- Maintain construction equipment in proper working conditions in accordance with PG&E standards.
- Minimize unnecessary construction vehicle idling time. The ability to limit construction vehicle idling time will depend 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, so that idling is reduced as far as possible below the maximum of 5 consecutive minutes allowed by California law; if a vehicle is not required for use immediately or continuously for construction activities, its engine will be shut off. Construction foremen will include briefings to crews on vehicle use as part of pre-construction conferences. Those briefings will include discussion of a "common sense" approach to vehicle use.
- Minimize construction equipment exhaust by using low-emission or electric construction equipment where feasible. Portable diesel-fueled construction equipment with engines 50 hp or larger and manufactured in 2000 or later will be registered under the CARB Statewide Portable Equipment Registration Program.
- Minimize welding and cutting by using compression of mechanical applications where practical and within standards.
- Encourage use of natural gas powered vehicles for passenger cars and light duty trucks where feasible and available.

APM AQ-3: Minimize Potential Naturally Occurring Asbestos Emissions

The project will develop a preemptive Asbestos Dust Mitigation Plan to identify all necessary best management practices that will be implemented if naturally occurring asbestos is encountered at any time during construction. The Asbestos Dust Mitigation Plan will be compliant with the requirements of CARB's Asbestos ATCM, EDCAQMD's Rule 223-2 (Fugitive Dust – Asbestos Hazard Mitigation), and SMAQMD's Rule 902 (Asbestos).

Before beginning any earth-disturbing activities in areas identified in [PEA] Section 3.6, Geology and Soils (i.e., "areas more likely to contain asbestos," "areas where the presence of asbestos is possible but unlikely," "areas moderately likely to contain naturally occurring asbestos," or "areas least likely to contain naturally occurring asbestos"), a geological evaluation will be performed by a registered geologist to determine whether naturally occurring asbestos is present. In addition, before beginning any earth-disturbing activities that will occur within 50 feet of residences and 500 feet of schools, a geological evaluation also will be performed by a registered geologist, to test for the presence of naturally occurring asbestos. If naturally occurring asbestos is detected during any geological evaluation or during subsequent construction activities, PG&E will minimize naturally occurring asbestos emissions by implementing the Asbestos Dust Mitigation Plan, which will comply with the requirements of CARB's Asbestos ATCM, EDCAQMD's Rule 223-2 (Fugitive Dust – Asbestos Hazard Mitigation), and SMAQMD's Rule 902 (Asbestos).

CARB's Asbestos ATCM includes asbestos management requirements that range from creating and implementing an Asbestos Dust Mitigation Plan, observing pre-notifications of construction activities, maintaining construction best management practices, meeting post-construction stabilization requirements, and performing administrative recordkeeping. Construction best management practices include monitoring all potential naturally occurring asbestos emission sources: road dust (e.g., limiting vehicle speeds); earth-disturbing activities (e.g., watering before, during, and after disturbance); track-out from work sites (e.g., washing equipment and vehicle tires); material export (e.g., haul truck material handling requirements); and post-construction stabilization (e.g., covering, chemical stabilizers, or vegetation). In addition, prior to construction, PG&E will consult with the local air district or air pollution control officer, to determine if air monitoring for asbestos will be required. The project will comply with EDCAQMD's Rule 223-2, which provides a list of best management practices to minimize the generation of asbestos dust from construction activities. The Asbestos Dust Mitigation Plan will include, but will not be limited to measures from EDCAQMD's Rule 223-2, as applicable. Implementation of the following asbestos best management practices for the project would be required where applicable, to ensure adequate performance of the Asbestos Dust Mitigation Plan:

Backfilling

- Mix backfill soil with water before moving the soil.
- Have a dedicated water truck or a high-capacity hose connected to backfilling equipment.
- Empty the loader bucket slowly to prevent dust plumes from being generated.
- Minimize the drop height from the loader bucket.

Clearing and Grubbing

- Maintain live perennial vegetation where possible.
- Apply water in sufficient quantity to prevent generation of visible dust.

Cut and Fill

- Pre-water with sprinklers or water trucks and allow time for penetration.
- Use water as necessary to minimize dust.

- Install upwind fencing to prevent material movement on site.
- Suspend operations when winds generate visible dust emissions despite control measures.
- Use tarps or other suitable enclosures on haul trucks.
- Provide water while loading and unloading to reduce visible dust plumes.
- If excavated material is classified as a hazardous waste material, verify that off-site transport complies with state and federal rules and regulations.

Disturbed Soil

- Limit vehicular traffic and disturbances on soils where possible.
- Limit vehicle speeds to 15 miles per hour.
- Apply water or a stabilizing agent in sufficient quantities to prevent generation of visible dust plumes.

General Site Management

- Wash mud and soil from equipment and vehicles after completing earth-disturbing activities to prevent them from crusting and drying.
- Prohibit the use of blower devices, dry rotary brushes, or dry brooms.
- Restrict vehicular access to established, unpaved travel paths and parking lots, to meet stabilization requirements.
- Document all locations and quantities of cut and fill, and off-site soil transport.
- Provide signage at work sites that meet Occupational Safety and Health Administration requirements.

3.3.4 Environmental Impacts and Mitigation Measures

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

The Project would be located in the MCAB under the jurisdiction of the EDCAQMD and in the SVAB under the jurisdiction of the SMAQMD. There are several air quality plans that are applicable to the Project area given the multijurisdictional nature of the alignment and pollutants of concern for the region. Requirements of the air quality plans are adopted as applicable by the governing air quality management district and are enforced through district rules and regulations. Construction and operation of the Project would be conducted in compliance with applicable federal, state, and local requirements and long-term operations of the Project would result in no net increase in air pollutant emissions.

The mass emissions significance thresholds developed by EDCAQMD and SMAQMD to assess the potential for a project to violate an air quality standard or contribute to an air quality standard violation approximately correlate to the planned increases in air pollutant emissions that are assumed in the applicable regional air quality plans. Therefore, Project-related increases that would

equal or exceed the EDCAQMD or SMAQMD significance thresholds would be considered to conflict or obstruct implementation of applicable air quality plan. If a project's emissions would be less than these thresholds, the project would not be expected to conflict or obstruct implementation of the applicable air quality plans. As described in discussion b), below, emissions that would be associated with Project construction activities within EDCAQMD's and SMAQMD's jurisdictions would not exceed any construction-related thresholds of significance. Therefore, the Project would not conflict with any applicable air quality plans, and no impact would result.

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

Construction

As discussed in Section 3.3.1, *Environmental Setting*, existing conditions within the Project area have been classified as nonattainment of ozone, PM10, and PM2.5 standards due to recent air quality violations. As described below, implementation of the Project could result in a violation or contribute to a violation of a PM10 or PM2.5 standard associated with dust generated during construction; however, implementation of mitigation measures would reduce this potential impact to a less-than-significant level. Construction of the Project would not cause or contribute to existing violations of any ozone standards. Construction of the Project would generate emissions of criteria air pollutants and precursors (i.e., ROG, NO_x, PM10, PM2.5, CO, and SO_2) over the 20-month construction period. Construction-related temporary exhaust and fugitive dust emissions would result from off-road construction equipment and machinery, helicopter activity, and from vehicular traffic generated by commuting workers and material hauling. As part of the CPUC's permit application process, PG&E provided construction emissions estimates for the construction activities that would be associated with the Project (PG&E, 2013 and 2014; see Appendix B). These emission estimates were independently reviewed by the CPUC's consultant, Environmental Science Associates (ESA), and are summarized below.

Project construction emissions that would be associated with the use of off-road construction equipment, such as graders, backhoes, loaders, and cranes, were estimated for the Project using the California Emission Estimator Model (CalEEMod version 2011.1.1). CalEEMod uses location-based emissions factors for off-road equipment with Project-specific construction information, such as equipment types, amounts, usage hours, and construction phase scheduling data, to estimate on-site construction emissions. PG&E has determined that a helicopter may be required to facilitate access to one of the tower staging areas. The helicopter emissions were estimated using specific emission and fuel use factors developed by the Switzerland Federal Office of Civil Aviation. To estimate off-site construction-related vehicle emissions that would be associated with construction of the Project, emission factors for on-road trucks and worker vehicles were derived using CARB's EMFAC2011 Model with anticipated trip characteristics, such as daily round trips, phase duration, and trip lengths.

Because the Project would occur within the jurisdictions of EDCAQMD and SMAQMD, the construction activities occurring in each jurisdiction were separated and modeled using the appropriate region-specific emissions factors so the Project emissions that would be generated

within each of the jurisdictions could be compared to the air districts CEQA thresholds of significance that were established to identify projects that could result in a violation or contribute to a violation of an air quality standard. Reasonable worst-case construction scenarios that would occur within each of the air districts were developed in order to identify the types of construction activities that would overlap in schedule and would contribute to the combined total maximum daily emissions.

Table 3.3-3 presents the estimated peak day construction exhaust emissions that would occur in El Dorado County that would be associated with the Project. For the purposes of this analysis, it is assumed that the construction activities associated with installation of tubular steel poles (TSP), reconductoring, installation of wooden pole, installation of micropiles for TSP foundations, and helicopter takeoffs, operations, and landings, would overlap in schedule during a single day, representing the maximum day construction scenario that would occur within El Dorado County.

TABLE 3.3-3
MAXIMUM DAILY CONSTRUCTION EXHAUST EMISSIONS WITHIN EL DORADO COUNTY

Construction Phase	Maximum Pollutant Emissions (lbs/day)			
	ROG	NO_X	PM_{10}	$PM_{2.5}$
Tubular Steel Pole	1.26	13.13	0.71	0.57
Reconductoring	1.78	15.90	0.88	0.74
Wood Poles	1.13	11.93	0.69	0.55
Grading	0.74	6.97	0.45	0.35
Micropiles[a]	3.06	32.69	1.82	1.47
Helicopter Landings and Takeoffs[b]	1.95	0.83	0.01	0.01
Helicopter Operations[c]	2.01	1.63	0.04	0.04
Maximum Daily Emissions[d]	11.93	83.08	4.60	3.73

[a] This analysis assumes a maximum of five micropiles may be constructed per day.
[b] For purposes of a conservative analysis, emissions from four helicopter landings and take-offs were assumed to occur within the EDCAQMD's jurisdiction, which would capture the worst-case construction scenario.
[c] For purposes of a conservative analysis, it is assumed that up to 1 hour per day of helicopter operations activity would occur within El Dorado County (ESA, 2014).
[d] Maximum daily emissions assume project construction associated with all of the above construction activities would occur on the same day. However, these activities are likely to be phased and all of the activities may not occur on a single day.

SOURCE: PG&E, 2014; ESA, 2014 (for helicopter operations only).

It should be noted that exhaust emissions estimated to occur in El Dorado County provided by PG&E only included helicopter emissions estimates that would be associated with takeoffs and landings because the majority of helicopter-related activities would occur within Sacramento County. However, because the helicopter may transit through El Dorado County from the airport where it is stationed each day and because the proposed helicopter/landing zone is at least 2,000 feet from the Sacramento County border, it is reasonable to assume that there would be some helicopter operations-related activity that would occur within El Dorado County in addition to takeoffs and landings. Therefore, to ensure a conservative analysis, PG&E's maximum-day emission estimates for El Dorado County were supplemented to include 1 hour of helicopter operations to account for travel to and from the Project area (ESA, 2014; see Appendix B).

Table 3.3-3 presents the maximum daily exhaust emissions that could occur within El Dorado County during construction of the Project. However, because construction emissions are temporary and typically involve a limited amount of sources, the EDCAQMD recommends that lead agencies estimate average daily exhaust emissions on a quarterly basis to be compared to its daily significance thresholds. Therefore, using PG&E's emissions estimates as a basis, ESA estimated the average daily exhaust emissions that would be associated with the first quarter of construction, which represents the quarter that would involve the most Project-related construction activities (ESA, 2014; see Appendix B). As disclosed in **Table 3.3-4**, average daily construction exhaust emissions would not exceed the EDCAQMD thresholds of significance. Therefore, construction exhaust emissions that would be generated within El Dorado County would not result in a violation or contribute to a violation of an air quality standard. The associated impact would be less than significant.

TABLE 3.3-4
AVERAGE DAILY CONSTRUCTION EXHAUST EMISSIONS WITHIN EL DORADO COUNTY

Construction Phase	Worst-case Workdays in Q1[a]	Quarterly Average Pollutant Emissions (lbs/day)[b]			
		ROG	NO_X	PM_{10}	$PM_{2.5}$
Tubular Steel Pole	60	1.26	13.13	0.71	0.57
Reconductoring	60	1.78	15.90	0.88	0.74
Wood Poles	60	1.13	11.93	0.69	0.55
Grading	5	0.06	0.58	0.04	0.03
Interset Poles	11	0.25	2.94	0.12	0.10
Wood Poles at Substations	7	0.16	1.88	0.08	0.06
Distribution Underground	13	0.34	3.04	0.16	0.15
Distribution Grading	26	0.49	3.33	0.26	0.24
Micropiles	6.4	0.33	3.49	0.19	0.16
Helicopter Landings and Takeoffs[c]	5	0.16	0.07	0.00	0.00
Helicopter Operations[d]	5	0.17	0.14	0.00	0.00
Total Average Quarterly Emissions	-	6.13	56.42	3.13	2.60
EDCAQMD Threshold of Significance		82	82	-	-
Exceeds Thresholds?		No	No	-	-

[a] Worst-case workdays that would occur during the first quarter of construction are based on PG&E, 2014.
[b] It is assumed that there would be 60 workdays for the project as a whole in the first quarter of construction. "-" indicates not applicable.
[c] For purposes of a conservative analysis, emissions from four helicopter landing and take-offs were assumed to occur within the EDCAQMD's jurisdiction (PG&E, 2014).
[d] For purposes of a conservative analysis, it is assumed that up to 1 hour per day of helicopter operations activity over 5 days would occur within El Dorado County; however, most of the helicopter operations would occur in Sacramento County in the vicinity of the subject towers.

SOURCE: ESA, 2014 (based on PG&E, 2014).

Table 3.3-5 presents the estimated maximum daily construction exhaust emissions for the Project that would occur in Sacramento County. For the purposes of this analysis, it is assumed that the construction activities associated with reconductoring, installation of lattice steel towers, helicopter operations, and grading activities, would overlap in schedule during a single day, representing the peak day construction scenario that would occur within Sacramento County. The

SMAQMD recommends that the maximum daily emissions of NO_x be compared to its threshold of significance for construction-generated NO_x to determine if the Project would result in a significant impact to air quality. As disclosed in Table 3.3-5, maximum daily construction exhaust emissions of NO_x would not exceed the SMAQMD's threshold of significance. Therefore, construction exhaust emissions that would be generated within Sacramento County would not result in a violation or contribute to a violation of an air quality standard. The associated impact would be less than significant.

TABLE 3.3-5
MAXIMUM DAILY CONSTRUCTION EXHAUST EMISSIONS WITHIN SACRAMENTO COUNTY

Construction Phase	Maximum Daily Pollutant Emissions (lbs/day)[a]			
	ROG	NO_X	PM_{10}	$PM_{2.5}$
Reconductoring	0.85	10.38	0.55	0.41
Lattice Steel Towers	1.84	20.28	0.79	0.65
Helicopter Operations[a]	12.06	9.79	0.29	0.29
Grading	0.72	6.76	0.44	0.34
Total Maximum Day Emissions[b]	15.47	47.21	2.07	1.69
SMAQMD Threshold of Significance	-	85	-	-
Exceeds Thresholds?	-	No	-	-

[a] For purposes of a conservative analysis, it is assumed that up to 6 hours per day of helicopter operations activity would occur within Sacramento County. "-" indicates not applicable.
[b] Maximum daily emissions assume project construction associated with all of the above construction activities would occur on the same day. However, these activities are likely to be phased and all of the activities may not occur on a single day.

SOURCE: PG&E, 2014.

For projects in El Dorado County, the EDCAQMD does not recommend that lead agencies quantify mass emissions of PM10 in the form of fugitive dust; however, if a project does not incorporate fugitive dust control measures to prevent visible dust from extending beyond the property line in compliance with Rule 403 of the South Coast Air Quality Management District (SCAQMD), the EDCAQMD assumes these emissions would be potentially significant (ECAQMD, 2002). In addition, the SMAQMD considers projects to result in less than significant PM10-related impacts to air quality if all of the SMAQMD Basic Construction Emission Control Practices are implemented and if the maximum daily disturbed area would not exceed 15 acres (SMAQMD, 2013).

Therefore, CPUC's approach to analysis of construction dust impacts is to emphasize implementation of SCAQMD Rule 403 measures in El Dorado County and SMAQMD Basic Construction Emission Control Practices in Sacramento County. Without implementation of these measures, the construction-related dust impact would generally be considered significant. Although PG&E has committed to implementing APM AQ-1 (Minimize Fugitive Dust), this measure does not require implementation of all the applicable fugitive dust control measures. Therefore, implementation of **Mitigation Measure 3.3-1** is required to ensure that all applicable SCAQMD Rule 403 fugitive dust control measures are implemented for construction activities in El Dorado County, and implementation of **Mitigation Measure 3.3-2** is required to ensure that all SMAQMD Basic Construction Emission Control Practices for fugitive dust are implemented

for construction activities in Sacramento County. Implementation of these measures would result in a less-than-significant impact relative to the potential for Project construction-generated dust to result in a violation or contribute to a violation of any PM10 or PM2.5 standard.

Operation and Maintenance

The proposed Project would require no change to PG&E's existing operation and maintenance activities, and would result in no net change in long-term emissions. Therefore, no operation-related impacts would occur.

Mitigation Measure 3.3-1: The following SCAQMD Rule 403 Best Available Fugitive Dust Control Measures shall be implemented during construction, where applicable, within El Dorado County:

- For inactive disturbed surfaces, either: apply water to at least 80 percent of all inactive disturbed surface areas on a daily basis when there is evidence of wind driven fugitive dust (excluding any areas which are inaccessible due to excessive slope or other safety conditions); or apply dust suppressants to inactive disturbed surface areas in sufficient quantity and frequency to maintain a stabilized surface; or establish a vegetative ground cover within 21 days after active operations have ceased (ground cover must be of sufficient density to expose less than 30 percent of unstabilized ground within 90 days of planting); or utilize any combination of these controls together to control fugitive dust on all inactive disturbed surface areas.

- Water all unpaved roads used for any vehicular traffic once daily, during dry weather conditions.

- To control track-out, pave or apply chemical stabilization at sufficient concentration and frequency to maintain a stabilized surface starting from the point of intersection with the public paved surface, and extending for a centerline distance of at least 100 feet and a width of at least 20 feet; or pave from the point of intersection with the public paved road surface, and extending for a centerline distance of at least 25 feet and a width of at least 20 feet, and install a track-out control device immediately adjacent to the paved surface such that exiting vehicles do not travel on any unpaved road surface after passing through the track-out control device.

- When wind gusts exceed 25 mph, implement the applicable Best Available Fugitive Dust Control Measures for High Wind Conditions identified in Appendix C-1, Table C.5 of the EDCAQMD Guide to Air Quality Assessment Determining Significance of Air Quality Impact Under the California Environmental Quality Act (EDCAQMD, 2002).

Mitigation Measure 3.3-2: The following SMAQMD Basic Construction Emission Control Practices shall be implemented during construction, where applicable, within Sacramento County:

- Water all exposed surfaces two times daily. Exposed surfaces include, but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads;

- Any haul trucks that would be traveling along freeways or major roadways should be covered; and

- Use wet power vacuum street sweepers to remove any visible track-out mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited.

Significance after Mitigation: Less than Significant.

c) Whether the Project would result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors): *LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED*.

As summarized in Table 3.3-2, *Project Area Attainment Status*, El Dorado and Sacramento counties are designated as non-attainment for the state 1-hour ozone standard, federal and state 8-hour ozone standard, the state PM10 standard, and the federal PM2.5 standard. Sacramento County also is designated as non-attainment for the state PM2.5 standard. As described below, with the implementation of mitigation measures, the Project would not cause a cumulatively considerable net increase of any of these pollutants.

Pursuant to the EDCAQMD *Guide to Air Quality Assessment*, projects in El Dorado County that would be consistent with the applicable air quality plans, meet all applicable rules and regulations, and would not result in emissions that would exceed EDCAQMD thresholds, would not be considered to have a significant cumulative impact with regards to criteria air pollutant emissions (EDCAQMD, 2002). As discussed under items a) and b) above, the Project would be consistent with all applicable air quality plans and average daily emissions of criteria pollutants from construction of the Project would be less than the adopted EDCAQMD significance thresholds. In addition, implementation of Mitigation Measure 3.3-1 would ensure that all applicable SCAQMD Rule 403 fugitive dust control measures are implemented. Therefore, with mitigation, construction emissions occurring in El Dorado County that would be associated with the Project would not be cumulatively considerable.

Emissions of the Project generated within Sacramento County would be considered to have a significant cumulative impact if its individual emissions would exceed the SMAQMD threshold of significance (SMAQMD, 2013). As discussed under item b) above, Project-related emissions in Sacramento County would not exceed the SMAQMD threshold of significance. In addition, implementation of Mitigation Measure 3.3-2 would ensure that all applicable SMAQMD Basic Construction Emission Control Practices for fugitive dust would be implemented. Therefore, with mitigation, the Project would not result in a cumulatively considerable adverse contribution to Sacramento County's existing air quality conditions.

Mitigation Measures: Implement Mitigation Measures 3.3-1 and 3.3-2.

Significance after Mitigation: Less than Significant.

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

The Project would pass through areas of residential development in the City of Folsom and communities of El Dorado Hills, Cameron Park, and Shingle Springs. Over the entire Project alignment, there are nearly 100 residences located within 50 feet from the alignment and six schools are located within approximately 500 feet of the proposed construction sites.

Exposure to Toxic Air Contaminants

There would be no long-term net increases in TAC emissions generated by the Project; however, construction of the Project would result in the generation of short-term diesel exhaust emissions from on-site heavy duty equipment and from off-site material deliveries and debris hauling. Particulate exhaust emissions from diesel-fueled engines were identified as a TAC by CARB in 1998. The dose to which receptors are exposed is the primary factor affecting health risk from TACs. Dose is a function of the concentration of a substance or substances in the environment and the duration of exposure to the substance. According to the Office of Environmental Health Hazard Assessment (OEHHA), health risk assessments, which determine the exposure of sensitive receptors to TAC emissions, should be based on a 70-year exposure period when assessing TACs (such as DPM) that have only cancer or chronic non-cancer health effects (OEHHA, 2003). However, such health risk assessments should be limited to the duration of the emission-producing activities associated with the project.

Construction of the Project would be short term, taking up to 20 months to complete; however, due to the linear nature of the power line construction activities, individual receptors would not be exposed to elevated levels of DPM for an extended period of time. In fact, individual sensitive receptors would not be expected to be exposed to DPM emissions from construction equipment for more than a week or two along the proposed power line segments. Since health risks associated with DPM are generally associated with chronic exposure and are assessed over a 70-year exposure period, emissions during construction of the Project would have a less-than-significant impact on nearby receptors.

In addition, PG&E has committed to implementing APM AQ-2 (Minimize Vehicle and Equipment Emissions), which requires the use of best management practices to reduce construction vehicle and equipment exhaust emissions, thereby further limiting DPM emissions.

Exposure to Naturally Occurring Asbestos

As discussed in Section 3.3.1, portions of the Project alignment are located in areas designated as "areas more likely to contain asbestos," "areas where the presence of asbestos is possible but unlikely," and "areas moderately likely to contain asbestos." Project construction activities resulting in ground disturbance could occur in areas where asbestos is present. Construction activities requiring soil excavation and movement of earth materials, such as concrete-pier and micropile foundations, installation of the underground distribution line, and replacement pole installations would result in the highest potential for causing naturally occurring asbestos (if present) to become airborne, where it could become a health hazard to construction workers and/or other members of the public.

In the designated areas along the proposed power line route described above, PG&E has proposed to implement APM AQ-3 to provide proper identification of naturally occurring asbestos along the power line route where soil disturbance is planned. If naturally occurring asbestos is found in these areas, CARB's Asbestos ATCMs, EDCAQMD's Rule 223-2, and SMAQMD's Rule 902 (such as developing an Asbestos Dust Mitigation Plan that outlines project-specific track-out prevention and control measures, stockpile protection measures, and wetting of soil to control fugitive dust) would be implemented during construction.

Furthermore, APM AQ-3 includes a provision to avoid and minimize naturally occurring asbestos impacts on sensitive receptors by requiring a geological evaluation for any ground-disturbing activities occurring within 50 feet of residences or 500 feet of a school, to test for the presence of naturally occurring asbestos before initiating ground disturbing activities in these areas. Therefore, all areas of earth disturbance documented as having the potential for naturally occurring asbestos to be present, or are located in proximity of residences or schools, would be evaluated for naturally occurring asbestos by a registered geologist before any earth-disturbing activities are conducted, and all required abatement measures would be implemented. With implementation of APM AQ-3, the impact with respect to naturally occurring asbestos would be less than significant.

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

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

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3.4 Biological Resources

Issues (and Supporting Information Sources):		*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
4.	**BIOLOGICAL RESOURCES— Would the Project:**				
a)	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
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 Environmental Setting

The Project study area includes the existing 12.5-mile Missouri Flat-Gold Hill power line and the existing 7-mile Gold Hill No. 1 power line, which runs alongside the Missouri Flat-Gold Hill power line for half of its distance. The study area encompasses an area approximately 12.5 miles (20 kilometers [km]) long and 300 feet (91 meters [m]) wide, and totals approximately 634 acres (198 hectare [ha]). The term "Project area" is used interchangeably with Project study area in this section to describe areas within the footprint of Project activities (see Figures 2-2 through 2-8: Proposed Project: Detailed Alignment in *Chapter 2, Project Description*). Existing conditions for biological resources in the study area were assessed by conducting database queries, literature review, aerial map review, and by conducting various biological studies, including vegetation mapping, rare plant surveys, elderberry shrub survey, wildlife survey, and a formal wetland delineation. Methodologies for determining existing conditions for biological resources in the study area are described under each resources heading (e.g., Vegetation Communities, Special-Status Species, and Jurisdictional Wetlands and Waters).

Regional Setting

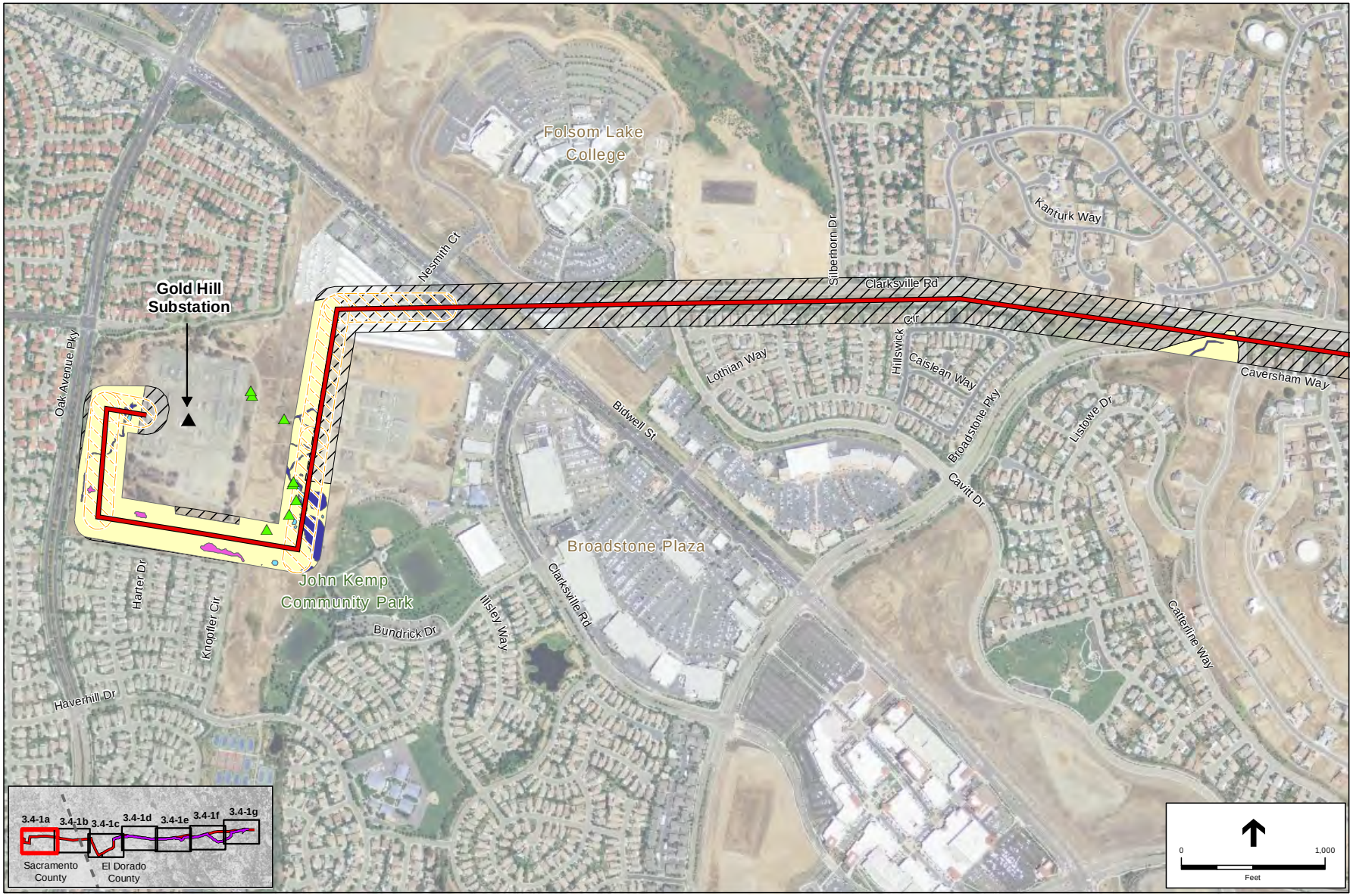
The Project is located between the City of Folsom in Sacramento County and the community of Shingle Springs in El Dorado County. This location corresponds to Sections 1-7, 9-12 of Township 9 North, Range 8 East and Sections 1-10 of Township 9 North, Range 9 East of the Folsom, Clarksville, and Shingle Springs, California U.S. Geological Survey (USGS) 7.5-minute quadrangles (see Figure 2-1: Project Location in *Chapter 2, Project Description*). Elevation in the Project area ranges from approximately 350 feet (107m) above mean sea level (msl) at the Gold Hill Substation to 1,575 feet (465m) above msl at the Shingle Springs Substation. The Project is situated within the Lower Foothills Metamorphic Belt ecological subsection of the Sierra Nevada foothills ecological section (McNab and Avers, 1994). This region experiences a two-season Mediterranean-type climate that is characterized by wet cool winters and dry warm summers. Precipitation occurs primarily between November and April, and the average annual rainfall ranges between 20 and 40 inches (51-102 centimeters [cm]). Light snowfall occurs in some winters at higher elevations in the Project area. Little to no precipitation occurs during the summer months. The average temperature ranges between 55 to 64 degrees Fahrenheit (°F) (12-18 degrees Celsius [°C]) (McNab and Avers, 1994). Vegetation types in the Project area include nonnative grassland, oak woodlands, chaparral/scrub, riparian forest, and wetlands. Waterbodies include Deer Creek, Alder Creek, Natomas Ditch, Willow Creek, Carson Creek, Marble Creek, and Old Mill Creek.

Vegetation Communities

Survey Methods

Field surveys to delineate vegetation communities and identify special-status[1] plant species within the Project area were conducted by Stillwater Sciences on April 9-13 and 26-27, 2012 to capture early-blooming plant species and May 23-25 and 29-31, 2012 to capture late-blooming plant species (**Figures 3.4-1a** through **3.4-1g**) (Stillwater Sciences, 2013a). A supplemental survey was conducted by Stillwater Sciences on May 9-10, 2013 to identify late-blooming special-status plant species in the portions of the Gold Hill No. 1 power line that are separate from the Missouri Flat-Gold Hill power line, in the vicinity of the Limestone Substation, and for portions of the previously surveyed Missouri Flat-Gold Hill survey area that was bulldozed after the 2012 botanical surveys (Stillwater Sciences, 2013b). Surveys for special-status plant species

[1] The term "special-status" refers to those species that are listed and receive specific protection defined in federal or state endangered species legislation, as well as species not formally listed as "Threatened" or "Endangered" but designated as "Rare" or "Sensitive" on the basis of adopted policies and expertise of state resource agencies or organizations, or local agencies such as counties, cities, and special districts. A principal source for this designation is the California "Special Animals List" maintained by the CDFG. CEQA also provides protection not only for State-listed or Federally-listed species, but also for any species that can be shown to meet the criteria for listing (CEQA Guidelines Section 15380). For purposes of this analysis, "special-status species" also include raptors (birds of prey), which, along with other taxa, are specifically protected under Department of Fish and Game (DFG) Code §3511 (Birds), §4700 (Mammals), §5050 (Reptiles and Amphibians), §5515 (Fish) and §3503.5, which prohibits the take, possession, or killing of raptors and owls, their nests, and their eggs. The inclusion of birds protected by DFG Code §3503.5 is in recognition of the fact that these birds are substantially less common in California than most other birds, having lost much of their habitat to development, and that the populations of these species are therefore substantially more vulnerable to further loss of habitat and to interference with nesting and breeding than are most other birds. Lastly, disruption of any of any nesting migratory bird is not permitted under the Migratory Bird Treaty Act and the DFG Code (see below). As such, nesting migratory birds are considered special-status in this analysis.



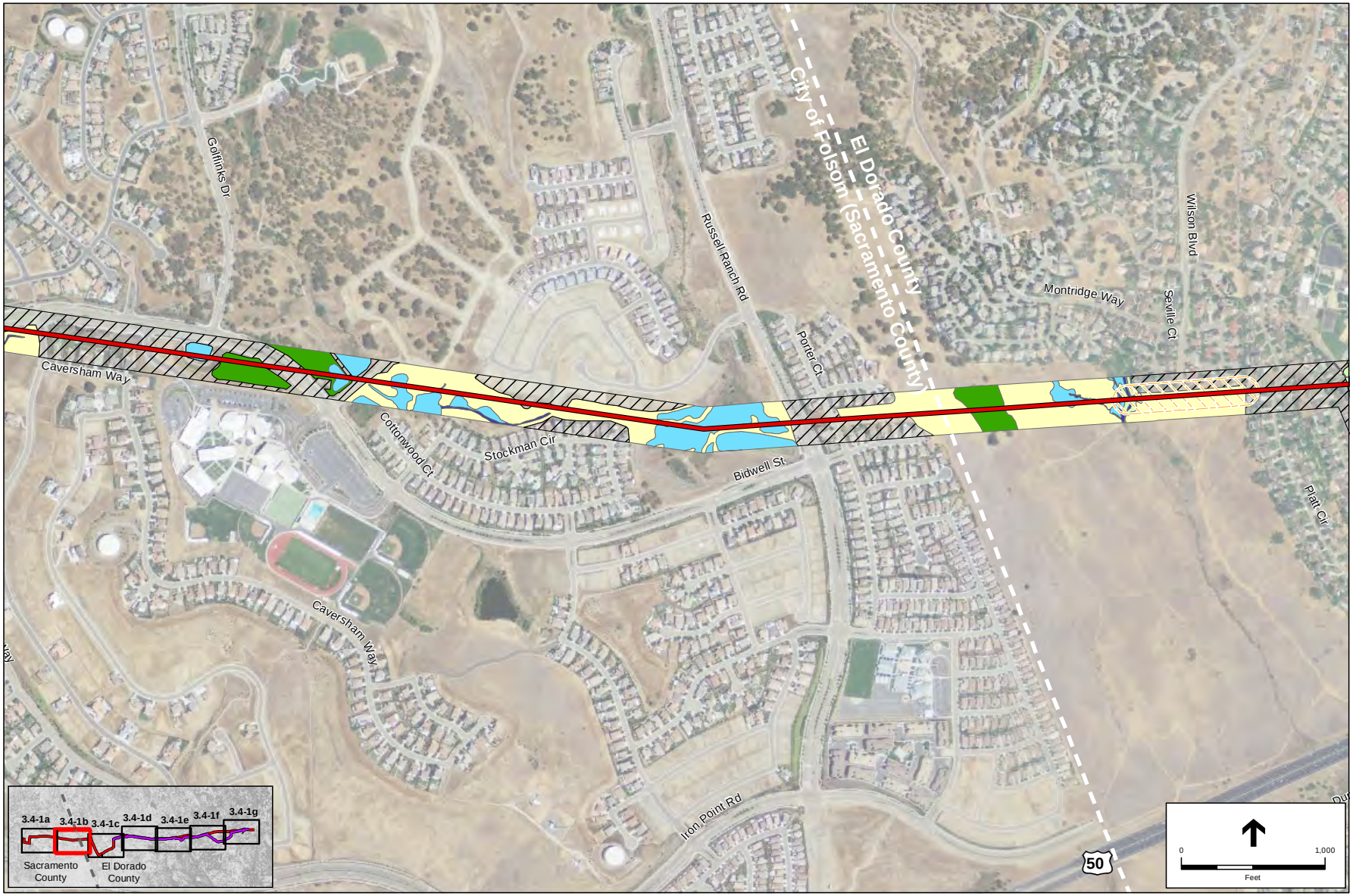
Substation
Elderberry Occurence
Staging Area
Gold Hill No 1 (GH)
60 kV Power LIne Reconductoring
Missouri Flat-Gold Hill (MF-GH)
115 kV Power Line Reconductoring
Potential Pull Site

Habitat
Annual grassland
Freshwater emergent wetland
Other Waters
Urban
Vernal pool

SOURCE: Stillwater Sciences, 2013

Missouri Flat Project . D207584.16

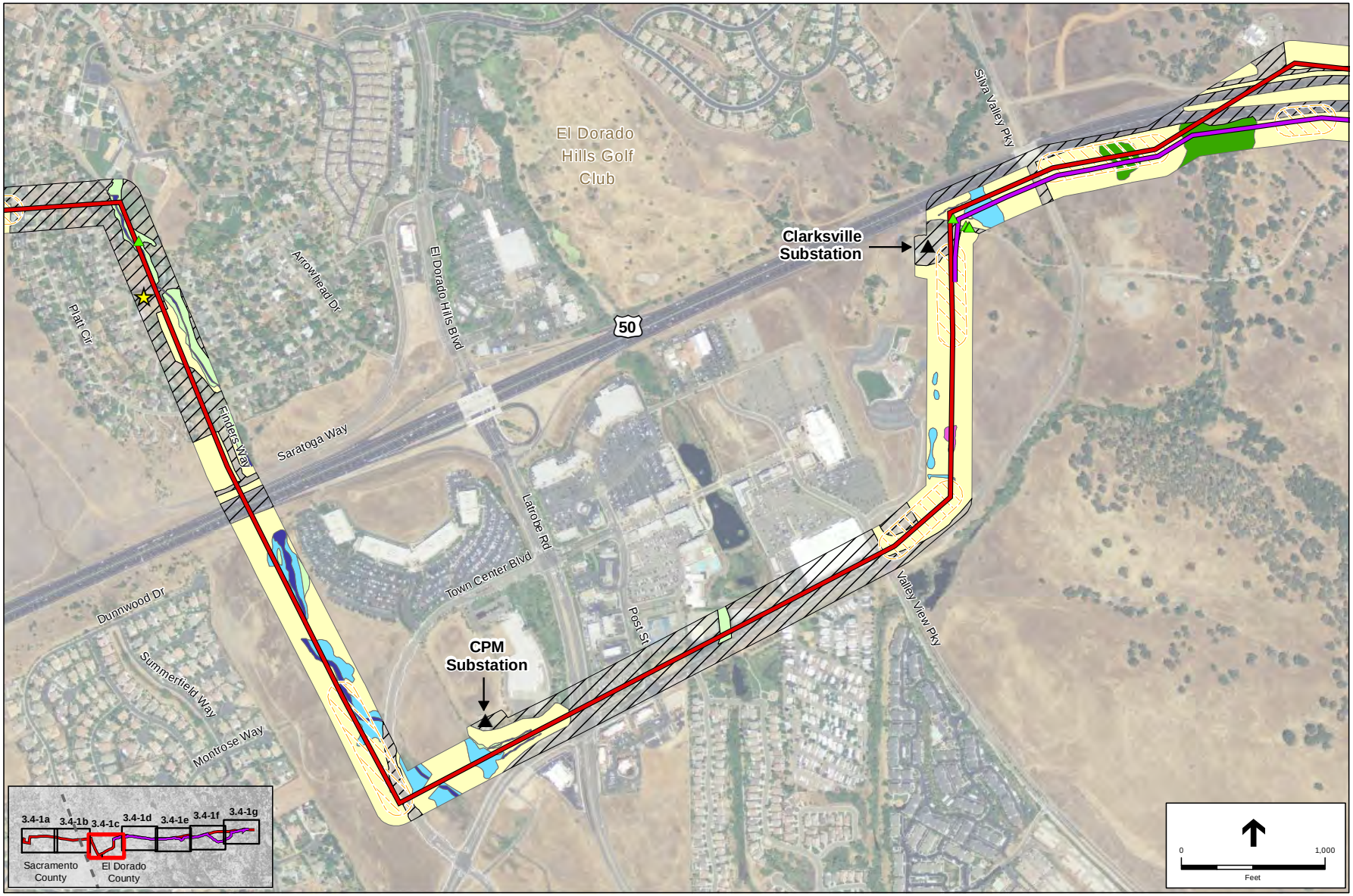
Figure 3.4-1a
Habitat Types
(Panel 1 of 7)



SOURCE: Stillwater Sciences, 2013

Missouri Flat Project . D207584.16

Figure 3.4-1b
Habitat Types
(Panel 2 of 7)



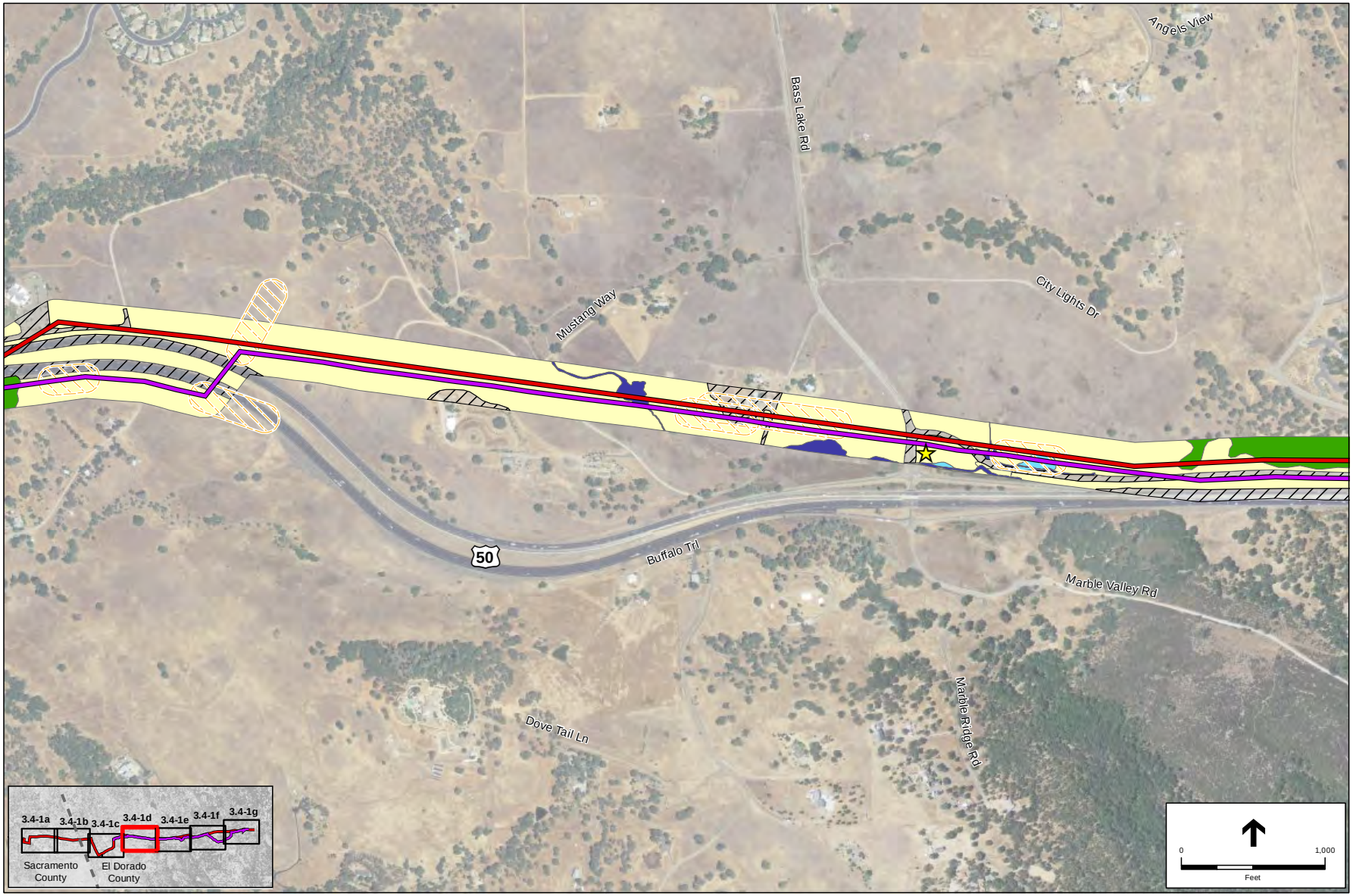
Substation
Elderberry Occurence
Staging Area
Gold Hill No 1 (GH) 60 kV Power LIne Reconductoring
Missouri Flat-Gold Hill (MF-GH) 115 kV Power Line Reconductoring
Potential Pull Site

Habitat
Annual grassland
Blue oak woodland
Freshwater emergent wetland
Other Waters
Urban
Valley foothill riparian
Vernal pool

SOURCE: Stillwater Sciences, 2013

Missouri Flat Project . D207584.16

Figure 3.4-1c
Habitat Types
(Panel 3 of 7)



Substation

Staging Area

Gold Hill No 1 (GH)
60 kV Power LIne Reconductoring

Missouri Flat-Gold Hill (MF-GH)
115 kV Power Line Reconductoring

Potential Pull Site

Habitat

Annual grassland

Blue oak woodland

Freshwater emergent wetland

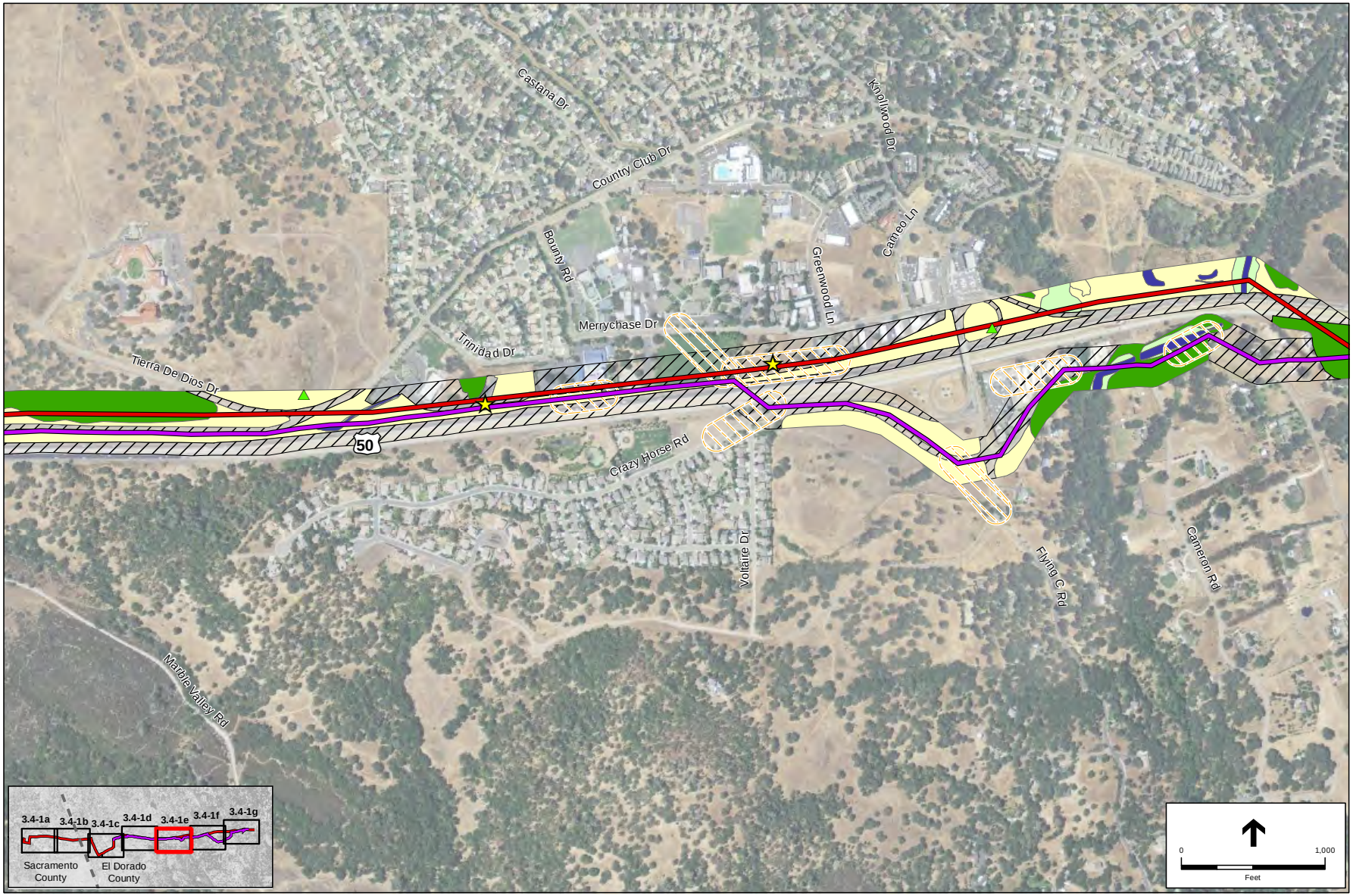
Other Waters

Urban

SOURCE: Stillwater Sciences, 2013

Missouri Flat Project . D207584.16

Figure 3.4-1d
Habitat Types
(Panel 4 of 7)



- Substation
- Elderberry Occurence
- Staging Area
- Gold Hill No 1 (GH) 60 kV Power LIne Reconductoring
- Missouri Flat-Gold Hill (MF-GH) 115 kV Power Line Reconductoring
- Potential Pull Site

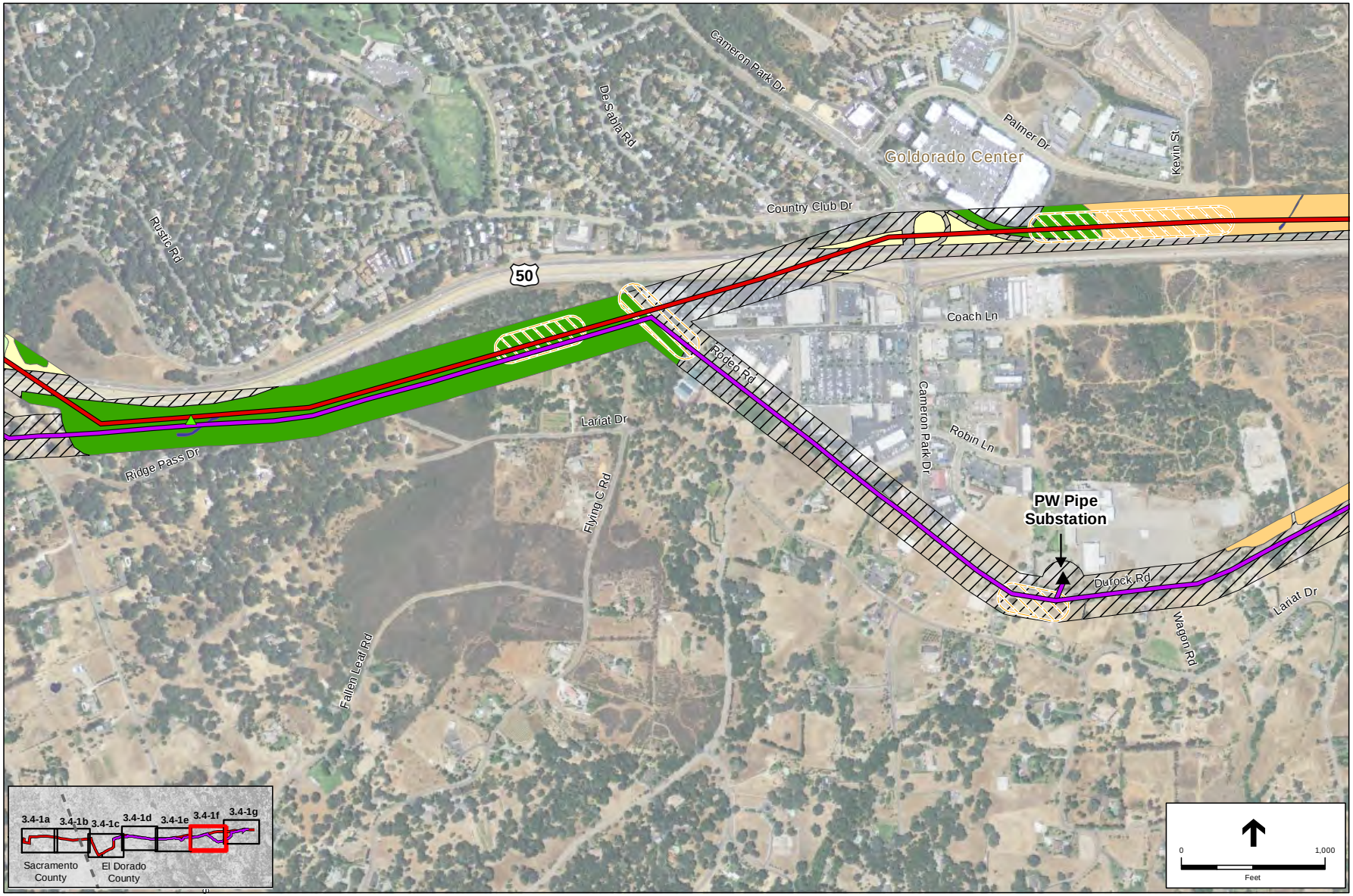
Habitat

- Annual grassland
- Blue oak woodland
- Freshwater emergent wetland
- Other Waters
- Urban
- Valley foothill riparian

SOURCE: Stillwater Sciences, 2013

Missouri Flat Project . D207584.16

Figure 3.4-1e
Habitat Types
(Panel 5 of 7)



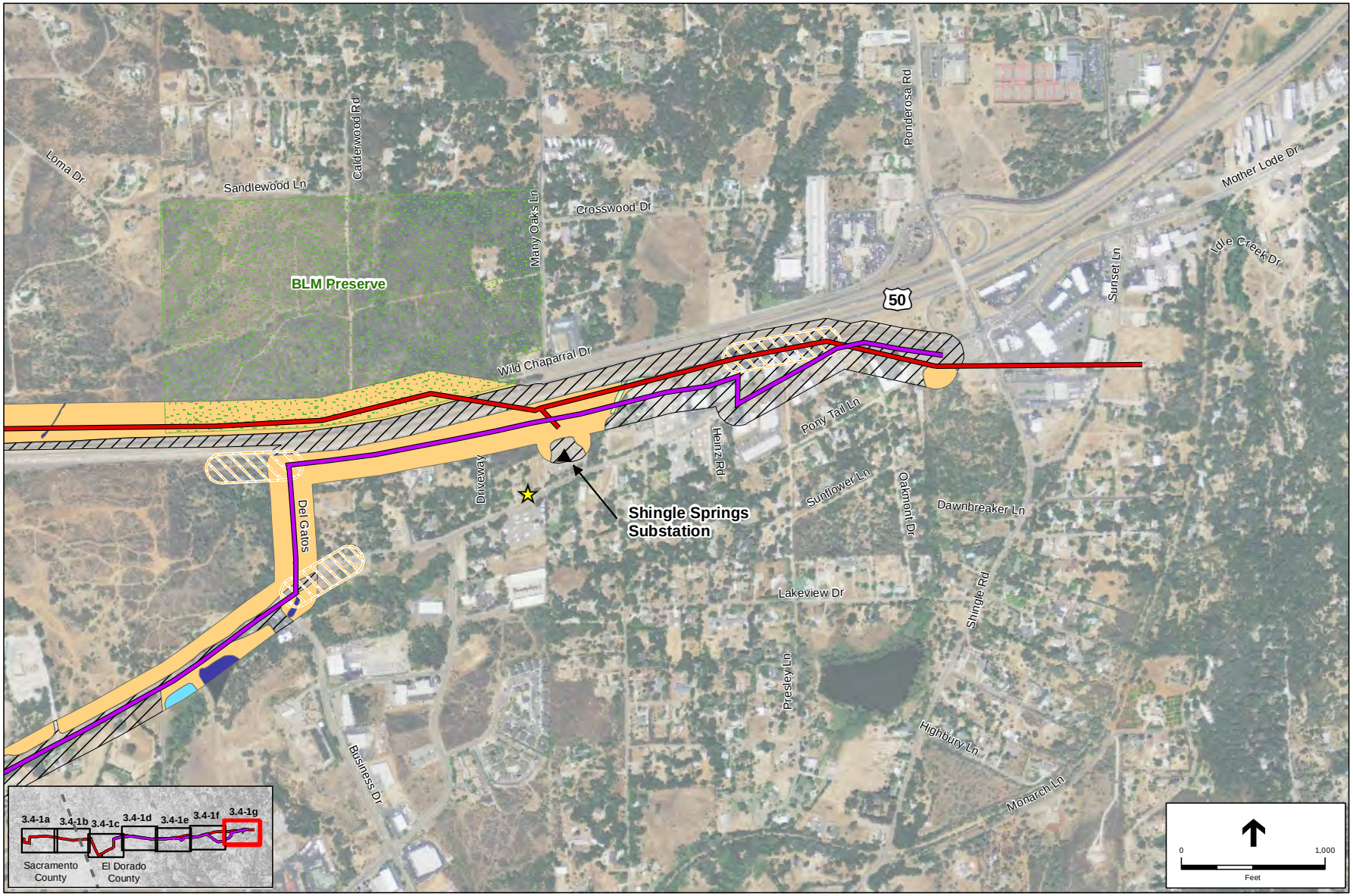
Substation
Elderberry Occurence
Staging Area
Gold Hill No 1 (GH)
60 kV Power LIne Reconductoring
Missouri Flat-Gold Hill (MF-GH)
115 kV Power Line Reconductoring
Potential Pull Site

Habitat
Annual grassland
Blue oak woodland
Mixed chaparral
Other Waters
Urban
Valley foothill riparian

SOURCE: Stillwater Sciences, 2013

Missouri Flat Project . D207584.16

Figure 3.4-1f
Habitat Types
(Panel 6 of 7)



- Substation
- Staging Area
- Gold Hill No 1 (GH) 60 kV Power LIne Reconductoring
- Missouri Flat-Gold Hill (MF-GH) 115 kV Power Line Reconductoring
- Potential Pull Site
- BLM Preserve

Habitat

- Freshwater emergent wetland
- Mixed chaparral
- Other Waters
- Urban
- Valley foothill riparian

SOURCE: Stillwater Sciences, 2013

Missouri Flat Project . D207584.16

Figure 3.4-1g
Habitat Types
(Panel 7 of 7)

were conducted in accordance with the *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants* (USFWS, 1996a), *Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Natural Communities* (CDFG, 2009), and Chapter IV of the *BLM Handbook on Special Status Plant Management* (BLM, 2012). Survey vegetation types were classified using the California Wildlife Habitat Relationship (CWHR) habitat classification scheme (Mayer and Laudenslayer, 1988) and vegetation alliances and associations described in *A Manual of California Vegetation* (Sawyer et al., 2009). Special-status natural communities were classified according to the most recent CDFW *List of Vegetation Alliances and Associations* as being critically imperiled (state ranking of S1), imperiled (S2), or vulnerable (S3) (CDFG 2010). Refer to the Missouri Flat-Gold Hill Biological Resources Technical Report (Stillwater Sciences, 2013a) for detailed description of survey methods and guideline references.

Water and wetland features in the project area were delineated in accordance with U.S. Army Corps of Engineers methods by a team of Stillwater Sciences wetland specialists and botanists on April 9–13 and 26–27, May 31, and June 12, 2012. Mapped wetlands were later classified according to the *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al. 1979), based on the vegetation composition and structure at the sample points; this classification is consistent with CDFW and USFWS methods of identifying wetlands. The *Delineation of Waters and Wetlands* (Stillwater Sciences, 2013c) assessed the water and wetland resources in the Project area; (2) delineated any waters of the U.S., including wetlands, that are subject to the jurisdiction of the U.S. Army Corps of Engineers under Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act; (3) delineated any waters of the State that may be subject to the jurisdiction of the State Water Resources Control Board; and delineated open waters (e.g., lakes and streams) that may be subject to DFG §1602. In addition, biologists from Environmental Science Associates visited the Project area on October 30, 2013 to confirm the presence and distribution of biological resources within the Project area, including in the vicinity of the Shingle Springs Substation, BLM Preserve, and Clarksville Substation.

Baseline Vegetation Communities

Generally, the Project region contains blue oak-foothill pine forest, chaparral, blue oak woodland, interior live oak woodland, valley needlegrass grassland, and mixed chaparral vegetation communities. Vegetation in the Project area includes open grassy fields (30% of the Project area), oak and riparian woodlands (11% of the Project area), and chaparral and scrub (9% of the Project area). Approximately 288.1 acres or 45% of the 634.7-acre Project area is occupied by development (Stillwater Sciences, 2013a). In areas with natural vegetation, annual grassland and blue oak woodland dominates the landscape in the western segments of the Project area and mixed chaparral is dominant in the east. Figures 3.4-1a through 3.4-1g, derived from the Missouri Flat-Gold Hill Biological Resources Technical Report (Stillwater Sciences, 2013a), shows existing vegetation types occurring in the Project area.

Freshwater emergent wetlands, other waters (e.g., riverine), vernal pools, and valley foothill riparian vegetation are scattered throughout the Project area (Figures 3.4-1a through 3.4-1g). The location, extent, and conditions of waters and wetlands in the Project area are also described in

additional detail in the *Delineation of Waters and Wetlands* (Stillwater Sciences, 2013c) and shown on **Figures 3.4-1h** through **3.4-1n**.

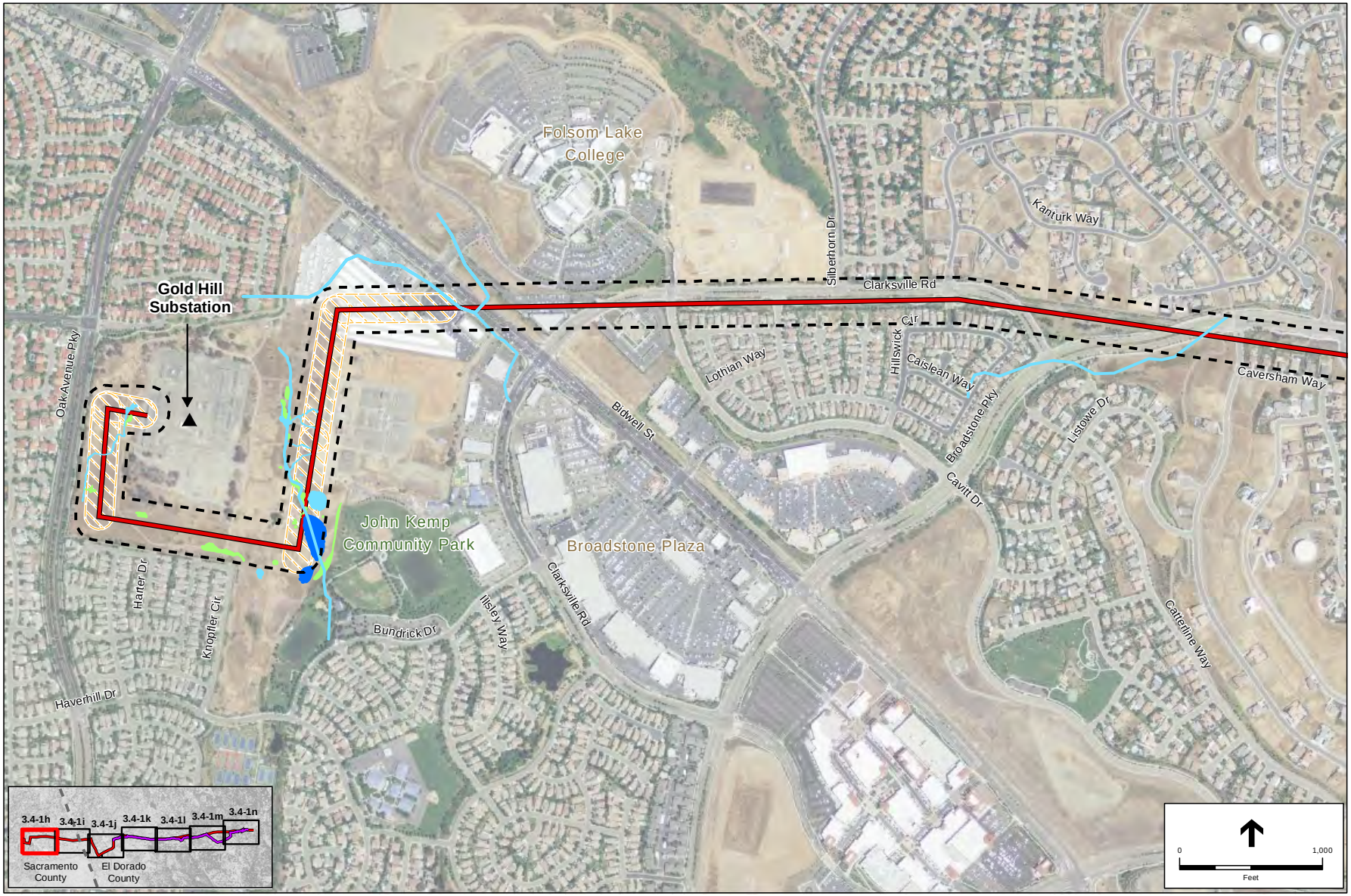
Three vegetation types that are regulated as rare natural communities by the California Department of Fish and Wildlife (CDFW) were identified in the Project area: white leaf manzanita/Sonoma sage chaparral (*Arctostaphylos viscida/Salvia sonomensis* Association) (Stillwater Sciences, 2013a); Fremont's goldfields-Downingia vernal pools (*Lasthenia fremontii-Downingia (bicornuta)* Herbaceous Alliance); and water blinks-annual checkerbloom vernal pools (*Montia fontana-Sidalcea calycosa* Herbaceous Alliance) (Stillwater Sciences, 2013a).

Annual Grassland. Vegetation in the Project area is dominated by annual grassland; this habitat encompasses 198.6 acres (80.4 hectares) and is widely distributed throughout the Project area (Stillwater Sciences, 2013a). Prevalent annual grassland species include nonnative, annual grasses such as rip-gut grass (*Bromus diandrus*), soft chess (*Bromus hordeaceous*), medusa-head (*Elymus caput-medusa*), smooth barley (*Hordeum murinum*), and rye grass (*Festuca perennis*; formerly *Lolium multiflorum*).

Blue Oak Woodland. Approximately 61.1 acres (24.7 hectares) of blue oak woodlands occur in the western and middle portions of the Project area (Stillwater Sciences, 2013a). At lower elevations, blue oak woodlands are dominated by blue oaks and include foothill pine and interior live oak as common associates. The understory is dominated by nonnative, annual grasses such as rip-gut grass, soft chess, medusa-head, smooth barley, and rye grass. At the upper elevations of the Project area, blue oak woodland contains a mix of interior live oak and blue oaks.

Gabbroic Chaparral. Approximately 53.4 acres (21.6 hectares) of gabbroic (mixed) chaparral primarily occurs on the eastern end of the Project area, in and adjacent to the BLM Pine Hill Preserve (Stillwater Sciences, 2013a). Within the Project area this habitat type is heavily influenced by the gabbroic soils formed from weathered gabbrodirite rocks, which greatly influences the vegetation patterns. North of Highway 50, the overstory of this vegetation type is dominated by sticky whiteleaf manzanita (*Arctostaphylos viscida*), western redbud (*Cercis occidentalis*), chamise (*Adenostoma fasciculatum*), and Pine Hill ceanothus (*Ceanothus roderickii)*, which is federally listed as endangered and state-listed as rare. Special-status herbaceous species present include Stebbins' morning glory (*Calystegia stebbinsii*), Red Hills soaproot (*Chlorogalum grandiflorum*), Layne's ragwort (*Packera layneae*), and El Dorado County mule ears (*Wyethia reticulata*). Where Sonoma sage (*Salvia sonomensis*) dominates the understory, such as in portions of the BLM Pine Hill Preserve, gabbroic chaparral is most equivalent to the *Arctostaphylos viscida/Salvia sonomensis* (white leaf manzanita/Sonoma sage chaparral) Association (Sawyer et al. 2009), which is a rare natural community (CDFG, 2010).

Valley Foothill Riparian. Approximately 7.6 acres (3.1 hectares) of valley foothill riparian vegetation occurs in the Project area; primarily along waterways with year-round flow (Stillwater Sciences, 2013a). In the tree-dominated areas, the overstory is dominated by Fremont cottonwood (*Populus fremontii* subsp. *fremontii*), valley oak (*Quercus lobata*), interior live oak, and blue oak. Associated species include California buckeye, tree of heaven (*Ailanthus altissima*), white alder (*Alnus rhombifolia*), Oregon ash (*Fraxinus latifolia*), western sycamore (*Platanus racemosa*),

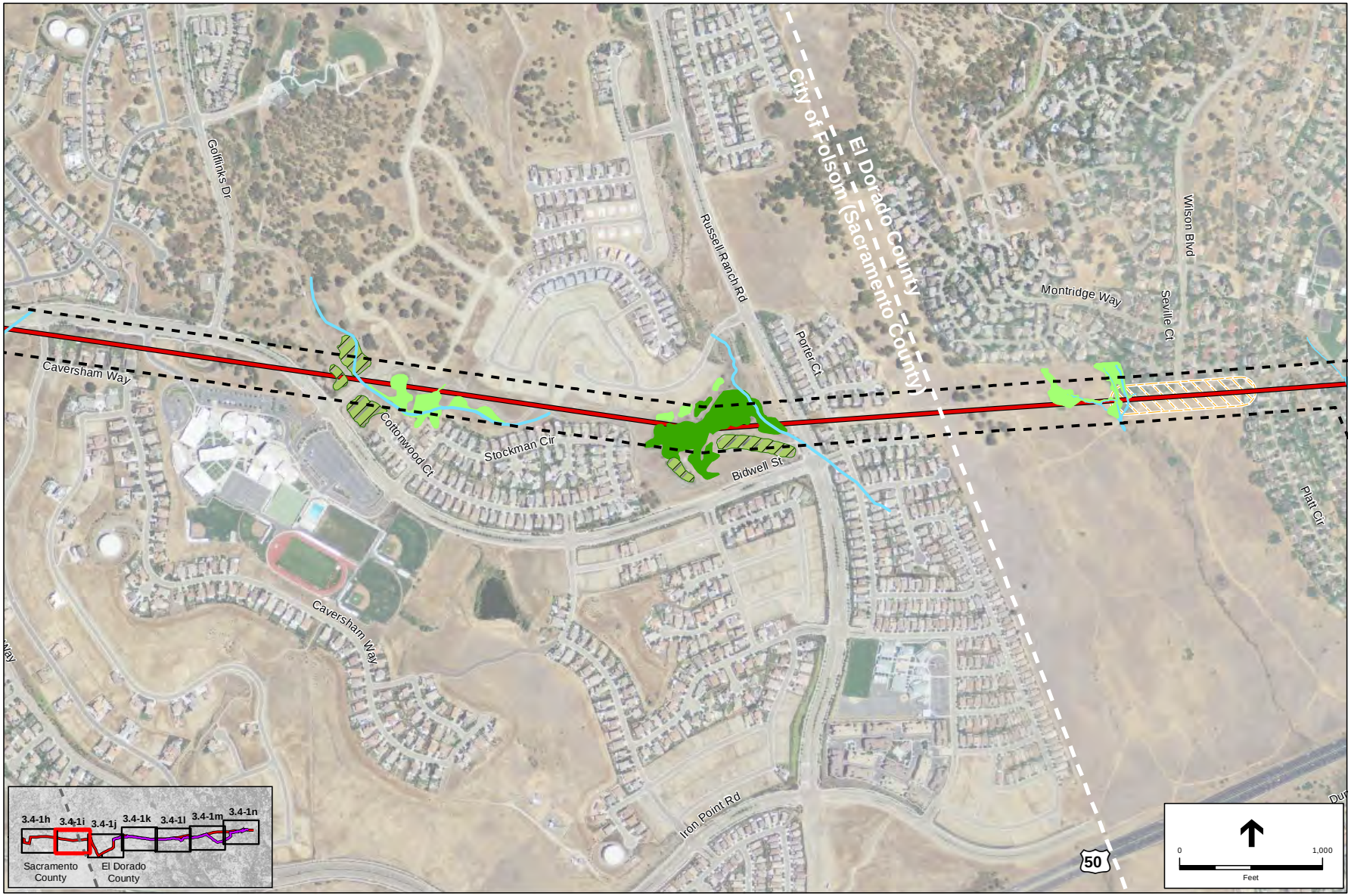


Substation
Staging Area
Gold Hill No 1 (GH) 60 kV Power LIne Reconductoring
Missouri Flat-Gold Hill (MF-GH) 115 kV Power Line Reconductoring
Potential Pull Site
Project Area
Wetlands
Seasonal
Other waters and tributaries
Perennial
Seasonal

SOURCE: Stillwater Sciences, 2013

Missouri Flat Project . D207584.16

Figure 3.4-1h
Wetland Resources
(Panel 1 of 7)



- Substation
- Staging Area
- Gold Hill No 1 (GH) 60 kV Power LIne Reconductoring
- Missouri Flat-Gold Hill (MF-GH) 115 kV Power Line Reconductoring
- Potential Pull Site
- Project Area

Wetlands

- Constructed wetland/ Stormwater basin
- Perennial
- Seasonal

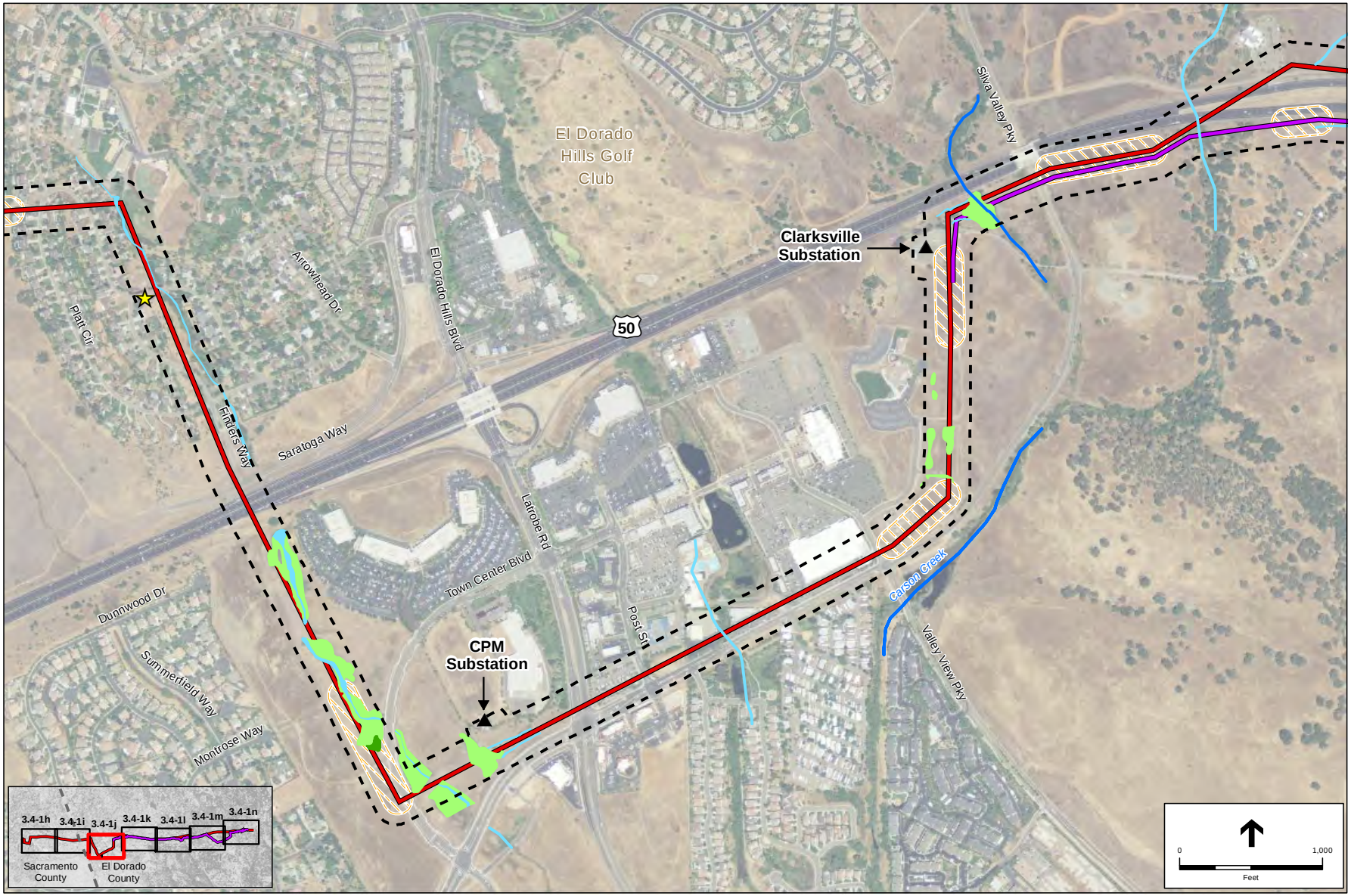
Other waters and tributaries

- Perennial
- Seasonal

SOURCE: Stillwater Sciences, 2013

Missouri Flat Project . D207584.16

Figure 3.4-1i
Wetland Resources
(Panel 2 of 7)



- Substation
- Staging Area
- Gold Hill No 1 (GH) 60 kV Power LIne Reconductoring
- Missouri Flat-Gold Hill (MF-GH) 115 kV Power Line Reconductoring
- Potential Pull Site
- Project Area

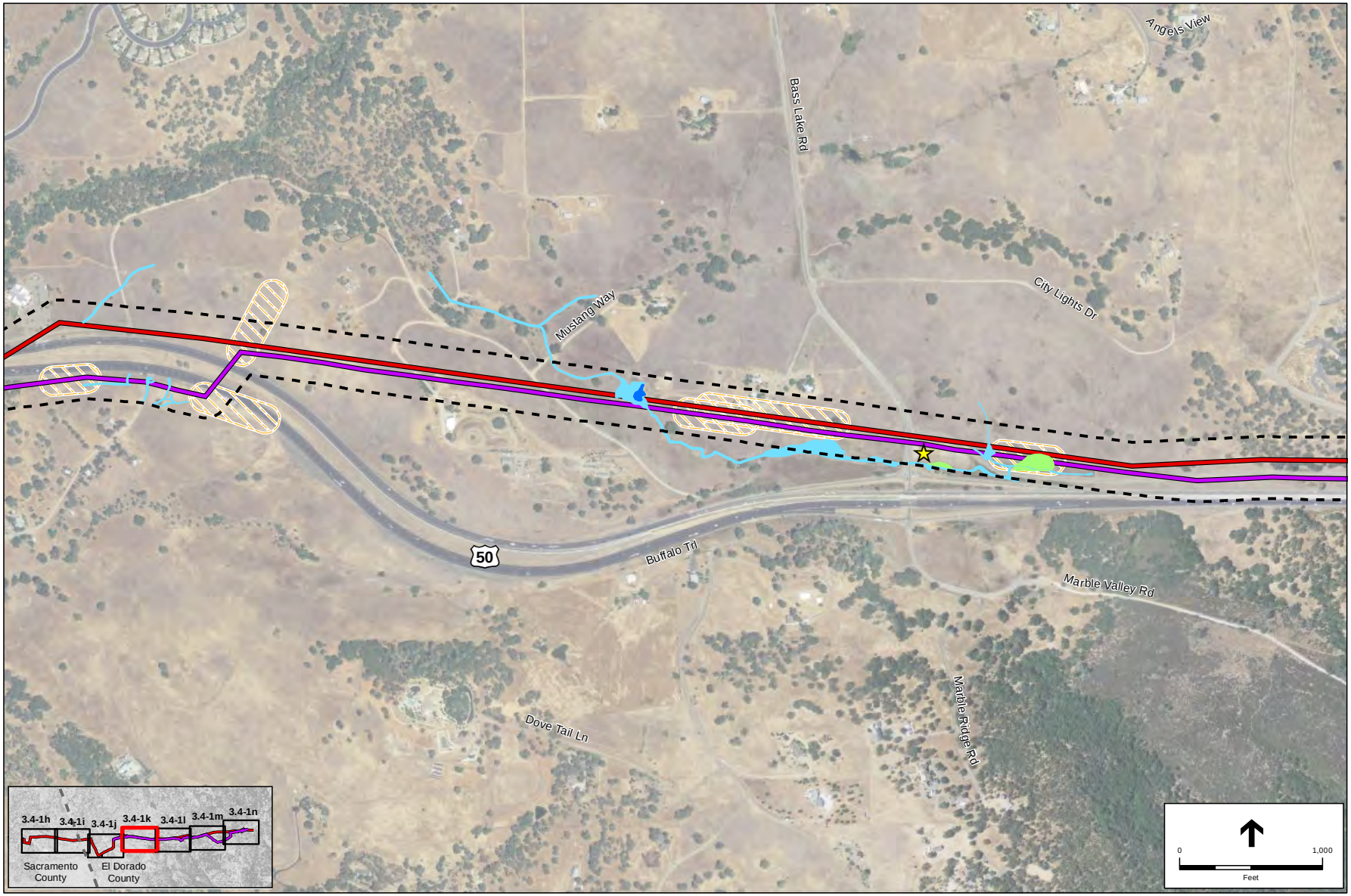
Wetlands
- Perennial
- Seasonal

Other waters and tributaries
- Perennial
- Seasonal

SOURCE: Stillwater Sciences, 2013

Missouri Flat Project . D207584.16

Figure 3.4-1j
Wetland Resources
(Panel 3 of 7)



- Substation
- Staging Area
- Gold Hill No 1 (GH) 60 kV Power LIne Reconductoring
- Missouri Flat-Gold Hill (MF-GH) 115 kV Power Line Reconductoring
- Potential Pull Site
- Project Area

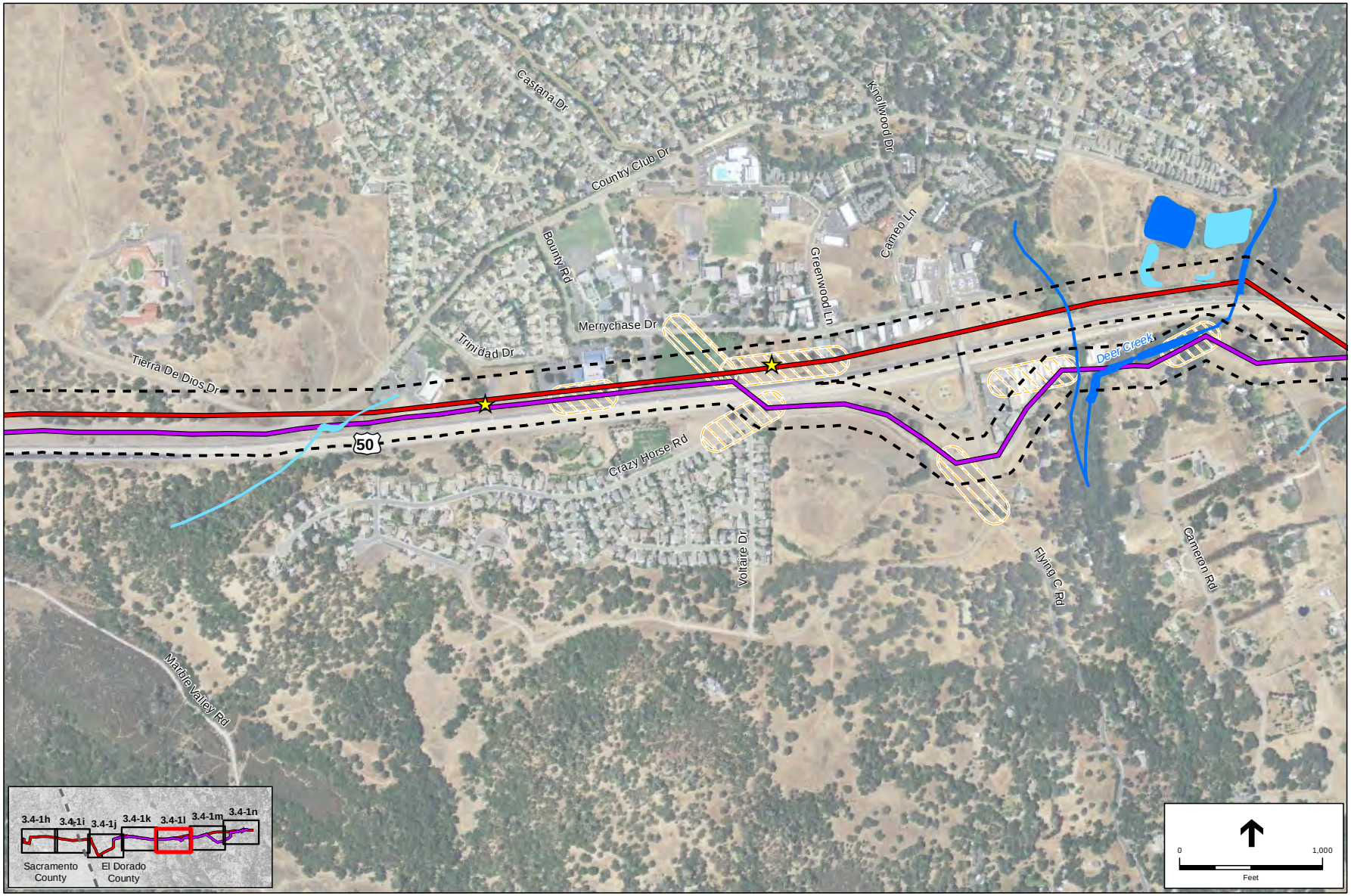
Wetlands
- Seasonal

Other waters and tributaries
- Perennial
- Seasonal

SOURCE: Stillwater Sciences, 2013

Missouri Flat Project . D207584.16

Figure 3.4-1k
Wetland Resources
(Panel 4 of 7)



- Substation
- Staging Area
- Gold Hill No 1 (GH) 60 kV Power LIne Reconductoring
- Missouri Flat-Gold Hill (MF-GH) 115 kV Power Line Reconductoring
- Potential Pull Site
- Project Area

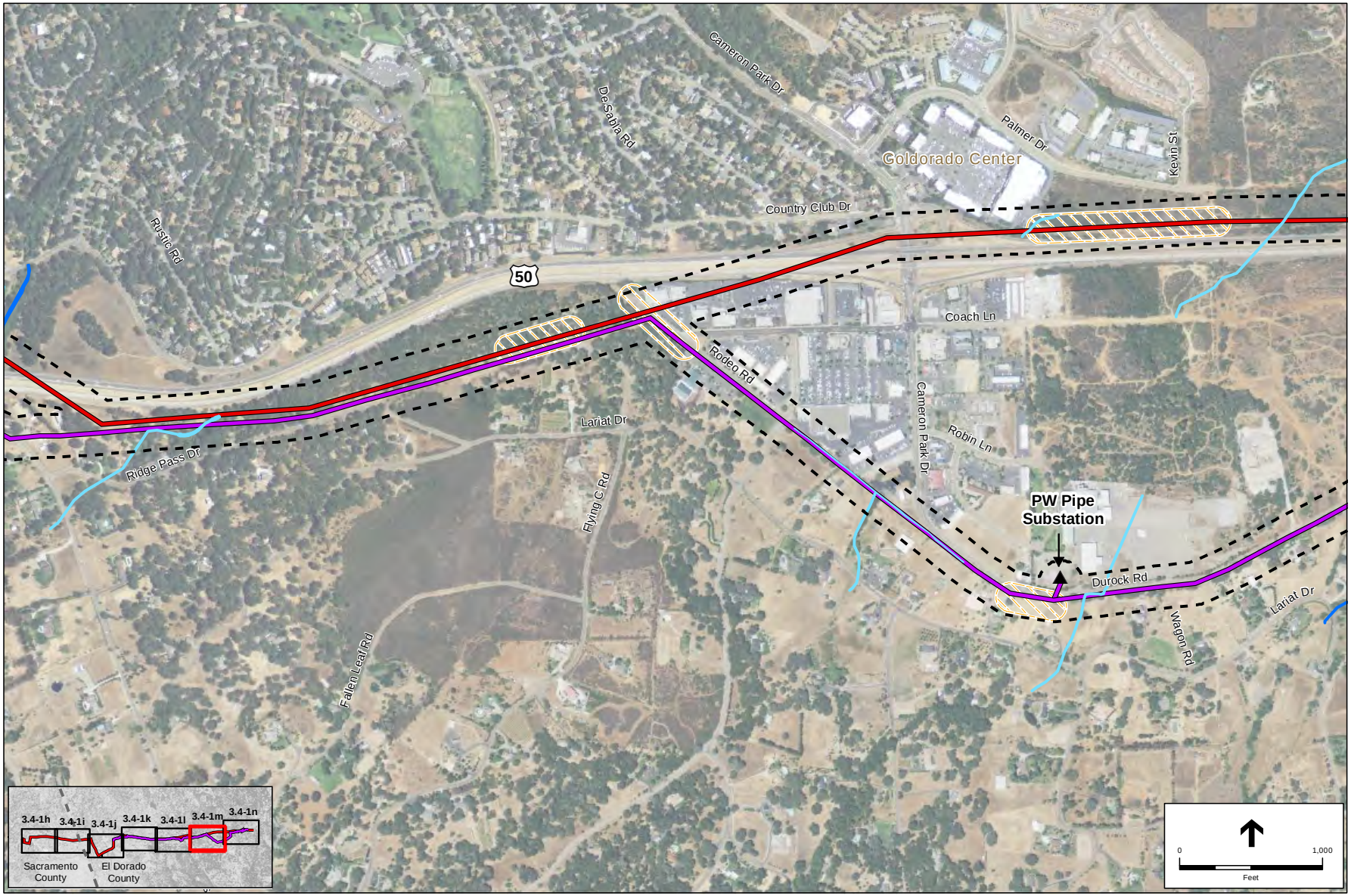
Other waters and tributaries

- Perennial
- Seasonal

SOURCE: Stillwater Sciences, 2013

Missouri Flat Project . D207584.16

Figure 3.4-1l
Wetland Resources
(Panel 5 of 7)

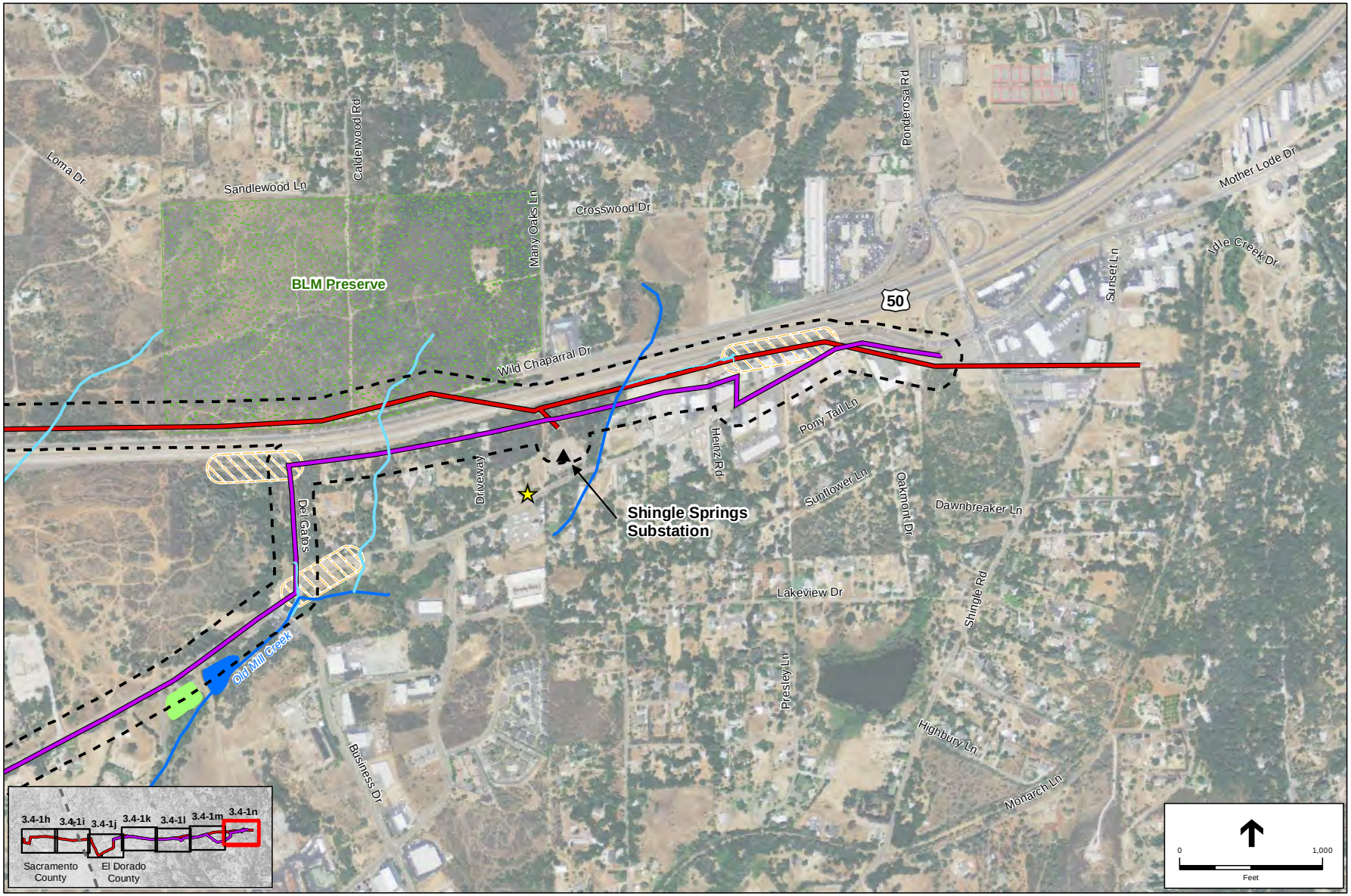


Substation
Staging Area
Gold Hill No 1 (GH)
60 kV Power LIne Reconductoring
Missouri Flat-Gold Hill (MF-GH)
115 kV Power Line Reconductoring
Potential Pull Site
Project Area
Other waters and tributaries
Perennial
Seasonal

SOURCE: Stillwater Sciences, 2013

Missouri Flat Project . D207584.16

Figure 3.4-1m
Wetland Resources
(Panel 6 of 7)



- Substation
- Staging Area
- Gold Hill No 1 (GH) 60 kV Power LIne Reconductoring
- Missouri Flat-Gold Hill (MF-GH) 115 kV Power Line Reconductoring
- Potential Pull Site
- BLM Preserve
- Project Area

Wetlands
- Seasonal

Other waters and tributaries
- Perennial
- Seasonal

SOURCE: Stillwater Sciences, 2013

Missouri Flat Project . D207584.16

Figure 3.4-1n
Wetland Resources
(Panel 7 of 7)

Prunus sp. (cultivated plum), and black locust (*Robinia pseudoacacia*). Shrub species include Himalayan blackberry, California blackberry (*Rubus ursinus*), narrow-leaved willow (*Salix exigua*), red willow (*Salix laevigata*), Pacific willow (*Salix lasiandra*; formerly *Salix lucida* subsp. *lasiandra*), arroyo willow (*Salix lasiolepis*), blue elderberry (*Sambucus nigra* subsp. *coerulea*; formerly *Sambucus mexicana*), and California wild grape (*Vitis californica*).

Freshwater Emergent Wetland. Aquatic habitats in the Project area include freshwater emergent wetland (approximately 16.0 acres/6.5 hectares), which is characterized by erect, rooted, herbaceous hydrophytes that are present for most of the growing season in most years (Stillwater Sciences, 2013a; 2013c). Freshwater emergent wetland includes both seasonal and permanent wetlands (wetland types, locations, and extent are described in greater detail in the *Delineation of Waters and Wetlands for the Missouri Flat-Gold Hill Transmission Line Reconductoring Project* (Stillwater Sciences, 2013c) and shown in Figures 3.4-1h through 3.4-1n. Seasonal wetlands occur in drainages, swales, and depressional basins that are dry during the summer, but inundated or saturated during the winter. One seasonal pond occurs at a tower located approximately 800 feet northwest of the intersection of Broadstone Parkway and Empire Ranch Road. Permanent wetlands also occur throughout the Project area where standing water is common through much of the spring and summer due to direct precipitation and/or surface runoff.

Vernal Pool. The project area contains approximately 0.6 acre (0.2 hectares) of vernal pools located in the western portion of the Project area. These occur in depressional basins, and are inundated for a few weeks to several months each winter by precipitation and/or overland flow. Plant species characteristic of vernal pools in the Project area include Fremont's goldfields (*Lasthenia fremontii*), hyssop loosestrife (*Lythrum hyssopifolia*), Great Valley coyote-thistle (*Eryngium castrense*), and wavy-stemmed popcornflower (*Plagiobothrys undulatus*). Aquatic invertebrates were observed at one vernal pool feature (VP3, sampling point No. 12) (Stillwater Sciences, 2013c). In the Project area, vernal pools are most equivalent to the *Lasthenia fremontii-Downingia (bicornuta)* Herbaceous Alliance (Fremont's goldfields-Downingia vernal pools) and *Montia fontana-Sidalcea calycosa* Herbaceous Alliance (water blinks-annual checkerbloom vernal pools) (Sawyer et al., 2009), which are both rare natural communities (CDFG, 2010).

Other Waters of the U.S. and Waters of the State. Approximately 9.1 acres (3.7 hectares) of other waters and tributaries are present in the Project area, including ditches and creeks (Stillwater Sciences, 2013c). Deer Creek (a tributary to Cosumnes River), Carson Creek and Marble Creek (both tributaries to Deer Creek), Alder Creek and Willow Creek (both tributaries to Lake Natoma and American River), and several of their unnamed tributaries intersect the Project area. In the Project area, waters of the U.S. and waters of the State are equivalent (Stillwater Sciences, 2013c).

Constructed Wetlands/Stormwater Basins. Approximately 1.7 acres (0.7 hectares) of constructed wetlands that serve as stormwater detention basins are located in the western portion of the Project area, near Broadstone Parkway (Stillwater Sciences, 2013c).

Special-Status Species

Special-status species are legally protected under the State and federal Endangered Species Acts or other regulations or are species that are considered sufficiently rare by the scientific community to qualify for such listing. These species are classified under the following categories:

1. Species listed or proposed for listing as threatened or endangered under the federal Endangered Species Act (50 Code of Federal regulations [CFR] 17.12 [listed plants], 17.11 [listed animals] and various notices in the Federal Register [FR] [proposed species]).

2. Species that are candidates for possible future listing as threatened or endangered under the federal Endangered Species Act (61 FR 40, February 28, 1996);

3. Species listed or proposed for listing by the State of California as threatened or endangered under the California Endangered Species Act (14 California Code of Regulations [CCR] 670.5);

4. Plants listed as rare or endangered under the California Native Plant Protection Act (California Fish and Game Code, Section 1900 et seq.);

5. Species that meet the definitions of rare and endangered under CEQA. CEQA Section 15380 provides that a plant or animal species may be treated as "rare or endangered" even if not on one of the official lists (State CEQA Guidelines, Section 15380);

6. Plants considered under the CNPS to be "rare, threatened or endangered in California" (California Rare Plant Rank 1A, 1B, and 2 in CNPS, 2013) as well as California Rare Plant Rank 3 and 4[2] plant species;

7. Species designated by CDFW as Fully Protected or as a Species of Special Concern;

8. Species protected under the federal Bald and Golden Eagle Protection Act; and

9. Species designated as Sensitive by BLM.

Wildlife

Following a review of the California Natural Diversity Database (CNDDB), USFWS list of federally listed and proposed endangered, threatened, and candidate species, and available project literature including the PEA (PG&E, 2013b) and *Biological Resources Technical Report* (Stillwater Sciences, 2013a), thirty-one special-status wildlife species were analyzed to consider their potential presence in the project area. Fourteen of these species were eliminated from further consideration due to lack of suitable habitat within or adjacent to the Project area, and/or Project location outside of the species' current range. The analysis included determinations based on individual species range of activity and potential for occurrence within a distance of the Project

[2] List 3 plants may be analyzed under CEQA §15380 if sufficient information is available to assess potential impacts to such plants. Factors such as regional rarity vs. statewide rarity should be considered in determining whether cumulative impacts to a List 4 plant are significant even if individual project impacts are not. CNPS List 3 and 4 may be considered regionally significant if, e.g., the occurrence is located at the periphery of the species' range, or exhibits unusual morphology, or occurs in an unusual habitat/substrate. For these reasons, CNPS List 3 and 4 plants should be included in the special-status species analysis. List 3 and 4 plants are also included in the California Natural Diversity Database's (CNDDB) Special Plants, Bryophytes, and Lichens List. [Refer to the current online published list available at: http://www.dfg.ca.gov/biogeodata.].

area where the species could potentially be impacted by Project activities. Those special-status wildlife species considered to have a low, moderate, or high potential to occur in the Project area are identified in **Table 3.4-1a**. A special-status species' potential to occur in the project area is defined as follows:

- **Unlikely:** The project area and/or surrounding area do not support suitable habitat for a particular species, or the project site is outside of the species known range.
- **Low Potential:** The project area and/or immediate area only provide limited amounts and low quality habitat for a particular species. In addition, the known range for a particular species may be outside of the immediate project area.
- **Medium Potential:** The project area and/or immediate area provide suitable habitat for a particular species.
- **High Potential:** The project area and/or immediate area provide ideal habitat conditions for a particular species and/or known populations occur in immediate area and/or within the project site.

Conclusions regarding habitat suitability and species occurrence are based on the review of existing literature and databases as well as reconnaissance surveys conducted by Stillwater Sciences (2013a) and Environmental Science Associates biologists.

Special-status species with high potential to occur within the Project area include: western (Pacific) pond turtle (*Actinemys marmorata*) and coast horned lizard (*Phrynosoma blainvillii*). Special-status species with moderate potential to occur within the Project area include: vernal pool fairy shrimp (*Branchinecta lynchi*), vernal pool tadpole shrimp (*Lepidurus packardi*), Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), western spadefoot (*Spea hammondii*), white-tailed kite (*Elanus leucurus*), western burrowing owl (*Athene cunicularia*), tricolored blackbird (*Agelaius tricolor*), Cooper's hawk (*Accipiter cooperi*), pallid bat (*Antrozous pallidus*), and American badger (*Taxidea taxus*). These findings are supported by literature research, a review of species natural distribution, habitat associations, and recent occurrences (CDFW, 2014), and consideration of existing vegetation communities within the Project area. Additionally, conclusions regarding special-status species potential to occur within the Project area are supported by literature research and field surveys conducted by Stillwater Sciences (Stillwater Sciences, 2013a).

Invertebrates

In the Project area, habitat for vernal pool fairy shrimp and vernal pool tadpole shrimp is present in seasonal wetlands, seasonal depressions, and vernal pools around Gold Hill Substation, as well as in similar habitats approximately 1.5 miles (2.4 km) to the east (Figures 3.4-1a through 3.4-1g). A portion of other wet and/or ponded areas varying in size (but greater than 6.5 ft^2 [0.6 m^2]) provide suitable habitat for these invertebrates in the vicinity of the Gold Hill Substation (Stillwater Sciences, 2013a). Seasonal depression, wetland, and vernal pool features farther east in the Project area beyond the Gold Hill Substation are outside of vernal pool fairy shrimp's and vernal pool tadpole shrimp's current distribution.

TABLE 3.4-1a
POTENTIAL FOR SPECIAL-STATUS WILDLIFE SPECIES TO OCCUR IN THE PROJECT AREA

Common Name (*Scientific name*)	Query Sources[b]	Status[a] Federal/ State	Distribution in California	Habitat Association	Likelihood to Occur in Project Area
Invertebrates					
Conservancy fairy shrimp (*Branchinecta conservatio*)	USFWS	FE/–	Disjunct occurrences in Tehama, Glenn, Butte, Yolo, Solano, Stanislaus, Merced, and Ventura counties	Large, deep vernal pools in annual grasslands	Unlikely. The project area is outside of the species' known range.
Vernal pool fairy shrimp (*Branchinecta lynchi*)	CNDDB, USFWS	FT, Designated Critical Habitat/–	Central Valley, central and south Coast Ranges from Tehama County to Santa Barbara County; isolated populations also in Riverside County	Vernal pools; also found in sandstone rock outcrop pools; artificial pools include tire ruts, road ditches, and puddles	**Moderate.** Vernal pools and seasonal wetlands in the project area provides suitable habitat for this species.
Vernal pool tadpole shrimp (*Lepidurus packardi*)	CNDDB, USFWS	FE, Designated Critical Habitat/–	Shasta County south to Merced County	Vernal pools and ephemeral stock ponds; artificial pools include tire ruts, road ditches, and puddles	**Moderate.** Vernal pools and seasonal wetlands in the project area provides suitable habitat for this species.
Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)	CNDDB, USFWS	FT, Designated Critical Habitat/–	Throughout the Central Valley	Riparian and oak savanna habitats below 915 m (3,000 ft) with host plant, blue elderberry (Sambucus nigra subsp. coerulea)	**Moderate.** Elderberry plants occur in the project area and provides suitable habitat for this species.
Fish					
Steelhead, Central Valley DPS *Oncorhynchus mykiss*	USFWS	FT, Designated Critical Habitat/–	Sacramento and San Joaquin rivers and their tributaries,	Rivers and streams with cold water, clean gravel of appropriate size for spawning, and suitable rearing habitat; typically rear in freshwater for one or more years before migrating to the ocean	Low. Species is not expected to occur in Deer Creek (the only perennially wet tributary in the project area); water temperatures expected to be too high during the summer rearing period (Lindley et al. 2006).
Chinook salmon, central Valley spring-run ESU *Oncorhynchus tshawytscha*	USFWS	FT, Designated Critical Habitat/ST	Sacramento River and its tributaries (Deer, Mill, Antelope, Battle, Beegum, Butte, and Big Chico creeks and the Feather and Yuba rivers)	Low- to mid-elevation rivers and streams with cold water, clean gravel for spawning and adequate rearing habitat; typically rear in freshwater for one or more years before outmigration	Low. Species is not expected in Deer Creek; summer holding habitat was not identified; also, species not known from Consumnes River, presumably due to low summer flows (Yoshiyama et al. 2001).
Chinook salmon, Sacramento River winter-run ESU *Oncorhynchus tshawytscha*	USFWS	FE, Designated Critical Habitat/SE	Sacramento River and its tributaries; Sacramento-San Joaquin Delta; San Francisco, San Pablo and Suisun bays	Mainstem river reaches with cool water and available spawning gravel; rear five to ten months in the river and estuary; migrate to the ocean to feed and grow until sexually mature	Unlikely. The project area is outside of the species' known range.
Delta smelt *Hypomesus transpacificus*	USFWS	FT/SE	Found only in the Sacramento-San Joaquin Estuary, including the lower reaches of Sacramento and Napa rivers; the Delta including Suisun Bay, Goodyear, Suisun, Cutoff, First Mallard, and Montezuma sloughs	Estuarine or brackish waters up to 18 parts per thousand (ppt); spawn in shallow brackish water upstream of the mixing zone (zone of saltwater-freshwater interface) where salinity is around 2 ppt	Unlikely. There is no estuarine habitat in the project area and the project area is outside of the species' known range.

TABLE 3.4-1a (Continued)
POTENTIAL FOR SPECIAL-STATUS WILDLIFE SPECIES TO OCCUR IN THE PROJECT AREA

Common Name (*Scientific name*)	Query Sources[b]	Status[a] Federal/ State	Distribution in California	Habitat Association	Likelihood to Occur in Project Area
Fish (cont.)					
Hardhead *Mylopharadon conocephalus*	CNDDB	–/SSC	Sacramento and San Joaquin river drainage and the Russian River	Low- to mid-elevation rivers and streams with high water quality. Typically found where summer water temperatures exceed 20 °C.	Unlikely. While found in Deer Creek downstream of the Deer Creek Waste Water Treatment Plant, the species is not expected to occur upstream in the vicinity of the project area due to a migration barrier (Stillwater Sciences, 2013a).
Amphibians					
California tiger salamander (*Ambystoma californiense*)	USFWS	FT/ST	Very fragmented; along the coast from Sonoma County to Santa Barbara County, in the Central Valley and Sierra foothills from Sacramento County to Tulare County	Grassland, oak savannah, or edges of woodland that provide subterranean refuge (typically mammal burrows); breeds in nearby temporary ponds, vernal pools, or slow-moving parts of streams	Unlikely. The project area is outside of the species' known range.
Western spadefoot (*Spea hammondii*)	CNDDB	BLM/SSC	Near Redding, south throughout the Central Valley and nearby foothills; Coast Ranges south of Monterey Bay; and coastal southern California south of the Transverse Mountains and west of the Peninsular Mountains	Areas with sparse vegetation and/or short grasses in sandy or gravelly soils; primarily in washes, river floodplains, alluvial fans, playas, alkali flats, among grasslands, chaparral, or pine-oak woodlands; breeds in ephemeral rain pools with no predators	**Moderate.** Ephemeral pools in project area provide suitable habitat for this species.
California red-legged frog (*Rana draytonii*)	CNDDB, USFWS	FT, Designated Critical Habitat/SSC	Largely restricted to coastal drainages on the central coast from Mendocino County to Baja California; in the Sierra foothills south to Tulare and possibly Kern counties	Breeds in still or slow-moving water with emergent and overhanging vegetation, including wetlands, wet meadows, ponds, lakes, and low-gradient, slow moving stream reaches with permanent pools; uses adjacent uplands for dispersal and summer retreat	Low. Aquatic habitat features in the project area lack suitable characteristics for breeding or are otherwise poor in quality, and there is a lack of connectivity to the closest confirmed populations (Stillwater Sciences, 2013a).
Foothill yellow-legged frog (*Rana boylii*)	CNDDB	BLM/SSC	From the Oregon border along the coast to the Transverse Ranges, and south along the western side of the Sierra Nevada Mountains to Kern County; a possible isolated population in Baja California	Shallow tributaries and mainstems of perennial streams and rivers, typically associated with cobble or boulder substrate	Unlikely. The project area is outside of the species' range, and the nearest documented occurrence is more than 11 miles from the project area (CDFW, 2014).

TABLE 3.4-1a (Continued)
POTENTIAL FOR SPECIAL-STATUS WILDLIFE SPECIES TO OCCUR IN THE PROJECT AREA

Common Name (*Scientific name*)	Query Sources[b]	Status[a] Federal/ State	Distribution in California	Habitat Association	Likelihood to Occur in Project Area
Reptiles					
Western pond turtle (*Actinemys marmorata*)	CNDDB	BLM/SSC	From the Oregon border along the coast ranges to the Mexican border, and west of the crest of the Cascades and Sierras	Permanent, slow-moving fresh or brackish water with available basking sites and adjacent open habitats or forest for nesting	**High.** Western pond turtle has been documented in the project area by Stillwater Sciences (2013a), and there are suitable perennial waterbodies in the project area.
Coast horned lizard (*Phrynosoma blainvillii*)	CNDDB	BLM/SSC	West of deserts and Cascade-Sierran highlands, as far north as Shasta Reservoir	Open areas with sandy soil and/or patches of loose soil and low/ scattered vegetation in scrublands, grasslands, conifer forests, and woodlands; frequently found near ant hills	**High.** Coast horned lizard has been documented in the BLM Pine Hill Preserve near the project area, and there is suitable chaparral habitat.
Giant garter snake (Thamnophis gigas)	USFWS	FT/ST	Central Valley from the vicinity of Burrel in Fresno County north to near Chico in Butte County; has been extirpated from areas south of Fresno	Sloughs, canals, low-gradient streams and freshwater marsh habitats where there is a prey base of small fish and amphibians; also found in irrigation ditches and rice fields.	Unlikely. The project area is outside of the species' known range.
Birds					
White-tailed kite (*Elanus leucurus*)	CNDDB	–/SFP	Year-round resident; found in nearly all lowlands of California west of the Sierra Nevada mountains and the southeast deserts	Lowland grasslands and wetlands with open areas; nests in trees near open foraging area	**Moderate.** Trees near open foraging areas in the project area provide suitable nesting habitat for this species.
Bald eagle (*Haliaeetus leucocephalus*)	CNDDB	FD, BGEPA/SE, SFP	Permanent resident and uncommon winter migrant, found nesting primarily in Butte, Lake, Lassen, Modoc, Plumas, Shasta, Siskiyou, and Trinity counties	Large bodies of water or rivers with abundant fish, uses adjacent snags or other perches; nests and winter communal roosts in advanced-successional conifer forest near open water	Unlikely. There is no suitable nesting or foraging habitat for bald eagles in the project area.
Northern goshawk (*Accipter gentilis*)	CNDDB	BLM/SSC	Nests in North Coast Ranges through Sierra Nevada, Klamath, Cascade, and Warner Mountains, in Mount Pinos and San Jacinto, San Bernardino, and White Mountains; winters along north coast, throughout foothills, and in northern deserts	Mature and old-growth stands of coniferous forest, middle and higher elevations; nests in dense part of stands near an opening	Unlikely. There is no suitable late-successional coniferous forest habitat in the project area.
Swainson's hawk (*Buteo swainsoni*)	CNDDB	–/ST	Summer resident; breeds in lower Sacramento and San Joaquin valleys, the Klamath Basin, and Butte Valley; highest nesting densities occur near Davis and Woodland, Yolo County	Nests in oaks or cottonwoods in or near riparian habitats; forages in grasslands, irrigated pastures, and grain fields	Low. Trees near open foraging areas in the project area provide nesting habitat for Swainson's hawk; however, the project area is located at the eastern boundary of the species' distribution in the Central Valley.

TABLE 3.4-1a (Continued)
POTENTIAL FOR SPECIAL-STATUS WILDLIFE SPECIES TO OCCUR IN THE PROJECT AREA

Common Name (*Scientific name*)	Query Sources[b]	Status[a] Federal/ State	Distribution in California	Habitat Association	Likelihood to Occur in Project Area
Birds (cont.)					
Golden eagle (*Aquila chrysaetos*)	CNDDB	BGEPA/SFP	Uncommon permanent resident and migrant throughout California, except center of Central Valley	Open woodlands and oak savannahs, grasslands, chaparral, sagebrush flats; nests on steep cliffs or large trees	Low. Though large, prominent trees and towers occur in the project area; close proximity to busy roads and highways makes golden eagle nesting unlikely.
California black rail (*Laterallus jamaicenis coturniculus*)	CNDDB	–/ST, SFP	Northern San Francisco Bay area (primarily San Pablo and Suisun bays) and Sacramento-San Joaquin Delta	Large tidally-influenced marshes with saline to brackish water, typically with a high proportion of pickleweed (*Salicornia virginica*); also can be associated with bulrush (*Schoenoplectus* spp.), cattail (*Typha* spp.), or rushes (*Juncus* spp.); peripheral vegetation at and above mean high higher water necessary to protect nesting birds during extremely high tides	Unlikely. There is no suitable tidal marsh habitat in the project area.
Burrowing owl (*Athene cunicularia*)	CNDDB	BLM/SSC	Year-round resident throughout much of the state; Central Valley, northeastern plateau, southeastern deserts, and coastal areas; rare along south coast	Level, open, dry, heavily grazed or low- stature grassland or desert vegetation with available burrows	**Moderate.** Burrowing owl may occur in low-stature grasslands if suitable mammal burrows are present.
Purple martin (*Progne subis*)	CNDDB	–/SSC	Summer resident and migrant; most densely populated in central and northern coastal conifer forests and more localized areas in the Sierra Nevada, interior foothills, and southern California; downtown Sacramento has a unique bridge-nesting population	Conifer, valley-foothill, montane-hardwood forests with large snags in open areas; most nest sites located in upper slopes of hilly terrain; occasionally bridges and nest boxes	Unlikely. The project area is outside of the species' known range.
Bank swallow (*Riparia riparia*)	CNDDB	–/ST	Summer resident in the Sacramento Valley from Tehama County to Sacramento County	Nests in vertical bluffs or banks, usually near water, in sand or sandy loam	Unlikely. There is no suitable bluff or bank habitat present in the project area.
Grasshopper sparrow (*Ammodramus savannarum*)	CNDDB	–/SSC	Summer resident; nests in Del Norte, Trinity, and Tehama counties south, west of the Cascade–Sierra Nevada axis and southeastern deserts, to San Diego County	Typically found in moderately open grasslands with scattered shrubs	**Moderate.** Suitable habitat such as moderately open grasslands is present within the project area.

TABLE 3.4-1a (Continued)
POTENTIAL FOR SPECIAL-STATUS WILDLIFE SPECIES TO OCCUR IN THE PROJECT AREA

Common Name (*Scientific name*)	Query Sources[b]	Status[a] Federal/ State	Distribution in California	Habitat Association	Likelihood to Occur in Project Area
Birds (cont.)					
Tricolored blackbird (*Agelaius tricolor*)	CNDDB	BLM/SSC	Permanent resident, but makes extensive migrations both in breeding season and winter; common locally throughout Central Valley and in coastal areas from Sonoma County south	Feeds in grasslands and agriculture fields; nesting habitat components include open accessible water, a protected nesting substrate (including flooded or thorny vegetation), and a suitable nearby foraging space with adequate insect prey	**Moderate.** There is suitable nesting habitat present in freshwater marshes in the project area.
Mammals					
Pallid bat (*Antrozous pallidus*)	CNDDB	BLM/SSC	Throughout California except for the high Sierra Nevada and from Del Norte and western Siskiyou Counties to northern Mendocino County	Roosts in rock crevices, tree hollows, mines, caves, and a variety of vacant and occupied buildings; feeds in a variety of open habitats	**Moderate.** Pallid bat may roost on bridges in the project area.
Yuma myotis (*Myotis yumanensis*)	CNDDB	BLM/–	Widespread in most of California except the Mojave and Colorado Desert regions	Open forests and woodlands; roosts in buildings, mines, caves, crevices, or bridges near sources of water over which to feed	Unlikely. There is no suitable roosting habitat near a water source in the project area.
Pacific fisher (*Martes pennanti [pacifica*]) West Coast Distinct Population Segment	CNDDB	FC, /SSC	Two widely separated regions: the northern Coast Range and Klamath Province, and the southern Sierra Nevada	Late- successional conifer forests, with complex forest structure being more important than tree species; den in hollow trees and snags	Unlikely. There are no late- successional conifer forests in the project area.
American badger (*Taxidea taxus*)	CNDDB	–/SSC	Throughout the state except in the humid coastal forests of Del Norte County and the northwest portion of Humboldt County	Shrubland, open grasslands, fields, and alpine meadows with friable soils	**Moderate.** There is suitable habitat in moderately open grasslands in the project area, and in BLM Pine Hill Preserve.

a Status codes:

– = None

Federal

BGEPA = Protected under the Bald and Golden Eagle Protection Act
BLM = Designated as Sensitive by BLM
FC = Candidate for listing under the ESA
FD = Delisted from the ESA
FE = Endangered under the ESA
FT = Threatened under the ESA

State

SE = Endangered under the CESA
ST = Threatened under the CESA
SSC = CDFW Species of Special Concern
SFP = CDFW Fully Protected species

b SOURCES: CDFW, 2014; USFWS, 2014.

Valley elderberry longhorn beetle habitat is known to occur in the vicinity of the Gold Hill Substation, the Clarksville Substation, east of Platt Circle in El Dorado Hills, and near Cambridge Road and Country Club Drive in Cameron Park. Sixteen blue elderberry plants with one or more stems 1 in (2.5 cm) or greater in diameter were observed at these locations, as show in Figures 3.4-1a through 3.4-1g). Additionally, the two closest documented populations of valley elderberry longhorn beetle to the Project area are along Willow Creek, within one mile of the western end of the Project area (Stillwater Sciences, 2013a).

Fish

Deer Creek is the only creek with year-round flow in the Project area; there is low potential for Central Valley Steelhead and Central Valley spring-run Chinook salmon to occur within this creek. However, the segment of Deer Creek in the Project area does not provide suitable summer holding habitat for these species (Stillwater Sciences, 2013a). Thus, neither species is expected to occur in the channel year-round.

Amphibians

Potential breeding habitat for western spadefoot occurs in locations along the western third of the Project area with ephemeral ponding, including seasonal wetlands and vernal pools near Gold Hill Substation (Figures 3.4-1a through 3.4-1g). The Project area is at the eastern edge of the western spadefoot's current distribution (USFWS, 2005) and one CNDDB occurrence has been recorded for this species at approximately 4 mi (6.4 km) from the Gold Hill Substation at the western end of the Project area (CDFW, 2014).

Reptiles

The Project area has a high potential to support two special-status reptile species: the western pond turtle and coast horned lizard. A western pond turtle was incidentally observed during wildlife surveys in April 2001, basking in a stormwater detention pond at the southern edge of the Project area near the intersection of White Rock Road and Monte Verde Drive (Stillwater Sciences, 2013a). Additionally, western pond turtle is reported in Carson Creek near Latrobe Road (CDFW, 2014), less than 1 mi (1.6 km) south of the Project area. Suitable western pond turtle habitat occurs in permanent waterbodies in and near the Project area, including perennial tributaries and stormwater detention basins.

The coast horned lizard also has a high potential to occur within the Project area. Two occurrences are reported from the BLM Pine Hill Preserve (CDFW, 2014). Suitable habitat for this species occurs in chaparral habitat in the Preserve and adjacent lands with similar vegetation.

Birds

The Project area contains habitats that could support several special-status bird species, including white-tailed kite, western burrowing owl, Cooper's hawk, and tricolored blackbird. Additionally, many other common migratory birds may nest in or near the Project area (refer to the *Biological Resources Technical Report*, pp. 52-56 [Stillwater Sciences, 2013a]). Sightings of white-tailed kite are fairly common in the Project region (eBird, 2014). A historical occurrence of a white-tailed kite nesting occurs approximately 0.5 mi (0.8 km) north of the Project area between Golf

Links Drive and Empire Ranch Road (CDFW, 2014). Potential nesting habitat for white-tailed kite occurs in the Project area where there are tall, isolated trees adjacent to open grassland, meadows, or marshes for foraging. There are three documented occurrences of burrowing owl within 1 and 3 miles (1.6 and 4.8 km) of the Project area, southeast of the Gold Hill Substation (CDFW, 2014). Potentially suitable burrowing owl nesting habitat occurs in open grassland areas in the western half of the Project area where small mammal burrows and artificial nesting areas (e.g., debris piles and culverts) are present. Cooper's hawk is known to occur in the vicinity of the Project area (eBird, 2014), specifically north of White Rock Road, approximately one mile west of Grant Line Road (CDFW, 2014). A colony of tricolored blackbirds has been documented near the Project area in a small pond approximately 150 ft (46 m) south of Highway 50, between the Bass Lake Road and Cameron Park exits off Highway 50 in 1987 (CDFW, 2014). While the pond still exists, future nesting of tricolored blackbirds at that site is unlikely due to urban development which replaced suitable foraging habitat. Suitable nesting habitat for tricolored blackbird occurs in freshwater marshes containing nesting substrate such as cattails, tules, blackberry brambles, or willows in the Project area.

Mammals

Special-status mammal species with potential to occur in the Project area include the pallid bat and American badger. Pallid bats may use bridge crossings within the Project area as roost habitat and will use a variety of open habitats to forage.

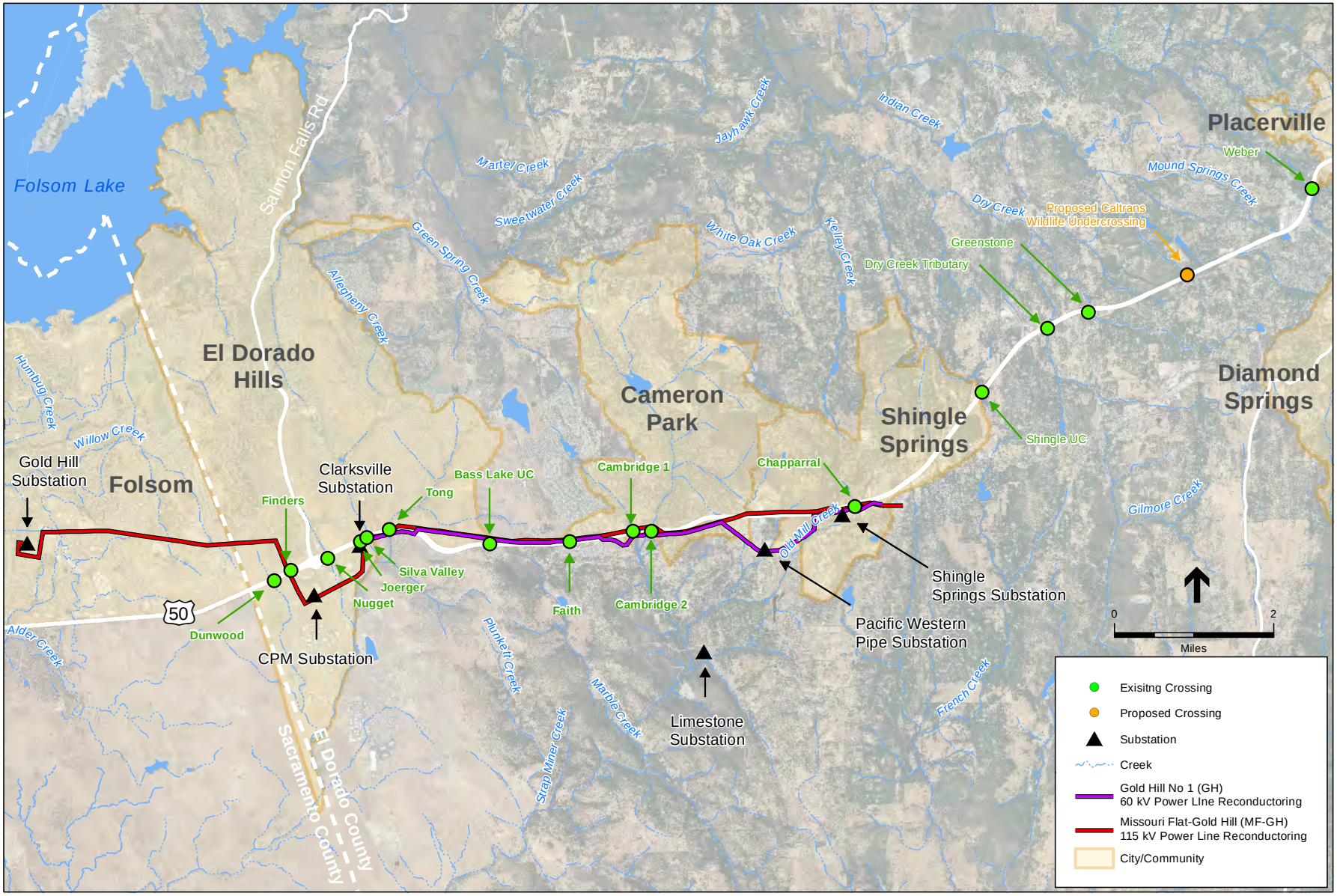
American badgers may occur in open expanses of grassland habitat located between Empire Ranch Road and Cambridge Road in locations with friable soil. Additionally, chaparral habitat in BLM's Pine Hill Preserve provides suitable habitat for American badger.

Wildlife Corridors

The *Final Wildlife Movement and Corridors Report*, published and accepted by the El Dorado County Board of Supervisors on December 7, 2010, is part of Phase I of the County's *Integrated Natural Resources Management Plan* (INRMP) (Sierra Ecosystem Associates, 2010). The *Final Wildlife Movement and Corridors Report* identified several potential wildlife crossing locations under Highway 50 in or adjacent to the Project area; these locations include Dunwood Drive, Finders Way, Joerger Cutoff Road, Silva Valley Parkway, and Tong Road in the form of corrugated culvert pipe, concrete box culvert, and bridge under-crossing (**Figure 3.4-1o**) (Sierra Ecosystems Associates, 2010).

Plants

Twenty-six special-status plant species were identified from the database queries conducted in 2013 and updated in 2014 (USFWS, 2014; CNDDB, 2014; CNPS, 2014); special-status plant species considered to have a low, moderate, or high potential to occur in the Project area are identified in **Table 3.4-1b**. These determinations are supported by literature research, a review of species natural distribution, habitat associations, and recent occurrences (CDFW, 2014), and consideration of existing vegetation communities within the Project area. Additionally, conclusions regarding special-status species potential to occur within the Project area are supported by focused botanical surveys conducted by Stillwater Sciences (Stillwater Sciences, 2013a; 2013b).



SOURCE: AECOM, 2013; Sierra Ecosystem Associates, 2010

Missouri Flat Project . D207584.16

Figure 3.4-1o

Locations of Highway 50 Wildlife Crossings

TABLE 3.4.1b
POTENTIAL FOR SPECIAL-STATUS PLANT SPECIES TO OCCUR IN THE PROJECT AREA

Common Name	Scientific Name	Query Sources[b]	Status[a] Federal/State/ CRPR	Blooming Period	Elevation Range ft (m)	Suitable Habitat Type	Likelihood of Occurrence in Project Area
adobe navarretia	*Navarretia nigelliformis* ssp. *nigelliformis*	CNPS	–/–/4.2	April–June	328–3,281 ft (100–1,000 m)	Clay, sometimes serpentinite soils in vernally mesic valley and foothill grassland and sometimes vernal pools.	**Moderate**. Suitable habitat is present in the project area.
Ahart's dwarf rush	*Juncus leiospermus* var. *ahartii*	CNPS, CNDDB	–/–/1B.2	March–May	98–751 ft (30–229 m)	Mesic valley and foothill grassland.	Unlikely. Project area is out of species' elevation range.
big-scale balsamroot	*Balsamorhiza macrolepis*	CNPS, CNDDB	–/–/1B.2	March–June	295–5,102 ft (90–1,555 m)	Chaparral, cismontane woodland, and sometimes serpentinite valley and foothill grassland.	**Moderate**. Suitable habitat is present in the project area.
Bisbee Peak rush-rose	*Helianthemum suffrutescens*	CNPS, CNDDB	–/–/3.2	April–June	148–2,756 ft (45–840 m)	Chaparral often in serpentinite, gabbroic, or Ione soil.	**High.** Species was previously documented in the project area (CDFW, 2014).
Boggs Lake hedge-hyssop	*Gratiola heterosepala*	CNPS, CNDDB	–/SE/1B.2	April–August	33–7,792 ft (10–2,375 m)	Along lake margins in marshes and swamps and clay vernal pools	**Moderate**. Suitable habitat is present in the project area.
Brandegee's clarkia	*Clarkia biloba* ssp. *brandegeeae*	CNPS, CNDDB	–/–/4.2	May–July	240–3,002 ft (73–915 m)	Chaparral, cismontane woodland, and lower montane coniferous forest, often along roadcuts.	**Moderate**. Suitable habitat is present in the project area.
hispid bird's-beak	*Chloropyron molle* ssp. *hispidum*	CNPS, CNDDB	–/–/1B.1	June–September	3–509 ft (1–155 m)	Meadows, playas, and valley and foothill grassland.	**Moderate.** Suitable habitat is present in the project area.
Congdon's onion	*Allium sanbornii* var. *congdonii*	CNPS	–/–/4.3	April–July	984–3,248 ft (300–990 m)	Serpentinite or volcanic chaparral and cismontane woodland.	**Moderate**. Suitable habitat is present in the project area.
dubious pea	*Lathyrus sulphureus* var. *argillaceus*	CNPS	–/–/3	April–May	492–1,001 ft (150–305 m)	Cismontane woodland, lower montane coniferous forest, and upper montane coniferous forest.	Unlikely. Project area is out of the species' elevation range.
dwarf downingia	*Downingia pusilla*	CNPS, CNDDB	–/–/2.2	March–May	3–1,460 ft (1–445 m)	Mesic valley and foothill grassland and vernal pools.	**Moderate**. Suitable habitat is present in the project area.

TABLE 3.4.1b (Continued)
POTENTIAL FOR SPECIAL-STATUS PLANT SPECIES TO OCCUR IN THE PROJECT AREA

Common Name	Scientific Name	Query Sources[b]	Status[a] Federal/State/ CRPR	Blooming Period	Elevation Range ft (m)	Suitable Habitat Type	Likelihood of Occurrence in Project Area
El Dorado County mule ears	*Wyethia reticulata*	CNPS, CNDDB	BLM/–/1B.2	April–August	607–2,067 ft (185–630 m)	Chaparral, cismontane woodland, and clay or gabbroic soils in lower montane coniferous forest.	**High**. Species was previously documented in the project area (CDFW, 2014).
Jepson's onion	*Allium jepsonii*	CNPS, CNDDB	–/–/1B.2	April–August	984–4,331 ft (300–1,320 m)	Chaparral, cismontane woodland, and serpentinite or volcanic lower montane coniferous forest.	**Moderate**. Suitable habitat is present in the project area.
Layne's ragwort	*Packera layneae (formerly Senecio layneae)*	CNPS, CNDDB, USFWS	FT/SR/1B.2	April–August	656–3,281 ft (200–1,000 m)	Chaparral and rocky serpentinite or gabbroic cismontane woodland.	**High**. Species was previously documented in the project area (CDFW, 2014).
legenere	*Legenere limosa*	CNPS, CNDDB	–/–/1B.1	April–June	3–2,887 ft (1–880 m)	Vernal pools.	**Moderate**. Suitable habitat is present in the project area.
Nissenan manzanita	*Arctostaphylos nissenana*	CNPS, CNDDB	–/–/1B.2	February–March	1,476– 3,609 ft (450–1,100 m)	Closed-cone coniferous forest and rocky chaparral.	**Moderate**. Suitable habitat is present in the project area.
oval-leaved viburnum	*Viburnum ellipticum*	CNPS, CNDDB	–/–/2.3	May–June	705–4,593 ft (215–1,400 m)	Chaparral, cismontane woodland, and lower montane coniferous forest	**Moderate**. Suitable habitat is present in the project area.
Parry's horkelia	*Horkelia parryi*	CNPS, CNDDB	–/–/1B.2	April–September	263–3,396 ft (80–1,035 m)	Chaparral and Ione formation and other soils in cismontane woodland.	Unlikely. Ione soils are not present in the project area.
pincushion navarretia	*Navarretia myersii ssp. myersii*	CNPS, CNDDB	–/–/1B.1	April–May	66–1,083 ft (20–330 m)	Often acidic vernal pools.	**Moderate**. Suitable habitat is present in the project area.
Pine Hill ceanothus	*Ceanothus roderickii*	CNPS, CNDDB, USFWS	FE/SR/1B.2	April–June	804–2,067 ft (245–630 m)	Chaparral and gabbroic or serpentinite cismontane woodland	**High**. Previously documented in the project area (CDFW, 2014).
Pine Hill flannelbush	*Fremontodendron decumbens*	CNPS, CNDDB, USFWS	FE/SR/1B.2	April–July	1,394–2,493 ft (425–760 m)	Chaparral, and rocky gabbroic or serpentinite cismontane woodland.	**Moderate**. Suitable habitat is present in the project area.
Red Bluff dwarf rush	*Juncus leiospermus var. leiospermus*	CNPS, CNDDB	–/–/1B.1	March–May	115–3,347 ft (35–1,020 m)	Chaparral, valley and foothill grassland, cismontane woodlands, and vernal pools.	**Moderate**. Suitable habitat is present in the project area.

TABLE 3.4.1b (Continued)
POTENTIAL FOR SPECIAL-STATUS PLANT SPECIES TO OCCUR IN THE PROJECT AREA

Common Name	Scientific Name	Query Sources[b]	Status[a] Federal/State/ CRPR	Blooming Period	Elevation Range ft (m)	Suitable Habitat Type	Likelihood of Occurrence in Project Area
Red Hills soaproot	*Chlorogalum grandiflorum*	CNPS, CNDDB	BLM/–/1B.2/	May–June	804–4,068 ft (245–1,240 m)	Chaparral, cismontane woodland, and serpentinite, gabbroic, and other soils in lower montane coniferous forest.	**High**. Species was previously documented in project area (CDFW, 2014).
Sacramento Orcutt grass	*Orcuttia viscida*	CNPS, CNDDB, USFWS	FE/SE/1B.1	April–July	98–328 ft (30–100 m)	Vernal pools.	**Moderate**. Suitable habitat is present in the project area.
Sanford's arrowhead	*Sagittaria sanfordii*	CNPS, CNDDB	–/–/1B.2	May–October	0–2,133 ft (0–650 m)	Assorted shallow freshwater marshes and swamps.	**Moderate**. Suitable habitat is present in the project area.
slender Orcutt grass	*Orcuttia tenuis*	CNPS, CNDDB, USFWS	FT/SE/1B.1	May–September (October)	115–5,774 ft (35–1,760 m)	Vernal pools.	**Moderate**. Suitable habitat is present in the project area.
Stebbins' morning-glory	*Calystegia stebbinsii*	CNPS, CNDDB, USFWS	FE/SE/1B.1	April–July	607–3,576 ft (185–1,090 m)	Openings in chaparral and gabbroic or serpentinite cismontane woodland.	**High**. Species was previously documented in the project area (CDFW, 2014).
stinkbells	*Fritillaria agrestis*	CNPS, CNDDB	–/–/4.2	March–June	33–5,102 ft (10–1,555 m)	Cismontane woodland, chaparral, and valley and foothill grassland.	**Moderate**. Suitable habitat is present in the project area.
streambank spring beauty	*Claytonia parviflora ssp. grandiflora*	CNPS	–/–/4.2	February–March	820–3,937 ft (250–1,200 m)	Rocky cismontane woodland.	Unlikely. Suitable streambanks and rocky cismontane woodland habitat are not present in the project area.
Tuolumne button-celery	*Eryngium pinnatisectum*	CNDDB	–/–/1B.2	May–August	230–3,002 ft (70–915 m)	Cismontane woodland, lower montane coniferous forest, and mesic vernal pools.	**Moderate**. Suitable habitat is present in the project area.

a Status:

Federal
BLM = Designated as sensitive by BLM
FE = Endangered under the ESA
FT = Threatened under the ESA

State
SE = Endangered under the CESA
SR = Rare under the NPPA
ST = Threatened under CESA

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

Five special-status plant species were documented in the Project survey area during the 2012 and 2013 comprehensive botanical surveys: Stebbins' morning glory (*Calystegia stebbinsii*), Pine Hill ceanothus (*Ceanothus roderickii*), Red Hills soaproot (*Chlorogalum grandiflorum*), Layne's ragwort (*Packera layneae*), and El Dorado County mule's ears (*Wyethia reticulata*) (Stillwater Sciences, 2013a and 2013b). These species occur in chaparral habitat on gabbroic soils formed from weathered gabbrodirite rocks (refer to Section 1.2 [pp.3] of Stillwater Sciences, 2013a), which is located within and adjacent to the BLM Pine Hill Preserve, in the eastern portion of the Project area. A summary of approximate plant populations/count, location, life history and habitat requirements, and field observations are listed in Table 2-2 (pp. 10) of Stillwater Sciences, 2013a and 2013b. One population of eight Northern California black walnut (*Juglans hindsii*) trees was also documented along the access road for the Clarksville substation. However, the survey area is not considered the native range of this species (Baldwin et al. 2012), and these trees were likely planted or escaped from cultivation. Therefore, this population is not considered to be a special-status population.

Stebbins' Morning-Glory

Stebbins' morning-glory is a perennial rhizomatous herb, listed as endangered under the FESA and CESA, and has a California Rare Plant Rank (CRPR) of 1B.1 (i.e., rare, threatened, or endangered in California and elsewhere; seriously endangered in California). The species is limited to El Dorado and Nevada counties (Baldwin et al., 2012), from approximately 607 to 3,576 feet elevation, but is locally abundant in suitable habitat. Stebbins' morning-glory typically occurs on serpentinite or gabbroic soils, in openings in chaparral and cismontane woodland (CNPS, 2014). The species is shade intolerant and is threatened by development, off-road vehicles, road maintenance, and alteration of the natural fire regimes (USFWS, 2002). Focused plant surveys in 2012 documented approximately 3,000 individuals of Stebbins' morning-glory in the plant survey area (Stillwater Sciences, 2013a).

Pine Hill Ceanothus

Pine Hill ceanothus is a perennial evergreen shrub listed as endangered under the FESA, rare under NPPA, and has a CRPR of 1B.2 (i.e., rare, threatened, or endangered in California and elsewhere; fairly endangered in California). The species is limited to western El Dorado County (Baldwin et al. 2012), from approximately 804 to 2,067 feet elevation, but it is locally abundant in suitable habitat. Pine Hill ceanothus typically occurs on serpentinite or gabbroic soils, in open areas in chaparral and cismontane woodland (CNPS, 2014). The species is shade intolerant and is threatened by residential development and alteration of fire regimes. After a fire, Pine Hill ceanothus sprouts and proliferates before the formation of overgrowth from whiteleaf manzanita and chamise (USFWS, 2002). Focused surveys conducted by Stillwater Sciences in 2012 documented approximately 5,000 individuals of Pine Hill ceanothus in the plant survey area (Stillwater Sciences, 2013a).

Red Hills Soaproot

Red Hills soaproot is a perennial bulbiferous herb that is designated as Sensitive by BLM and has a CRPR of 1B.2. The species is limited to Placer, El Dorado, and Tuolumne counties (Baldwin et al., 2012), from approximately 804 to 4,068 feet elevation, but it is locally abundant in suitable habitat. Red Hills soaproot typically occurs on serpentinite, gabbroic, or other soils in open areas

in chaparral, cismontane woodland, and lower montane coniferous forest (CNPS, 2014). The species is threatened by development, mining, and vehicles. During the 2012 survey season, Stillwater Sciences documented approximately 11,000 individuals of red hills soaproot in the plant survey area (Stillwater Sciences, 2013a).

Layne's Ragwort

Layne's ragwort is a perennial herb that is listed as threatened under the FESA, rare under the NPPA, and has as a CRPR of 1B.2. The species is limited to Butte, El Dorado, Placer, Tuolumne, and Yuba counties, from approximately 656 to 3,281 feet elevation, but it is locally abundant in suitable habitat. Layne's ragwort generally occurs in temporary openings on rocky, serpentinite or gabbroic soils, in open areas in chaparral and cismontane woodland (CNPS, 2014). The species is shade intolerant and is eliminated as vegetation grows around it (USFWS 2002). The species is threatened by urbanization, grazing, road construction, vehicles, and fire suppression. Focused surveys in 2012 documented approximately 2,000 individuals of Layne's ragwort in the plant survey area (Stillwater Sciences, 2013a).

El Dorado County Mule Ears

El Dorado County mule ears is a perennial herb that is designated as Sensitive by BLM and has a CRPR of 1B.2. The species is limited to El Dorado and Yuba counties, from approximately 607 to 2,067 feet elevation, but it is locally abundant in suitable habitat. El Dorado County mule ears typically occurs on clay or gabbroic soils, in open areas in chaparral, cismontane woodland, and lower montane coniferous forest (CNPS, 2014). The species is threatened by development and vehicles (BLM, 2008). Stillwater Sciences documented approximately 10,000 individuals of El Dorado County mule ears in the plant survey area during the 2012 focused botanical surveys (Stillwater Sciences, 2013a).

Jurisdictional Wetlands and Waters

A wetland delineation was conducted in spring 2012 (April 9–13, April 26–27, May 31, and June 12) in accordance with the *Corps of Engineers Wetlands Delineation Manual* (USACE 1987) and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Arid West Region Supplement) (USACE 2008). The results of this survey were documented in the *Delineation of Waters and Wetlands for the Missouri Flat-Gold Hill 115 kV Reconductoring Project* (Stillwater Sciences, 2013c). The report describes the existing conditions for wetlands under federal and state jurisdiction for the Project, including a description of land use and vegetation, hydrology, soils, and climate. A total of 24.6 acres of waters of the U.S., including wetlands, and waters of the State occur in the Project area. These waters and wetlands are summarized below in **Table 3.4-1c** and Figures 3.4-1h through 3.4-1n (Stillwater Sciences, 2013c).

Of the 24.6-acre total, approximately 9.1 acres of other waters and tributaries of the U.S. occur in the Project area; these include perennial and seasonal channels and freshwater ponds that exhibit an ordinary high water mark (OHWM) and drain directly or eventually into traditional navigable water.

TABLE 3.4-1c
WETLANDS AND WATERS OF THE U.S. IN THE PROJECT AREA

Description	Area (Acres)	Area (hectares)
Other Waters and Tributaries	9.1	3.7
Perennial	2.5	1.0
Seasonal	6.6	2.7
Wetlands	15.5	6.2
Perennial	3.6	1.4
Seasonal	10.2	4.1
Constructed/Stormwater Basin	1.7	0.7
Total	**24.6**	**9.9**

SOURCE: Stillwater Sciences, 2013c.

Of the total, 15.5 acres of wetlands in the Project area include perennial, seasonal, and constructed wetlands or stormwater basins. Most of the wetlands in the Project area have been manipulated due to intensive residential and commercial development over the past decade. A total of 3.6 acres of the wetlands in the Project area support water year-round; however, the majority of wetland features (10.2 acres) are seasonal in nature and remain dry for most of the year. Four wetlands (1.7 acres) in the Project area are artificial features that serve as stormwater and runoff detention basins. Constructed wetlands/stormwater basins in the Project area appear to support perennially wet conditions and wetland vegetation. The location of potentially jurisdictional waters and habitat characteristics of various types of wetlands are described above, in the Vegetation Communities section as well as in Stillwater Sciences (2013c). Refer to Figures 3.4-1h through 3.4-1n for the locations of potentially jurisdictional features.

3.4.2 Regulatory Setting

Federal

Federal Endangered Species Act

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

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

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

Migratory Bird Treaty Act

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

U.S. Bureau of Land Management, Sensitive Species

The U.S. Bureau of Land Management (BLM) has a policy to conserve special-status species and their habitats. The policy ensures that actions authorized, funded, or carried out by BLM do not contribute to the need to list any sensitive species as threatened or endangered under the FESA. BLM Sensitive species include those listed as endangered or threatened, or are candidates for listing under the FESA, and species designated by the BLM State Director as deserving special management consideration. In California, BLM Sensitive plant species include those listed as endangered or threatened under the California Endangered Species Act, those listed as rare under the Native Plant Protection Act, vascular and non-vascular plants with a California Rare Plant Rank of 1B (if not already listed as endangered, threatened, or rare), or other plants that the State Director believes meet the definition of sensitive.

U.S. Bureau of Land Management, Pine Hill Preserve Management Plan

An approximately 0.4-mile-long section of the Project alignment traverses the BLM Pine Hill Preserve in the community of Shingle Springs. The preserve was established in April 2001 to protect habitat for eight special-status plant species that grow on gabbro soils in western El Dorado County. The *Pine Hill Preserve Management Plan* (BLM, 2008) serves as a guide for management activities at the preserve and adjacent public and privately owned lands within the gabbro soil formation. The Plan also serves as the basis for consultations with State and federal wildlife agencies to evaluate impacts of management on the special-status plants. The plan describes physical and biological conditions in the preserve, identifies management challenges, outlines management activities, and proposes a strategy for conserving the special-status plants.

Clean Water Act of 1972

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

State

California Environmental Quality Act

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

California Endangered Species Act

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

Native Plants Protection Act

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

- **Rank 1A:** Plants presumed extinct
- **Rank 1B:** Plants rare, threatened, or endangered in California and elsewhere

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

Consistent with CEQA Guidelines § 15380, plants designated with a CRPR of 1A, 1B, or 2 are considered to meet the criteria of endangered, rare, or threatened, and so are analyzed as "special-status species" in this document. Also pursuant to CEQA Guidelines § 15380, CRPR 3 and 4 species and species deemed Locally Unusual and Significant (LU&S) may be analyzed under CEQA if there is sufficient information to assess potential impacts.

California Fish and Game Code Section 1913 (Native Plant Protection Act) provides a utility company exemption from certain applications of the CESA (specifically from the requirement to obtain a "take" permit) when only CESA-listed plants, and not habitat for CESA-listed wildlife species, would be affected by a project. Section ~~1319~~ 1913(b) states that "…the removal of endangered or rare native plants from a canal, lateral ditch, building site, or road, or other right-of-way by the owner of the land or his agent, or the performance by a public agency or a publicly or privately owned utility of its obligation to provide service to the public, shall not be restricted…because of the presence of rare or endangered plants, except as provided in subdivision (c)." Subdivision (c) requires the utility to provide CDFW ten days' notice to salvage affected plants prior to construction. The Applicant would apply this exemption to avoid obtaining a CESA "take" permit for the Project's impacts on Stebbin's morning glory.

Protection of Birds and Birds' Nests

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

Species of Special Concern

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

Fully Protected Species

California Fish and Game Code Sections 3511, 4700, 5050, and 5515 apply "fully protected" status to 37 birds, mammals, reptiles, amphibians, and fish. CDFW may authorize incidental "take" of Fully Protected species if the species is covered under an approved Natural Community Conservation Plan (NCCP). (Fish and Game Code Section 2835).

California Special-status Natural Communities

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

California Fish and Game Code Wetlands Regulations

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

State and Regional Water Quality Control Boards

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

Local

County of El Dorado General Plan

The of *El Dorado County General Plan* (2004) and its Conservation and Open Space Element address the management, preservation, and conservation of natural resources and open space of El Dorado County. The Plan's goals, objectives, and policies are implemented to conserve and improve the County's existing natural resources and open space. The following General Plan goals are relevant to biological resources in the Project area:

- Identify, protect, and manage wildlife, wildlife habitat, fisheries, and vegetation resources of significant biological, ecological, and recreational value, with associated policies to protect rare, threatened, and endangered species, their habitats.

- Protect and maintain native trees including oaks, heritage, and landmark trees. This goal has associated policies for the county's Oak Tree Removal Permit Process, which is not applicable to the Project.

- Identify and protect, where feasible, critical fish and wildlife habitat including: deer winter, summer, and fawning ranges; deer migration routes; stream and river riparian habitat; lake shore habitat; fish spawning areas; wetlands; wildlife corridors; and diverse wildlife habitat.

- Coordinate with wildlife and vegetation protection programs of appropriate federal and California agencies.

- Protect and conserve forest and woodland resources for their wildlife habitat, recreation, water production, domestic livestock grazing, production of a sustainable flow of wood products, and aesthetic values.

City of Folsom General Plan

The *City of Folsom General Plan (1988) Open Space and Conservation* Element identifies the community's resources and establishes policy for their conservation, preservation, development, maintenance and/or use. General Plan goals relevant to biological resources in the Project area include:

- Preserve existing heritage trees, with related policies for a Tree Preservation/Landscape Ordinance and replacement of removed heritage trees.

- Wherever feasible, preserve, acquire, rehabilitate, enhance, and maintain sensitive vegetation, wetland, and aquatic resources, including a vegetation preservation ordinance.

City of Folsom Plan Area Specific Plan

The *City of Folsom Plan Area Specific Plan* (City of Folsom, adopted in 2011) expanded the city's boundaries south of U.S. Highway 50 (U.S. 50). The Specific Plan's Resource Management and Sustainable Design section includes the following objectives related to biological resources that are relevant to the Project:

- Protect delineated wetlands, and implement a wetland mitigation and monitoring program where delineated wetlands cannot be preserved.

- Promote the preservation of habitat areas that contain special-status species, and implement mitigation measures for impacts on special-status species.

- Preserve existing oak woodlands and isolated oak trees wherever practical. This objective includes a number of policies related to oak tree removal mitigation.

El Dorado County Integrated Natural Resources Management Plan – Phase I

The *El Dorado County Integrated Natural Resources Management Plan (INRMP)*, a local strategy to conserve and restore habitat connectivity, is under development by El Dorado County (El Dorado County, 2014) and currently is in the first phase of planning studies. The El Dorado County INRMP is intended to offset the effects of habitat loss from land development in western El Dorado County. Project activities would occur in El Dorado County within the boundary of the INRMP.

3.4.3 Applicant Proposed Measures

Applicant Proposed Measures (APMs) are summarized in Section 2.9 (Table 2-7) of this IS/MND. The following APMs would be implemented to avoid or reduce potential impacts to biological resources in the Project area:

APM BIO-1: General Biological Resources Measures

APM BIO-1.1: Worker Environmental Awareness Training Program. A qualified biologist will develop an environmental awareness training program that is specific for the project. All on-site construction personnel will attend the training before they begin work on the project. Training will include a discussion of the avoidance and minimization measures that are being implemented to protect biological resources as well as the terms and conditions of project permits. Training will include information about the FESA and CESA, special-status species as defined in the Regulatory Setting (Section 3.4.2) and the Special-Status Species section, and the consequences of noncompliance with these acts. Under this program, workers will be informed about the presence, life history, and habitat requirements of all special-status species that may be affected in the project area. Training also will include information on State and federal laws protecting nesting birds, wetlands, and other water resources.

An educational brochure will be produced for construction crews working on the project. The brochure will include color photos of sensitive species as well as a discussion of relevant APMs.

APM BIO-1.2: Identification and Marking of Sensitive Resource Areas

Sensitive resource areas identified during pre-construction surveys in the project area will be clearly marked in the field or on project maps. Sensitive resource areas will include active bird nests within specified buffer zones (see APM BIO-3), special-status plants adjacent to work sites, special-status vegetation types adjacent to work sites, and vernal pool and wetland boundaries in and adjacent to work sites. Such areas will be avoided during construction to the extent practicable.

APM BIO-1.3: Construction Monitoring

A qualified biologist will monitor construction activities in sensitive habitats previously identified by a qualified biologist. The monitor will ensure implementation of and compliance with all avoidance and mitigation measures. The monitor will have the authority to stop or redirect work if construction activities are likely to affect sensitive biological resources.

If a listed wildlife species is encountered during construction, project activities will cease in the area where the animal is found until the biologist determines the animal has moved out of harm's way, or with prior authorization from the USFWS and/or CDFW if necessary, relocates the animal out of harm's way, and/or takes other appropriate steps to protect the animal. Work may resume once the biologist has determined that construction activities will not harm any listed wildlife species. If recommended by the biologist, a temporary silt-fence barrier will be installed to prevent wildlife species from entering the work area(s) during project activities. The biological monitor will be responsible for any necessary reporting to USFWS and/or CDFW of any capture and relocation, or inadvertent harm, entrapment or death of a listed species.

APM BIO-1.4: Tree Removal and Mitigation

Trees being felled in the vicinity of a sensitive resource area exclusion zone will be directionally felled away from the zone, where possible. Trees and other vegetation that are removed from the project area will be removed using equipment and access routes that avoid sensitive resource areas.

Oak tree removal will be minimized to what is required to implement the project. Oak trees greater than 6 inches diameter at breast height (dbh), or having multiple trunks with an aggregate over 10 inches dbh, that are removed will be documented and replaced based on a 1:1 ratio or other measure derived through coordination with El Dorado County that provides an equal level of compensation.

APM BIO-2: Special-Status Species Pre-construction Surveys

Before project construction begins, a qualified biologist will perform a pre-construction survey for work areas within 100 feet of suitable habitat for special-status species. If any special-status species are found nearby but outside the proposed work area, they will not be disturbed. If recommended by the biologist, a temporary silt-fence barrier will be installed to prevent special-status species from entering the work area(s) during project activities. If a special-status species is found in a work area prior to construction, the biologist will relocate the species out of harm's way (if prior authorization from USFWS and CDFW is not required for the species), or with prior authorization from USFWS and/or CDFW if necessary, and/or take other appropriate steps to protect the animal.

APM BIO-3: Special-Status Bird Measures

Before Project activities in proximity to nesting birds begins, PG&E will obtain the applicable permit or follow relevant protocol that is authorized by Section 3503 and/or Section 3503.5 of the California Fish and Game Code, or by any regulation adopted pursuant thereto, pertaining to nesting birds. If no such permit or protocol is available under the above authorities before Project construction begins, PG&E will comply with the following measure:

APM BIO-3.1: Pre-construction Survey and Avoidance of Active Nests. For any tree trimming or other potential nest-disturbing activities to be conducted between February 1 and August 31, a qualified biologist will conduct a pre-construction survey for nesting birds. The survey will be conducted no more than one week prior to the start of work activities and will cover all affected 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 biologist. The standard buffers included in PG&E's Avian Conservation Strategy (e.g., 50 to 400 feet from non-special-status bird nests, 75 to 350 feet from non-raptor special-status bird nests, and 300 to 1,320 feet from raptor nests, depending on species) will serve as a guideline for exclusion zones, but may be modified on a site-specific basis as determined by the biologist. To the extent practicable, no project vehicles, chain saws, 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. If it is not practicable to avoid work in an exclusion zone around an active nest (e.g., a bird is sitting on eggs or bird activity is such that the nest could be interpreted as active, per USFWS [2003] *Migratory Bird Permit Memorandum*), work activities will be modified to minimize disturbance of nesting birds but may proceed in these zones at the discretion of the biologist. 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 determines that particular activities pose a high risk of disturbing an active nest, the biologist will recommend additional, feasible measures to minimize the risk of nest disturbance, potentially including temporary cessation of work activities near active nests.

APM BIO-4: Valley Elderberry Longhorn Beetle Habitat Avoidance and Mitigation

PG&E's Valley Elderberry Longhorn Beetle Conservation Program allows PG&E to perform routine operations and maintenance activities and new construction, subject to certain terms and conditions as specified in the USFWS Biological Opinion (File 1-1-01-F-0114). The Biological Opinion provides for thirty years of incidental take coverage and was initiated on June 27, 2003. It defines reasonable and prudent measures required to avoid and minimize impacts to habitat for the federally listed valley elderberry longhorn beetle (VELB). PG&E will implement the surveying, avoidance, and any necessary compensation measures required for the Conservation Program as authorized by USFWS. These measures may include, for example: (1) surveying for and flagging all elderberry plants with one or more stems measuring 1 inch or more in diameter at ground level that are within 20 feet of work sites; (2) avoiding all such elderberry plants to the extent feasible; and (3) reporting unavoidable impacts to elderberry shrubs to USFWS for coverage under the Conservation Program's funding of VELB habitat acquisition, development, and protection.

APM BIO-5: Special-Status Plant Avoidance and Impact Minimization Measures

In addition to APM BIO-1 and APM BIO-2, the following measures will be implemented in gabbroic chaparral habitat in and immediately east of the BLM Pine Hill Preserve, and south of U.S. 50, where the highway borders the BLM Pine Hill Preserve, to avoid and minimize impacts on special-status plants.

APM BIO-5.1: Seasonal Timing Restrictions. If a special-status annual plant species is present, any work that may impact the plant will occur after plant senescence and prior to the first significant rain, to the extent practicable.

APM BIO-5.2: Noxious Weed Assessment and Control Plan. Prior to the commencement of construction activities in the BLM Pine Hill Preserve, a Noxious Weed Assessment and Control Plan will be developed and implemented for work in the BLM Pine Hill Preserve. The plan will assess the areas at risk for noxious weed introduction and/or spread and will identify measures for equipment and vehicle inspection.

APM BIO-5.3: Plant Salvage Requirements. Prior to the commencement of construction activities in the BLM Pine Hill Preserve or other areas within the Project footprint known to support rare plant populations, PG&E will refine its Rare Plant Strategy that specifies salvage and propagation methods for listed plants, as well as pre- and post-Project monitoring methods. The Rare Plant Strategy will be submitted to USFWS for review and approval as may be required in the biological opinion from USFWS. At a minimum, the Strategy will include information such as: methods of collection of reproductive structures from affected plants, restoration techniques for temporarily disturbed occurrences, assessments of potential transplant and enhancement sites, success and performance criteria (e.g., documented germination of collected seed within an equal or larger area than affected by the project), and monitoring programs (e.g., 3 to 5 years), as well as measures to ensure long-term site sustainability, as required by USFWS during the Section 7 consultation process. Prior to construction, the location of special-status plants that will be affected by grading and excavation will be surveyed and documented, and the seeds and/or rhizomes of

special-status plants that may be destroyed during construction will be collected in accordance with the Rare Plant Strategy. Following construction, which plants were permanently or temporarily impacted by the project will be determined. Collected seeds and/or rhizomes will be planted per planting guidelines described in the Rare Plant Strategy in coordination with BLM and USFWS. Post-project monitoring methods will be applied in accordance with the Rare Plant Strategy to determine if propagation activities met the success criteria described in the Rare Plant Strategy.

APM BIO-5.4: Topsoil Stockpiling Requirements. Where grading or excavation is required in gabbroic chaparral habitat, and where noxious weeds are absent, the upper 4 inches of topsoil will be stockpiled separately during grading or excavations, following any necessary plant salvage efforts. When this topsoil is replaced, compaction will be minimized to the extent consistent with utility standards.

APM BIO-5.5: Locking Gate Installation. Following project completion, and upon agreement of private landowners, locking gates will be installed at the two main roads leading into the BLM Pine Hill Preserve to limit unauthorized vehicle access that may threaten special-status plant populations.

APM BIO-6: Special-Status Plant Impact Mitigation

To compensate for permanent impacts on special-status plants, PG&E will explore options with USFWS, and will implement the preferred option. The options may include: on-site planting of propagated seeds and cuttings in accordance with the USFWS-approved Rare Plant Strategy; and/or providing funding to the BLM Pine Hill Preserve for the purpose of habitat enhancement, management, and/or monitoring of gabbroic chaparral habitat.

APM BIO-7: Seasonal Wetland Protection

Seasonal wetlands that may provide habitat for special-status species will not be entered. Travel across seasonal wetlands that do not provide such habitat will be limited to the greatest extent feasible. Where travel across seasonal wetlands is necessary, it will occur during dry conditions to avoid soil compaction and mixing. If travel is required during wet conditions, matting and other protection measures will be implemented to avoid soil compaction or mixing. Matting and other protection measures will be approved by the biological monitor before work at that location begins. During construction monitoring, the biological monitor may temporarily stop construction work if matting and protection measures are inadequately applied; construction work may resume after matting and other protection measures are installed effectively to protect seasonal wetlands.

3.4.4 Environmental Impacts and Mitigation Measures

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

Special-Status Wildlife

As described above, fourteen federal- and/or state-special status ~~listed~~ wildlife species have moderate to high potential to occur in the Project area: western pond turtle, coast horned lizard,

vernal pool fairy shrimp, vernal pool tadpole shrimp, Valley elderberry longhorn beetle, western spadefoot, white-tailed kite, western burrowing owl, Cooper's hawk, tricolored blackbird, pallid bat, and American badger. Western pond turtle has been documented in the Project area during biological surveys; coast horned lizard is known to occur on the BLM Pine Hill Preserve; and habitat features in the Project area such as elderberry shrubs, vernal pools and other wetlands, annual grassland habitat, bridges, and tall trees provide suitable nesting/denning and foraging habitat for other species listed in this section.

Vernal pool fairy shrimp and vernal pool tadpole shrimp have moderate potential to occur in the seasonal wetlands located along the western third of the Project area (from approximately Empire Ranch Road to Gold Hill Substation). Any construction activity that would directly or indirectly degrade these aquatic features could adversely affect these species. Potential direct and indirect impacts include direct "take" of special-status invertebrate species, soil compaction, vegetation trampling, introduction of invasive species, and water quality degradation. The Project has been designed to fully avoid features that may provide habitat for these species and travel across seasonal wetlands will be limited to the greatest extent feasible. The Project proposes to access an existing wood pole along the Gold Hill No. 1 Line north of U.S. 50 between Bass Lake Road and Tierra De Dios Drive by traversing one seasonal wetland (approximately 50 feet); this location is not known to support special-status invertebrates. Where necessary, travel across seasonal wetlands will occur during the dry season across features that are not known to support special-status invertebrates and are determined to be unlikely to support special-status invertebrates based on a site-by-site assessment of each area by a qualified biologist. This would reduce the potential for "take" of special-status invertebrate species. Furthermore, APM BIO-1 (General Biological Resources Measures), APM BIO-7 (Seasonal Wetland Protection), APM HYDRO-1 (Stormwater Pollution Prevention Plan), and APM HYDRO-2 (Water Feature Protection Requirements [refer to *Section 3.9, Hydrology and Water Quality* in this IS/MND]), and additional mitigation measures described below would avoid and minimize direct and indirect impacts on aquatic habitats supporting special-status invertebrates in the Project area. In addition to APM BIO-1, APM BIO-7, APM HYDRO-1, AND APM HYDRO-2, **Mitigation Measure 3.4-1** has been identified to avoid and minimize Project impacts on special-status vernal pool invertebrates. Following the implementation of these APMs and Mitigation Measure 3.4-1, Project impacts to vernal pool invertebrates would be reduced to a less-than-significant level.

Valley elderberry longhorn beetle has moderate potential to occur on elderberry plants with one or more stems 1 inch or greater in diameter in the Project area. Any Project activity that would require significant trimming or removal of such elderberry shrubs could adversely affect valley elderberry longhorn beetle. The Project would completely avoid most elderberry shrubs mapped in the Project area. Three elderberry shrubs meeting the stem size criteria for valley elderberry longhorn beetle habitat may be within 20 feet of construction activities (shrub numbers 11–13 in the Biological Resources Technical Report [Stillwater Sciences 2013a]). Per APM BIO-1 (General Biological Resources Measures), these shrubs would be marked and excluded from work sites prior to construction. Two elderberry shrubs meeting the stem size criteria for valley elderberry longhorn beetle habitat may need to be removed to implement the Project (shrub numbers 10 and 16 in the Biological Resources Technical Report [Stillwater Sciences 2013a]). As described in APM BIO-4 (Valley Elderberry Longhorn Beetle Habitat Avoidance and

Mitigation), in further compliance with USFWS' Biological Opinion (File 1-1-01-F-0114), PG&E would report the removal of these shrubs to USFWS and mitigate for impacts to elderberry shrubs in accordance with the Biological Opinion (for example, by avoiding elderberry plants with a 20-foot buffer, avoiding herbicide use within 20 feet of plants, and trimming plants rather than removing plants when feasible, except where authorized by the USFWS consistent with the Biological Opinion). Such compliance with the Biological Opinion would reduce any impact to a less-than-significant level.

Western pond turtle has high potential to occur in and around aquatic habitat throughout the Project area; this species has been observed during biological surveys conducted in 2012. The Project has been designed and work areas have been sited to avoid impacts to aquatic resources. No wetland vegetation would be removed and a very limited amount of riparian vegetation is proposed to be trimmed to provide construction equipment access. Furthermore, APM BIO-1 (General Biological Resources Measures) and APM BIO-2 (Special-Status Species Pre-construction Surveys) would avoid potential impacts to turtles that may travel into work sites. Therefore, no direct impacts are expected. APM HYDRO-1 (Stormwater Pollution Prevention Plan) would be implemented to prevent indirect impacts on western pond turtle habitat (e.g., impairment of waterbodies from sediment or inadvertent release of hazardous materials) (refer to *Section 3.9, Hydrology and Water Quality* in this IS/MND). Following implementation of APM BIO-1, APM BIO-2, and APM HYDRO-1, potential Project impacts on western pond turtle would be less than significant.

Coast horned lizard has moderate potential to occur in gabbroic chaparral habitat in the Project area. Coast horned lizards could be injured or killed by Project vehicles or construction equipment, and their habitat could be disturbed during vegetation management or damaged during Project construction. APM BIO-1 (General Biological Resources Measures) and APM BIO-2 (Special-Status Species Pre-construction Surveys) would be implemented so that no direct impact occurs on coast horned lizard. Less than 1 acre of gabbroic chaparral habitat, which represents less than 2 percent of this vegetation type in the Project area, would be removed to accommodate construction activities. Following implementation of APM BIO-1 and APM BIO-2, impacts on coast horned lizard habitat would be less than significant.

Raptors and/or migratory birds such as **Cooper's hawk**, and special-status species such as **white-tailed kite** and **tricolored blackbird**, have moderate potential to nest in or near the Project area. Nesting birds may be adversely affected if construction activities occur near active nests during the breeding season. Direct impacts may include the destruction or removal of active nests during vegetation removal or trimming activities to provide construction equipment access. Indirect impacts may include nest abandonment or premature fledging resulting from construction-related noise and vibration (e.g., from heavy equipment, helicopters, vehicles, generators, and human presence). Over 75 percent of the Project area contains urban or annual grassland habitat, which provide limited suitable nesting habitat for special-status and other migratory birds. In addition, little to no vegetation would be removed in these habitat types and no freshwater emergent wetland or vernal pool vegetation would be removed in the Project area. Vegetation removal in oak, chaparral, and riparian vegetation types would be limited to the amount needed to provide access for construction equipment. As described in Section 2.7.1.7, the Project would conduct

vegetation trimming and tree or shrub removal of up to 8 acres of land, including the removal of approximately 225 trees along proposed access roads and temporary work areas in order to accommodate construction vehicles and equipment. Approximately 60 percent of trees that may be removed are native species, and a majority of these are oak trees. The indirect impact from construction-related noise and vibration would be temporary and would occur only during construction.

In addition to APM BIO-1 (General Biological Resources Measures), APM BIO-2 (Special-Status Species Pre-construction Surveys), and APM BIO-3 (Special-status Bird Measures), **Mitigation Measure 3.4-2** has been identified to further reduce impacts on nesting birds. Following implementation of these APMs and Mitigation Measure 3.4-2, Project impacts to Cooper's hawk, white-tailed kite, tricolored blackbird, and other raptors and/or migratory birds would be reduced to a less-than-significant level.

Pallid bat has moderate potential to roost on bridges that occur in the Project area, the Project would not result in disturbance in close proximity to these bridges. The bridges themselves may be traversed by Project-related vehicles or equipment, but such crossings are not anticipated to disturb any roosting pallid bats. Project construction activities in the vicinity of suitable roosting habitat at bridges would result in noise and vibration levels equivalent to the existing ambient noise and vibration from traffic. Therefore, no impact would occur.

Additional mitigation to reduce and minimize impacts on special-status wildlife species and their habitats:

Mitigation Measure 3.4-1: In areas where construction vehicles require crossing over seasonal wetlands and vernal pools that have the potential to support vernal pool invertebrates (crustacean habitat), the following protective measures would be implemented to reduce the effects of surface disturbance and compaction:

a) No equipment or materials shall be stored in or adjacent to seasonal wetlands or vernal pools.

b) Prior to allowing any vehicles or heavy equipment to cross a seasonal wetland, the Project proponent or its contractor shall employ geotextile fabric, wooden mats, or similar protective materials to protect the ground surface in areas where vehicles would encroach upon vernal pool crustacean habitat. Such materials would distribute the weight of vehicles and equipment over a greater area and prevent significant disturbance of soil in these areas. The project proponent or its contractor shall ensure that adequate calculations have been conducted prior to implementation of this measure to ensure the wooden mats can adequately distribute the weight of vehicles and heavy equipment to prevent compaction.

c) Materials shall only remain in the wetland areas as long as necessary for the completion of work

Mitigation Measure 3.4-2: The following measure supplements APM BIO-3.1, (i.e. using the nest buffer areas described in APM Bio 3.1 as guidance). The PG&E biologist shall coordinate with CDFW to determine whether work, as modified to minimize disturbance of nesting birds may proceed in an exclusion zone around an active nest (if avoidance is not

practicable). If any nests that are fully formed and have the potential to support eggs are found, the biologist shall monitor the nest for potential nesting activities. Project activities are only allowed to commence after it is determined that the nest is not actively being used by nesting birds, unless approved in coordination with CDFW per previous sentence. The biologist will monitor all work occurring within exclusion zones daily when construction is occurring and assess their effect on the nesting birds. If the biologist determines that particular activities pose a high risk of disturbing an active nest, the biologist will recommend additional feasible measures to minimize the risk of nest disturbance, potentially including temporary cessation of work activities within exclusion zones near active nests.

Significance after Mitigation: Less than Significant.

Special-Status Plants

Five special-status plant species occur in gabbroic chaparral in the Project area, and the locations of individuals of these species have been recorded from recent focused surveys conducted in 2012 and 2013 within the Project area (Stillwater Sciences, 2013a; 2013b). Due to the abundance of individual special-status plants throughout the one-mile section of the Project area containing gabbroic chaparral habitat, relocating Project activities or siting work areas to avoid all special-status plants is not feasible. Most of these special-status plant occurrences would be completely avoided as they are located outside anticipated work areas. However, individuals of all five species occur in potential Project work areas and access routes and could be damaged or destroyed as a result of vegetation removal or trimming activities. Potential activities that may impact special-status plants include vehicle movement along access roads, equipment and vehicle staging in work areas and pull sites, and/or drilling and pouring of foundations for new TSPs. Special-status plants also could be indirectly affected by soil compaction and the spread of nonnative invasive species from Project vehicle and equipment travel and staging.

Most special-status plants in the Project area would be completely avoided with implementation of APM BIO-1 (General Biological Resources Measures), including measures to educate on-site construction personnel, identify sensitive plant populations, and monitor work that is conducted in the vicinity of a sensitive plant population. However, the Project would not be able to completely avoid 0.02 acre of a Stebbin's morning glory population located within the ROW. Approximately 0.02 acre of gabbroic chaparral habitat would be permanently impacted by new concrete TSP foundations, and approximately two acres would be temporarily impacted in work areas, pull sites, and along access routes. APM BIO-5 (Special-Status Plant Avoidance and Impact Minimization Measures) would be implemented and includes compensatory mitigation for unavoidable impacts on special-status plants in these areas and measures to maximize the success of re-establishment in the vicinity after construction. The Rare Plant Strategy included in APM BIO-5 would identify which plants are permanently or temporarily impacted by the Project. As described previously, all five of the special-status plant species are particularly adapted to fire and are not shade tolerant or prefer vegetation openings. Construction activities that remove overstory trees and shading shrubs and create open areas of bare soil may provide opportunity for germination or the spread of these species. As a result, special-status plants temporarily impacted in these areas may recover quickly after construction. APM BIO-6 (Special-Status Plant Impact Mitigation) would be implemented to compensate for unavoidable, permanent impacts on special-status plants.

In addition to APM BIO-5 and APM BIO-6, **Mitigation Measure 3.4-3** has been identified to minimize impacts to rare plants outside the BLM Pine Hill Preserve and **Mitigation Measure 3.4-4** has been identified to allow for salvage of special-status plants. Following implementation of these APMs and mitigation measures, Project impacts to special-status plants would be reduced to a less-than-significant level.

Additional mitigation to reduce and minimize impacts on special-status plants:

Mitigation Measure 3.4-3: In addition to the areas within the BLM Pine Hill Preserve, PG&E will apply the measures identified in APM BIO-5.3 to other areas within the project footprint known to support rare plant populations.

Mitigation Measure 3.4-4: In addition to the measures described in APM BIO-6, PG&E will provide notification to CDFW at least 10 days prior to affecting special-status plants to allow for the salvage of special-status plants (~~CDFG Section~~ Fish & Game Code §1~~0~~913(c)).

Significance after Mitigation: Less than Significant.

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

Riparian habitat and three other natural communities that are identified as sensitive by CDFW (white leaf manzanita/Sonoma sage chaparral, Fremont's goldfields-Downingia vernal pools, and water blinks-annual checkerbloom vernal pools) occur in the Project area (Stillwater Sciences, 2013a).

Riparian habitat occurs in limited amounts in the Project area (approximately 7.6 acres). A minor amount of trimming of riparian habitat would be necessary to provide construction equipment access. No riparian trees are proposed for removal. Therefore, the impact would be less than significant. If tree trimming activities are determined by a CPUC monitor to result in potential decline of health or eventual tree mortality of an oak tree considered a "native oak" for purposes of the *El Dorado County General Plan* Policy 7.4.5.2, *Protect and maintain native trees including oaks and landmark heritage trees,* **Mitigation Measure 3.4-5d** would be implemented to reduce the impact to a less than significant level, as discussed below under criterion e).

The Project would avoid all wetlands that support Fremont's goldfields-Downingia vernal pools and water blinks-annual checkerbloom vernal pools (no Project activities are proposed within or adjacent to these pools). Therefore, no impact to these sensitive natural communities would occur.

White leaf manzanita/Sonoma sage chaparral is a component of gabbroic chaparral habitat and occurs in the BLM Pine Hill Preserve (Stillwater Sciences, 2013a). Due to the widespread distribution of this vegetation community in this portion of the Project area, relocating Project activities or siting work areas to avoid an impact is not feasible. Approximately 1.0 acre of white leaf Manzanita/Sonoma sage chaparral habitat may be affected by vegetation removal and

trimming activities to provide access to Project work sites. The impact would be temporary in nature and would account for less than 2 percent of this vegetation type in the Project area. APM BIO-1 (General Biological Resources Measures), APM BIO-5 (Special-Status Plant Avoidance and Impact Minimization Measures), and APM BIO-6 (Special-Status Plant Impact Mitigation) would be implemented to minimize potential impacts and compensate for direct impacts to special-status plants. Therefore, the impact would be less than significant.

Additional mitigation to reduce and minimize impacts on riparian habitat or other sensitive natural communities: None required.

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means: *LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.*

The Project has been designed to avoid impacts to the majority of waterways and wetlands. In addition, the Project would not remove, fill, or result in the hydrologic interruption to waterways or wetlands. Construction equipment and vehicles may need to cross several seasonal drainages to access Project work areas. In addition, to access an existing wood pole along the Gold Hill No. 1 Line north of U.S. 50 between Bass Lake Road and Tierra De Dios Drive, one seasonal wetland would be traversed for approximately 50 feet. The existing pole would be left in place for distribution purposes and the new pole would be installed east of the existing pole, outside of the limits of the seasonal wetland. Work activities in the seasonal wetland would be limited to approximately 50 feet of overland access and the temporary staging of construction vehicles at the pole base to make minor modifications to aboveground features; no ground-disturbing or fill would be required. With the application of APM BIO-7 (Seasonal Wetland Protection), APM HYDRO-1 Stormwater Pollution Prevention Plan, APM HYDRO-2 (Water Feature Protection Requirements), and Mitigation Measure 3.4-1, in addition to the limited scope and temporary nature of proposed activities in the vicinity of some seasonal drainages and one seasonal wetland, which is predominantly dry year-round, the Project would not result in adverse effects on these features.

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: *NO IMPACT.*

The western half of the Project area is highly developed and contains few opportunities for wildlife movement. As discussed previously, the *Final Wildlife Movement and Corridors Report* (Sierra Ecosystems Associates, 2010) identified several potential wildlife crossing locations under Highway 50 in or adjacent to the Project area; these locations include Dunwood Drive, Finders Way, Joerger Cutoff Road, Silva Valley Parkway, and Tong Road in the form of corrugated culvert pipe, concrete box culvert, and bridge under-crossing (Figure 3.4-1o). The eastern half of the Project area is less developed, with tracts of open grassland interspersed with oak woodland. The Project would include modifications to existing infrastructure, and Project activities would not include construction of any elements that would block wildlife movement. Therefore, the Project would not interfere substantially with the movement of any native resident wildlife species, nor impede the use of any wildlife nursery sites (see above for discussion of special-status wildlife species, nesting raptors, and migratory birds). The Project would not

include any in-water construction or crossing of Deer Creek (the only perennial water channel in the project that has low potential to support two anadromous fish species) and, therefore, would not interfere with the movement of migratory fish. No impact would occur.

Additional mitigation to reduce and minimize impacts on wildlife movement corridors: None required.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance: *LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.*

The Project is regulated by the CPUC and per the California Public Utilities Commission General Order No. 131-D; it is exempted from local land use and zoning regulations and discretionary permitting. However, the CPUC considered local policies or ordinances when determining the potential significance of impacts resulting from implementation of the Project.

The Project's design and APMs are compatible with the goals for habitat and biological resources in the *El Dorado County General Plan (2004), City of Folsom General Plan (1993),* and *City of Folsom Plan Area Specific Plan (2011).*

El Dorado County General Plan Policy 7.4.5.2 identifies the County's policy to protect and maintain native trees, including oaks and landmark and heritage trees. Policy 7.4.5.2 requires an Oak Tree Removal Permit for the removal of oak trees at least 6-inches in diameter at breast height (dbh) or multiple trunks with an aggregate of at least 10-inches dbh.

The Project would remove up to approximately 225 trees, 125 of which have been identified as oak trees meeting El Dorado County's oak removal permit criteria, Policy 7.4.5.2. Of the 125 oak trees identified for removal, the exact number that are either greater than 6-inches dbh or with multiple trunks collectively 10-inches dbh or greater, has not been measured. Conservatively up to 125 oak trees meeting the El Dorado County permit criteria may be removed to provide construction equipment access to pole work areas and pull sites. This tree removal would conflict with Policy 7.4.5.2. Loss of any oak tree meeting the dbh criteria in Policy 7.4.5.2 would be a significant impact.

In addition to direct oak tree removal, construction-related activities such as the operation of construction vehicles and other heavy equipment on or in the root zone of oak trees would result in damage to retained trees and/or their roots. Depending on the extent of such damage, and the particular circumstances of each retained tree, damaged trees may decline in health and suffer mortality at a rate faster than normally expected; this would be a significant impact.

To reduce the magnitude of the Project on native oak trees, PG&E would implement APM BIO-1.4 (Tree Removal and Mitigation). While APM BIO-1.4 would replace removed oak trees that are subject to Policy 7.4.5.2 at 1:1 ratio or mitigate for the impact through other measures derived through coordination with El Dorado County that provide an equal level of compensation, the only way to mitigate impacts to native oaks would be through replacement of removed trees. In addition, APM BIO-1.4 does not include the development of a planting and monitoring plan to ensure successful survival of replaced oak trees. APM BIO-1.4 also lacks protection for retained

oak trees from root damage or other physical damages from construction-related activities, including grading, trenching, drilling, or soil compaction from parking of construction-related vehicles or staging of equipment and materials within the root zone. Therefore, even with implementation of APM BIO-1.4, impacts on native oak trees would be significant. Avoidance and minimization measures in **Mitigation Measure 3.4-5** would be applied during construction to reduce the magnitude of impacts to retained oak trees during construction to less than significant. **Mitigation Measure 3.4-6** would be applied during oak tree replanting to ensure successful survival of replanted oak trees.

Additional mitigation to reduce and minimize conflict with any local policies or ordinances:

Mitigation Measure 3.4-5: Retained oak trees over 6" diameter at breast height (dbh) or having multiple trunks with an aggregate over 10" dbh, or sensitive natural community trees, located adjacent to ground-disturbing construction activities that could damage tree roots, shall be protected through the implementation of the following protective measures:

a) A Tree Protection Zone (TPZ) shall be established between any such retained tree or group of trees and the ground-disturbing construction activities. The TPZ shall be 1.5 times the radius of the dripline (canopy edge). However, a smaller TPZ may be approved by the CPUC monitor in coordination with the qualified biologist and construction personnel if necessary due to topography or other reasons, if the CPUC monitor concludes that the smaller TPZ is adequate to protect the tree(s) from significant impacts.

b) The TPZ of any protected trees shall be marked with high visibility fencing, which shall remain in place for the duration of ground-disturbing construction activities in the area.

c) Construction-related activities, including grading, trenching, or drilling shall be prohibited within the TPZ. No construction-related vehicles, personal vehicles, or machinery shall be operated or parked within the TPZ. No construction materials, equipment, machinery, or other supplies shall be stored within a TPZ. No wires or signs shall be attached to any tree.

d) Where the TPZ cannot be fully implemented as described in Mitigation Measure 3.4-5a through c, and construction-related activities are determined by the CPUC monitor to have a significant impact to a retained oak tree such that tree health may decline over time and result in tree mortality at a rate faster than normally expected, the CPUC monitor will determine whether the tree shall be removed or retained. Mitigation for the removed or retained tree is defined in Mitigation Measure 3.4-6, below.

Mitigation Measure 3.4-6: Removed native oak trees and retained native oak trees (as defined in Policy 7.4.5.2) that are significantly impacted by construction-related activities and determined by the CPUC monitor to potentially decline and result in tree mortality at a rate faster than expected, shall be mitigated through replacement at a 1:1 ratio. The number of trees planted may be greater than the 1:1 ratio to achieve at least 100 percent replacement of impacted trees at the end of the monitoring period. As part of this mitigation, PG&E shall prepare an Oak Mitigation Plan when tree planting locations have been determined. The plan shall include, but is not limited to, details of the number of oak trees to be planted, based on

the final total of trees removed or significantly impacted (Mitigation Measure 3.4-5d) by the Project, specific planting locations, maintenance and irrigation needs, monitoring requirements (i.e., at least 5 years monitoring plant vigor and growth), reporting requirements (e.g., annual reporting to the CPUC), and success criteria to be met before monitoring is concluded (e.g., 100 percent survival at a 1:1 replacement ratio; an independent assessment of "good" overall tree vigor; and tree viability without irrigation). The Oak Mitigation Plan shall be submitted to the CPUC for review and approval prior to implementation.

Significance after Mitigation: Less than Significant.

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

No Habitat Conservation Plans or Natural Community Conservation Plans include the Project area, therefore there would be no impact.

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3.5 Cultural Resources

Issues (and Supporting Information Sources):		*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
5.	**CULTURAL RESOURCES—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 a unique 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 Environmental Setting

The following discussions of prehistory, ethnography, and historic setting are summarized from the Paleontological and Cultural Resource Surveys completed by Applied Earthworks in 2012 and 2013 (Applied Earthworks, 2012a, 2012b, and 2013). More detailed information regarding these topics can be found in those reports.

Prehistory

The Project area spans two geographic regions—the Sierra Nevada foothills and the Sacramento Valley. These regions have typically been treated separately by archaeologists and historians studying California; however, they are inextricably linked within the Project alignment, with no clear point of demarcation. This section discusses studies conducted in both regions to provide a better understanding of the history of human occupation in the Project area.

The earliest human presence in the Project area may have been sporadic use by Paleo-Indians (circa 12,000–9000 B.C.). Paleo-Indians were generally mobile or semimobile hunter-gatherers who are identified in the archaeological record primarily by their distinctive fluted projectile points. Their presence in the Project area is extrapolated from a handful of discoveries in the San Joaquin Valley, mostly in lakeside contexts, one possibly fluted point found near Thomas Creek in the Sacramento Valley, and a few in the Sierra Nevada foothills. A set of flaked stone tools found east of Stockton, known as the Farmington Complex, was found in gravels associated with the Modesto Formation, suggesting a possible late-Pleistocene or early-Holocene age (circa 10,000–5000 B.C.). However, the exact age and nature of these tools has been a matter of debate since they were first reported.

Numerous isolated fluted points also have been discovered in western Nevada, and sites in the Lahontan Basin east of Lake Tahoe have produced remains of extinct megafauna associated with early artifact types. Substantial Paleo-Indian deposits have not been found. Discoveries of isolated fluted points near Ebbetts Pass, the Skyrocket Site, and other high Sierran locations support the concept that Paleo-Indian hunters visited the upper slopes of the Sierra Nevada

periodically and might have settled at favored locations in the lower foothills during the late Pleistocene or early Holocene.

Evidence also is scarce that humans occupied the Project area immediately after the Paleo-Indian period. Much of the valley floor is covered in alluvium, effectively burying late-Pleistocene and early-Holocene surfaces, and consequently, archaeological sites. Artifacts dating to circa 7500 B.C. along the Stanislaus River watershed suggest that hunter-gatherers during the Lower Archaic (circa 9000–5550 B.C.) used a more diverse resource base than the more mobile Paleo-Indians, which tied their seasonal movements more closely to local conditions.

By contrast, Middle Archaic (circa 5550–550 B.C.) occupation of the foothills is well represented in the archaeological literature. The number of sites identified from this period indicates a broad-based hunting and gathering economy. Limited but widespread evidence exists of ceremonial/ religious or social/prestige items in the form of ground stone ornaments and an increasingly large dependence on local plant foods. By the latter half of the Middle Archaic, the mortar and pestle were routinely used, indicating an intensification of acorn consumption, although the milling slick and portable milling stone remained important tools for processing seeds well into the historic era. The Middle Archaic is represented by moderately sized to large settlements dating to 3000 B.C. at the mid to upper elevations.

The onset of the Upper Archaic (circa 550 B.C.–A.D. 1100) appears to correspond to shifting environmental conditions, including a cooler, wetter, and somewhat more stable climate. A proliferation in local cultural traditions is reflected in different artifact variations and tool kits increasingly well adapted to local environmental niches. Villages began to appear in the Sacramento-San Joaquin Delta (Delta) on large mounds, and residents of these villages likely visited the foothills seasonally. Despite the increasing local specialization, long-distance trade for obsidian and other non-local resources appears to have been vital to Upper Archaic economies.

After A.D. 500, the settlement pattern shifts, favoring smaller, short-term residential sites, indicating a more mobile population specializing in the pursuit of a smaller range of resources. A return to local longer term occupation and resource diversification occurred during the Emergent Period (circa A.D. 1000 to present). The replacement of the atlatl with the bow occurred circa A.D. 600–800, likely resulting in changes in hunting behaviors and probably affecting the social organization surrounding resource procurement. Burial patterns, along with the presence of new types of beads and other ornaments, indicate increasing social complexity and emerging social inequality. Intensive use of the mortar and pestle was prevalent throughout the Central Valley by 1000 years ago, although their dominance may have begun earlier in some locations in the foothills and Sacramento Valley. The increased use of these tools likely represents a shift in resource procurement to a greater focus on acorns.

The timing of the emergence of ethnohistorically known cultural lineages is uncertain. Moratto (1984) argues that sites associated with the Martis Complex (a material culture identified by artifact types dating to circa 2000 B.C.–A.D. 500, including the latter part of the Middle Archaic) are linked to the ancestral Maidu. Moratto thus suggests that the ancestors of the ethnographic Nisenan were present in the Project vicinity by this point in time. Linguistic evidence suggests

that the ancestors of the Plains Miwok inhabited the Delta region, and likely other parts of the Sacramento Valley, since at least the Middle Horizon (circa 1500 B.C.–A.D. 500), whereas Miwok cultures did not occupy the Sierra Nevada until after A.D. 500 (Levy 1978). It is reasonable to assume that Miwok peoples were present near the Project area prior to A.D. 500, although the archaeological evidence for this is difficult to assess.

Ethnographic Period

According to most sources, the Project area lies in southern Nisenan territory; however, some question exists about the actual location of the territorial boundary between the Nisenan and their southern neighbor, the Miwok. Kroeber ([1925] 1976) placed the northern boundary of Miwok territory at the Cosumnes River, although he noted uncertainty about the precise boundaries of Nisenan territory. Wilson and Towne (1978) suggested that the boundary between Nisenan and Miwok territory lay somewhere between the Cosumnes and American rivers. Likewise, Levy (1978) placed the northern frontier of Miwok territory north of the Cosumnes River.

California's Native Americans never saw themselves as members of larger "cultural groups," as described by anthropologists. Instead, they saw themselves as members of specific villages, perhaps related to others by marriage or kinship ties, but viewing the village as the primary identifier of their origins. While traditional anthropological literature portrayed Native peoples as having a static culture, today it is better understood that many variations of culture and ideology existed within and between villages. While these "static" descriptions of separations between native cultures of California make it an easier task for ethnographers to describe past behaviors, this masks Native adaptability and self-identity. It also masks past mobility, and the affiliation and affinity that many groups can have with a particular area or region.

Nisenan

The Nisenan, also referred to as the Southern Maidu, are the southernmost branch of the Maidu-Konkow ethnolinguistic group (a subgroup of the Californian Penutian linguistic family). They occupied the Yuba, Bear, American, and lower Feather River drainages (Kroeber [1925] 1976; Moratto 1984). At the time of contact, Nisenan territory covered large portions of El Dorado, Sacramento, Amador, Placer, and Nevada counties. Kroeber ([1925] 1976) recognized three Nisenan dialects: two northern dialects (Northern Hill Nisenan and Valley Nisenan) and one southern (Southern Hill Nisenan). It is the Southern Hill Nisenan who likely occupied the Project vicinity.

The Nisenan were year-round hunter-gatherers with access to varied biotic zones distributed across the western slope of the Sierra Nevada. Hunting was done communally, by conducting drives and burning, with the best marksman doing the killing. The Nisenan used many tools, including stone knives, arrow and spear points, scrapers, pestles, and mortars. Weirs, nets, harpoons, traps, and gorgehooks were used to fish from tule balsas and log canoes. Baskets woven from willow and redbud were used for storage, cooking, and processing (Kroeber [1925] 1976; Wilson and Towne 1978). Raw material used to manufacture most tools and ornaments was obtained locally. A network of trails running north and south along the west face of the Sierra Nevada and along the crest of the range allowed the Nisenan to access non-local goods to supplement local resources.

Like most Native Californians, the Nisenan were organized into autonomous groups ranging in size from bands of 15–25 people to tribelets of 500 people (Wilson and Towne 1978). These autonomous groups were separated from each other by a combination of geographic boundaries and linguistic differences (Wilson and Towne 1978). Some fishing holes or territories for deer drives were used by certain family groups; however, individual hunters crossed family and political boundaries with impunity (Kroeber [1925] 1976; Wilson and Towne 1978). Although villages appeared to be central to the community's organization, main villages were occupied only for short periods of time during the year. Family groups commonly lived in seasonal camps away from the main villages during gathering seasons. Other site types include quarries, ceremonial grounds, trading sites, fishing stations, cemeteries, river crossings, and battlegrounds (Wilson and Towne 1978).

Miwok

The Miwok, another division of the Californian Penutian linguistic family, occupied the area south and east of the Nisenan. The Miwok generally have been divided into the Lake Miwok, Coast Miwok, and the Eastern Miwok (or Interior Miwok, after Kroeber [1925] 1976) based on cultural and linguistic differences (Levy 1978). The Eastern Miwok occupied the lower watersheds of the Mokelumne and Cosumnes rivers, the Sacramento River drainage, and portions of the eastern Delta as far west as Rio Vista. Ethnographically, the Plains Miwok, a subgroup of the Eastern Miwok, occupied the vicinity of the Project area (Levy 1978).

Like most Native Californian groups, the Miwok were organized primarily at the level of the tribelet (Levy 1978). Each tribelet was essentially a small independent nation made up of a number of villages and smaller seasonal camps and task areas. The villages, in turn, were based on and inhabited by members of local lineages, with leadership roles delegated to defined officers who held specific powers and responsibilities (Levy 1978).

The formality of Miwok political life may be represented through the presence of communal and special-purpose structures within villages (Kroeber [1925] 1976; Levy 1978). Although several such villages (including *Lopotsimne, Amuchamne*, and *Shalachmushumne*) are known to have been present along the Cosumnes River south of the Project area, none are thought to be within or near the Project area (Levy 1978). Kroeber ([1925] 1976) notes that much of the ethnohistoric data indicates that the Miwok did not form a strong sense of "nationalistic" identity within or between tribelets.

With the exception of tobacco and dogs, the Eastern Miwok lacked cultivated plants and domesticated animals; they were reliant on hunting and gathering. Evidence exists that groups occupying one ecological zone (the valley floor, the foothills, or the mountains) would travel to other ecological zones, including those in the territory of other groups, to gather plant resources or hunt game (Levy 1978). This implies some degree of social/political articulation between the different Eastern Miwok groups, similar to trade and territory sharing noted among tribes in other parts of California.

Historic Period

Prior to 1848 and the discovery of gold in California, the Sierra Nevada remained largely unpopulated and unexplored by European Americans. The Spanish missions, the first established in 1769, were established along the coast. Spanish incursions into California's interior were limited to the pursuit of runaway Mission Indians and the search for future mission sites. Among the few Europeans to travel to the Project vicinity before the 1830s were the Hudson's Bay Company trappers, who began trapping beaver in the local rivers during the 1820s.

After Mexico gained independence from Spain, California became more valuable as a region of economic value rather than a religious colony. The Mexican government began granting land to ranchers, and in 1839 it granted the region's first large landholdings to John Marsh near Mount Diablo and to John Sutter at the confluence of the American and Sacramento rivers. With Marsh's and Sutter's settlements available as bases, American explorers and traders began to explore the Sierra Nevada. Among these early explorers were Lieutenant Charles Wilkes, the Stevens-Townsend Party, and Charles Fremont. James Marshall's discovery of gold in January 1848 at Sutter's Mill triggered the California Gold Rush. Initially, placer gold could be extracted by individual miners or small groups using simple hand techniques. Within a few short years, the easily mined placer deposits had been depleted and more complex, mechanized methods, such as hydraulic mining, came into use.

Although the Project vicinity lies on the periphery of the Mother Lode, where the Gold Rush was felt most intensively, the outlying areas also experienced the effects of the estimated 90,000 individuals who had made their way to the California gold fields by the end of 1849. The drainages flowing into the Sacramento River from the northern Sierra Nevada attracted hundreds of gold seekers. The presence of two historical mining districts (the Mormon Hill and American River placer mining districts) in the Project area attests to the wide-reaching influence of the Gold Rush. Many of the miners who failed to locate productive claims entered into the developing agriculture, ranching, and logging industries. Agriculture, ranching, and dairy farming had become predominant industries in the Project vicinity by the 1860s. Ranchers maintained large herds of cattle and sheep, and seasonally moved their livestock between the valley floor and the mountains. Severe drought during the 1860s led to the establishment of the first water districts and the development of irrigated agriculture, which permitted the introduction of new crops. The railroad soon facilitated the expansion of agriculture by increasing access to markets at greater distances.

The Pacific Railway Act of 1862 authorized subsidies and land grants to the Union Pacific and Central Pacific railroads with the intention that these two companies would build a railroad stretching from Omaha, Nebraska, to Oakland, California. Ground broke on the railroad in 1863 and by 1869 the Transcontinental Railroad linked California to the east. This created new markets for California's agricultural and ranching products and opened the doors for an influx of new immigrants into California from the Midwest and the East Coast.

Simultaneous with the expansion of the railroads, California's surface road system continued to develop. Beginning as wagon, pack, and foot trails during the 1840s and 1850s (which themselves often were derived from Native American trails), the State of California began to grant "exclusive use" permits to road companies for the construction of toll roads. These roads often were

maintained as toll roads for a set amount of time, as expressed on their permit, after which they became non-toll public roads. The Mormon Hill Road, a segment of site CA-ELD-721H that lies within the Project area, is an example of a historical toll road. This system of toll roads continued through the late 19th century, with some roads being taken over or administered by the state.

In 1896, the California Bureau of Highways recommended constructing a state highway system that would connect Sacramento to all of California's county seats. With bonds passed in 1910, the construction of the state highway system began. U.S. Highway 50, which intersects much of the Project area, was constructed following the routes of older toll roads. The segment through Sacramento and El Dorado counties was completed by 1919, although several changes to the highway's alignment occurred over the next 80 years.

The first half of the 20th century was a time of general expansion throughout California, including the Project area. Immigrants from other parts of the U.S., as well as from overseas, caused populations to swell, and California's urban centers grew at a rapid pace. However, California's economy remained largely agrarian; farming and ranching remained dominant industries. California's population surged again after World War II. The growth of the aerospace industry, later giving way to the growth of the technology industry, resulted in a greater need for skilled and educated workers, particularly in manufacturing plants. The Cold War–era growth of the defense industry in California resulted in the inception of towns and cities near California's numerous military bases. Near the Project area, this general growth spurred expansion in the government and private institutions of Sacramento, resulting in a larger urban population and expansion outward into previously rural environments.

Methodology and Known Resources

Several record searches were conducted for the Project between February 2010 and May 2013. Archival review completed at the North Central Information Center (NCIC) of the California Historic Resources Information System indicated that 140 previous cultural resource investigations have been completed within a 0.5-mile radius of the Project alignment, 60 of which have been completed within the Project alignment. These studies resulted in the identification of 30 previously recorded cultural resources within the Project alignment. The majority of the known cultural resources are historic-era sites and features related to ranching and mining; other site types present include prehistoric sites (e.g., bedrock milling stations, flake scatters), and isolates. Two historic districts intersect the Project alignment: the Mormon Hill Historic District (P-09-001670) and the American River Placer Mining District (P-34-000335). Both districts have been evaluated and have been recommended as eligible for listing in the National Register of Historic Places (NRHP). One cultural resource within the Project alignment (P-09-000673/P-09-005368) is listed as a contributing element to the Mormon Hill Historic District's eligibility. One resource (P-34-001769) is listed as a contributing element to the American River Placer Mining District's eligibility, although this resource has since been destroyed by a housing development and no longer exists along the Project alignment.

North Coast Resource Management requested a search of the Native American Heritage Commission's (NAHC) Sacred Lands File database on March 20, 2009. Results of the database search did not indicate the presence of any known sacred Native American sites in the immediate

Project area. In March and September 2009, the individuals and organizations affiliated with the area as identified by the NAHC were contact via letter to solicit their comments and concerns regarding the Project. In 2011, PG&E requested an updated contact list from the NAHC and in February 2012 sent out letters to the individuals and tribes identified. On April 12, 2012, facsimiles or emails were sent to contacts that had not yet responded. To date, PG&E has received responses from three of the 14 individuals contacted: 2012 and 2013 responses from the Shingle Springs Band of Miwok Indians, and a letter from the United Auburn Indian Community of the Auburn Rancheria. None of these responses identified areas of concern for cultural resources. No additional responses have been received.

Applied Earthworks archaeologists conducted intensive pedestrian surveys of the transmission lines and access road corridors (i.e., the survey area for this analysis of cultural resources) in May and July of 2012, and May 2013. The survey covered a 300-foot-wide corridor centered on the Missouri Flat Nos. 1 and 2 and Gold Hill No. 1 power lines; a 100-foot-wide corridor centered on proposed new access roads, as well as existing access roads planned for improvement; a 50-footwide corridor centered on proposed access roads that are well maintained or paved and will not require improvement; and a 150-foot-wide area around all identified Project elements (e.g., pull and tensioning sites, lay-down areas, extra work spaces, etc.) that lie outside the 300-foot-wide power line survey corridor. Ground visibility in the survey area ranged from less than 5 percent in areas covered with dense manzanita, tall grass, or pasture to 25 percent or more in areas of shorter grass. During the pedestrian survey, Applied EarthWorks identified 29 cultural resources within the survey area, in addition to the two historic districts (Mormon Hill Historic District [P-09-001670] and American River Placer Mining District [P-34-000335]). Of the 29 cultural resources identified, 16 were identified previously and 13 were newly identified. These 29 cultural resources include 25 historic-era sites, three pre-historic sites, and one site containing both pre-historic and historic-era features. Of these resources, the two historic districts and one archaeological resource (P-09-00673/P-09-005368) have been determined eligible for listing in the NRHP and California Register of Historical Resources (CRHR) with concurrence by the State Historic Preservation Officer (SHPO). Another resource (CA-ELD-721H, Durock Road Segment) has been determined ineligible for listing in the NRHP/CRHR with concurrence by the SHPO. The remaining 27 resources have not been evaluated for listing in the NRHP or CRHR. Twenty-five of these resources are assumed to be eligible for listing. The other two are recommended ineligible—one resource is an isolate and by definition is not eligible for listing in the NRHP or CRHR, and on closer inspection, the other resource was determined non-cultural and not eligible for listing in the NRHP or CRHR. The Missouri Flat-Gold Hill Line, Gold Hill No. 1 Line, and associated infrastructure (e.g., towers, poles, and substations) are less than 50 years old and therefore do not meet the minimum age threshold to be considered cultural resources.

To determine whether fossil localities have been discovered previously within the Project alignment or a particular rock unit, a museum records search was conducted at the University of California's Museum of Paleontology (UCMP). The museum records search was supplemented by a review of the UCMP's online database, which contains paleontological records for El Dorado and Sacramento counties. Because of the limited paleontologically sensitive geologic units in the Project alignment, a paleontology field survey was not conducted. Based on the results of museum collections data and available literature on the geology and paleontology of the Project area, only one geologic unit

known to underlie the Project alignment is determined to be of high paleontological sensitivity and therefore has the potential to contain unique paleontological resources. This unit, Quaternary alluvium of Holocene and Pleistocene age, is mapped in a very small (0.29-acre) area just west of Empire Ranch Road and the El Dorado-Sacramento County boundary.

3.5.2 Regulatory Setting

Federal

A portion of the Project alignment crosses land administered by the U.S. Bureau of Land Management (BLM). The Project would not require federal funding but would require a special use permit from BLM to conduct Project-related activities within the Pine Hill Preserve. Although special use permits may trigger the need for compliance with the National Environmental Policy Act of 1969 (NEPA), BLM has determined that the Project is exempt from NEPA because PG&E is conducting construction activities on an existing power line within an existing easement for the Missouri Flat-Gold Hill Line within the Pine Hill Preserve, providing PG&E with prior and existing rights to complete the Project. Cultural resources on public lands administered by BLM are managed to comply with other federal laws and regulations, including:

- **Section 106 of the National Historic Preservation Act (16 USC 470),** which addresses potential impacts to historic properties (resources that are eligible for listing on the National Register of Historic Places [NRHP]) through consultation with affected Tribes;

- **Archaeological Resource Protection Act (ARPA) (16 USC 470aa-mm),** which regulates the excavation of archaeological sites on federal and Indian lands in the United States, and the removal and disposition of archaeological resources;

- **Native American Graves Protection and Repatriation Act (NAGPRA) (25 USC 3001-3013)**, which requires federal agencies to consult with the appropriate Native American Tribes before the intentional excavation of human remains and funerary objects on federal and tribal lands (The act requires development of a Plan of Action); and

- **Paleontological Resource Preservation Act (123 Stat. 1172; 16 U.S.C. 470aaa)**, which establishes requirements to manage and protect paleontological resources on federal lands.

State

California Environmental Quality Act and California Register of Historical Resources

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

- Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage

- Is associated with the lives of persons important in our past

- Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic value
- Has yielded, or may be likely to yield, information important in prehistory or history

Automatic listings include properties that are listed on the NRHP. 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 historic register or deemed significant in a historical resources survey, as provided under California Public Resources Code Section 5024.1(g), are presumed to be historically or culturally significant unless the preponderance of evidence demonstrates that they are not. A resource that is not listed on or determined to be ineligible for listing on the CRHR, not included in a local register of historical resources, or not deemed significant in a historical resources survey may nonetheless be historically significant as determined by the lead agency (Pub. Res. Code §§ 21084.1, 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 (§§8010 through 8030). Several provisions of the Public Resources Code also govern archaeological finds of human remains and associated objects. Procedures are detailed under Public Resources Code Sections 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 Public Resources Code Section 5097.99. Any person removing human remains without authority of the law or written permission of the person or persons having the right to control the remains under Public Resources Code Section 7100 has committed a public offense that is punishable by imprisonment.

Public Resources Code Chapter 1.7 (§§5097 through 5097.7), 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 (Pub. Res. Code §5097.5).

Local

The Project is not subject to local discretionary land-use regulations because the CPUC has exclusive jurisdiction over the siting, design, and construction of the project. However, consistent with its obligations under CPUC GO 131-D and as described in the Land Use and Planning section, *Section 3.10.2, Regulatory Setting*, PG&E has consulted with El Dorado and Sacramento counties and with the City of Folsom regarding land use matters.

El Dorado County

Neither El Dorado County's guidelines for cultural resource studies (El Dorado County, 1999) nor the El Dorado County General Plan (El Dorado County 2004) contain any specific policies that pertain to the designation of local historical resources. The County's objectives toward the preservation of cultural and paleontological resources are outlined in Policies 7.5.1.1 through 7.5.1.6 of the El Dorado County General Plan's Conservation and Open Space Element.

City of Folsom

The City of Folsom maintains a local cultural resources inventory to encourage public recognition and protection of resources of architectural, historical, archaeological, and cultural significance. None of the cultural resources listed in the City of Folsom Cultural Resources Inventory are located within the Project alignment.

3.5.3 Applicant Proposed Measures

APMs provided in this section include existing regulations and/or requirements or standard practices that would further minimize, avoid, or reduce potential less-than-significant impacts on cultural and paleontological resources.

APM CUL-1: Develop and Implement Worker Environmental Awareness Program Prior to Construction

PG&E will design and implement a worker environmental awareness program that will be provided to all project personnel involved in earth-moving activities. No construction worker will be involved in field operations without having participated in the worker environmental awareness program.

The worker environmental awareness program will include a kick-off tailgate session to present site avoidance requirements and procedures to be followed if unanticipated cultural or paleontological resources are discovered during project implementation, and a discussion of actions that could be taken against persons violating historic preservation laws and PG&E policies. Key project workers involved with ground-disturbing activities will receive a pamphlet listing how to identify a cultural resource or fossil and what to do if an unanticipated discovery is made during construction. The worker environmental awareness training may be conducted in concert with other environmental or safety awareness and education training programs for the project, and may be recorded for use in subsequent training sessions.

APM CUL-2: Manage Unanticipated Cultural Resources Discoveries Properly

In the unlikely event that previously unidentified cultural resources are uncovered during project implementation, all work within 100 feet of the discovery will be halted and redirected to another location. The find will be secured, and a CPUC-approved, qualified cultural resources specialist/archaeologist will be contacted immediately. The specialist will inspect the discovery and determine whether further investigation is required. If the discovery can be avoided and no further impacts will occur, the resource shall be documented on California State Department of Parks and Recreation cultural resource record forms and no further effort shall be required.

If additional disturbance to the resource cannot be avoided, a CPUC-approved, qualified cultural resources specialist/archaeologist will evaluate the resource's significance and CRHR eligibility and determine whether it is (1) eligible for the CRHR (and thus a historical resource for purposes of CEQA); or (2) a unique archaeological resource as defined by CEQA. If the resource is determined to be neither a unique archaeological nor an historical resource, work may commence in the area. If the resource meets the criteria for either an historical or unique archaeological resource, or both, work shall remain halted, and the cultural resources specialist/archaeologist shall consult with CPUC staff regarding methods to ensure that no substantial adverse change would occur to the significance of the resource pursuant to CEQA Guidelines Section 15064.5(b). Preservation in place, i.e. avoidance, is the preferred method of mitigation for impacts to cultural resources. Other methods to be considered shall include evaluation, collection, recordation, and analysis of any significant cultural materials in accordance with a Cultural Resources Management Plan prepared by the CPUC approved qualified cultural resource specialist/archaeologist. The methods and results of evaluation or data recovery work at an archaeological find will be documented in a professional-level technical report to be filed with the NCIC.

If previously unidentified cultural resources are uncovered during project implementation on BLM land, procedures will be similar to those described above. If additional disturbance to a cultural resource cannot be avoided, PG&E will evaluate the significance and NRHP eligibility per Section 106 of the NHPA in consultation with BLM. Any cultural resource or paleontological work conducted on BLM lands will be conducted under a valid cultural resource and paleontological use permit issued by the BLM California State Office, and may require a fieldwork authorization by the local field office. Cultural materials and paleontological resources collected under a BLM-use permit will be curated in an accredited museum repository.

APM CUL-3: Follow Statutory Requirements for Treatment of Human Remains

In the unlikely event that human remains or suspected human remains are uncovered during pre-construction testing or during construction, all work within 100 feet of the discovery will be halted and redirected to another location. The find will be secured, and a CPUC-approved, qualified cultural resources specialist will be contacted immediately to inspect the find and determine whether the remains are human. If the remains are not human, the cultural resources specialist will determine whether the find is an archaeological deposit and whether APM CUL-2 applies. If the remains are human, the cultural resources specialist will immediately implement the provisions in PRC Sections 5097.9 through 5097.996, beginning with the immediate notification to the affected county coroner. The coroner has 2 working days to examine human remains after being notified. If the coroner determines that the remains are Native American, California Health and Safety Code 7050.5 and PRC Section 5097.98 require that the cultural resources specialist contact the NAHC within 24 hours. The NAHC, as required by PRC Section 5097.98, determines and notifies the Most Likely Descendant.

If potential human remains are discovered during any project activity on lands administered by BLM, the procedures identified in NAGPRA will be closely adhered to and the following steps will be taken:

1. All activities that may further disturb the potential human remains will cease immediately in the vicinity of the discovery.

2. PG&E will take appropriate steps to secure and protect human remains and any funerary objects from further disturbance.

3. PG&E's cultural resources specialist will notify BLM's archaeologist by telephone within 24 hours of discovery, followed within 3 days by written confirmation. Human remains or associated funerary objects will not be excavated or otherwise removed unless a permit is issued under ARPA and after consultation between the appropriate Native American representative(s), BLM, and PG&E.

4. The activity that resulted in the inadvertent discovery will not resume until clearance is provided by BLM.

APM CUL-4: Flag and Avoid Cultural Resources

The boundaries of all known cultural resources that lie within 100 feet of a designated work area will be marked with flagging tape, safety fencing, and/or a sign designating it as an "environmentally sensitive area" to ensure that PG&E construction crews and heavy equipment will not intrude on these resources during construction. For those eligible or potentially eligible sites that contain an existing access road within their site boundary, the road will be used as-is (i.e., no grading, widening, or other substantial improvements), and signs or safety fencing will be established on either side of the road within the site's boundary to avoid impacts caused by construction vehicles. If it is infeasible or impractical to use an access road as-is, and grading, widening or other substantial improvement is necessary, PG&E will implement mitigation or treatment measures specific to the resource potentially affected by the work. Examples of such measures would include preservation in place, and evaluation, collection, recordation, and analysis of any significant cultural materials.

APM CUL-5: Avoid Paleontologically Sensitive Locations

No direct impacts on fossil-bearing deposits (ground disturbance) will occur within the approximately 0.29-acre project area containing Quaternary alluvium just west of Empire Ranch Road and the El Dorado-Sacramento County boundary. Should project development result in the disturbance of this geologic unit at a depth of 10 feet or greater, a qualified paleontologist will be retained as needed to ensure that impacts on any potential paleontological resources are avoided.

If fossil remains are uncovered during project implementation, all work within 50 feet of the discovery will be halted and the construction crew immediately will notify PG&E. A paleontologist will be retained by PG&E and approved by the CPUC to evaluate the resource. If the discovery can be avoided and no further impacts will occur, no further effort shall be required. If the resource cannot be avoided and may be subject to further impact, the CPUC-approved paleontologist shall evaluate the resource and determine whether it is "unique" under CEQA, Appendix G, part V. If the resource is determined to not be unique, work may commence in the area. If the resource is determined to be a unique paleontological resource, work shall remain halted, and the paleontologist shall consult with CPUC staff regarding methods to ensure that no substantial adverse change would occur to the significance of the resource pursuant to CEQA. Preservation in place, i.e. avoidance, is the preferred method of mitigation for impacts to paleontological resources. Other methods include ensuring that the fossils are recovered, prepared, identified, catalogued, and analyzed according to current professional standards under the direction of a qualified paleontologist. All recovered fossils shall be curated at an accredited and permanent scientific institution according to Society of Vertebrate Paleontology standard guidelines (SVP [2010]) standards; typically the Natural History

Museum of Los Angeles County and UC Berkeley accept paleontological collections at no cost to the donor. Work may commence upon completion of treatment, as approved by the CPUC. Components of the treatment plan related to "unique" fossil specimens that are encountered during construction may include a field survey, additional construction monitoring, specific sampling and data recovery procedures, museum storage coordination for any specimen recovered, and a report of findings.

3.5.4 Environmental Impacts and Mitigation Measures

a) Whether the Project would cause a substantial adverse change in the significance of a historical resource as defined in §15064.5: *LESS THAN SIGNIFICANT*.

A significant impact would occur if the Project would cause a substantial adverse change to a historical resource, herein referring to historic-era architectural resources or the built environment, including buildings, structures, and objects. A substantial adverse change includes the physical demolition, destruction, relocation, or alteration of the resource.

Cultural resources surveys and records searches identified two historic districts and 29 other cultural resources along the Project alignment. Of these, the two districts and one archaeological site (P-09-000673/P-09-005368) have been determined to be eligible for listing in the NRHP/CRHR. Three other previously recorded sites are not eligible for listing in the NRHP/CRHR. These are an isolated concrete footing (AE-2328-14H), which is not eligible for listing in either register; a bedrock mortar feature (P-09-000010), which was determined to be non-cultural; and the Durock Road Segment of CA-ELD-721H, which was determined ineligible for listing in the NRHP/CRHR with concurrence by the SHPO. The unevaluated sites are assumed to be historical resources and would be treated accordingly for management purposes.

Implementation of APM CUL-4 would avoid the historical resources and unevaluated cultural resources within the Project alignment, as well as all potentially contributing sites or features associated with the Mormon Hill Historic District (P-09-001670) and American River Placer Mining District (P-34-000335). Therefore, no impacts on the NRHP/CRHR-eligible historical districts, historical resource P-09-000673/P-09-005368, or the known unevaluated cultural resources would occur. In the unlikely event that additional historical resources are discovered during construction activities, implementation of APMs CUL-1 through CUL-4 would reduce the potential damage or destruction to historical resources from the inadvertent discovery to undiscovered resources to a less-than-significant level because PG&E would conduct pre-construction worker awareness training, manage undiscovered resources, properly treat human remains if discovered, and establish work exclusion zones around unevaluated cultural resources if discovered. Therefore, impacts would be less than significant. No additional mitigation is required.

b) Whether the Project would cause a substantial adverse change in the significance of a unique archaeological resource pursuant to §15064.5: *LESS THAN SIGNIFICANT*.

A significant impact would occur if the Project would cause a substantial adverse change to a unique archaeological resource through physical demolition, destruction, relocation, or alteration of the resource.

Surface surveys and records searches identified two NRHP/CRHR historical districts, one historical resource (P-09-000673/P-09-005368), and 27 other cultural resources along the Project alignment that have not yet been formally evaluated for listing in the NRHP or CRHR. Of these 27 resources, two have been recommended not eligible for listing in the NRHP/CRHR (one is an isolate and the other has been determined to be non-cultural). The historical resource and all of the unevaluated sites, which are assumed to be historical resources for management purposes, would be avoided by Project construction. As described in APM CUL-4, the boundaries of these sites would be clearly marked where necessary using flagging, safety fencing, or signs specifying an "environmentally sensitive area" before construction to ensure that they are avoided. Implementation of APM CUL-4 would reduce potential impacts to a less-than-significant level.

Although much of the Project alignment has been previously affected by residential and light-industrial development, the potential for buried archaeological sites still exists. The presence of both Native American and historic-era cultural resources in the Project area indicates that the area has been used over the last several thousand years. Although all of the areas of construction and access roads have been subject to the archaeological survey, the potential remains for previously unidentified archaeological remains to be discovered below the visible ground surface. Project construction would create subsurface disturbances that could result in damage to or destruction of previously undiscovered subsurface cultural resource deposits. In the event that archaeological resources are discovered during construction, APM CUL-1 through APM CUL-4 would reduce potential impacts to a less-than-significant level. No additional mitigation measures are required to reduce impacts to archaeological resources because impacts would be less than significant.

c) Whether the Project would directly or indirectly destroy a unique paleontological resource or site or unique geologic feature: *LESS THAN SIGNIFICANT*.

Based on the results of museum collections data and available literature on the geology and paleontology of the Project area, only one geologic unit known to underlie the Project alignment has been determined to be of high paleontological sensitivity and therefore has the potential to contain unique paleontological resources. This unit, Quaternary alluvium of Holocene and Pleistocene age, is mapped in a very small (0.29-acre) area just west of Empire Ranch Road and the El Dorado-Sacramento County boundary. No earth-moving activities are planned within the area of the Quaternary alluvium; therefore, potential impacts on paleontological or unique geological features would be avoided. If unforeseen circumstances arise that would require disturbance of this geologic unit at this location at a depth of 10 feet or greater, the probability of an impact would be less than significant because of the very limited occurrence of this geological unit within the Project alignment. Implementation of APM CUL-1 and APM CUL-5 would further reduce potential less-than-significant impacts. No additional mitigation measures are required to reduce impacts to paleontological resources or unique geological features, and impacts would be less than significant.

d) Whether the Project would disturb any human remains, including those interred outside of formal cemeteries: *LESS THAN SIGNIFICANT*.

Based on the records search and contact with Native Americans, no human remains are known to exist within the Project area; however the possibility of discovering human remains during

ground-disturbing activity cannot entirely be discounted. In the unlikely event that human remains are uncovered during construction, PG&E would implement APM CUL-3, which would reduce potential impacts to a less-than-significant level. No additional mitigation is required for reducing impacts to human remains, and impacts would be less than significant.

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3.6 Geology, Soils, and Seismicity

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
6. GEOLOGY, SOILS, AND SEISMICITY— Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to Division of Mines and Geology Special Publication 42.)	☐	☐	☐	☒
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 geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒

3.6.1 Environmental Setting

Local Geology

The Project area is in the western foothills of the Sierra Nevada geomorphic province (CGS, 2002). The Sierra Nevada is composed of northwest-trending metamorphic, volcanic, and igneous rocks that stretch from Bakersfield to Lassen Peak, and includes the Sierra Nevada mountain range and a broad belt of western foothills. Deep river canyons are cut into the western slope of the province, and the metamorphic bedrock contains gold-bearing veins. Active faults along the eastern edge of the Sierra Nevada have accommodated the upthrusting and tilting of the entire Sierra Nevada block over the last 5 million years. This uplift has resulted in the gentle westward sloping terrain of the Sierra Nevada foothills.

Rocks in the Project area are deformed, metamorphosed remnants of Paleozoic and Mesozoic oceanic crust and volcanic islands added to the continent during subduction along the western coast of North America that were later intruded by plutonic rocks (rocks that cooled from magma underground) in various locations. This bedrock is generally located less than 3 feet below the

ground surface along the Project alignment (Kleinfelder, 2011a). Gabbro (a mafic igneous rock with chemical composition similar to basalt, the magma that erupts on the seafloor) underlies the portion of the project alignment extending from the eastern end to the area south of Cameron Park (Kleinfelder, 2011a).

Naturally occurring asbestos generally occurs in ultramafic and serpentinite rocks, similar to those found along the Project alignment. "Asbestos" is a non-technical term applied to a group of minerals that form long, very thin mineral fibers. These fibers can become airborne when rocks or soils containing such minerals are disturbed by mining or earthwork activities, and are potentially hazardous if inhaled (Kleinfelder, 2011a). Reported asbestos occurrences have been mapped to the north and south of the Project alignment (Gosen and Clinkenbeard, 2011).

Soils

Overlying the geologic units described above is a layer of soil. In general, soil characteristics are strongly governed by slope, relief, climate, vegetation, and the rock type upon which they form. Soil types are important in describing engineering constraints such as erosion and runoff potential, corrosion risks, and various behaviors that affect structures, such as expansion and settlement.

Kleinfelder (2011a) mapped the geology of the Project area and sampled the soil along the Project alignment, determining that the Project alignment is underlain by bedrock with a soil cover ranging in thickness from 1 to 15 feet. Soils encountered in the well borings drilled as part of this investigation were generally shallow (1 to 3 feet below ground surface), and either consisted of fill or were naturally-formed. Clay and silt with variable amounts of sand and gravel make up the fill material. The naturally-formed soils range from clays and silts to sands and gravel. Soil survey data from the Natural Resources Conservation Service (NRCS) were reviewed for the Proponent's Environmental Assessment. Relevant physical properties of soils mapped by NRCS along the Project alignment are shown in **Table 3.6-1**, below.

Expansive Soils

Expansive soils contain significant amounts of clay particles that have the ability to give up water (shrink) or take on water (swell). When these soils swell, the change in volume can exert significant pressures on loads that are placed on them, such as building and structure foundations or underground utilities, and can result in structural distress and/or damage. Often, grading, site preparations, and backfill operations associated with subsurface structures can eliminate the potential for expansion. Expansive soils are defined in the California Building Code as those soils demonstrating certain distributions of particle sizes and that have an expansion index greater than 20. The other criterion requires that the soil has a plasticity index of 15 or greater, more than 10 percent of soil particles are silt or clay-sized, and 10 percent of the soil particles are smaller than 5 micrometers.

The geotechnical report prepared by Kleinfelder concluded that moderately to highly expansive soils exist along much of the Project alignment (Kleinfelder, 2011a). In the general area, the expansion potential of the soils along the Project alignment range from low to high, based on mapping by the Natural Resources Conservation Service (as shown in Table 3.6-1).

TABLE 3.6-1
SOIL CHARACTERISTICS

Soil Map Unit Name	Shrink-Swell Potential[1]	Permeability[2]	Water Erosion Hazard[3]	Wind Erosion Hazard[4]	Drainage	Concrete Corrosivity	Limitations
Sacramento County Soils							
Argonaut-Auburn complex, 3 to 8 percent slopes	Moderate	Moderately high	Moderate	5	Well drained	Low	Shallow depth to bedrock; unstable excavation walls; high clay content;
Auburn-Argonaut-Rock outcrop complex, 8 to 30 percent slopes	Low	High	Moderate	5	Well drained	Low	Shallow depth to bedrock; unstable excavation walls; high clay content; slopes greater than 15 percent
Hicksville gravelly loam, 0 to 2 percent slopes, occasionally flooded	Moderate	Moderately high	Low	7	Moderately well drained	Low	Soil saturation at shallow depth; flooding
Lithic Xerorthents, 2 to 8 percent slopes	N/A	N/A	N/A	N/A	Excessively drained	N/A	N/A
Whiterock loam, 3 to 30 percent slopes	Low	High	Moderate	5	Somewhat excessively drained	Moderate	Shallow depth to bedrock; slopes greater than 15 percent
El Dorado County Soils							
Argonaut clay loam, 3 to 9 percent slopes	High	Moderately low	Moderate	6	Well drained	Low	High clay percentage; unstable excavation walls
Argonaut gravelly loam, 2 to 15 percent slopes	Moderate	Moderately high	Low	6	Well drained	Low	High clay percentage; unstable excavation walls; shallow depth to bedrock
Auburn extremely rocky silt loam, 3 to 70 percent slopes	Low	Moderately high	High	5	Well drained	Low	Shallow depth to bedrock; slopes greater than 15 percent
Auburn silt loam, 2 to 30 percent slopes	Low	Moderately high	High	5	Well drained	Low	Shallow depth to bedrock; slopes greater than 15 percent
Auburn very rocky silt loam, 2 to 30 percent slopes	Low	Moderately high	High	5	Well drained	Low	Shallow depth to bedrock; slopes greater than 15 percent
Loamy alluvial land	Low	Moderately high	Moderate	7	Moderately well drained	N/A	Saturation at shallow depth; flooding; unstable excavation walls
Placer diggings	Low	High	Low	6	N/A	N/A	More than 50 percent of soil contains cobbles greater than 3-inch diameter; slopes greater than 15 percent
Rescue clay, clayey variant	High	Moderately low	Low	4	Poorly drained	Low	Saturation at shallow depth; high clay percentage; unstable excavation walls

TABLE 3.6-1 (Continued)
SOIL CHARACTERISTICS

Soil Map Unit Name	Shrink-Swell Potential[1]	Permeability[2]	Water Erosion Hazard[3]	Wind Erosion Hazard[4]	Drainage	Concrete Corrosivity	Limitations
El Dorado County Soils (cont.)							
Rescue extremely stony sandy loam, 3 to 50 percent slopes, eroded	Low	Moderately high	Low	5	Well drained	Low	Slopes greater than 15 percent; unstable excavation walls
Rescue sandy loam, 2 to 9 percent slopes	Low	Moderately high	Moderate	3	Well drained	Low	Unstable excavation walls
Rescue very stony sandy loam, 15 to 30 percent slopes	Low	Moderately high	Low	5	Well drained	Low	Slopes greater than 15 percent; unstable excavation walls
Rescue very stony sandy loam, 3 to 15 percent slopes	Low	Moderately high	Low	5	Well drained	Low	Unstable excavation walls
Sobrante silt loam, 3 to 15 percent slopes	Moderate	High	Moderate	5	Well drained	Low	Shallow depth to bedrock; unstable excavation walls

NOTES:

1 Based on percentage of linear extensibility.
2 Based on standard saturated hydraulic conductivity (Ksat) class limits; Ksat refers to the ease with which pores in a saturated soil transmit water.
3 Based on the erosion factor "Kw whole soil," which is a measurement of relative soil susceptibility to sheet and rill erosion by water.
4 The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible.

SOURCE: PG&E, 2013.

Soil Corrosivity

Corrosion is the deterioration of a metal, concrete, or other material through a reaction with its environment. The corrosivity of soils is commonly related to several key parameters, including soil resistivity, the presence of chlorides and sulfates, oxygen content, and pH. Typically, the most corrosive soils are those with the lowest pH and highest concentration of chlorides and sulfates. Wet/dry conditions can result in a concentration of chlorides and sulfates as well as movement in the soil, both of which tend to break down the protective corrosion films and coatings on the surfaces of building materials. High-sulfate soils are corrosive to concrete and may prevent complete curing, reducing its strength considerably. Low pH and/or low-resistivity soils can corrode buried or partially buried metal structures. Depending on the degree of corrosivity of the subsurface soils, concrete, reinforcing steel, and bare-metal structures exposed to these soils can deteriorate, eventually leading to structural failures.

Soil samples taken from the Project alignment during the geotechnical investigation conducted by Kleinfelder (2011a) were evaluated for soil corrosion factors. While not a regulation, and only recommended for use as general guidance, Caltrans has prepared corrosion guidelines that define the pH, chloride concentration, and sulfate concentration thresholds which are used by Caltrans to determine if a site is “corrosive” or “not corrosive” (Caltrans, 2012). The two samples analyzed are not corrosive to metals and concrete per the Caltrans criteria.

Erosion and Runoff

Erosion is a natural process whereby soil and highly weathered rock materials are worn away and transported, most commonly by wind or water. Soil erosion can become problematic when human intervention causes rapid soil loss and the development of erosional features (such as incised channels, rills, and gullies) that undermine roads, buildings, or utilities. Vegetation clearing and earth moving reduces soil structure and cohesion, resulting in abnormally high rates of erosion, referred to as accelerated erosion. This typically occurs during construction activity involving grading and soil moving activities (i.e., presence of soil stockpiles, earthen berms, etc.) that loosen soils and makes them more susceptible to wind and water erosion. Further, the operation of associated heavy machinery and vehicles over access roads, staging areas, and work areas can compact soils and decrease their capacity to absorb runoff, resulting in rills, gullies, and excessive sediment transport.

Natural rates of erosion can vary depending on slope, soil type, and vegetative cover (regional erosion rates are also dependent on tectonics and changes in relative sea level). Soils containing high amounts of silt are typically more easily eroded, while coarse-grained (sand and gravel) soils are generally less susceptible to erosion. The susceptibility of soils to water erosion along the Project alignment ranges from low (soils on gentle slopes with bigger particles) to high (relatively steep slopes with a shallow depth to bedrock). Susceptibility of soils to wind erosion generally is low, but increases to moderate levels for certain soils along the Project alignment.

Faults and Seismicity

The Project is located in an area of California that has not been seismically active over the past 11,000 years (Holocene time) except for one earthquake on the Cleveland Hills fault, located near

Lake Oroville, approximately 50 miles north of the Project area (Jennings and Bryant, 2010). Research conducted by the California Department of Water Resources (DWR) indicates that the magnitude 5.7 earthquake that occurred along the Cleveland Hills Fault on August 1, 1975, most likely resulted from reservoir-induced stress (PG&E, 2013). The northern portion of the Cleveland Hills Fault is the nearest active fault to the Project area zoned under the Alquist-Priolo Act; the Project area is not located in an Alquist-Priolo Earthquake Fault Zone (CGS, 2014). The nearest well-defined faults to the Project area are the Genoa and Cordelia faults, both over 60 miles away from the nearest point along the Project alignment. A major seismic event on either of these faults may cause ground shaking in the Project area. Quaternary faults near the Project alignment include the Rescue Fault and the Maidu Fault, both within the Bear Mountains Fault Zone (USGS and CGS, 2006); however, no Quaternary faults are known to traverse the Project alignment (Kleinfelder, 2011a). The most recent movement inferred along the Rescue Fault occurred around 130,000 years ago; the most recent evidence of displacement along the Maidu Fault is even older, around 1.6 million years ago (USGS and CGS, 2006).

Earthquake Hazards

Fault Rupture

Seismically induced ground rupture is defined as the physical displacement of surface deposits in response to an earthquake's seismic waves. The magnitude and nature of fault rupture can vary for different faults, or even along different strands of the same fault. Ground rupture is considered most likely along faults that have a record of displacement sometime in the past 11,000 years (the Holocene time). The Project alignment does not cross any Holocene faults. For this reason, the probability of surface rupture occurring along the Project alignment is low.

Ground Shaking

The primary tool that seismologists use to evaluate ground-shaking hazard and characterize statewide earthquake risks is a probabilistic seismic hazard assessment (PSHA). The PSHA for the State of California takes into consideration the range of possible earthquake sources and estimates their characteristic magnitudes to generate a probability map for ground-shaking. The PSHA maps depict values of peak ground acceleration (PGA) that have a 10 percent probability of being exceeded in 50 years (or a 1 in 475 chance). This probability level allows engineers to design structures for ground motions that have a 90 percent chance of NOT occurring in the next 50 years, making structures safer than if they were simply designed for the most likely events. The peak ground acceleration for the most vulnerable areas of the Project alignment (those closest to faults) would be about 0.128 g[3] (CGS, 2008). This PGA value is typically indicative of a moderate earthquake, capable of causing light to moderate damage; including movement of furniture; cracks in weak plaster, adobe, and poorly-built masonry buildings; and damage related to falling objects (ABAG, 2014). For comparison purposes, the maximum peak acceleration value recorded during the Loma Prieta earthquake of 1989 was in the vicinity of the epicenter, near Santa Cruz, at 0.64 g.

[3] PGA is expressed as the percentage of the acceleration due to gravity (g), which is approximately 980 centimeters per second squared. In terms of automobile accelerations, one "g" of acceleration is equivalent to the motion of a car traveling 328 feet from rest in 4.5 seconds.

Liquefaction and Lateral Spreading

Soil liquefaction is caused by pressure waves moving through the ground due to earthquakes. Research and historical data indicate that loose granular soils and non-plastic silts that are saturated by relatively shallow groundwater (generally less than 50 feet) are susceptible to liquefaction. Liquefaction causes soil to lose strength and "liquefy," triggering structural distress or failure due to the dynamic settlement of the ground or a loss of strength in the soils underneath structures. Liquefaction in a subsurface layer can in turn cause lateral spreading of the ground surface, which usually takes place along weak shear zones that have formed within the liquefiable soil layer. Lateral spreading has generally been observed to take place in the direction of a free face (e.g. a retaining wall or slope).

The CGS has not mapped any portion of the Project alignment as a Seismic Hazard Zone. Seismic Hazard Zones are regulatory zones that encompass areas prone to liquefaction and earthquake-induced landslides. This indicates that the risk for liquefaction along the Project alignment is low.

To confirm the level of liquefaction risk, the geotechnical investigation was reviewed for relevant information. A hydrologic analysis was not conducted as part of the geotechnical investigation. Most of the bores drilled as part of the geotechnical investigation used technology that precluded accurately measuring groundwater. However, regional groundwater in the area is generally deep and contained within fractures in the bedrock, and few production wells are present in terrain like that of the Project area (Kleinfelder, 2011a). The fact that groundwater does not appear to be perennially present in soils overlying bedrock along the Project alignment decreases the potential for liquefaction to occur in the area. Soils are also generally thin over the bedrock along the Project alignment. In addition, soils along the Project alignment that are well drained and are underlain by crystalline bedrock generally have low susceptibility to liquefaction.

One exception to this general finding regarding groundwater is the site of Tower 31/231, which is located in a wetland area (shown on Figure 2-3; to be accessed by helicopter). Depth to bedrock at this site was about 5 feet (Kleinfelder, 2011b). Potential for liquefaction may be higher at this site than at others along the Project alignment.

Slope Failure

Slope failures, commonly referred to as landslides, include many phenomena that involve the downslope displacement and movement of material, triggered either by static (i.e., gravity) or dynamic (i.e., earthquake) forces. Exposed rock slopes undergo rockfalls, rockslides, or rock avalanches, while soil slopes experience soil slumps, rapid debris flows, and deep-seated rotational slides. Slope stability can depend on a number of complex variables, including the geology, structure, and amount of groundwater, as well as external processes such as climate, topography, slope geometry, and human activity. The factors that contribute to slope movements include those that decrease the resistance in the slope materials and those that increase the stresses on the slope. Landslides can occur on slopes of 15 percent or less, but the probability is greater on steeper slopes that exhibit old landslide features such as scarps, slanted vegetation, and transverse ridges.

The Project alignment extends through rolling hills with gently to moderately steep topography. A soils/geologic hazard reconnaissance study and a geologic mapping investigation both concluded that the potential for landslides along the alignment is low (Kleinfelder, 2011a).

3.6.2 Regulatory Setting

State

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 to mitigate the hazard of surface faulting to structures for human occupancy. In accordance with this act, the State geologist established regulatory zones, called "earthquake fault zones," around the surface traces of active faults and published maps showing these zones. Within these zones, buildings for human occupancy cannot be constructed across the surface trace of active faults. Each earthquake fault zone extends approximately 200 to 500 feet on either side of the mapped fault trace, because many active faults are complex and consist of more than one branch. There is the potential for ground surface rupture along any of the branches.

California Building Code

The California Building Code (CBC), which is codified in Title 24 of the California Code of Regulations, Part 2, was promulgated to safeguard the public health, safety, and general welfare by establishing minimum standards related to structural strength, egress facilities, and general building stability. The purpose of the CBC is to regulate and control the design, construction, quality of materials, use/occupancy, location, and maintenance of all buildings and structures within its jurisdiction.

The 2013 CBC is based on the 2009 International Building Code. In addition, the CBC contains necessary California amendments that are based on the American Society of Civil Engineers (ASCE) Minimum Design Standards 7-05. ASCE 7-05 provides requirements for general structural design and includes means for determining earthquake loads as well as other loads (flood, snow, wind, etc.) for inclusion in building codes. The provisions of the CBC apply to the construction, alteration, movement, replacement, and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures throughout California.

The earthquake design requirements take into account the occupancy category of the structure, site class, soil classifications, and various seismic coefficients, all of which are used to determine a Seismic Design Category (SDC) for a project. The SDC is a classification system that combines the occupancy categories with the level of expected ground motions at the site, and ranges from SDC A (very small seismic vulnerability) to SDC E/F (very high seismic vulnerability and near a major fault). Design specifications are then determined according to the SDC.

The updated CBC no longer cites the 1997 UBC Table 18-1-B for identifying expansive soils although the significance criteria in Appendix G of the CEQA Guidelines still refers to this table. This analysis relies on the updated CBC section as provided below.

1803.5.3 Expansive Soil. In areas likely to have expansive soil, the building official shall require soil tests to determine where such soils do exist. Soils meeting all four of the following provisions shall be considered expansive, except that tests to show compliance with Items 1, 2 and 3 shall not be required if the test prescribed in Item 4 is conducted:

1. Plasticity index (PI) of 15 or greater, determined in accordance with ASTM D 4318
2. More than 10 percent of the soil particles pass a No. 200 sieve (75 micrometers), determined in accordance with ASTM D 422
3. More than 10 percent of the soil particles are less than 5 micrometers in size, determined in accordance with ASTM D 422
4. Expansion index greater than 20, determined in accordance with ASTM D 4829

California Code of Regulations Title 8 (Cal/OHSA)

Subchapter 4 of Title 8 of the California Code of Regulations contains Construction Safety Orders that establish minimum safety standards whenever employment exists in connection with the construction, alteration, painting, repairing, construction maintenance, renovation, removal, or wrecking of any fixed structure or its parts. Safety requirements during excavation, such as sloping and benching or support systems, are also enumerated in these Orders.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act was developed 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 delineate "zones of required investigation" (i.e., seismic hazard zones) where site investigations are required to determine the need for mitigation of potential liquefaction and/or earthquake-induced landslide ground displacements.

National Pollutant Discharge Elimination System Program, CWA Section 402

Under the CWA Section 402, the National Pollutant Discharge Elimination System (NPDES) controls water pollution by regulating point sources of pollution to waters of the United States. The California State Water Resources Control Board (SWRCB) administers the NPDES permit program in California.

Projects that disturb one or more acres of soil must obtain coverage under the state's NPDES General Permit for Discharges of Storm Water Associated with Construction Activity. A stormwater pollution prevention plan (SWPPP) must be developed and implemented for each project covered by the general permit. The SWPPP provides specific construction-related BMPs to prevent soil erosion and loss of topsoil. A SWPPP must be prepared before construction begins. The required components and best management practices commonly included in a SWPPP are described in greater detail in Section 3.9, *Hydrology and Water Quality.*

Local

General plans and local ordinances that contain regulations applicable to geologic, soil, and seismic hazards are identified below.

El Dorado County General Plan

The *Conservation and Open Space Element of the El Dorado County General Plan* discusses significant natural resources in the County, including geology and soils, and establishes goals, objectives, and policies related to these topics. Relevant policies from the El Dorado County General Plan include:

> ***Policy 7.1.2.2*:** Discretionary and ministerial projects that require earthwork and grading, including cut and fill for roads, shall be required to minimize erosion and sedimentation, conform to natural contours, maintain natural drainage patterns, minimize impervious surfaces, and maximize the retention of natural vegetation. Specific standards for minimizing erosion and sedimentation shall be incorporated into the Zoning Ordinance.
>
> ***Policy 7.1.2.3*:** Enforce Grading Ordinance provisions for erosion control on all development projects and adopt provisions for ongoing, applicant-funded monitoring of project grading.

Engineering and Construction Codes and Standards

Design and construction of PG&E facilities are governed by a variety of codes and standards. A number of these specifically regulate topics relevant to geology and geotechnical engineering, such as earthwork standards and seismic safety, including the following:

> **CPUC General Order 95** provides general standards for design and construction of overhead electric transmission and distribution lines.
>
> **"IEEE 693"** ***Recommended Practices for Seismic Design of Substations*** contains guidelines for earthquake-resistant substation design and construction. The IEEE (Institute of Electrical and Electronics Engineers, Inc.) is an international professional organization and a widely recognized authority in the development of industry standards for electrical engineering and electric power generation and transmission.
>
> **The International Building Code** (IBC) is voluntarily adopted by jurisdictions and agencies. PG&E adheres to the IBC's earthwork standards where they are not superseded by CPUC regulations.

3.6.3 Applicant Proposed Measures

PG&E proposes to implement the following two measures related to geology and soils, which are analyzed as part of the Project.

> **APM GEO-1: Minimization of Construction in Soft or Loose Soils**
>
> Where soft or loose soils are encountered during project construction, appropriate measures will be implemented to avoid, accommodate, replace, or improve such soils. Depending on site-specific conditions and permit requirements, these measures may include:
>
> - locating construction facilities and operations away from areas of soft and loose soil;
> - over-excavating soft or loose soils and replacing them with engineered backfill materials;

- increasing the density and strength of soft or loose soils through mechanical vibration and/or compaction;
- installing material over access roads such as aggregate rock, steel plates, or timber mats; and
- treating soft or loose soils in place with binding or cementing agents.

APM GEO-2: Reduction of Slope Instability during Construction

Existing natural or temporarily constructed slopes affected by construction or operations will be evaluated for stability by qualified construction staff at the beginning of each construction day that employees may be exposed to the areas immediately upslope or downslope from the area of concern can be reasonably anticipated. In developing grading and construction procedures for access roads, the stability of both temporary and permanent cut, fill, and otherwise affected slopes will be analyzed. Construction slopes and grading will be designed to limit the potential for slope instability and minimize the potential for erosion and flooding during construction. During construction, slopes affected by construction activities will be monitored by qualified construction staff and maintained in a stable condition. Construction activities likely to result in slope instability will be suspended, as necessary, during and immediately following periods of heavy precipitation when unstable slopes are more susceptible to failure.

Additionally, PG&E has proposed the following measure for impacts to hydrology and water quality, which affects soil erosion and is thus included here:

APM HYDRO-1: Stormwater Pollution Prevention Plan (SWPPP)

PG&E will file a Notice of Intent (NOI) with the SWRCB for coverage under the General Construction Storm Water Permit and will prepare and implement an SWPPP in accordance with General Order No. 2009-0009-DWQ, which typically includes measures such as placement of straw wattles or silt fencing, flagging, mulching, seeding and other means to help stabilize disturbed areas and reduce erosion and sedimentation. Further details of the Permit requirements are in *Section 3.9, Hydrology and Water Quality.*

3.6.4 Environmental Impacts and Mitigation Measures

This impact analysis considers the potential geology, soils, and seismicity impacts associated with the construction, operation, and maintenance of the Project. The Project includes reconductoring, replacement of existing poles, modification of existing steel towers, and modification of existing substations along the Missouri Flat-Gold Hill Line. Substation expansion is not part of the Project and no changes to existing operation and maintenance activities are expected once construction is completed. For these reasons, substation components of this Project would have no impact with respect to geology, soils, or seismicity hazards and impacts. The following discussion focusses on impacts from construction and operation activities associated with the proposed reconductoring, replacement of poles, and tower modification.

ai) Whether the Project would expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault (refer to Division of Mines and Geology Special Publication 42): *NO IMPACT.*

The Project does not cross any Alquist-Priolo earthquake fault zones, and the nearest locations of fault movement within the last 11,000 years are all more than 50 miles away from the Project. The Project would not expose people or structures to substantial adverse effects involving fault rupture.

aii) Whether the Project would expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking: *LESS THAN SIGNIFICANT.*

As described in Section 3.6.1, *Environmental Setting*, structures built along the Project alignment could experience light to moderate damage due to seismic shaking. However, the new risk of damage to structures built or upgraded as part of the Project would be low, for multiple reasons. First, the Project would be constructed within existing PG&E right-of-way and most poles would be placed at approximately the same or similar locations as the existing structures. Second, wind loading design requirements for poles and towers are typically more stringent than requirements that address strong seismic ground shaking; therefore, overhead power lines can accommodate strong ground shaking without incurring significant damage. Third, PG&E would adhere to CPUC General Order 95, which provides general standards for design and construction of overhead electric power and distribution lines, as well as earthwork and foundation design requirements of the IBC where they are not superseded by CPUC regulations. Site characterization, investigation, and project design requirements and standards of the IBC and CPUC would reduce the potential for damage to facilities consistent with current engineering standards of care. Because existing poles would be replaced with new poles built according to modern, up-to-date building codes, the ground shaking risk to people or structures associated with the Project would be less than significant.

aiii) Whether the Project would expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction: *LESS THAN SIGNIFICANT*.

As noted in Section 3.6.1, *Environmental Setting*, the potential for seismic-related ground failure along the Project alignment is low, based on information gathered about soil texture, groundwater, and depth to bedrock. The Project would replace existing poles along the Missouri Flat-Gold Hill line, and would not expose additional structures to seismic-related ground failure. With the implementation of soil engineering measures described in the geotechnical report, such as the use of well-compacted non-expansive engineered fill containing a mix of soil particle sizes, liquefaction susceptibility of soils supporting Project structures would be reduced further. Therefore the extent to which the Project would expose people or structures to seismic-related ground failure would be less than significant.

aiv) Whether the Project would expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides: *LESS THAN SIGIFICANT WITH MITIGATION INCORPORATED*.

The Project would be constructed in hilly areas that could be subject to landslide hazards, although none have been mapped there by the CGS. Grading and excavations associated with new access roads, construction laydown areas, and tower and pole footings, if improperly performed, could create unstable conditions, or worsen existing landslide risks. Cuts into hillsides could remove material that is needed to support the upland material, and road or staging area fills could slough, slump, or ravel if they result in over-steepened slopes. Landslide evaluations performed for the Project generally concluded the transmission alignment would cross areas of low to moderate landslide hazard (Kleinfelder, 2011a). The Project includes APM GEO-2, which would decrease the likelihood of landsliding by monitoring slopes affected by construction activities and maintaining these slopes in a stable condition. This measure also includes the condition that construction activities likely to result in slope instability would be suspended as necessary during and immediately following periods of heavy precipitation. These activities would reduce landsliding potential. In addition, adherence to sound grading practices (e.g. bracing or underpinning of excavated faces), as stipulated in the CPUC General Order 95, the IBC, and OSHA regulations followed by all California construction projects, would generally ensure that construction activities would not create new areas of instability.

In the long run, the Project would be unlikely to experience an increase in exposure to landslide hazards because it would occur within PG&E's ROW and most poles and towers would be placed in the same or similar location as the existing structures. Although the amount of grading required by the Project is not anticipated to require formal grading plan, if such plans become necessary, the following mitigation measure would ensure the appropriate level of design review to reduce the impact to less than significant.

> **Mitigation Measure 3.6-1:** If grading plans are required, designs will be signed by a professional engineer and submitted to CPUC for approval within a reasonable timeframe prior to construction initiation.
>
> **Significance after Mitigation:** Less than Significant.

b) Whether the Project would result in substantial soil erosion or the loss of topsoil: *LESS THAN SIGNIFICANT*.

Excavation and grading activities planned during construction would increase exposure of soil to erosive forces. Project activities that would expose soil include the limited grading expected in the work areas associated with towers and poles, the helicopter landing zone, access roads, and pull sites; and undergrounding of the distribution line in El Dorado Hills. Intense rain or wind events in such areas could result in substantial soil erosion into adjacent waterways, and possibly propagation of small rills or gullies. In cases such as this (i.e., constructed-related impacts), increased runoff or entrainment of sediment in runoff is just as much a concern as soil erosion. As noted in the Project Description, excavated material would be stored in small, temporary stockpiles located away or downgradient from waterways.

The Project would require a total of approximately 29 acres of soil disturbance distributed along the entire alignment. Due to the extent of soil disturbance, coverage under the California State Water Resources Control Board (SWRCB) General Permit for Storm Water Discharges Associated with Construction Activity Order Number 2009-0009-DWQ (General Permit) would be required (additional discussion of the SWPPP is included in Section 3.9, *Hydrology and Water Quality*). Development and implementation of a stormwater pollution prevention plan (SWPPP) is necessary to obtain coverage under this permit. A SWPPP incorporates sediment control best management practices (BMPs) designed to limit the amount of soil eroded by water. Examples of typical construction BMPs include scheduling or limiting activities to certain times of the year; installing sediment barriers such as silt fence and fiber rolls along the perimeter of the construction area; maintaining equipment and vehicles used for construction; tracking controls, such as stabilizing entrances to the construction site, and developing and implementing a spill prevention and cleanup plan. PG&E has included preparation of a SWPPP in the Project as APM HYDRO-1, described above, and a qualified SWPPP practitioner would implement and monitor the best management practices identified in the SWPPP. In addition to measures required during construction, a SWPPP also requires implementation of post-construction BMPs that would restore the work sites to their original condition, minimizing long-term erosion problems and the impacts of loss of topsoil.

Soil disturbance during Project construction would also expose soil to wind erosion. The amount of material eroded by wind increases when soil is relatively dry, broken into smaller particles, and when wind velocity and turbulence are higher. Removal of vegetation can also increase the susceptibility of soil to wind erosion. During construction the risk of soil erosion due to wind can be decreased by dividing the project into many smaller phases of clearing and grading and by covering disturbed soils as completely as possible. PG&E has included measures to reduce the entrainment of soil in the atmosphere as part of the Project. These two measures, APM AQ-1 and APM AQ-3, are described in detail in Section 3.3, *Air Quality*. To supplement these two measures and reduce the risk of dust emission to less than significant levels, Mitigation Measures 3.3-1 and 3.3-2 have also been included in Section 3.3. These measures would minimize the risk of soil loss due to wind erosion during Project construction activities.

After Project construction is completed, disturbed areas would be returned to approximately pre-Project conditions, unless otherwise requested by the landowner. With the implementation of a SWPPP, APM AQ-1, APM AQ-3, and Mitigation Measures 3.3-1 and 3.3-2, the amount of soil erosion caused by the Project would be less than significant.

c) Whether the Project would be located on geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse: *LESS THAN SIGNIFICANT*.

The geologic and soil units described in the Environmental Setting, above, are not unstable. Landsliding impacts, and the ability of Project structures to withstand liquefaction are discussed in impacts aiii) and aiv). No groundwater, petroleum, or natural gas withdrawals take place in the Project vicinity, nor are these activities proposed as part of the Project (see *Sections 3.9, Hydrology and Water Quality, and 3.11, Mineral Resources).* Potential for ground subsidence along the Project

alignment or due to the Project is therefore low. Regardless, the potential adverse effects of instability of site soils during the construction and operation and maintenance phases of the Project would be adequately addressed through the compaction and grading requirements of the CBC and any more stringent or specific recommendations provided by PG&E's Project-specific geotechnical report. Typical building practices included in the report that would improve soil stability are: moisture conditioning of the soil to achieve maximum stability, ensuring deleterious materials are removed from soil prior to being placed or moved on-site, and/or over-excavating existing soils and placing structural foundations on a mat of artificial fill compacted to appropriate design specifications. These types of measures, which are standard in the engineering practice and required through building and construction codes, ensure that small ground movements such as long-term soil consolidation or movements due to subsidence or collapsible soils do not damage or deteriorate building foundations and/or other structural components of the Project.

d) Whether the Project would be located on expansive soil, as defined in Section 1803.5.3 (formerly Table 18-1-B of the Uniform Building Code), creating substantial risks to life or property: *LESS THAN SIGNIFICANT*.

Portions of the Project are situated on soils with moderate to high expansion potential (Kleinfelder, 2011a). If improperly designed or installed, expansive soils could cause damage to foundations over a long period of time, usually the result of inadequate soil and foundation engineering or the placement of structures directly on expansive soils. The soil conditions present in the study area are not particularly unique in comparison to other areas nor do they represent a significant impediment to the Project. Facility design and construction would comply with CPUC design standards and would employ standard engineering and building practices common to construction projects throughout California. For example, non-expansive engineered fill would be used to support structures along the Project alignment, and specialized foundation design methods would be employed, as proposed in the geotechnical report (Kleinfelder, 2011a and 2013). Consequently, impacts related to expansive soils would be less than significant.

e) Whether the Project would have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater: *NO IMPACT*.

The Project would not include the use of septic tanks or alternative wastewater systems. For this reason, the Project would not pose an environmental or public health hazard by building septic tanks or alternative wastewater disposal systems in soils incapable or adequately supporting such systems.

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3.7 Greenhouse Gas Emissions

Issues (and Supporting Information Sources):		*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
7.	**GREENHOUSE GAS EMISSIONS — Would the project:**				
a)	Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b)	Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒

3.7.1 Environmental Setting

Gases that trap heat in the atmosphere are called greenhouse gases (GHGs). GHGs allow sunlight to enter the atmosphere, but trap a portion of the outward-bound infrared radiation, which warms the air. The process is similar to the effect greenhouses have in raising the internal temperature, hence the name GHGs. Both natural processes and human activities emit GHGs. The accumulation of GHGs in the atmosphere regulates the Earth's temperature; however, emissions from human activities – such as fossil fuel-based electricity production and the use of motor vehicles – have elevated the concentration of GHGs in the atmosphere. This accumulation of GHGs has contributed to an increase in the temperature of the Earth's atmosphere and to global climate change. Global climate change is a change in the average weather on Earth that can be measured by wind patterns, storms, precipitation, and temperature. Although there is disagreement as to the rate of global climate change and the extent of the impacts attributable to human activities, most in the scientific community agree that there is a direct link between increased emissions of GHGs and long-term climate change.

The principal GHGs are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), sulfur hexafluoride (SF_6), perfluorocarbons (PFCs), and hydrofluorocarbons (HFCs). CO_2 is the most common reference gas of GHGs. To account for the warming potential of GHGs, GHG emissions are often quantified and reported as CO_2 equivalents (CO_2e). For example, SF_6 is a GHG commonly used in the utility industry as an insulating gas in circuit breakers and other electronic equipment. SF_6, while comprising a small fraction of the total GHGs emitted annually world-wide, is a much more potent GHG with 23,900 times the global warming potential (GWP) as CO_2. Large emission sources are reported in million metric tons of CO_2e.[4]

Some of the potential effects of global warming in California may include decrease in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years (CARB, 2009). Globally, climate change has the potential to impact numerous environmental resources through potential, though uncertain, impacts related to future air temperatures and precipitation patterns. The projected effects of global warming on weather

[4] The term metric ton is commonly used in the U.S. to refer to the metric system unit, tonne, which is defined as a mass equal to 1,000 kilograms. A metric ton is approximately 1.1 short tons and approximately 2,204.6 pounds.

and climate are likely to vary regionally, but are expected to include the following direct effects (IPCC, 2007):

- Higher maximum temperatures and more hot days over nearly all land areas;
- Higher minimum temperatures, fewer cold days and frost days over nearly all land areas;
- Reduced diurnal temperature range over most land areas;
- Increase of heat index over land areas; and
- More intense precipitation events.

There are also many secondary effects that are projected to result from climate change, including global rise in sea level, impacts to agriculture, changes in disease vectors, and changes in habitat and biodiversity. While the possible outcomes and the feedback mechanisms involved are not fully understood and much research remains to be done, the potential for substantial environmental, social, and economic consequences over the long term is anticipated to be substantial.

Anthropogenic GHG emissions in the United States are derived mostly from the combustion of fossil fuels for transportation and power production. Energy-related CO_2 emissions resulting from fossil fuel exploration and use account for approximately three-quarters of the human-generated GHG emissions in the United States, primarily in the form of CO_2 emissions from burning fossil fuels. Approximately one-third of the GHG emissions come from electricity production, such as power plants; approximately one-third derive from transportation; and a majority of the remaining sources include industrial processes, agriculture, forestry, other land uses, and waste management (USEPA, 2014a).

Statewide emissions of GHG from relevant source categories for 2006 through 2012 are summarized in **Table 3.7-1**. In 2012, California produced 458.67 million metric tons of CO_2e emissions; Table 3.7-1 shows the percentages of GHG contributions by category for that year. The electric power sector was the source of approximately 21 percent of those GHG emissions (CARB, 2014a).

TABLE 3.7-1
CALIFORNIA GREENHOUSE GAS EMISSIONS (million metric tons CO_2e)

Emission Inventory Category	2006	2007	2008	2009	2010	2011	2012	
Transportation	189.18	189.27	178.02	171.47	170.46	168.13	167.38	36%
Electric Power	104.54	113.94	120.15	101.32	90.3	88.04	95.09	21%
Commercial and Residential	41.89	42.11	42.44	42.65	43.82	44.32	42.28	9%
Industrial	90.28	87.1	87.54	84.95	88.51	88.34	89.16	19%
Recycling and Waste	7.8	7.93	8.09	8.23	8.34	8.42	8.49	14%
High Global Warming Potential	11.08	11.78	12.87	13.99	15.89	17.35	18.41	
Agriculture	37.75	37.03	37.99	35.84	35.73	36.34	37.86	
Total Gross Emissions	**482.52**	**489.16**	**487.1**	**458.45**	**453.05**	**450.94**	**458.67**	**100%**

SOURCE: CARB, 2014a.

3.7.2 Regulatory Setting

Federal

On April 2, 2007, in *Massachusetts v. U.S. Environmental Protection Agency (USEPA)*, 549 US 497, the Supreme Court found that GHGs are air pollutants covered by the Clean Air Act (CAA). The Court held that the USEPA must determine whether emissions of GHGs from new motor vehicles cause or contribute to air pollution, which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. In making these decisions, the USEPA is required to follow the language of Section 202(a) of the CAA.

On April 17, 2009, the USEPA Administrator signed proposed "endangerment" and "cause or contribute" findings for GHGs under Section 202(a) of the CAA. The USEPA held a 60-day public comment period, considered public comments, and issued final findings. The USEPA found that six GHGs taken in combination endanger both the public health and the public welfare of current and future generations. The USEPA also found that the combined emissions of these GHGs from new motor vehicles and new motor vehicle engines contribute to the greenhouse effect as air pollution that endangers public health and welfare under CAA Section 202(a) (USEPA, 2014b).

Specific GHG regulations that the USEPA has adopted to date are as follows:

> ***40 CFR Part 98. Mandatory Reporting of Greenhouse Gases Rule.*** This rule requires mandatory reporting of GHG emissions for facilities that emit more than 25,000 metric tons of CO_2e emissions per year (USEPA, 2013). The Project would not trigger GHG reporting as required by this regulation.
>
> ***40 CFR Part 52. Proposed Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule.*** USEPA has mandated that Prevention of Significant Deterioration (PSD) and Title V requirements applies to facilities whose stationary source CO_2e emissions exceed 100,000 tons per year (USEPA, 2014b). The Project would not trigger PSD or Title V permitting under this regulation.

State

There are currently no state regulations in California that establish ambient air quality standards for GHGs. However, California has passed laws directing the California Air Resources Board (CARB) to develop actions to reduce GHG emissions, and several state legislative actions related to climate change and GHG emissions have come into play in the past decade.

Executive Order S-3-05

In recognition of California's vulnerability to the effects of climate change, Executive Order S-3-05 was established by Governor Arnold Schwarzenegger in June 2006. It establishes statewide emission reduction targets through the year 2050 as follows:

1. By 2010, reduce GHG emissions to 2000 levels;
2. By 2020, reduce GHG emissions to 1990 levels; and
3. By 2050, reduce GHG emissions to 80 percent below 1990 levels.

This Executive Order does not include any specific requirements that pertain to the Project; however, future actions taken by the state to implement these goals may affect the Project, depending on the specific implementation measures that are developed.

Assembly Bill 32

California Assembly Bill (AB) 32, also known as the Global Warming Solutions Act of 2006, requires CARB to establish a statewide GHG emissions cap for 2020 based on 1990 emission levels. AB 32 required CARB to adopt regulations that identify and require selected sectors or categories of emitters of GHGs to report and verify their statewide GHG emissions, and CARB is authorized to enforce compliance with the program. Under AB 32, CARB also was required to adopt a statewide GHG emissions limit equivalent to the statewide GHG emissions levels in 1990, which must be achieved by 2020. CARB established this limit in December 2007 at 427 million metric tons of CO_2e. This is approximately 30 percent below forecasted "business-as-usual" emissions of 596 million metric tons of CO_2e in 2020, and about 10 percent below average annual GHG emissions during the period of 2002 through 2004 (CARB, 2009).

Toward achieving the maximum technologically feasible and cost-effective GHG emission reductions, AB 32 permits the use of market-based compliance mechanisms and requires CARB to monitor compliance with and enforce any rule, regulation, order, emission limitation, emissions reduction measure, or market-based compliance mechanism that it adopts.

Climate Change Scoping Plan

In December 2008, CARB approved the *AB 32 Scoping Plan* outlining the state's strategy to achieve the 2020 GHG emissions limit. The Scoping Plan estimates a reduction of 174 million metric tons CO_2e (about 191 million U.S. tons) from the transportation, energy, agriculture, forestry, and high climate-change-potential sectors, and proposes a comprehensive set of actions designed to reduce overall GHG emissions in California, improve the environment, reduce dependence on oil, diversify California's energy sources, save energy, create new jobs, and enhance public health. The Scoping Plan includes a list of 39 Recommended Actions contained in Appendices C and E of the Scoping Plan (CARB, 2009). Of these measures, only one is directly relevant to the Project. Measure H-6, High GWP Gases would reduce emissions of SF_6 within the electric utility sector and at particle accelerators by requiring the use of best achievable control technology for the detection and repair of leaks, and the recycling of SF_6.

The Scoping Plan must be updated every 5 years to evaluate the implementation of AB 32 policies to ensure that California is on track to achieve the 2020 GHG reduction goal. CARB released the Scoping Plan Update in May 2014 (CARB, 2014b). There are no recommended actions identified in the Scoping Plan Update that are directly applicable to the proposed Project.

Senate Bill 97

In 2007, the California State Legislature passed SB 97, which required amendment of the CEQA Guidelines to incorporate analysis of, and mitigation for, GHG emissions from projects subject to CEQA. The amendments took effect March 18, 2010. The amendments added Section 15064.4 to the CEQA Guidelines, specifically addressing the potential significance of GHG emissions.

Section 15064.4 calls for a "good faith effort" to "describe, calculate or estimate" GHG emissions and indicates that the analysis of the significance of any GHG impacts should include consideration of the extent to which the project would:

- Increase or reduce GHG emissions;
- Exceed a locally applicable threshold of significance; or
- Comply with "regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions."

The CEQA Guidelines also state that a project may be found to have a less-than-significant impact related to GHG emissions if it complies with an adopted plan that includes specific measures to sufficiently reduce GHG emissions (14 Cal. Code Regs. §15064(h)(3)). Importantly, however, the CEQA Guidelines do not require or recommend a specific analytical methodology or provide quantitative criteria for determining the significance of GHG emissions.

Regulation for Reducing SF_6 Emissions from Gas Insulated Switchgear

The purpose of this regulation (17 Cal. Code Regs. §95350 et seq.) is to achieve GHG emission reductions by reducing SF_6 emissions from gas-insulated switchgear. Owners of such switchgear must not exceed maximum allowable annual emissions rates, which are reduced each year until 2020, after which annual emissions must not exceed 1.0 percent. As defined by the regulation, the annual emissions rate means the gas-insulated switchgear owner's total annual SF_6 emissions from all active gas-insulated switchgear equipment divided by the average annual SF_6 nameplate capacity of all active gas-insulated switchgear equipment. Owners must regularly inventory gas-insulated switchgear equipment, measure quantities of SF_6, and maintain records of these for at least 3 years. Additionally, by June 1st each year, owners also must submit an annual report to CARB's Executive Officer for emissions that occurred during the previous calendar year (CARB, 2014c).

Local

El Dorado County

El Dorado County has no adopted policies or goals for reducing GHG emissions that would be directly applicable to the Project.

Sacramento County

Sacramento County adopted a Climate Action Plan on November 9, 2011; however, none of the identified actions developed to address climate change would directly apply to the Project (Sacramento County, 2011).

3.7.3 Applicant Proposed Measures

PG&E has proposed the following APMs to minimize GHG emissions from the Project. This analysis assumes that these APMs would be implemented as part of the Project.

APM GHG-1: Minimize GHG Emissions

- Maintain construction equipment in proper working conditions in accordance with PG&E standards.

- Minimize unnecessary construction vehicle idling time. The ability to limit construction vehicle idling time will depend 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, so that idling is reduced as far as possible below the maximum of 5 consecutive minutes allowed by California law; if a vehicle is not required for use immediately or continuously for construction activities, its engine will be shut off. Construction foremen will include briefings to crews on vehicle use as part of pre-construction conferences. Those briefings will include discussion of a "common sense" approach to vehicle use.

- Minimize construction equipment exhaust by using low-emission or electric construction equipment where feasible. Portable diesel fueled construction equipment with engines 50 hp or larger and manufactured in 2000 or later will be registered under the CARB Statewide Portable Equipment Registration Program.

- Minimize welding and cutting by using compression of mechanical applications where practical and within standards.

- Encourage use of natural gas powered vehicles for passenger cars and light-duty trucks where feasible and available.

APM GHG-2: Minimize SF_6 Emissions

- Incorporate the new breakers at Gold Hill Substation into PG&E's system-wide SF_6 emission reduction program. CARB has adopted the Regulation for Reducing Sulfur Hexafluoride Emissions from Gas Insulated Switchgear sections 95350 to 95359, title 17, California Code of Regulations, which requires that company-wide SF_6 emission rate not exceed 1 percent by 2020. Since 1998, PG&E has implemented a programmatic plan to inventory, track, and recycle SF_6 inputs, and inventory and monitor system-wide SF_6 leakage rates to facilitate timely replacement of leaking breakers. PG&E has improved its leak detection procedures and increased awareness of SF_6 issues within the company. X-ray technology is now used to inspect internal circuit breaker components to eliminate dismantling of breakers, reducing SF_6 handling and accidental releases. As an active member of USEPA's SF_6 Emission Reduction Partnership for Electrical Power Systems, PG&E has focused on reducing SF_6 emissions from its transmission and distribution operations and has reduced the SF_6 leak rate by 89 percent and absolute SF_6 emissions by 83 percent.

- Require that breakers to be replaced at Gold Hill Substation have a manufacturer's guaranteed maximum leakage rate of 0.5 percent per year or less for SF_6.

- Maintain substation breakers in accordance with PG&E's maintenance standards.

- Comply with CARB Early Action Measures as these policies become effective.

3.7.4 Environmental Impacts and Mitigation Measures

a) Whether the Project would generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment: *LESS THAN SIGNIFICANT*.

The Project would result in GHG emissions from both short-term construction and long-term operations. CEQA allows for significance criteria established by the applicable air pollution control district(s) to be used to assess the impact of a project related to GHG emissions, at the discretion of the CEQA Lead Agency. The EDCAQMD and SMAQMD have not adopted CEQA significance thresholds for GHG emissions; however, in April 2013, SMAQMD released a GHG Emissions chapter as part of its updated CEQA Guide with recommendations for analysis of GHG emissions (SMAQMD, 2013). The SMAQMD recommends that thresholds of significance for GHG emissions be related to AB 32's GHG reduction goals. For example, if a project's emissions would substantially hinder the State's ability to attain the goals identified in AB 32, it would be considered to result in a cumulatively considerable significant impact.

Other California air districts, such as Monterey Bay Unified, San Luis Obispo County, Ventura County, South Coast, and San Diego County, have adopted, or have recommended for adoption, a significance threshold of 10,000 metric tons CO_2e per year for stationary source projects (MBUAPCD, 2013). This threshold was derived from emissions data from the four largest air districts in California and is based on the Executive Order S-3-05 GHG emissions reductions goal of 80 percent below 1990 levels by 2050, which is roughly equivalent to 90 percent below current levels by 2050. This emissions reduction goal goes beyond the AB 32 emissions reduction goal established for 2020. The emissions data suggests that approximately 1 percent of all stationary sources emit greater than 10,000 metric tons CO_2e per year and are responsible for 90 percent of GHG emissions. This significance threshold represents a capture rate of 90 percent of all new and modified stationary source-related projects. A 90 percent emissions capture rate means 90 percent of the total emissions from all new or modified stationary source projects would be subject to analysis in an environmental impact report prepared pursuant to CEQA, including analysis of feasible alternatives and imposition of feasible mitigation measures (SCAQMD, 2008). The CPUC has determined that the GHG significance threshold of 10,000 metric tons per year for stationary source projects is based on substantial evidence and, therefore, has determined that it is appropriate for use in this analysis.

As noted above, this GHG significance threshold is intended for long-term operational GHG emissions associated with stationary sources; none of the air districts mentioned above have adopted or have recommended GHG significance thresholds for construction emissions. Therefore, the CPUC has elected to use an approach to the determination of significance of GHG construction emissions based on guidance developed by the South Coast Air Quality Management District (SCAQMD). For construction related GHGs, SCAQMD recommends that total emissions from construction be amortized over 30 years and added to operational emissions and then compared to the operation-based significance threshold (SCAQMD, 2008). Similar to the SCAQMD's recommended approach for construction emissions, this analysis amortizes the construction emissions over a 30-year project lifetime then compares those emissions to the significance threshold of 10,000 metric tons CO_2e per year.

Construction Emissions

Construction of the Project would generate GHG emissions over the 20-month construction period. Construction-related emissions would result from off-road construction equipment and machinery, helicopter activity, and from vehicular traffic generated by commuting workers and material hauling. As part of the CPUC's permit application process, PG&E provided construction emissions estimates for the construction activities that would be associated with the Project (PG&E, 2014; see Appendix B). These emission estimates were independently reviewed by the CPUC's consultant, Environmental Science Associates (ESA), and are summarized below.

Project construction emissions that would be associated with the use of off-road construction equipment, such as graders, backhoes, loaders, and cranes, were estimated for the Project using the California Emission Estimator Model (CalEEMod version 2011.1.1). Construction-related helicopter emissions were estimated using specific fuel use factors developed by the Switzerland Federal Office of Civil Aviation and emission factors published by U.S. Energy Information Administration. It should be noted that PG&E's emission estimates for El Dorado County were supplemented to include 5 hours of helicopter operations to account for travel to and from the Project area (ESA, 2014; see Appendix B). To estimate off-site construction-related vehicle emissions that would be associated with construction of the Project, emission factors for on-road trucks and worker vehicles were derived using CARB's EMFAC2011 Model with anticipated trip characteristics, such as daily round trips, phase duration, and trip lengths.

Table 3.7-2 presents the total estimated GHG construction emissions that would be generated by the Project. As described in the table, approximately 807 metric tons of CO_2e would be generated during the Project's 20-month construction phase. It should be noted that PG&E's total GHG construction emissions estimated to be generated within Sacramento County do not account for the substation-related work that would occur at Gold Hill Substation. Therefore, for a conservative analysis, the emissions estimates presented in Table 3.7-2 reflect the assumption that the same amount of substation-related construction activities would occur in Sacramento County as would occur in El Dorado County, thereby generating the same amount of GHG emissions.

Operation and Maintenance Emissions

The Project would require no change to PG&E's existing operation and maintenance activities, and would result in no net change in long-term vehicle or equipment exhaust emissions. However, GHG emissions associated with operation of the Project would result from the proposed replacement of two existing oil-insulated breakers with two SF_6-insulated breakers at the Gold Hill Substation. SF_6 could be released if a leak would occur in one of the joints in the circuit breaker tank, or if a crack occurs in the breaker. In the event of a release, the loss of gas pressure/density would cause an alarm to be sent directly to the PG&E's control center, which would enable PG&E operators to minimize loss of SF_6 through automatic detection and immediate actions to fix the leak(s) immediately (PG&E, 2013). Pursuant to the requirements of APM GHG-2, the new SF_6 circuit breakers would have an annual guaranteed maximum leakage rate of 0.5 percent for the two 115 kV circuit breakers, containing approximately 80 pounds of SF_6 each. Therefore, the maximum emissions that could be released from the new SF_6-insulated circuit breakers would be approximately 9 metric tons of CO_2e annually (PG&E, 2013).

TABLE 3.7-2
TOTAL GHG CONSTRUCTION EMISSIONS

Construction Phase	CO_2e metric tons
El Dorado County	
Tubular Steel Pole	36.99
Reconductoring	105.35
Wood Poles	191.5
Substation	23.68
Grading	233.91
Interset Poles	18.96
Wood Poles at Substations	12.1
Distribution Underground	14.94
Distribution Grading	17.38
Micropiles	26.19
Helicopter Landings and Takeoffs	1.26
Helicopter Operations	1.85
Subtotal	***684.11***
Sacramento County	
Reconductoring	25.44
Steel Lattice Towers	59.77
Helicopter Operations	11.10
Grading	3.36
Substation	23.68
Subtotal	***123.35***
Total	**807.46**

SOURCE: PG&E, 2014 and ESA, 2014.

Impact Statement

As indicated in Table 3.7-2, total GHG construction emissions in the form of CO_2e would be approximately 807 metric tons. These emissions amortized over a 30-year period equal approximately 27 metric tons per year. Adding 27 metric tons of CO_2e to the operational emissions of 9 metric tons CO_2e per year equals a total Project annual GHG emissions rate of approximately 36 metric tons CO_2e per year, which would be substantially less than the significance threshold of 10,000 metric tons CO_2e per year. Therefore, the GHG emissions that would be generated by the Project would not be cumulatively considerable and would not significantly contribute to global climate change. The impact would be less than significant.

b) Whether the Project would conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases: NO IMPACT.

Construction and operation of the Project would result in increased GHG emissions; however, it would not conflict with GHG reduction goals set forth in Executive Order S-3-05 or AB 32, including the 39 Recommended Actions identified by CARB in its Climate Change Scoping Plan.

Operation of the Project would be consistent with the intent of Scoping Plan Measure H-6: High Global Warming Potential Gas Reductions from Stationary Sources – SF_6 Leak Reduction and Recycling in Electrical Applications pursuant to implementation of APM GHG-2, which would minimize emissions of SF_6 by requiring the use of best achievable control technology for the detection and repair of leaks and the recycling of SF_6. Because the Project would be consistent (and would not conflict) with these plans, policies, and regulations, it would cause no impact related to this significance criterion.

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3.8 Hazards and Hazardous Materials

Issues (and Supporting Information Sources):		*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
8.	**HAZARDS AND HAZARDOUS MATERIALS Would the project:**				
a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
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?	☐	☐	☒	☐

3.8.1 Environmental Setting

Materials and waste may be considered hazardous if they are poisonous (toxic); can be ignited by open flame (ignitable), corrode other materials (corrosive); or react violently, explode, or generate vapors when mixed with water (reactive). The term “hazardous material” is defined in California Health and Safety Code Section 25501(p) as any material that, because of quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment. In some cases, past industrial or commercial uses on a site can result in spills or leaks of hazardous materials and petroleum products to the environment, thus resulting in soil and groundwater contamination. Federal and State laws require that soils having concentrations of contaminants such as lead, gasoline, or industrial solvents that are higher than certain acceptable levels must be handled and disposed as hazardous waste during excavation, transportation, and disposal. The California Code of Regulations, Title 22, Section 66261.20-24 contains technical descriptions of characteristics that would cause soil to be classified as a hazardous waste. The use of hazardous materials and disposal of hazardous wastes are subject to numerous laws and regulations at all levels of government. See Section 3.8.2, *Regulatory Setting*.

Existing Environment

The Project is linear and extends from the community of Shingle Springs in El Dorado County to the City of Folsom in Sacramento County. The Project would mostly traverse the existing PG&E rights-of-way along Highway 50 and through the City of Folsom, the communities of El Dorado Hills, Cameron Park, and Shingle Springs, and the U.S. Bureau of Land Management parcel identified as the Pine Hill Preserve, located northwest of the Shingle Springs Substation. The developed portions of the Project area are predominantly residential with some light-industrial and commercial development. Rolling grasslands and oak woodlands dominate the areas outside the existing communities.

Hazardous Materials Database Records Search

Internet searches were conducted using the Department of Toxic Substances Control's (DTSC's) EnviroStor (DTSC, 2014) and the State Water Resources Control Board's (SWRCB's) Geotracker (SWRCB, 2014) online databases that use Geographic Information System (GIS) for identifying sites that have known contamination or sites for which there may be reasons to investigate further.

The EnviroStor database includes facilities that are authorized to treat, store, dispose, or transfer hazardous waste and includes the following site types: Federal Superfund sites (National Priority List; state response, including military facilities and State Superfund; voluntary cleanup; and school sites that are being evaluated by DTSC for possible hazardous materials contamination. The EnviroStor database also contains current and historical information relating to permitted and corrective action facilities. Geotracker contains regulatory data about leaking underground storage tanks, Department of Defense, spills-leaks-investigations-cleanups and landfill sites. The Geotracker database also contains information about public drinking water wells.

Data obtained from the EnviroStor and Geotracker databases indicate there are two sites with contaminants within 0.25 mile of the Project alignment. The contaminants of concern at both sites are naturally occurring asbestos. The sites are located within the City of Folsom at 375 Dry Creek Road and 1970 Broadstone Parkway.

The Cortese List website at http://www.calepa.ca.gov/sitecleanup/corteselist/, which includes the GeoTracker and EnviroStor websites, was also checked for nearby listed sites such as landfills with known releases of contamination outside their property lines. The nearest listed active landfill site with contamination issues is at Mather Air Force Base over 10 miles southwest of Folsom.

TABLE 3.8-1
REGULATORY SITES LISTED WITHIN 0.25 MILE OF THE PROJECT

Site Name/ Address	Regulatory List	Site Summary
Russell Ranch Elementary School 375 Dry Creek Road	School Cleanup Site	Potential contaminants of concern includes naturally occurring asbestos.
Vista del Lago High School 1970 Broadstone Parkway	School Cleanup Site	Potential for soil contamination. Potential contaminants of concern includes naturally occurring asbestos.

Wood Treatment Products

The existing power line wood poles that would be removed under the Project are treated with chemicals that likely include pentachlorophenol, creosote, and chromated copper arsenate. These treatment chemicals are used in pressure treated wood to protect wood from rotting due to insects and microbial agents. These chemicals, for certain uses and quantities, can be considered to be hazardous materials, which require specific handling procedures prescribed by state and federal regulations. These chemicals are typically applied to utility wood poles by the manufacturer at their facility and are left to set and dry prior to installation and/or use of the poles. Additionally, the base of some of the treated wood poles may be wrapped with copper naphthenate paper, also known as CuNap wrap.[5] This paper has been accepted as a wood preservative for several decades and has been employed in non-pressure treatments of wood and other products. Copper naphthenate is a common preservative and its use has increased recently in response to environmental concerns associated with other wood treatment products.

Naturally Occurring Asbestos

Asbestos is a common name for a group of naturally-occurring fibrous silicate minerals that are made up of thin but strong, durable fibers. Asbestos is a known carcinogen and presents a public health hazard if it is present in the friable (easily crumbled) form. Naturally-occurring asbestos would most likely be encountered within mafic and ultramafic metamorphic rock units. Naturally occurring asbestos was identified in ultramafic rocks in nearby areas (Kleinfelder, 2011). Just southwest of Cameron Park, the proposed locations of Poles 25/195, 25/196, 25/197, and 24/193 would be located in or near areas that are composed on ultramafic rocks. The potential presence of naturally-occurring asbestos is addressed in *Section 3.3, Air Quality*.

Schools and Day Care Centers

Schools and day care centers are considered sensitive receptors for hazardous materials because children are more susceptible than adults to the effects of hazardous materials. Schools that are located within 0.25 mile of the Project alignment are listed in **Table 3.8-2**. There are no licensed day care centers located within 0.25 mile of the Project alignment.

Airports

The Cameron Airpark Airport is located approximately 1.5 miles north the Project alignment. A portion of the Project alignment would be located within areas designated under the Airport Land Use Compatibility Plan as being within the Airport Influence Area for the Cameron Airpark Airport (ALUC, 2012). With the exception of Cameron Airpark Airport, there are no other airport or private air strips within 3 miles of the Project.

[5] CuNap wrap is a self contained delivery system for copper napthenate, the internationally recognized wood preservative that fights the damaging effects of moisture, decay, and insect attack.

TABLE 3.8-2
SCHOOLS WITHIN 0.25 MILE OF THE PROJECT

School	Address
Blue Oak Elementary and Charter Montessori School	2391 Merrychase Drive Cameron Park
Camerado Springs School	2480 Merrychase Drive Cameron Park
Williams Brooks School	3610 Park Drive El Dorado Hills
Vista Del Lago High School	1970 Broadstone Parkway Folsom
Holy Trinity School Ministry	3115 Tierra de Dios Drive El Dorado Hills
The Phoenix Schools, Broadstone Preschool	76 Clarksville Road Folsom
Folsom Lake College	10 Collage Parkway Folsom

SOURCE: El Dorado County Office of Education, 2013; Holy Trinity School Ministry, 2014; Folsom Cordova United School District, 2014; Folsom Lake College, 2014

Wildland Fire Conditions

The California Department of Forestry and Fire Protection (CAL FIRE) has published Draft Fire Hazard Severity Zones for the state. These maps give fire hazards either a moderate, high, or very high rating classification. The El Dorado County Fire Hazard Severity Zone Maps indicate that the Project would be located within "moderate," "high," and "very high" fire severity zones. The Project alignment between Shingle Springs and Cameron Park is located within an area designated with a very high fire classification. Conditions along this portion of the Project alignment represent a high risk for fire hazard (CAL FIRE, 2007a; 2007b).

3.8.2 Regulatory Setting

Federal

Hazardous Materials Management

The primary federal agencies with responsibility for hazardous materials management include the U.S. Environmental Protection Agency, U.S. Department of Labor Occupational Safety and Health Administration (OSHA), and the U.S. Department of Transportation. State and local agencies often have either parallel or more stringent regulations than federal agencies. In most cases, state law mirrors or overlaps federal law and enforcement of these laws is the responsibility of the state or of a local agency to which enforcement powers are delegated. For these reasons, the requirements of the law and its enforcement are discussed under either the state or local agency section.

Hazardous Materials Transportation

The U.S. Department of Transportation regulates hazardous materials transportation on all interstate roads. Within California, the state agencies with primary responsibility for enforcing federal and state regulations and for responding to transportation emergencies are the California Highway Patrol and California Department of Transportation. Together, federal and state agencies determine driver-training requirements, load labeling procedures, and container specifications. Although special requirements apply to transporting hazardous materials, requirements for transporting hazardous waste are more stringent, and hazardous waste haulers must be licensed to transport hazardous waste on public roads.

Occupational Safety

The federal Occupational Safety and Health Administration (OSHA) is the agency responsible for assuring worker safety in the handling and use of chemicals in the workplace. The federal regulations pertaining to worker safety are contained in Title 29 of the Code of Federal Regulations (CFR), as authorized in the Occupational Safety and Health Act of 1970. They provide standards for safe workplaces and work practices, including standards relating to hazardous materials handling. At sites known or suspected to have soil or groundwater contamination, construction workers must receive training in hazardous materials operations and a site health and safety plan must be prepared. The health and safety plan establishes policies and procedures to protect workers and the public from exposure to potential hazards at the contaminated site.

Oil Pollution Prevention

Part 112 of Subchapter D of Chapter I of Title 40 of the Federal Code of Regulations (40 CFR §112) establishes procedures, methods, equipment, and other requirements to prevent discharges from non-transportation-related onshore and offshore facilities into or upon the navigable waters of the United States or that may affect natural resources belonging to, appertaining to, or under the exclusive management authority of the United States. These regulations require facilities with a single tank or cumulative aboveground storage capacities of 1,320 gallons or greater of petroleum to prepare and implement a Spill Prevention, Control, and Countermeasure (SPCC) Plan (40 CFR §112.1). The purpose of an SPCC Plan is to form a comprehensive federal/state spill prevention program that minimizes the potential for discharges. The SPCC Plan must address all relevant spill prevention, control, and countermeasures necessary at the specific facility for which the SPCC Plan is written.

State

In January 1996, the California Environmental Protection Agency adopted regulations implementing a Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program). The program has six elements: hazardous waste generators and hazardous waste on-site treatment; underground storage tanks; aboveground storage tanks; hazardous materials release response plans and inventories; risk management and prevention programs; and Unified Fire Code hazardous materials management plans and inventories. The plan is implemented at the local level. The Certified Unified Program Agency is the local agency

that is responsible for the implementation of the Unified Program. In El Dorado County, the El Dorado County Department of Environmental Management, Hazardous Waste Division is the approved Certified Unified Program Agency. And for the City of Folsom, the Sacramento County Environmental Management Department is the approved Certified Unified Program Agency (CERS, 2014).

Hazardous Materials Management

The California Hazardous Materials Release Response Plans and Inventory Law of 1985 (Business Plan Act) requires that any business that handles hazardous materials prepare a business plan, which must include the following:

- Details, including floor plans, of the facility and business conducted at the site;
- An inventory of hazardous materials that are handled or stored on site;
- An emergency response plan; and
- A safety and emergency response training program for new employees with annual refresher courses.

Hazardous Waste Handling

The California Environmental Protection Agency (Cal/EPA) DTSC regulates the generation, transportation, treatment, storage, and disposal of hazardous waste. State and federal laws require detailed planning to ensure that hazardous materials are properly handled, used, stored, and disposed of, and, in the event that such materials are accidentally released, to prevent or to mitigate injury to health or the environment. Laws and regulations require hazardous materials users to store these materials appropriately and to train employees to manage them safely.

Under the federal Resource Conservation and Recovery Act of 1976 (RCRA), individual states may implement their own hazardous waste programs in lieu of RCRA, as long as the state program is at least as stringent as federal RCRA requirements. In California, the DTSC regulates the generation, transportation, treatment, storage, and disposal of hazardous waste. The hazardous waste regulations establish criteria for identifying, packaging, and labeling hazardous wastes; prescribe management of hazardous waste; establish permit requirements for hazardous waste treatment, storage, disposal, and transportation; and identify hazardous waste that cannot be disposed of in landfills.

Occupational Safety

The California Department of Industrial Relations Division of Occupational Safety and Health (Cal/OSHA) assumes primary responsibility for developing and enforcing workplace safety regulations in California. Because California has a federally approved OSHA program, it is required to adopt regulations that are at least as stringent as those found in Title 29 of the CFR.

Cal/OSHA regulations concerning the use of hazardous materials in the workplace require employee safety training, safety equipment, accident and illness prevention programs, hazardous substance exposure warnings, and emergency action and fire prevention plan preparation. Cal/OSHA enforces hazard communication program regulations, which contain training and information

requirements, including procedures for identifying and labeling hazardous substances, and communicating hazard information relating to hazardous substances and their handling. The hazard communication program also requires that Material Safety Data Sheets (MSDSs) be available to employees, and that employee information and training programs be documented. These regulations also require preparation of emergency action plans (escape and evacuation procedures, rescue and medical duties, alarm systems, and training in emergency evacuation).

Emergency Response

California has developed an emergency response plan to coordinate emergency services provided by federal, state, and local government and private agencies. Responding to hazardous materials incidents is one part of this plan. The plan is administered by the State Office of Emergency Services, which coordinates the responses of other agencies.

California Public Utilities Code

California Public Utilities Code Section 21658 prohibits structural hazards associated with utility poles and lines near airports. Should a power line be located in the vicinity of an airport or exceed 200 feet in height, a Notice of Proposed Construction or Alteration (Form 7460-1) is required by the Federal Aviation Administration (FAA) in accordance with Federal Aviation Regulation, Part 77 "Objects Affecting Navigable Airspace."

Cortese List

The provisions of Section 65962.5 of the California Government Code are commonly referred to as the "Cortese List" (after the legislator who authored the legislation that enacted it). The Cortese List is a planning document used by state and local agencies to comply with CEQA requirements in providing information about the location of hazardous materials release sites. Section 65962.5 requires Cal/EPA to develop an updated Cortese List at least annually. DTSC is responsible for a portion of the information contained in the Cortese List. Other state and local government agencies must provide additional information about hazardous materials releases for the Cortese List.

NPDES Construction General Permit

The Regional Water Quality Control Board (RWQCB) administers the stormwater permitting program in the Central Valley Region pursuant to authority delegated under the federal Clean Water Act's National Pollutant Discharge Elimination System (NPDES) program. Construction activities disturbing 1 acre or more of land are subject to the permitting requirements of the NPDES General Permit for Discharges of Storm Water Runoff Associated with Construction Activity (Construction General Permit) and must apply for Construction General Permit coverage. For all new projects, applicants must electronically file permit registration documents using the Stormwater Multiple Applications and Report Tracking Systems (SMARTS), and must include a Notice of Intent, risk assessment, site map, and Storm Water Pollution Prevention Plan (SWPPP) to be covered by the General Construction Permit prior to beginning construction. The risk assessment and SWPPP must be prepared by a state-qualified SWPPP Developer. Additional details of the Construction General Permit are provided in *Section 3.9, Hydrology and Water Quality*.

California Fire Code

The California Fire Code is contained within Title 24, Chapter 9 of the California Code of Regulations. Based on the International Fire Code, the California Fire Code is created by the California Buildings Standards Commission and regulates the use, handling, and storage requirements for hazardous materials at fixed facilities. Similar to the International Fire Code, the California Fire Code and the California Building Code (CBC) use a hazards classification system to determine the appropriate measures to incorporate to protect life and property.

The state's Fire Prevention Standards for Electric Utilities (14 Cal. Code Regs. §§1250-1258), provides specific exemptions from electric pole and tower firebreak and electric conductor clearance standards, and specifies when and where standards apply.

Other State Regulations

The California Code of Regulations contains additional requirements that would apply to the Project, including:

- High Voltage Electrical Safety Orders (8 Cal. Code Regs. §2700 et seq.), which establish essential requirements and minimum standards for installation, operation, and maintenance of electrical equipment to provide practical safety and freedom from danger.
- Fire Prevention Standards for Electric Utilities (14 Cal. Code Regs. §§1250-1258), which provide specific exemptions from electric pole and tower firebreak and electric conductor clearance standards, and specifies when and where standards apply. It establishes minimum clearance requirements for flammable vegetation and materials surrounding structures.

Local

El Dorado County General Plan

The El Dorado County General Plan (2004) identifies policies regarding hazards and hazardous materials in the Health, Safety, and Noise elements of the General Plan. Relevant policies from the El Dorado County General Plan include:

Objective 6.2.3: Adequate Fire Protection

***Policy 6.2.3.6*:** All new development and public works projects shall be consistent with applicable State Wildland Fire Standards and other relevant State and federal fire requirements.

Objective 6.6.1: Regulation of Hazardous Materials

***Policy 6.6.1.2*:** The Hazardous Waste Management Plan shall serve as the implementation program for management of hazardous waste in order to protect the health, safety, property of residents and visitors, and to minimize environmental degradation while maintaining economic viability.

***Policy 6.6.1.2*:** Prior to the approval of any subdivision of land or issuing of a permit involving ground disturbance, a site investigation, performed by a Registered Environmental Assessor or other person experienced in identifying potential hazardous wastes, shall be submitted to the County for any subdivision or parcel that is located on a known or suspected contaminated site included in a list on file with the Environmental

Management Department as provided by the State of California and federal agencies. If contamination is found to exist by the site investigations, it shall be corrected and remediated in compliance with applicable laws, regulations, and standards prior to the issuance of a new land use entitlement or building permit.

Objective 6.8.1: Safety Hazards Exposure

***Policy 6.8.1.1*:** All development within the Airport Safety Zones of the Placerville Airport, the Cameron Park Air Park Airport, the Georgetown Airport, and the City of South Lake Tahoe Airport shall comply with Airport Land Use Commission height, noise, and safety policies and maps as set forth in each airport's comprehensive land use plan. Where there is a difference between the County development standards and the development standards of the Comprehensive Land Use Plan, as applied to proposed development, the standards that will most reduce airport-related safety hazards shall apply.

El Dorado County Code of Ordinance

The El Dorado County Code of Ordinance establishes policies regarding hazards and hazardous materials in Chapter 8 Health and Safety.

El Dorado County Multi-Jurisdiction Hazard Mitigation Plan

The El Dorado County Multi-Jurisdiction Hazard Mitigation Plan was adopted by the El Dorado County Board of Supervisors in November 2004. The Plan was developed in accordance with current rules and regulations governing local hazard mitigation plans. The purpose of the Plan is to protect life, safety and property by reducing the potential for future damages and economic losses that result from natural hazards. The Plan identifies and analyzes existing hazards including floods, earthquakes/landslides, erosion, wildfire, and winter storm hazards (El Dorado County, 2004).

Sacramento County Multi-Hazard Mitigation Plan

The Sacramento County Multi-Hazard Mitigation Plan was adopted in 2004 and includes the City of Folsom. The Plan is based on a hazard identification and risk assessment of all the potential natural hazards that could impact Sacramento County. The Plan also includes a review of the County's current capabilities with regards to reducing hazard impacts (Sacramento County, 2004).

City of Folsom General Plan

The City of Folsom General Plan (1988) identifies policies regarding hazards and hazardous materials in the Hazards Materials elements of the General Plan.

3.8.3 Applicant Proposed Measures

PG&E proposes the following APMs to minimize impacts related to hazards and hazardous materials. This analysis assumes that these APMs would be implemented to reduce impacts related to hazards and hazardous materials discussed below.

APM HAZ-1: Hazardous-Substance Control and Emergency Response

PG&E will implement a Hazardous Substance Control and Emergency Response Plan, which will identify methods and techniques to minimize exposure of the public and construction workers to potentially hazardous materials during all phases of project

implementation. The Hazardous Substance Control and Emergency Response Plan shall be submitted to the CPUC prior to the start of construction activities. The procedures require PG&E to provide worker training in hazardous-substance control and emergency response that is appropriate to the workers' roles. The procedures also require implementation of appropriate control methods and approved containment and spill-control practices for construction and materials stored in the project area. If it is necessary to store chemicals, the chemicals will be managed in accordance with all applicable regulations. Material safety data sheets will be maintained and kept available in the project area, as applicable.

Project construction may require blading/leveling of the soil surface and excavation or auguring to a depth of approximately 24 feet. However, if soils suspected of contamination (based on visual, olfactory, or other evidence) are removed during grading or excavation/auguring activities, the excavated soil will be tested. If they are contaminated above hazardous-waste levels, those soils will be contained and disposed of at a licensed waste facility. Any known or suspected contaminated soil will undergo testing and investigation procedures, supervised by a qualified person as appropriate, to meet the requirements of 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 will include but will not be limited to the following measures:

- proper disposal of potentially contaminated soils;
- establishment of project area–specific buffers for construction vehicles and equipment located near sensitive resources; and
- implementation of emergency-response and reporting procedures to address spills of hazardous materials.

APM HAZ-2: Smoking and Fire Rules

Smoking will be permitted only in designated smoking areas or within the cabs of vehicles or equipment.

APM HAZ-3: Fire Risk Management

Project personnel will be directed to park away from dry vegetation. During fire season in designated SRAs, all motorized equipment driving off paved or maintained gravel/dirt roads will have federally approved or State-approved spark arrestors. All off-road vehicles will be equipped with a backpack pump (filled with water) and a shovel. Fire-resistant mats and/or windscreens will be used when welding. In addition, during fire "red flag" conditions (as determined by CAL FIRE), welding will be curtailed. Every fuel truck will carry a large fire extinguisher with a minimum rating of 40 B:C, and all flammable materials will be removed from equipment parking and storage areas.

3.8.4 Environmental Impacts and Mitigation Measures

a) Whether the Project would create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials: *LESS THAN SIGNFICANT*.

While the Project would not require long-term operational use, storage, treatment, disposal, or transportation of significant quantities of hazardous materials, hazardous materials would be used during construction activities. For example, Project construction could require the use of hazardous chemicals, such as gasoline, diesel fuel, oils and lubricants, paints and thinners, solvents, and other chemicals. Impacts could occur if construction-related activities were to result in hazards or the release of hazardous materials and could be considered potentially significant but for PG&E's commitment to implement APM HAZ-1, which requires the development and implementation of a Hazardous Substance Control and Emergency Response Plan to minimize the potential for, and effect of, spills of hazardous material during construction. In addition, the hazardous materials used on the construction site would be used in accordance with manufacturer recommendations. Because PG&E and its contractors would be required to comply with all hazardous materials laws and regulations for the transport, use, and disposal of hazardous materials, the impacts associated with the potential to create a significant hazard to the public or the environment would be less than significant.

b) Whether the Project would create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment: *LESS THAN SIGNFICANT*.

Accidents or mechanical failure involving heavy equipment could result in the accidental release of small quantities of fuel, lubricants, hydraulic fluid, or other hazardous substances. These types of spills on construction sites are typically in small quantities, localized, and are cleaned up in a timely manner. Construction contractors are responsible for their hazardous materials and are required under their contract to properly store and dispose of these materials in compliance with state and federal laws. As discussed in *Chapter 2, Project Description* and *Section 3.9, Hydrology and Water Quality*, the Project would require a Stormwater Pollution Prevention Plan (SWPPP), which outlines best management practices (BMPs) to avoid runoff of stormwater and pollutants. The BMPs would include protection measures to contain a potential release and to prevent any such release from reaching an adjacent waterway or stormwater collection system. These would minimize the potential adverse effects to groundwater and soils. Given the use of BMPs as required by the construction contractors and implementation of APM HAZ-1, the threat of exposure to the public or contamination to soil and groundwater from construction-related hazardous materials is considered less than significant.

Project construction activities would involve excavating, trenching, and grading, as well as the use of certain hazardous materials such as gasoline, diesel fuel, oils, lubricants, solvents, and glues. If hazardous materials were present in excavated soil or are inadvertent release into the environment, it could expose construction workers and the public to contaminated soil and groundwater and chemical vapors during construction. Depending on the nature and extent of any contamination encountered, adverse health effects could result if proper precautions were not taken.

Data obtained from the DTSC's EnviroStor and SWRCB's Geotracker databases indicate that no contamination has been identified along the Project alignment. However, there is a potential that undocumented releases of hazardous materials (e.g., petroleum hydrocarbons from underground storage tanks, etc.) could occur along the Project alignments. Implementation of APM HAZ-1 would ensure that potential impacts associated with releasing previously unidentified hazardous materials into the environment would be less than significant. For mitigation to reduce impacts related to existing contaminated groundwater, refer to *Section 3.9, Hydrology and Water Quality*.

c) Whether the Project would emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school: *LESS THAN SIGNFICANT*.

Construction of the Project would occur within 0.25 mile of seven schools. Project construction would require the short-term use of various hazardous materials during construction. Equipment that would contain hazardous materials such as grease, fuel, oil, etc., would be stored in areas located at designated sites during construction of the Project. To avoid potential impacts, PG&E has committed to implementing stormwater permitting requirements, which would impose performance standards on the construction activities that would ensure the risk of release of hazardous materials during construction would be low. Therefore, the potential for a hazardous materials release during construction to result in increased exposure to hazardous materials at the nearby schools is remote; therefore, this impact is less than significant.

Project construction would result in short-term emissions of diesel particulate matter from diesel powered construction equipment and vehicle exhaust. Because the health risks associated with diesel particulate matter are generally associated with chronic exposure, it can be assumed that short-term emissions generated during Project construction would have a less than significant impact on the children and staff associated with the schools and day care centers in the Project area. Furthermore, implementation of APM HAZ-1 and APM HAZ-3 would reduce potential impacts to schools located within 0.25 mile of the Project.

d) Whether the Project would be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment: *NO IMPACT*.

The Project would not be located on a known hazardous materials site pursuant to Government Code Section 65962.5. Given the distances of the known sites to the Project alignment, there would be no impact that would occur related to known hazardous materials sites creating a significant hazard to the public or the environment. No impact would occur.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area: *LESS THAN SIGNICANT*.

A portion of the Project alignment is located within areas designated under the Land Use Compatibility Plan for the Cameron Airpark Airport. Federal Aviation Regulation (FAR) Part 77

regulates structure heights near airports through established threshold heights of protected air space. These surfaces are defined by horizontal planes above specific ground elevations and or sloped planes at specific ratios. The overall intent of protected air space is to protect airplanes and structures from interface hazards. Due to the proximity of the Project alignment to the Cameron Airpark Airport, PG&E has submitted electronic Notifications to the FAA of Proposed Construction or Alterations associated with the Project. In addition, pursuant to 14 CFR Part 77, PG&E would be required to electronically submit FAA Form 7460-2, Notice of Actual Construction or Alteration, within 5 days after the construction reaches its greatest height. Compliance with FAA notification requirements would ensure this impact would be less than significant.

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area: *NO IMPACT*.

There are no private airstrips located within 2 miles of the Project alignment. Accordingly, there would be no impacts related to private airstrip safety hazards associated with the Project. No impact would occur.

g) Would the Project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan: *NO IMPACT*.

Project construction may require temporary road closures or rolling stops for locations where lines cross over roadways before conductor installation. Road closures that must occur on private and public roads typically would not exceed a few minutes in duration and would be coordinated with the county, city, or landowner/manager depending on jurisdiction. Furthermore, the temporary and short-term closures would be coordinated with the California Department of Transportation as appropriate. Implementation of APM TRA-2 (Temporary Traffic Controls) would ensure that Project construction would not interfere with such plans and further minimize impacts to traffic and transportation in the Project area.

Project operations would involve routine maintenance of lines, substation and switching stations. As maintenance needs arise, repairs and preventative maintenance would fulfilled by the PG&E transmission line crew (approximately five trained employees). Regardless, vehicular traffic to the Project sites would not increase such that it could impair or interfere with an adopted emergency response or evacuation plan. Therefore, the Project would not impair implementation of or physically interfere with emergency response or evacuation plans. No impact would result.

h) Whether the Project would expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands: *LESS THAN SIGNFICANT*.

The Project alignment is located in areas considered moderate to very high wildfire hazard areas. The primary risks of potential fire hazards for the Project involve the use of vehicles and equipment during construction. Heat or speaks emitted from equipment in the area can ignite dry vegetation and cause a fire. Although portions of the Project alignment traverse through areas of moderate to very high wildlife hazard severity, implementation of APM HAZ-2 and APM HAZ-3

would reduce the potential hazards related to wildland fire through such measures as the use of spark arrestors, backpack water pumps, fire extinguishers, and fire-resistant mats and/or windscreens to be used during welding activities. During "red flag" conditions as determined by CAL FIRE, welding would be prohibited. This would ensure that potential fire hazard impacts would be less than significant.

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3.9 Hydrology and Water Quality

Issues (and Supporting Information Sources):		*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
9.	**HYDROLOGY AND WATER QUALITY— 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 a site or area through the alteration of the course of a stream or river, or by other means, in a manner that would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
d)	Substantially alter the existing drainage pattern of a site or area through the alteration of the course of a stream or river or, by other means, substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?	☐	☐	☒	☐
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 authoritative flood hazard delineation map?	☐	☐	☐	☒
h)	Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	☐	☐	☐	☒
i)	Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☒	☐
j)	Expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

3.9.1 Environmental Setting

The Project area is located within the foothills of the Sierra Nevada and ranges from approximately 350 to 1,500 feet in elevation. The area experiences cool, wet winters and hot, dry summers, typical of a Mediterranean climate. The majority of annual precipitation typically falls between October and May and is on average approximately 20 inches over this time (DWR, 2003; WRCC, 2014). Because of the close proximity to the Sierra Nevada mountain range, the area's major rivers experience a heavy seasonal runoff from snowmelt at higher elevations during the spring and summer months. These rivers include the Cosumnes River, which collects water from many creeks and drainages located along the eastern portions of the Project alignment, and the American River, which collects water from drainages in the western portion of the Project area.

Surface Water Hydrology

The Project alignment crosses through three major hydrologic units—Middle Sierra, North Valley Floor, and Valley-American (DWR, 2003). The Middle Sierra and North Valley Floor hydrologic units are part of the larger San Joaquin River hydrologic area. Surface water in the Middle Sierra hydrologic unit, which includes approximately 4.8 miles of the Project alignment from Shingle Springs Substation to approximately Tierra De Dios Drive in Cameron Park as well as Limestone Substation, generally flows south or southwest, forming the upper headwaters to Deer Creek (DWR, 2003). Surface waters in the North Valley Floor hydrologic unit, which include approximately 4.6 miles of the Project alignment, from approximately Tierra De Dios Drive in the community of Cameron Park to Santa Cruz Court in the community of El Dorado Hills, drain to Deer Creek and the Cosumnes River.

Surface water in the Valley-American hydrologic unit, which includes approximately 2.6 miles of the Project alignment, from approximately Santa Cruz Court in the community of El Dorado Hills to Gold Hill Substation in the City of Folsom, generally flows west to the Sacramento River. This section is part of the larger Sacramento River hydrologic region, which collects surface water from the Sacramento Valley and surrounding mountains, drains to the Sacramento–San Joaquin Delta and lastly the San Francisco Bay.

Numerous aquatic features are present throughout the Project area, ranging from larger creeks and streams to ponds and wetlands. Drainages in the Project area consist of Carson Creek, Deer Creek, as well as many other unnamed tributaries. Numerous seasonal wetlands, vernal pools, and other surface water features are also located throughout the length of the Project alignment.

Groundwater

The Project area is located within two groundwater subbasins, the Cosumnes Subbasin and South American Subbasin. The Cosumnes Subbasin is located beneath approximately 8.9 miles of the Project alignment, from Shingle Springs Substation to approximately Santa Cruz Court in El Dorado Hills, as well as beneath Limestone Substation. This subbasin is part of the larger San Joaquin Valley Groundwater Basin, which underlies much of the San Joaquin Valley. The Cosumnes Subbasin is recharged primarily by three drainage systems: the Cosumnes River, Dry Creek, and the Mokelumne River. Groundwater levels in the basin recorded since the mid-1960s have been relatively stable, with periods of drought showing decreases and periods of heavy rain showing substantial recharge (DWR, 2003).

The South American Subbasin is located beneath approximately 2.3 miles of the Project alignment, from approximately Santa Cruz Court in El Dorado Hills to Gold Hill Substation. This subbasin is part of the larger Sacramento Valley Groundwater Basin, which underlies much of the Sacramento Valley. The South American Subbasin is recharged primarily by the American River; however, interactions within the Cosumnes and Mokelumne rivers may affect groundwater at lower depths. Groundwater levels in the basin recorded since the mid-1960s have been relatively stable, with periods of drought showing decreases and periods of heavy rain showing substantial recharge (DWR, 2003).

Drinking water in the Project area is supplied almost entirely by surface water reservoirs containing snowmelt from the Sierra Nevada. Groundwater is not a substantial contributor to municipal water in the Project area (EID, 2013; City of Folsom, 2014).

Flood Potential

The Project area is not located within a flood hazard zone as designated by FEMA nor is it in an area that would be susceptible to natural disasters such as seiches, tsunamis or mudflows. There are no enclosed water bodies, oceans or active faults within the Project area (see Figure 2-1). The nearest flood hazard areas to the Project area are the low-lying portions of Cameron Park located approximately 0.2 miles north of Archwood Road in Cameron Park (FEMA, 2014).

Based on the review of the Cameron Park Lake Dam Failure Inundation Zone Map (County of El Dorado, 2002), it appears that the Cameron Lake Dam is approximately 1.5 miles away. The width of the inundation zone at the Project site would be about 1,000 feet at its widest. Since the inundation zone widens before reaching the area of the Project site, this would result in a decrease in the depth of the flood water at the Project site in the event of a dam failure.

In addition, all relevant flood control and management databases where reviewed in order to determine the proximity of the nearest levees and other flood control facilities. According to the El Dorado County Multi-Jurisdiction Hazard Mitigation Plan, (County of El Dorado, 2004) El Dorado County has a significant number of large and small dam structures with impoundments, but no levees. The flood control facilities (i.e. levees) for the Sacramento Area Flood Control Agency (SAFCA) are all downstream of the Project components (SAFCA, 2008) and the Central Valley Flood Management Planning Program (CVMPP) does not extend into the Project area (DWR, 2010).

3.9.2 Regulatory Setting

Federal and State

The statutes that govern the activities related to the Project that could affect water quality are the federal Clean Water Act (CWA) (33 U.S.C. §1251) and the state Porter-Cologne Water Quality Control Act (Porter-Cologne) (Water Code §13000 et seq.). These acts provide the basis for water quality regulation that is applicable to the Project.

The California Legislature has assigned the primary responsibility to administer and enforce statutes for the protection and enhancement of water quality to the State Water Resources Control Board (SWRCB) and its nine Regional Water Quality Control Boards (RWQCBs). The SWRCB provides state-level coordination of the water quality control program by establishing statewide policies and plans for the implementation of state and federal regulations. The nine RWQCBs throughout California adopt and implement water quality control plans that recognize the unique characteristics of each region with regard to natural water quality, actual and potential beneficial uses, and water quality problems. The RWQCB adopts and implements a Water Quality Control Plan that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan (Water Code §13240-13247).

Clean Water Act

The CWA, enacted by Congress in 1972 and amended several times since its inception, is the primary federal law regulating water quality in the United States and forms the basis for several state and local laws throughout the country. Its objective is to reduce or eliminate water pollution in the nation's rivers, streams, lakes, and coastal waters. The CWA authorizes the U.S. Environmental Protection Agency (USEPA) to implement federal water pollution control programs such as setting water quality standards for contaminants in surface water, establishing wastewater and effluent discharge limits for various industry categories, and imposing requirements for controlling nonpoint-source pollution. At the federal level, the CWA is administered by the USEPA and U.S. Army Corps of Engineers (USACE). At the state and regional levels, the act is administered and enforced by the SWRCB and the nine RWQCBs.

Beneficial Use and Water Quality Objectives (CWA §303)

The RWQCB is responsible for the protection of the beneficial uses of waters within Sacramento County. The RWQCB uses its planning, permitting, and enforcement authority to meet this responsibility and has adopted the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins (the "Basin Plan") to implement plans, policies, and provisions for water quality management. The RWQCB published the most recent version of the Basin Plan in October, 2011 (RWQCB, 2011).

In accordance with state policy for water quality control, the RWQCB employs a range of beneficial use definitions for surface waters, groundwater basins, marshes, and mudflats that serve as the basis for establishing water quality objectives and discharge conditions and prohibitions. The Basin Plan identifies existing and potential beneficial uses supported by the key surface water drainages throughout its jurisdiction (RWQCB, 2011). **Table 3.9-1** identifies beneficial uses designated in the Basin Plan for the surface water and groundwater bodies relevant to the Project site. The Basin Plan also includes water quality objectives that are protective of the identified beneficial uses; the beneficial uses and water quality objectives collectively make-up the water quality standards for a given region and Basin Plan (RWQCB, 2011). The Basin Plan also includes actions necessary to maintain these water quality standards.

TABLE 3.9-1
DESIGNATED BENEFICIAL USES OF WATER BODIES IN THE PROJECT SITE AND SURROUNDING AREA

Water Body	Designated Beneficial Uses
Placerville to Folsom Lake	MUN, AGR, POW, REC-1, REC-2, WARM, COLD, WILD
Folsom Lake	MUN, AGR, POW, REC-1, REC-2, WARM, COLD, SPWN
Folsom Dam to Sacramento River	MUN, AGR, IND, POW, REC-1, REC-2, WARM, COLD, MIGR,SPWN, WILD

NOTES:

Beneficial Uses Key:
MUN (Municipal and Domestic Supply); AGR (Agricultural Supply); REC-1 (Body Contact Recreation); REC-2 (Noncontact Recreation); WARM (Warm Freshwater Habitat); COLD (Cold Freshwater Habitat), WILD (Wildlife Habitat); POW (Hydropower Generation); IND (Industrial Service Supply); MIGR (WARM and COLD Migration), SPWN (Warm Spawning).

SOURCE: RWQCB, 2011

National Pollutant Discharge Elimination System Program CWA Section 402

Under the CWA Section 402, the National Pollutant Discharge Elimination System (NPDES) controls water pollution by regulating point sources of pollution to waters of the United States. The SWRCB administers the NPDES permit program in California.

Projects that disturb one or more acres of soil must obtain coverage under the state's NPDES General Permit for Discharges of Storm Water Associated with Construction Activity. A stormwater pollution prevention plan (SWPPP) must be developed and implemented for each project covered by the general permit. At a minimum, a SWPPP includes:

- Description of construction materials, practices, and equipment storage maintenance;
- List of pollutants likely to contact stormwater and site specific erosion and sedimentation control practices;
- List of provisions to eliminate or reduce discharge of materials to stormwater;
- Best management practices (BMPs) for fuel and equipment storage;
- Non-stormwater management measures such as installing specific discharge controls during activities such as paving operations and vehicle and equipment washing and fueling; and
- Commitment that equipment, materials, and workers will be available for rapid response to spills and/or emergencies. All corrective maintenance or BMPs will be performed as soon as possible, depending upon worker safety.

The SWPPP provides specific construction-related BMPs to prevent soil erosion and loss of topsoil. BMPs implemented could include, but would not be limited to: physical barriers to prevent erosion and sedimentation, construction of sedimentation basins, limitations on work periods during storm events, use of swales, protection of stockpiled materials, and a variety of other measures that would substantially reduce or prevent erosion from occurring during construction. Post-construction requirements require that construction sites match pre-project hydrology to ensure that the physical and biological integrity of aquatic ecosystems are sustained in their existing condition, unless the site is located within an area subject to the post-construction standards of an active Phase I or II municipal separate storm sewer system (MS4) permit that has an approved stormwater management plan. The Project is within a MS4 area. The post-construction standards include structural and nonstructural control measures to replicate the pre-project water balance and pre-project drainage density, and reduce pollutants in storm water discharges. A SWPPP must be prepared before construction begins.

The project would disturb more than 1 acre of soil; therefore, it would require an NPDES permit.

NPDES Construction General Permit

The RWQCB administers the NPDES stormwater permitting program in the Central Valley Region. Construction activities disturbing 1 acre or more of land, which includes the Project, are subject to the permitting requirements of the NPDES General Permit for Discharges of Storm Water Runoff Associated with Construction Activity (Construction General Permit) and must apply for

Construction General Permit coverage. For all new projects, applicants must electronically file permit registration documents using the Stormwater Multiple Applications and Report Tracking Systems (SMARTS), and must include a Notice of Intent (NOI), risk assessment, site map, and SWPPP to be covered by the General Construction Permit prior to beginning construction. The risk assessment and SWPPP must be prepared by a state-qualified SWPPP Developer.

The Construction General Permit requires that the site be assigned a risk level of 1 (low), 2 (medium), or 3 (high) based on sediment and receiving waters risk. The sediment risk level is the relative amount of sediment that can be discharged given the project and location details. The receiving waters risk level reflects the risk sediment discharges pose to the receiving waters. A construction analysis provides a preliminary risk level assessment.

National Flood Insurance Program

The Federal Emergency Management Agency (FEMA) determines flood elevations and floodplain boundaries based on USACE studies. FEMA also distributes the flood insurance rate maps used in the National Flood Insurance Program. These maps identify the locations of special flood hazard areas, including 100-year floodplains.

Federal regulations governing development in a floodplain are set forth in Title 44, Part 60 of the Code of Federal Regulations. Those regulations enable FEMA to require municipalities participating in the National Flood Insurance Program to adopt certain flood hazard reduction standards for construction and development in 100-year floodplains.

California Fish and Game Code Section 1602

Section 1602 of the California Fish and Game Code protects the natural flow, bed, channel, and bank of any river, stream, or lake under the jurisdiction of the California Department of Fish and Wildlife (CDFW). Project plans that are sufficient to indicate the nature of a project for construction must be submitted to CDFW if the project would:

- substantially divert, obstruct, or change a streambed;
- use material from the streambeds; or
- result in the disposal or deposition of debris, waste, or other material containing crumbled, flaked, or ground pavement that can flow into a stream.

For projects affecting the bed, bank, or flow of water under CDFW jurisdiction, applicants must submit a notification of lake or streambed alteration to CDFW. The department may issue an agreement if its staff members determine that the activity may substantially adversely affect fish and wildlife resources.

Porter-Cologne Water Quality Control Act

Under the Porter-Cologne Water Quality Control Act, the SWRCB has authority over waters of the state and water quality. The RWQCBs have local and regional authority. The Central Valley RWQCB has authority in the Project area. The RWQCB prepares and periodically updates the

Basin Plan described under the heading *Beneficial Use and Water Quality Objectives (CWA §303)*, above.

The proponent of any project that will discharge waste to waters of the State must file a report of waste discharge with the appropriate RWQCB. The RWQCB will issue waste discharge requirements or a waiver of the waste discharge requirements for the Project as described below (California Wetlands Information System, 2002).

Waste Discharge Requirements

Actions that involve or are expected to involve discharge of waste may be subject to waste discharge requirements (WDR) under the Porter-Cologne Act. Chapter 4, Article 4 of the Porter-Cologne Act (Water Code §13260-13274) states that persons discharging or proposing to discharge waste that could affect the quality of waters of the State (other than into a community sewer system) shall file a Report of Waste Discharge with the applicable RWQCB. However, the RWQCB has issued a waiver for certain types of discharges, as discussed below.

Waiver for Specific Types of Discharges (Central Valley RWQCB Resolution R5-2013-0145)

The RWQCB has adopted a waiver of WDR (Resolution R5-2013-0145, *Waiver of Reports of Waste Discharge and Waste Discharge Requirements for Specific Types of Discharge within the Central Valley Region*) for specific types of low-threat discharges to the land surface within the Central Valley region. Construction dewatering and dredged material disposal to land are among the activities covered by this waiver, providing the subject activities meet the conditions specified within the waiver. Waivers serve much the same purpose as general permits (i.e., they are intended to describe a range of protective measures that could be applied to a broad category of activities). This waiver must be obtained from the RWQCB for any actions that would potentially involve dewatering and/or long-term storage of excavated material on the land surface.

Local

Since the CPUC has exclusive jurisdiction over the siting, design, and construction of the project, the Project is not subject to local discretionary regulations. However, consistent with its obligations under CPUC General Order 131-D and as described in the Land Use and Planning section, *Section 3.10.2, Regulatory Setting*, PG&E has consulted with El Dorado and Sacramento counties and with the City of Folsom regarding land use matters. This section includes a summary of local standards or ordinances related to hydrologic resources and water quality for informational purposes and to assist with the CEQA review process.

The El Dorado County Building and Safety Services Department issues grading permits for work to regulate and oversee activities that could, among other things, degrade water quality within the local environment. In addition, the Sacramento County Public Works Agency has a Land Grading and Erosion Control Ordinance designed to minimize damage to surrounding properties and public rights-of-way, the degradation of the water quality of watercourses, and the disruption of natural or County authorized drainage flows caused by the activities of clearing and grubbing, grading, filling and excavating of land, and sediment and pollutant runoff from other construction related activities, and to comply with the provisions of the County's NPDES Permit Number, CA0082597, issued by

the California RWQCB. Similarly, the City of Folsom's Public Works Department oversees all storm water management issues within its jurisdiction, from storm drainage design and construction, to operation and maintenance, and to pollution prevention from urban runoff.

Although PG&E is not subject to local discretionary permitting, ministerial permits would be secured as required.

3.9.3 Applicant Proposed Measures

PG&E has proposed to implement the following APMs as design features of the Project to avoid or minimize potential impacts of the Project to hydrologic resources and water quality:

APM HYDRO-1: Storm Water Pollution Prevention Plan

PG&E would file a Notice of Intent with the SWRCB for coverage under the General Construction Storm Water Permit and would prepare and implement a SWPPP in accordance with General Order No. 2009-0009-DWQ, as amended, discussed in the Regulatory Setting, which typically includes measures such as placement of straw wattles or silt fencing, flagging, mulching, seeding and other means to help stabilize disturbed areas and reduce erosion and sedimentation.

APM HYDRO-2: Water Feature Protection Requirements

Where access through hydrologic resources are required, PG&E shall install temporary bridges or plates over drainages (spanning the ordinary high water mark) and install fiberglass or wood matting in wetland features to reduce water quality impacts to these features.

3.9.4 Environmental Impacts and Mitigation Measures

a) Whether the Project would violate any water quality standards or waste discharge requirements: *LESS THAN SIGNIFICANT.*

Construction-related impacts on water quality have the potential to result from several different sources. Among these sources is contamination from fuels or other hazardous materials, and increased erosion caused by grading or vegetation clearing that leads to increased sedimentation. Vegetation may need to be cleared or mowed to improve existing access roads or establish overland access routes, work areas, pull sites, or landing zones for construction. In some instances, minor grading also may be needed to improve tower work areas or existing access roads. The Project has the potential to temporarily adversely affect water quality as a result of erosion and subsequent sedimentation that can result from the increased use of off-road vehicles or earth-disturbing activities. One tower located approximately 800 feet northwest of the intersection of Broadstone Parkway and Empire Ranch Road is located in a seasonal pond and is anticipated to be accessed using a helicopter; however, depending on site-specific conditions at the time of construction, other construction methods may be employed, including accessing the tower on foot and using pulley equipment staged outside of the pond or completing tower work only during the dry season and staging construction equipment on temporary matting. Furthermore, a number of seasonal drainages and one seasonal wetland would also need to be crossed to access Project work areas; however,

these types of Project activities would be small in scale and distributed along the entire length of the Project alignment. Therefore, the impact would be less than significant.

PG&E would assess the risk to water quality—based on site-specific soil characteristics, slope, and the construction schedule—and would develop a SWPPP that addresses potential water quality concerns, as described in APM HYDRO-1. The SWPPP would specify measures for each activity that has the potential to degrade surrounding water quality through erosion, sediment runoff, and the presence of other pollutants. These measures would be implemented and monitored throughout the Project by a qualified SWPPP practitioner (QSP). With implementation of APM HYDRO-1 and APM HYDRO-2, PG&E would further reduce the temporary and short-term construction-related effects on water quality. Therefore, the impact would be less than significant.

Accidental releases of hazardous materials that are used during construction, such as diesel fuel, hydraulic fluid, or oils and grease, would have the potential to occur. This potential impact and associated APMs are discussed in *Section 3.8, Hazards and Hazardous Materials*.

b) Whether the Project would substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted): *NO IMPACT*.

A water truck, typically with a capacity of 4,000 gallons, would be available to support Project construction activities and dust suppression. Conservatively assuming 360 construction days during the approximately 18-month construction period, and an average of four water truck loads per day, the Project could require about 5.76 million gallons (or 17.7 acre-feet) of water during the construction period. The water is expected to be obtained from local municipal sources such as the El Dorado Irrigation District or the City of Folsom, which are typically supplied through surface water reservoirs. The Project also would not result in an increase in impervious surfaces or other areas that could substantially interfere with groundwater recharge. The Project's water use during construction would not deplete or interfere with groundwater supply or recharge. Therefore, no impact would occur.

c) Whether the Project would substantially alter the existing drainage pattern of a site or area through the alteration of the course of a stream or river, or by other means, in a manner that would result in substantial erosion or siltation on- or off-site: *LESS THAN SIGNIFICANT*.

The Project has been designed to minimize impacts on waterways, as well as avoid substantially altering the drainage patterns of the Project work areas or altering the course of a stream or river. Furthermore, because major grading or contouring is not required, the Project would not result in the substantial alteration of existing drainage patterns. Minor temporary grading may be needed in select locations to improve Project access or establish work areas to accommodate equipment; however, this grading would be limited in scope and would not substantially alter site drainage or result in substantially increased erosion or siltation. Therefore, the impact would be less than significant.

To further reduce this impact, appropriate measures would be implemented, per the SWPPP and under the guidance of a QSP, as described in APM HYDRO-~~0~~1. After Project construction is completed, disturbed areas would be returned to approximately pre-Project conditions, unless otherwise requested by the landowner. Through Project design and implementation of the SWPPP and APM HYDRO-2, the temporary and short-term effects of erosion or siltation from site runoff would be addressed. Therefore, the impact would be less than significant.

d) Whether the Project would substantially alter the existing drainage pattern of a site or area through the alteration of the course of a stream or river or, by other means, substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site: *LESS THAN SIGNIFICANT.*

The Project does not include creation of impervious surfaces or other modification of surface conditions that could increase surface water runoff rates. In addition, the Project would not require the substantial modification of any upland sites to an extent that it could alter drainage patterns in a way that would increase the potential for on- or off-site flooding. Therefore, the impact would be less than significant.

e) Whether the Project would create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff: *LESS THAN SIGNIFICANT*.

Much of the Project alignment is located within rural or undeveloped parcels where municipal or otherwise developed storm water collection systems are not established. The storm water conveyance systems that are present generally consist of open storm water ditches along U.S. Highway 50 and other local roads. Portions of the Project alignment crossing through parking lots and residential development generally have more developed storm water systems already in place. The Project would not increase the amount of impervious surfaces, nor would it substantially modify the grade within the Project area; therefore, the Project would not create or contribute additional runoff that could exceed the capacity of existing storm water systems. Therefore, the impact would be less than significant.

As discussed previously, the Project has the potential to result in less-than-significant water quality impacts, typically through the flow of sediment-laden runoff or the accidental discharge of hazardous materials. As described in APM HYDRO-1, these types of polluted runoff would be controlled further through implementation of an SWPPP. Therefore, the Project would have a less than significant impact related to the provision of additional sources of polluted runoff.

f) Whether the Project otherwise would substantially degrade water quality: *NO IMPACT*.

No additional impacts on water quality beyond those described previously are anticipated. Thus, the Project would not otherwise substantially degrade water quality. Therefore, no impact would occur.

g) Whether the Project would place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other authoritative flood hazard delineation map: *NO IMPACT*.

The Project does not include construction of any new housing. Therefore, no impact would occur.

h) Whether the Project would place within a 100-year flood hazard area structures that would impede or redirect flood flows: *NO IMPACT*.

The Project is not located within a 100-year flood hazard area. Thus, the Project would not result in impediments or redirections of flood waters. Therefore, no impact would occur.

i) Whether the Project would expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam: *LESS THAN SIGNIFICANT*.

The Project would not affect existing levees, dams, or other flood control mechanisms, nor would it affect the potential for significant risk of loss, injury, or death resulting from flooding. The Project would not include work that could jeopardize the function or safety of existing dams, levees, or other flood control devices.

Since the Project does not involve impacts to an existing dam or other flood control mechanism, workers would only be exposed to a significant risk involving flooding in the event of an actual dam failure. At 1.5 miles away, there would be some time to be warned of the failure and workers would be able to move to higher ground or outside of the inundation area. In the event of a dam failure, the inundation zone widens before the Project site, thereby reducing the depth of the water and the resulting potential for damage or injury. In addition, the workers would only have the potential for exposure for the period of time they are working on that particular section of the Project. The potential impact would be less than significant because of the distance, the relatively small area of exposure, and the relatively short period of time workers would actually be in that potential inundation zone.

j) Whether the Project would expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow: *NO IMPACT*.

The Project would not result in inundation by seiche, tsunami, or mudflow. Seiches are waves in a semi-enclosed or enclosed body of water such as a lake, reservoir, or harbor. There are no enclosed water bodies within the project area and the nearest active fault that could generate a seismic event is 93.5 miles away from the Project area. Tsunamis are waves caused by an underwater earthquake, landslide, or volcanic eruption. The Project area is located in an inland area that is not susceptible to tsunamis, which generally occur in areas along the shoreline and for a small distance inland. Mudflows generally result from volcanic activity, catastrophic dam failure, or a large volume precipitation event on saturated soils. The Project is not located in an area of volcanic activity. As discussed above, the Project area is not in an area that would be subject to inundation from dam failure. Therefore, no impact would occur.

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3.10 Land Use and Planning

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
10. LAND USE AND PLANNING— 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?	☐	☐	☐	☒

3.10.1 Environmental Setting

The Project would be located in El Dorado and Sacramento Counties, extending from the community of Shingle Springs in El Dorado County to the City of Folsom, in Sacramento County (see Figure 2-1). The majority of the Project alignment would be located within El Dorado County and traverse through the unincorporated communities of Shingle Springs, Cameron Park, and El Dorado Hills. The most westerly portion of the alignment would be located in Sacramento County, and traverse through the City of Folsom. The developed portions of the Project area are predominantly residential with some light-industrial and commercial development. Undeveloped portions of the alignment consist of agriculture, grasslands and oak woodlands. The proposed alignment of the Missouri Flat-Gold Hill Line and Gold Hill No. 1 Lines would mostly traverse lands within the existing PG&E right-of-way (ROW) along Highway 50. However, additional ROW would be required to accommodate the relocation of an approximately 150 feet of an existing distribution feeder line associated with Limestone Substation near the intersection of Strolling Hills Road and Ridge Pass Drive.

Approximately 0.4 mile of the existing Missouri Flat-Gold Hill Line is located within an existing PG&E ROW on public land managed by the BLM within the southeastern portion of the Cameron Park Unit of the Pine Hill Preserve located northwest of the Shingle Springs Substation (see Figure 2.8). No additional ROW would be required within lands managed by the BLM. The 4,746-acre Pine Hill Preserve is managed to protect the habitat of eight rare plant species and to provide the community with recreational and educational opportunities to promote the protection of these rare plants and their habitat (BLM, 2008a). Because the Preserve is designated as an Area of Critical Environmental Concern (ACEC), allowable uses in the Cameron Park Unit are restricted to non-motorized recreational use of existing designated trails (BLM, 2008a, b).

3.10.2 Regulatory Setting

Federal

Bureau of Land Management

The Pine Hill Preserve Management Plan, a Cooperative Management Agreement among nine local, state, and federal agencies and one private organization, enables the preserve to work in coordination with these partners to increase protection of rare plant habitat and to provide the best management alternatives to maintain the rare plant populations' viability (BLM, 2008a). The BLM implements relevant aspects of the plan within lands it manages. The plan indicates that activities that have the potential to cause significant disturbance, such as construction of roads and high-voltage transmission lines, if permitted would require careful planning to avoid or to minimize resource impacts. The plan outlines management tasks, one of which is relevant to proposed improvements to unpaved roads within the Preserve (see Figure 2-8):

> Identify and implement appropriate measures to minimize impacts on rare plant habitat while providing road and trail maintenance, management, and public access.

PG&E would be required to obtain a Special Use Permit to construct the portion of the Project that would be located on BLM land; PG&E has contacted the BLM to initiate this process.

State

California Public Utilities Commission General Order No. 131-D

The CPUC has sole and exclusive jurisdiction over the siting and design of the Project because it authorizes the construction, operation, and maintenance of investor-owned public utility facilities. Although such projects are exempt from local land use and zoning regulations and discretionary permitting (i.e., they would not require discretionary approval from a local decision-making body such as a planning commission, county board of supervisors or city council), General Order No. 131-D, Section XIV.B requires that in locating a project "the public utility shall consult with local agencies regarding land use matters." The public utility would be required to obtain any required non-discretionary local permit.

In addition, California Public Utilities Code Section 21658 prohibits structural hazards associated with utility poles and lines near airports. Should a power line be located in the vicinity of an airport or exceed 200 feet in height, a Notice of Proposed Construction or Alteration (Form 7460-1) would be required by the Federal Aviation Administration (FAA) in accordance with Federal Aviation Regulation, Part 77 "Objects Affecting Navigable Airspace."

Local

The Project would be located within unincorporated El Dorado County and within the City of Folsom, in Sacramento County.

El Dorado County General Plan

Approximately 8.4 miles of the Project would be located in El Dorado County. The Project alignment would traverse a variety of land uses in El Dorado County including industrial, commercial, and residential uses; the Project alignment would also traverse lands within specific adopted plans (described in more detail below). The Project would not be located within Platted Lands, Ecological Preserve, or Important Biological Planning Overlay areas, as described in Policy 2.2.2.1 of the General Plan (El Dorado County, 2004).

The *El Dorado County General Plan* contains the following policies that would be relevant to the Project (El Dorado County, 2004):

> ***Policy 5.6.1.1*:** Promote and coordinate efforts with utilities for the undergrounding of existing and new utility distribution lines in accordance with current rules and regulations of the California Public Utility Commission and existing overhead power lines within scenic areas and existing Community Regions and Rural Centers.
>
> ***Policy 5.6.1.2*:** Reserve adequate rights-of-way to facilitate expansion of services in a timely manner.
>
> ***Policy 5.6.1.5*:** The County shall encourage the coordination between utilities constructing powerlines and school districts to avoid placement of powerlines in close proximity to schools.

Bass Lake Hills Specific Plan

The *Bass Lake Hills Specific Plan* encompasses 1,196 acres in El Dorado County and includes 18 residential "villages", surrounded by a variety of natural resources, including hillsides, oak woodland, wetlands, intermittent streams and drainages, and cultural resources. With the exception of a residential dwelling adjacent (south) of the Project alignment, approximately 0.5-mile of the Project would traverse through an undeveloped portion of the *Bass Lake Hills Specific Plan* boundary. The *Bass Lake Hills Specific Plan* contains the following standards that would be relevant to the Project (El Dorado County, 1995):

> ***5.1 General Public Services and Facility Standards***
>
> 1. Public facilities, such as fire stations and utility substations, shall be located, designed and oriented in a manner which is harmonious with adjoining residential development and reduce impacts associated with noise, nighttime illumination, and odors. (See Section 8.9 of the Design Guidelines).
>
> 2. With the exception of existing high voltage transmission lines, all new electrical and communication facilities shall be installed underground; however, pad-mounted transformers and electrical substations are permitted. This policy shall not apply to 5-acre parcels or larger.

Promontory Specific Plan

The *Promontory Specific Plan* area is located in El Dorado County adjacent to the County's western boundary. The 1,000-acre property stretches north from Highway 50 for approximately 4 miles and approximately 500-feet of the Project would traverse through the southernmost

portion of the plan within existing utilities easements, as mentioned in the plan (El Dorado County, 1999). The *Promontory Specific Plan* implements the goals, policies and objectives of the *El Dorado County General Plan* to create planned communities in the western portion of the County, and contains no planning policies related to public utility projects beyond those identified in the *El Dorado County General Plan* or Zoning Code.

El Dorado County Airport Land Use Compatibility Plan

The El Dorado County Transportation Commission (EDCTC) is the designated Airport Land Use Commission (ALUC) for El Dorado County. As the designated ALUC, EDCTC provides technical and advisory support to local airport districts, including the Cameron Park Airport District. The basic function of the ALUC is to promote compatibility between the airport and future land use development within the surrounding area. Land use development within airport districts is guided by the Airport Land Use Compatibility Plan (ALUCP), which establishes policies within an "airport influence area" of approximately 2 miles around the airport. Cameron Airpark Airport is located approximately 1.8 miles north of the Project alignment, just northwest of the Cameron Park Drive and Meder Road intersection. The Project alignment would traverse approximately 2.25 miles of the southernmost boundary of the airport influence area, as identified in the Cameron Airpark ALUCP (El Dorado County, 2012). The ALUCP establishes airport compatibility criteria that all new developments within the influence area encompasses all lands, with the exception of lands controlled by federal or state agencies, on which current or future airport-related noise, overflight, safety, or airspace protection factors may significantly affect land uses or necessitate restriction on those uses. The Project would not be located within identified safety hazard zones, and standards set forth in the ALUCP regarding these areas of concern are largely focused on new residential and commercial development. In addition, the ALUCP and ALUC lack jurisdiction over power line construction by public utilities (El Dorado County, 2012).

Habitat Conservation Plans and Natural Community Conservation Plans

No adopted habitat conservation plans or natural community conservation plans are relevant to the Project; however, the *El Dorado County Integrated Natural Resources Management Plan* (INRMP) is being developed by El Dorado County and is currently in the first phase of planning studies (El Dorado County, 2014). The INRMP will develop strategies to conserve and restore habitat connectivity to offset the effects of habitat loss from land development in western El Dorado County. As an investor-owned utility, PG&E is not a member agency or a voluntary participant and, as such, would not be governed by the INRMP.

El Dorado County Zoning Designations

The Project alignment traverses through several zoning designations, namely agriculture (see *Section 3.2, Agriculture and Forestry Resources* for more information), open space, residential and commercial, which typically allow construction/replacement of public utilities (El Dorado County, 2004).

City of Folsom General Plan

Approximately 2.5 miles of the Missouri Flat-Gold Hill Line alignment would be located within the City of Folsom within several land use designations including commercial, residential, industrial and public. The *City of Folsom General Plan* does not contain any policies that would be relevant to the Project (City of Folsom, 1988).

City of Folsom Zoning Designations

The Project alignment traverses through several zoning designations, namely agriculture (see *Section 3.2, Agriculture and Forestry Resources* for more information), open space, residential and commercial, which typically allow construction/replacement of public utilities (City of Folsom, 2007).

3.10.3 Applicant Proposed Measures

The Project does not include any APMs that directly pertain to land use and planning resources; however, APM BIO-5 includes measures to avoid or minimize potential impacts to special-status plants within the Pine Hill Preserve, as required by the BLM's management objectives for the Preserve. In particular, APM BIO-5.5, Locking Gate Installation, would address management objectives for limiting access to the Pine Hill Preserve.

3.10.4 Environmental Impacts

a) Whether the Project would physically divide an established community: *NO IMPACT.*

Project components within existing PG&E ROW would traverse some residential areas; however, similar infrastructure currently exists in these locations. Thus, Project construction within the existing ROW would not create a new physical barrier (division) between any existing communities. The 150 feet of additional ROW required for the distribution feeder line associated with Limestone Substation would be relocated within approximately 80 feet of the existing distribution line, in a low-density residential area where distribution infrastructural currently exists. Therefore, the new ROW similarly would not create a new physical barrier that would divide an established community. No Project component would result in new development that would physically divide an existing community. Therefore, no impact would occur.

b) Whether the Project would conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect: *NO IMPACT*

The entire Project, except for the portion that would be developed on BLM-administered land, is under the exclusive land use jurisdiction of the CPUC. Although existing and new segments of the Project alignment would be located in El Dorado and Sacramento counties and the City of Folsom, none of these local agencies has land use jurisdiction over the Project. Therefore, none of

these local agencies' land use plans, policies, or regulations apply to the Project regardless of the reason for their adoption.

Approximately 0.4-mile of the existing Missouri Flat-Gold Hill Line traverses the southern portion of the BLM-administered Pine Hill Preserve, and reconductoring and pole replacement would occur within PG&E's existing ROW. Additionally, portions of the existing, unpaved Calderwood Road and Wild Chaparral Drive within the Preserve would be improved as described in Table 2-2 and shown in Figure 2-8. As noted in *Section 3.10.2, Regulatory Setting*, the BLM has adopted the Pine Hill Preserve Management Plan for the purpose of avoiding or mitigating adverse effects to rare plants and/or their habitat in the preserve. PG&E would implement APM BIO-5, which includes measures to minimize impacts on rare plant habitat during Project construction activities and provides for the installation of locking gates to limit unauthorized access to the Preserve, consistent with BLM management objectives for the Preserve. Accordingly, the Project would not conflict with any relevant land use plan, policy, or regulation of an agency with jurisdiction over the project.

c) Whether the Project would conflict with any applicable habitat conservation plan or natural community conservation plan: *NO IMPACT*.

As discussed in *Section 3.10.2, Regulatory Setting*, no habitat conservation plan or natural community conservation plan has been adopted in the Project area. Therefore, no such plan would apply to the Project and the Project would not conflict with any such plan. Accordingly, the Project would have no impact on any applicable habitat conservation plan or natural community conservation plan.

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3.11 Mineral Resources

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
11. MINERAL RESOURCES—Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
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?	☐	☐	☐	☒

This section identifies mineral resources near the Project alignment, describes regulations relevant to mineral resources that apply to the Project, and assesses Project impacts to mineral resources. All except an approximately 0.4 mile portion of the proposed alignment would be located within existing PG&E easements, which are not currently available for mineral resource extraction. The remaining 0.4 mile portion crosses a parcel in the Pine Hill Preserve, managed by the BLM.

3.11.1 Environmental Setting

Existing Mineral Resources

Minerals are naturally occurring chemical elements or compounds, or groups of elements or compounds, formed from inorganic processes and organic substances. Naturally occurring concentrations of minerals in the earth's crust are known as mineral deposits. Mineral resources are mineral deposits of which the economic extraction of a commodity (such as gold or copper) from the deposit is currently potentially feasible. In addition to metallic minerals, materials used for construction (e.g., sand and aggregate), industrial and chemical processes (e.g., salt), and fuel (e.g., oil) can be considered mineral resources in California.

Locations of past and current mining activity as well as the presence of geologic materials that can be mined both can be used to assess the potential mineral resources at a site. The Project is located in western El Dorado and eastern Sacramento counties, an area which was extensively mined during the California gold rush of the mid-19th century. Many active and historic mines have been staked in western El Dorado County since the gold rush. In addition to gold, notable deposits of chromite, copper, precious-metal-bearing sulfides, and limestone have been identified in the area (Busch, 2001; Loyd, 1984; Loyd et al., 1983).

Multiple sources of information were consulted to determine the presence of mineral resources within or near the Project alignment. The Mineral Resources Data System (MRDS), administered by the U.S. Geological Survey (USGS), provides data describing metallic and nonmetallic mineral resources, including deposit name, location, commodity, deposit description, production status and references. To confirm the presence/absence of existing surface mines, closed mines, occurrences/prospects, and unknown/undefined mineral resources within the study area, the

MRDS online database was reviewed (USGS, 2005). Mining claims recorded by the BLM were reviewed as well, as a 0.4-mile portion of the Project alignment would cross BLM land currently held as part of the Pine Hill Preserve. Maps created by the California Geological Survey (CGS; formerly the Division of Mines and Geology), designed to protect mineral resources in California by classifying the regional significance of mineral resources, were also reviewed.

Due to the long history of mining in the area, there are nearly two dozen records of mining activity within 1 mile of the Project (USGS, 2005); however, only one of these sites is currently active. This site is the Marble Valley Quarry, a producer of crushed and broken stone from a surface mining operation located south of the Project alignment. The four BLM mining claims that have been made in the vicinity of the Project have been closed since 1992 (BLM, 2014).

The land within and surrounding the Project alignment in Sacramento County is classified as an area of undetermined mineral resource significance where Portland cement is known or inferred to occur, but has otherwise not been classified and is not an aggregate resource area (i.e., as MRZ-3 in the California Mineral Land Classification System described below) (Dupras, 1999). Within El Dorado County, portions of the Project alignment cross through some areas classified the same way but for gold deposits rather than Portland cement, and other areas classified as areas of unknown mineral resource significance for gold deposits formed by various geologic processes where there is no known occurrence of gold (i.e., as MRZ-4 in the California Mineral Land Classification System described below). No aggregate resource areas are identified along the Project alignment (Busch, 2001).

Oil, Gas, and Geothermal Resources

The California Division of Oil, Gas, and Geothermal Resources (DOGGR) oversees the drilling, operation, maintenance, and plugging and abandonment of oil, natural gas, and geothermal wells in California, and tracks every known oil and gas well and field in the state. Maps maintained by DOGGR indicate that the Project alignment is not located on a known oil or gas field, and that oil and gas wells that were drilled within 10 miles of the Project alignment have been plugged for at least 30 years (DOGGR, 2014).

3.11.2 Regulatory Setting

Regulations that apply to mineral resources in the Project area are discussed below.

Federal

The BLM administers mining on federal lands under multiple mining laws. These laws include the General Mining Law of 1872, various Mineral Leasing acts, the Materials Act of 1947, and the Federal Land Policy and Management Act of 1976, and apply to mineral deposits on Federal lands that are open for mineral entry. Areas closed from mineral entry are withdrawn from the operation of the federal mining laws. Mining claims may not be staked in areas closed to mineral entry by a special act of Congress, regulation, or public land order. Areas that are closed from mineral entry include National Parks, National Monuments, Indian reservations, most reclamation projects, military reservations, scientific testing areas, and most wildlife protection areas. The BLM also can apply other special designations to lands under its management from which

mineral entry could be withdrawn. The Sierra Resource Management Plan (RMP), prepared by the Mother Lode (Folsom) BLM Field Office to guide management of all public lands under the jurisdiction of the Mother Lode Field Office, designates the Pine Hill Preserve as an area of critical environmental concern (ACEC) (BLM, 2008). The RMP recommends that locatable mineral entry be withdrawn for lands with special designations, including the Pine Hill Preserve, and that collection of salable minerals be prohibited in the Pine Hill Preserve and other ACECs. Mineral leasing is allowed in RMP-designated ACECs under the No Surface Occupancy Stipulation, which prohibits surface occupancy or use related to mining operations.

State

Surface Mining and Reclamation Act

The Surface Mining and Reclamation Act of 1975 (SMARA) (Pub. Res. Code §§2710-2796) and its implementing regulations (14 Cal. Code Regs. §3500 et seq.) establish a comprehensive state policy for the conduct of surface mining operations and for the reclamation of mined lands to a usable condition that is readily adaptable for alternative land uses. SMARA encourages the production, conservation, and protection of the state's mineral resources and recognizes that "the state's mineral resources are vital, finite, and important natural resources and the responsible protection and development of these mineral resources is vital to a sustainable California" (Pub. Res. Code §2711). Under SMARA, the term "minerals" includes "any naturally occurring chemical element or compound, or groups of elements and compounds, formed from inorganic processes and organic substances, including, but not limited to, coal, peat, and bituminous rock, but excluding geothermal resources, natural gas, and petroleum" (14 Cal. Code Regs. §3501).

The CGS maps and regulates the locations of potential mineral resources in California consistent with SMARA. In order to protect these potential mineral resources, the CGS has classified the regional significance of mineral resources into Mineral Resource Zones (MRZs) and mapped them. Descriptions of the MRZ categories are provided in **Table 3.11-1**.

TABLE 3.11-1
CALIFORNIA MINERAL LAND CLASSIFICATION SYSTEM CATEGORY DESCRIPTIONS

Mineral Resource Zone Category	Category Description	
MRZ-1	*Areas of No Mineral Resource Significance*	
MRZ-2a	Demonstrated Reserves	*Areas of Identified Mineral Resource Significance*
MRZ-2b	Inferred Resources	
MRZ-3a	Known Mineral Occurrence	*Areas of Undetermined Mineral Resource Significance*
MRZ-3b	Inferred Mineral Occurrence	
MRZ-4	No Known Mineral Occurrence	*Areas of Unknown Mineral Resource Significance*

SOURCE: CDMG, nd.

Local

Local governments generally regulate mineral resources and mining within their jurisdictions pursuant to their General Plan and local surface mining ordinances. However, because the State Mining and Geology Board relieved El Dorado County of its SMARA lead agency duties in 2001 (SMGB, 2001), there currently is no local regulation of surface mining in El Dorado County. By contrast, Sacramento County regulates surface mining via the implementation of Title 20 Chapter 20.04 of the Sacramento County Code and the City of Folsom regulates surface mining via the implementation of Chapter 17.97 of its municipal code.

3.11.3 Applicant Proposed Measures

No APMs have been proposed to address mineral resources.

3.11.4 Environmental Impacts and Mitigation Measures

To evaluate potential impacts of the Project on mineral resources, the locations of Project components were compared with maps of known mineral resources of value to the state, region, and local jurisdictions to determine whether Project components would occur on or otherwise limit access to these resources. The outcomes of this analysis are described below.

a) Whether the Project would result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state: *NO IMPACT*.

As described in *Section 3.11.1, Environmental Setting*, no known mineral resources are mapped along the Project alignment (these would be mapped as MRZ-2 based on the California mineral land classification system category descriptions provided in Table 3.11-1). A segment of the line crosses through a mineral occurrence of undetermined significance south of Cameron Park; however, due to the mineral use restrictions along the PG&E easement and on the BLM land crossed by this segment, access to this mineral occurrence of undetermined significance is already limited. Furthermore, permanent Project structures along this segment would be limited to poles and electrical lines, which would not substantially block physical access to this inferred mineral occurrence. In addition, rock underlying the Project alignment is not the type of material generally used for aggregate (sand, gravel, and crushed stone used for roads and other construction). Access to and availability of known mineral resources that would be of value to the region and the residents of the state would not be substantially lost as a result of the Project. There would be no impact of the Project on availability of mineral resources valuable to the region or residents of the state.

b) Whether the Project would result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan: *NO IMPACT*.

The Project alignment does not intersect any mineral resource recovery sites identified in local land use plans. For this reason, the Project would not impact the availability of locally important mineral resources from an identified resource recovery site.

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3.12 Noise

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

3.12.1 Environmental Setting

General Information on Noise

Noise Background

Sound is mechanical energy transmitted by pressure waves through a medium such as air. Noise can be defined as unwanted sound. Sound is characterized by various parameters that include the rate of oscillation of sound waves (frequency), the speed of propagation, and the pressure level or energy content (amplitude). In particular, the sound pressure level has become the most common descriptor used to characterize the loudness of an ambient sound level. Sound pressure level is measured in decibels (dB), with zero dB corresponding roughly to the threshold of human hearing and 120 to 140 dB corresponding to the threshold of pain.

Sound pressure fluctuations can be measured in units of hertz (Hz), which correspond to the frequency of a particular sound. Typically, sound does not consist of a single frequency, but rather a broad band of frequencies varying in levels of magnitude (sound power). When all the audible frequencies of a sound are measured, a sound spectrum is plotted consisting of a range of frequency spanning 20 to 20,000 Hz. The sound pressure level, therefore, constitutes the additive force exerted by a sound corresponding to the sound frequency/sound power level spectrum.

The typical human ear is not equally sensitive to all frequencies of the audible sound spectrum. As a consequence, when assessing potential Noise impacts, sound is measured using an electronic filter that de-emphasizes the frequencies below 1,000 Hz and above 5,000 Hz in a manner corresponding to the human ear's decreased sensitivity to low and extremely high frequencies instead of the frequency mid-range. This method of frequency weighting is referred to as A-weighting and is expressed in units of A-weighted decibels (dBA).

Noise Exposure and Community Noise

An individual's noise exposure is a measure of the noise experienced by the individual over a period of time. A noise level is a measure of noise at a given instant in time. However, noise levels rarely persist consistently over a long period of time. In fact, community noise varies continuously with time with respect to the contributing sound sources of the community noise environment. Community noise is primarily the product of many distant noise sources, which constitute a relatively stable background noise exposure, with the individual contributors unidentifiable. Background noise levels change throughout a typical day, but do so gradually, corresponding with the addition and subtraction of distant noise sources and atmospheric conditions. The addition of short duration single event noise sources (e.g., aircraft flyovers, horns, sirens) makes community noise constantly variable throughout a day.

These successive additions of sound to the community noise environment vary the community noise level from instant to instant requiring the measurement of noise exposure over a period of time to legitimately characterize a community noise environment and evaluate cumulative noise impacts. This time-varying characteristic of environmental noise is described using statistical noise descriptors. Noise descriptors discussed in this analysis are summarized below:

L_{eq}: The equivalent sound level is used to describe noise over a specified period of time, in terms of a single numerical value. The L_{eq} is the constant sound level which would contain the same acoustic energy as the varying sound level, during the same time period (i.e., the average noise exposure level for the given time period).

DNL: The day-night noise level (DNL; also referred to as L_{dn}) or the energy average of the A-weighted sound levels occurring during a 24-hour period and which accounts for the greater sensitivity of most people to nighttime noise by weighting noise levels at night ("penalizing" nighttime noises). Noise between 10:00 p.m. and 7:00 a.m. is weighted (penalized) by adding 10 dBA to take into account the greater annoyance of nighttime noises.

CNEL: Similar to the L_{dn}, the Community Noise Equivalent Level (CNEL) adds a 5-dBA *penalty* for the evening hours between 7:00 p.m. and 10:00 p.m. in addition to a 10-dBA penalty between the hours of 10:00 p.m. and 7:00 a.m.

L_x: The sound level that is equaled or exceeded x percent of a specified time period. The L_{50} represents the median sound level (i.e., the noise level exceeded 50 percent of the time, or 30 minutes out of an hour).

L_{max}: The instantaneous maximum noise level measured during the measurement period of interest.

Effects of Noise on People

There is no universally acceptable way to measure the subjective effects of noise, or the corresponding reactions of annoyance and dissatisfaction. A wide variation exists in the individual thresholds of annoyance and different tolerances to noise tend to develop based on an individual's past experiences with noise. Thus, an important way of predicting a human reaction to a new noise environment is the way the new noise compares to the existing noise levels to which one has adapted: the so called "ambient noise" level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise would be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships occur:

- Except in carefully controlled laboratory experiments, a change of 1-dBA cannot be perceived;
- Outside of the laboratory, a 3-dBA change is considered a just-perceivable difference when the change in noise is perceived but does not cause a human response;
- A change in level of at least 5-dBA is required before any noticeable change in human response would be expected; and
- A 10-dBA change is subjectively heard as approximately a doubling in loudness and can cause an adverse response.

These relationships occur in part because of the logarithmic nature of sound and the decibel system. A ruler is a linear scale: it has marks on it corresponding to equal quantities of distance. One way of expressing this is to say that the ratio of successive intervals is equal to one. A logarithmic scale is different in that the ratio of successive intervals is not equal to one. Each interval on a logarithmic scale is some common factor larger than the previous interval. A typical ratio is 10, so that the marks on the scale read: 1, 10, 100, 1,000, 10,000, etc., doubling the variable plotted on the x-axis. The human ear perceives sound in a non-linear fashion; hence, the decibel scale was developed. Because the decibel scale is based on logarithms, two noise sources do not combine in a simple additive fashion, rather they combine logarithmically. For example, if two identical noise sources produce noise levels of 50 dBA, the combined sound level would be 53 dBA, not 100 dBA.

Noise Attenuation

Sound level naturally decreases with more distance from the source. This basic attenuation rate is referred to as the *geometric spreading loss*. The basic rate of geometric spreading loss depends on whether a given noise source can be characterized as a point source or a line source. Point sources of noise, including stationary mobile sources such as idling vehicles or on-site construction equipment, attenuate (lessen) at a rate of 6.0 dBA per doubling of distance from the source. In many cases, noise attenuation from a point source increases by 1.5 dBA from 6.0 dBA to 7.5 dBA for each doubling of distance due to ground absorption and reflective wave canceling. These factors are collectively referred to as *excess ground attenuation*. The basic geometric spreading loss rate is used where the ground surface between a noise source and a receiver is reflective, such as parking lots or a smooth body of water. The excess ground attenuation rate (7.5 dBA per doubling of distance) is used where the ground surface is absorptive, such as soft dirt, grass, or scattered bushes and trees.

Widely distributed noises such as a street with moving vehicles (a "line" source) typically would attenuate at a lower rate of approximately 3.0 dBA for each doubling of distance between the source and the receiver. If the ground surface between source and receiver is absorptive rather than reflective, the nominal rate increases by 1.5 dBA to 4.5 dBA for each doubling of distance. Atmospheric effects, such as wind and temperature gradients, can also influence noise attenuation rates from both line and point sources of noise. However, unlike ground attenuation, atmospheric effects are constantly changing and difficult to predict.

Vibration

Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings. The root mean square (RMS) amplitude is most frequently used to describe the effect of vibration on the human body. The RMS amplitude is the average of the squared amplitude of the signal. Typically, ground-borne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration (FTA, 2006).

Existing Ambient Noise Environment

The Project would primarily be located between the community of Shingle Springs in western El Dorado County and the City of Folsom in northeastern Sacramento County. Land uses along the alignment consist primarily of residential areas interspersed with light-industrial development in the unincorporated communities of Shingle Springs, Cameron Park, and El Dorado Hills, and in the City of Folsom. Areas of undeveloped rolling grasslands and oak woodlands exist along portions of the alignment between these populated communities.

Sensitive Receptors

Human response to noise varies considerably from one individual to another. Effects of noise at various levels can include interference with sleep, concentration, and communication, and can cause physiological and psychological stress and hearing loss. Given these effects, some land uses are considered more sensitive to ambient noise levels than others. In general, residences, schools, hotels, hospitals, and nursing homes are considered to be the most sensitive to noise. Places such as churches, libraries, and cemeteries, where people tend to pray, study, and/or contemplate are also sensitive to noise. Commercial and industrial uses are considered the least noise-sensitive.

The Project would largely be located within the existing PG&E right-of-way and would traverse adjacent to residential, light industrial, and open space land uses. There are nearly 100 residences located within 50 feet of the reconductoring alignments and nearly 900 residences within 500 feet of the segment alignments. Other noise sensitive receptors in the Project area include various churches/places of worship and schools.

Ambient Noise Conditions

The main contributor to the study area noise environment is vehicle traffic noise. Major roadways in the study area include U.S. Highway 50 (U.S. 50), which is adjacent to the majority of the Project reconductoring alignments, Crazy Horse Road in the community of Cameron Park, Silva Valley Parkway in the community of El Dorado Hills, and Broadstone Parkway and Scholar Way in the City of Folsom. The primary existing vehicle noise source in the Project area is traffic along U.S. 50. Because traffic along U.S. 50 is the dominant noise source in the Project area, ambient noise levels were estimated using the Federal Highway Administration's (FHWA) Noise Prediction Model algorithms (ESA, 2014) to characterize ambient noise conditions at various sensitive receptor locations adjacent to the proposed power line segments.

The model uses Calveno reference noise factors for automobiles, medium trucks, and heavy trucks, with consideration given to vehicle trip volume, speed, distance to the receiver, and the acoustical characteristics of the site. The trip volume estimates are based on California Department of Transportation (Caltrans) 2012 daily and peak hour traffic count data for U.S. 50 (see Table 3.16-1 in Section 3.16, *Transportation and Traffic*) as well as Caltrans annual average daily truck traffic data for 2012, which indicates that traffic along the stretch of U.S. 50 in the vicinity of proposed Project is comprised of approximately 94 percent automobiles, 3 percent medium trucks, and 3 percent heavy trucks (Caltrans, 2014). To model the lowest traffic noise hourly L_{eq}, it was assumed that the minimum daytime hourly trip volume along U.S. 50 is approximately 4.5 percent of the total daily traffic volume. The existing traffic noise was modeled assuming the average traffic speed along U.S 50 is 65 miles per hour. **Table 3.12-1** identifies the modeled ambient traffic noise in terms of the daytime hourly L_{eq} range. For illustrations of the modeled traffic noise receptor locations, refer to **Figures 3.12-1a** through **3.12-1c**.

TABLE 3.12-1
MODELED AMBIENT TRAFFIC NOISE LEVELS AT NEARBY RESIDENCES

Map No.	Modeled Receptor Location	Modeled Daytime (7:00 a.m. - 6:00 p.m.) Hourly L_{eq} (dBA)
1	East of landing zone, adjacent to the backyards of homes along Platt Circle	54.6 – 57.9
2	West of Finders Way, adjacent to backyards along Platt Circle	64.0 – 67.3
3	Merrychase Drive, adjacent to Camerado Springs Middle School	63.1 – 66.1
4	North of intersection of Deer Creek Road and Flying C Road, adjacent to rural residents	58.6 – 61.6
5	Northeast of intersection of Country Club Drive and Los Santos Drive, adjacent to residences	64.0 – 67.2
6	West of Shingle Springs Substation, north of Durock Road, adjacent to rural residences	64.8 – 68.0

NOTES: Modeled noise levels do not reflect topographical features that could partially shield traffic noise.

SOURCE: ESA, 2014.

Existing Features
- Substation
- Gold Hill No 1 (GH) 60 kV Power LIne Reconductoring
- Missouri Flat-Gold Hill (MF-GH) 115 kV Power Line Reconductoring

Existing Structures
- Lattice Steel Towers
- Tubular Steel Pole
- GH Wood Pole
- Distribution Wood Pole

Temporary Features*
- Guard Structure
- Staging Area
- Temporary Line Pole
- Helicopter Landing Zone
- Potential Pull Site

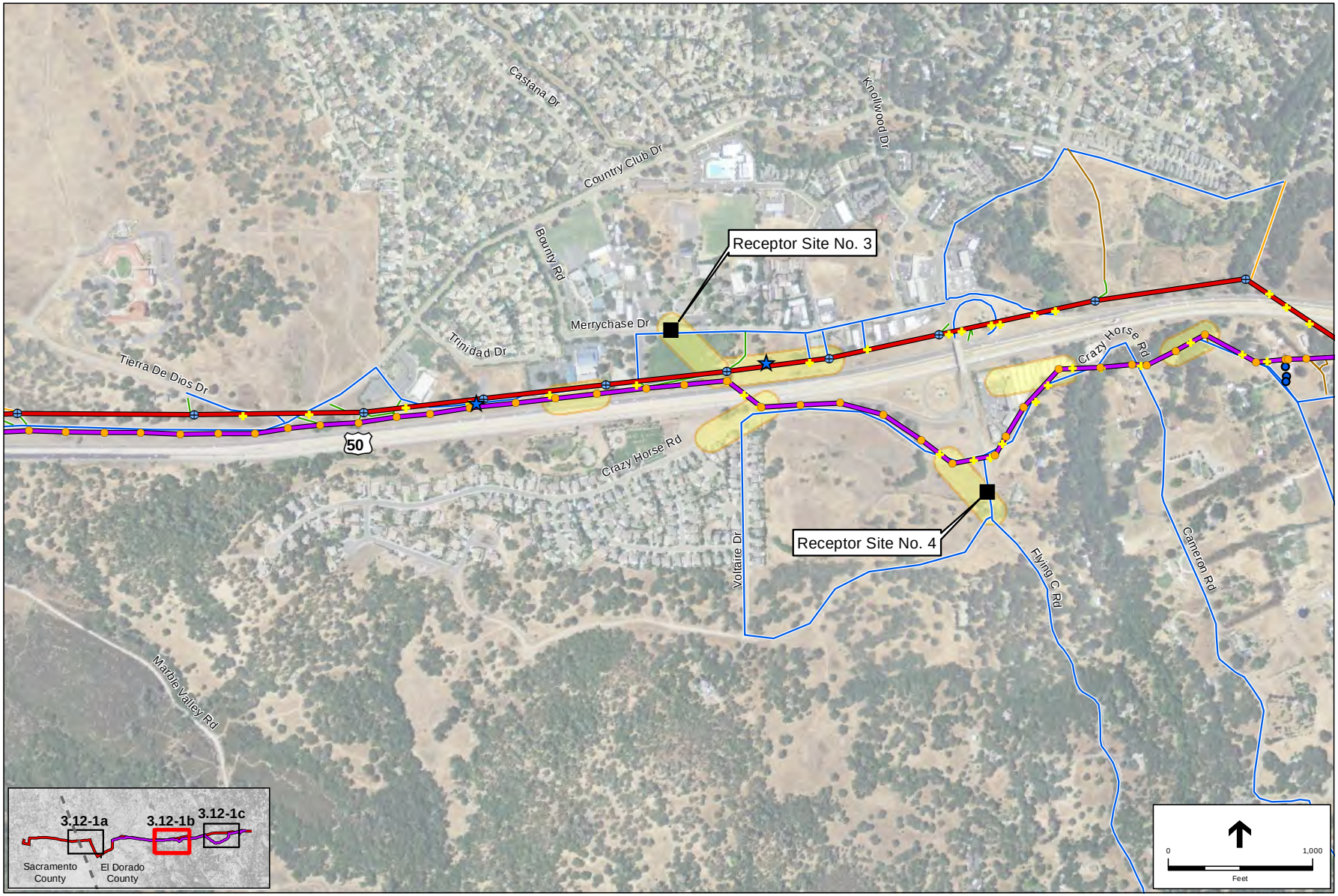
Access Routes
- Existing Dirt/Gravel Road
- Existing Paved Road
- Existing Unpaved Access Road Requiring Improvement
- New Unpaved Access Road
- Overland

* Based on preliminary design; locations are approximate and may be modified based on final design.

SOURCE: ESA, 2014

Missouri Flat Project . D207584.16

Figure 3.12-1a
Modeled Ambient Traffic Noise
Receptor Sites (Panel 1 of 3)



Existing Features
- Substation
- Gold Hill No 1 (GH) 60 kV Power LIne Reconductoring
- Missouri Flat-Gold Hill (MF-GH) 115 kV Power Line Reconductoring

Existing Structures
- Lattice Steel Towers
- Tubular Steel Pole
- GH Wood Pole
- Distribution Wood Pole

Temporary Features*
- Guard Structure
- Staging Area
- Temporary Line Pole
- Helicopter Landing Zone
- Potential Pull Site

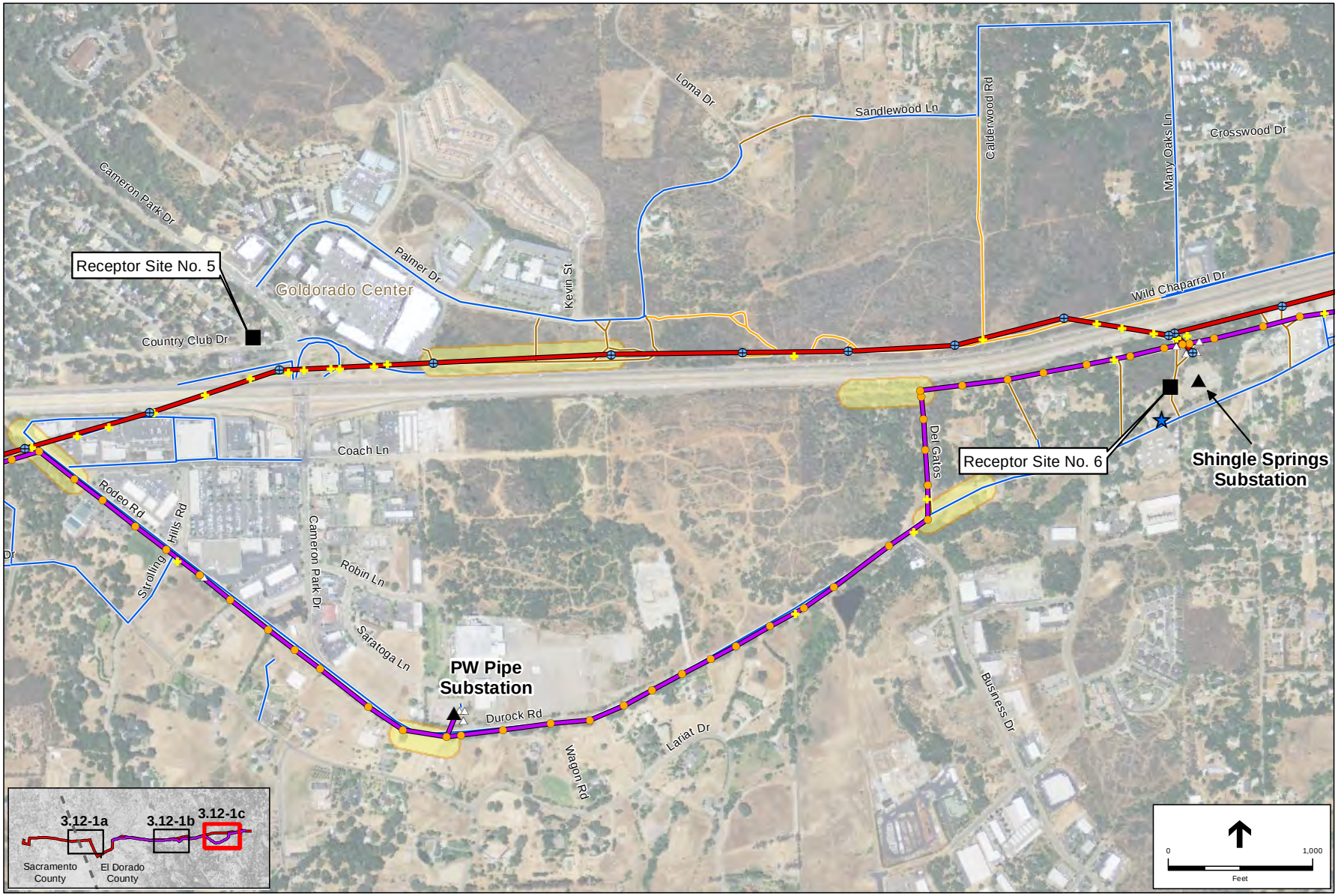
Access Routes
- Existing Dirt/Gravel Road
- Existing Paved Road
- Existing Unpaved Access Road Requiring Improvement
- New Unpaved Access Road
- Overland

* Based on preliminary design; locations are approximate and may be modified based on final design.

SOURCE: ESA, 2014

Missouri Flat Project . D207584.16

Figure 3.12-1b
Modeled Ambient Traffic Noise
Receptor Sites (Panel 2 of 3)



Existing Features
- Substation
- Gold Hill No 1 (GH) 60 kV Power LIne Reconductoring
- Missouri Flat-Gold Hill (MF-GH) 115 kV Power Line Reconductoring

Existing Structures
- Lattice Steel Towers
- Tubular Steel Pole
- GH Wood Pole
- Distribution Wood Pole

Temporary Features*
- Guard Structure
- Staging Area
- Temporary Line Pole
- Helicopter Landing Zone
- Potential Pull Site

Access Routes
- Existing Dirt/Gravel Road
- Existing Paved Road
- Existing Unpaved Access Road Requiring Improvement
- New Unpaved Access Road
- Overland

* Based on preliminary design; locations are approximate and may be modified based on final design.

SOURCE: ESA, 2014

Missouri Flat Project . D207584.16

Figure 3.12-1c
Modeled Ambient Traffic Noise Receptor Sites (Panel 3 of 3)

As summarized in Table 3.12-1, ambient traffic noise levels at residences near U.S. 50 in the vicinity of the proposed Project alignments are moderate to high with hourly L_{eq} traffic noise levels that range from approximately 55 dBA mid-morning to 68 dBA in the early afternoon. The residential neighborhoods adjacent to the proposed routes that are setback from U.S. 50 and other major roadways are less dominated by vehicle traffic noise sources, and can generally be characterized by moderate (e.g., 50 dBA to 60 dBA range) daytime ambient noise levels. To a lesser extent, aircraft overflights also contribute to the ambient noise environment in the Project area. Cameron Airpark is located approximately 1.8 miles north of the project alignment, just northwest of the Cameron Park Drive and Meder Road intersection; however, the Project segments are outside of the CNEL 55 dBA airport noise contour (EDC ALUC, 2012).

3.12.2 Regulatory Setting

Federal, State, and local agencies regulate different aspects of environmental noise. Federal and State agencies generally set noise standards for mobile sources such as aircraft and motor vehicles, and are not directly relevant to this environmental review, while regulation of stationary sources and development of land use noise compatibility policy is left to local agencies. Local regulation of noise involves implementation of general plan policies and noise ordinance standards. Local general plans tend to identify general principles intended to guide and influence development plans; local noise ordinances and codes establish standards and procedures for addressing specific noise sources and activities. Below are the regulatory settings for El Dorado County and City of Folsom, which are the local agencies with jurisdiction in the Project area.

El Dorado County

The *El Dorado County General Plan Public Health, Safety, and Noise Element* outlines policies pertaining to noise generation and defines acceptable noise levels for various land use categories. Noise standards for new uses with non-transportation noise sources are regulated by maximum allowable noise exposure levels at residential land uses, which depending on the density of the exposed residences, limits the L_{eq} to 50 dB or 55 dB during daytime hours (7 a.m. to 7 p.m.), 45 dB or 50 dB during evening hours (7 p.m. to 10 p.m.), and 40 dB or 45 dB during nighttime hours (10 p.m. to 7 a.m.), and limits the L_{max} to 75 dB or 60 dB during daytime hours, 65 dB or 55 dB during evening hours, and 60 dB, 55 dB, or 50 dB during nighttime hours. Pursuant to Policy 6.5.1.11, the maximum allowable noise exposure levels are applicable to construction activities as long as such construction occurs between the hours of 7:00 a.m. and 7:00 p.m., Monday through Friday, and 8:00 a.m. and 5:00 p.m. on weekends, and on federally-recognized holidays; however, *Public Health, Safety, and Noise Element* Table 6-2 indicates that since control of noise from non-transportation regulated public facilities are regulated by CPUC, such non-transportation facilities are not subject to local regulations (El Dorado County, 2009). The El Dorado County Municipal Code does not contain noise regulations that would be applicable to the Project.

The Project alignment would traverse through the Airport Influence Area, as identified in the Cameron Airpark Airport Land Use Compatibility Plan (ALUCP). The plan establishes airport compatibility criteria that all new developments must follow. However, the Project would not be

located within identified safety zones and there are no airport compatibility measures in the Cameron Airpark ALUCP that would apply to the Project (see *Section 3.10, Land Use and Planning*, for more information relative to the ALUCP).

City of Folsom

The *City of Folsom General Plan's* Noise Element contains policies that define maximum allowable exterior noise level standards for non-transportation noise sources. For an hourly noise metric, the maximum allowable exterior noise levels at residential uses range from an L_{50} of 50 dBA during daytime hours (7 a.m. to 10 p.m.) to 45 dBA during nighttime hours (10 p.m. to 7 a.m.) to an L_{max} of 70 dBA during daytime hours and 65 dBA during nighttime hours. The City of Folsom Municipal Code Section 8.42 contains exterior noise level standards that are consistent with the Noise Element standards described above. However, Section 8.42.060 of the City of Folsom Municipal Code provides an exemption from these standards for construction activities provided that such activities do not take place before 7 a.m. or after 6 p.m. Monday through Friday, or before 8 a.m. or after 5 p.m. on Saturday or Sunday (City of Folsom, 2014).

3.12.3 Applicant Proposed Measures

PG&E proposes the following applicant proposed measures (APMs) to minimize impacts related to noise. This impact analysis assumes these APMs would be implemented as part of the Project.

APM NO~~I~~-1: Minimize Noise-Related Disruption by Notifying Residents

Should nighttime project construction be necessary because of planned clearance restrictions, affected residents will be notified at least 7 days in advance by mail, personal visit, or door hanger and informed of the expected work schedule.

APM NO~~I~~-2: Minimize Noise with Portable Barriers

Compressors and other small stationary equipment used during project construction will be shielded with portable barriers if the equipment is located near noise-sensitive receptors.

3.12.4 Environmental Impacts and Mitigation Measures

a) Result in exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies: *LESS THAN SIGNIFICANT WITH MITIGATION*.

Construction

The *El Dorado County General Plan* and the *City of Folsom General Plan* and Municipal Code identify maximum allowable noise exposure levels at residential land uses for new uses with non-transportation noise sources (see Section 3.12.2, *Regulatory Setting*). However, the *El Dorado County General Plan* states that control of noise from non-transportation facilities regulated by CPUC are not subject to local regulations. Because construction of the Project would be subject to CPUC regulations, it is assumed that El Dorado County would not consider construction of the Project to be applicable to its exterior noise standards for non-transportation sources. In addition, the City of Folsom Municipal Code provides an exemption from the

established noise standards for construction activities taking place between the hours of 7:00 a.m. and 6:00 p.m. Monday through Friday and between the hours of 8:00 a.m. and 5:00 p.m. on Saturday or Sunday.

As indicated in *Chapter 2, Project Description*, construction would generally be limited to daytime hours (7:00 a.m. to 6:00 p.m.); however, infrequent instances may make it necessary for PG&E to work during nighttime hours for safety reasons or clearance reasons. As mentioned above, construction activities in the City of Folsom would be exempt from the City's exterior noise standards if construction activities would be limited to daytime hours; however, it may be necessary for construction activities to occur during nighttime hours for safety reasons or for line clearance reasons and the Project Description does not indicate any hourly construction activity restrictions for the weekend. Nighttime construction activities could conflict with the construction hour limitations set by the City of Folsom, resulting in a potentially significant impact; however, implementation of **Mitigation Measures 3.12-1 and 3.12-2** would ensure that any nighttime construction noise-related impacts would be reduced to a less-than-significant level.

Operation and Maintenance

Long-term operation and maintenance that would be associated with the Project would not increase noise levels relative to baseline conditions; therefore, long-term operation and maintenance of the Project would not result in noise levels in excess of existing local standards. For information relative to long-term noise that would be associated with the Project, refer to discussion c), below.

> **Mitigation Measure 3.12-1:** Construction activity shall be limited to between the hours of 7:00 a.m. and 6:00 p.m., Monday through Friday, and 8:00 a.m. and 5:00 p.m. on weekends, and on federally-recognized holidays, except with CPUC approval to conduct certain work during electrical line clearances pursuant to Mitigation Measure 3.12-2, or where necessary to ensure worker safety.
>
> **Mitigation Measure 3.12-2:** In the event that limited nighttime (i.e., between 6:00 p.m. and 7:00 a.m.) construction activity is determined to be necessary for safety reasons or for line clearance reasons within 500 feet of an occupied residential dwelling unit, a nighttime noise reduction plan shall be developed by PG&E and submitted to the CPUC for review and approval at least 30 days prior to commencement of construction activities. The noise reduction plan shall include a set of site-specific noise attenuation measures that apply state of the art noise reduction technology to ensure that nighttime construction noise levels and associated nuisance are reduced. The measures shall include, but not be limited to, the control strategies and methods for implementation that are listed below.
>
> - Plan construction activities to minimize the amount of nighttime construction.
> - Provide notice to all residences within 500 feet of planned nighttime construction activities that includes the specific night(s) and approximate timeframe when construction activities would occur.
> - Offer temporary relocation of residents within 200 feet of nighttime construction activities that would occur after 10:00 p.m.

- Temporary noise barriers, such as acoustical shields and/or blankets, shall be installed immediately adjacent to all nighttime stationary noise sources (e.g., generators, pumps) that block the line of sound between nighttime activities and the closest residences.

Significance after Mitigation: Less than Significant.

b) Result in exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels: *LESS THAN SIGNIFICANT*.

Construction

Some types of construction equipment can produce vibration levels that can cause architectural damage to structures and be annoying to nearby sensitive receptors. Vibration levels generated during construction of the Project would vary during the construction period, depending upon the construction activity and the types of construction equipment used. Typical vibration levels for the construction equipment types that would generally result in the highest vibration levels (e.g., drill rig, large bulldozers) are presented in **Table 3.12-2**.

TABLE 3.12-2
VIBRATION SOURCE LEVELS FROM CONSTRUCTION EQUIPMENT

	Peak Particle Velocity (in/sec)
Distance (feet)	**Drill Rig, Large Bulldozer**
50	0.031
75	0.017
100	0.011
150	0.006

SOURCE: FTA, 2006.

Because a numerical threshold to identify the point at which a vibration impact occurs has not been identified by the applicable local jurisdictions, this analysis relies on a peak PPV threshold identified by Caltrans to determine the significance of vibration impacts related to adverse human reaction and risk of architectural damage to normal buildings. The PPV threshold is 0.20 in/sec (Caltrans, 2004). This PPV level has been found to be annoying to people in buildings and can pose a risk of architectural damage to buildings.

The nearest residences would be as close as 50 feet to active Project construction equipment. At this distance, construction equipment PPV levels would be as high as 0.031 in/sec, which would be less than the 0.20 in/sec significance threshold. Therefore, short-term construction-related vibration impacts would be less than significant.

Operations and Maintenance

Operation and maintenance of the Project would not introduce any new sources of groundborne vibration to the study area. There would be no long-term impact.

c) Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project: *NO IMPACT*.

The Project would not increase long-term noise relative to baseline noise levels associated operations of the substation and switching station modifications, power line corona noise, or maintenance activities.

The substation/switching station equipment that would be installed includes 115 kV circuit breakers, 115 kV switches, 115 kV potential transformers, bus hardware, conductor, and connections, and microprocessor relays. Audible substation noise is primarily generated by power transformers, which would not be replaced or installed as part of the Project. Noise levels for the circuit breakers, switches, and potential transformers proposed as part of the Project would be minimal and would be indistinguishable compared to existing equipment at the substations and switching station. Therefore, the Project would not result in higher noise levels in the vicinity of the substations and switching station compared to existing equipment. The proposed new power line conductor would replace existing conductor with the same voltage. Therefore, there would be no long-term increase in corona discharge noise associated with the Project. In addition, the Project would result in no change to the inspection schedule associated with the existing power lines, substations, and switching station. Therefore, there would be no long-term increase in noise levels associated with maintenance of the Project. Operation of the Project would not result in any long-term changes to the existing ambient noise conditions in the Project vicinity. Therefore, no impact would occur.

d) Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project: *LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED*.

Construction activities that would be associated with the Project would involve temporary noise sources that would increase ambient noise levels in the Project vicinity. Below are descriptions of the temporary noise sources that would be associated with the Project, followed by the overall impact conclusion for this criterion.

Construction Equipment. Construction of the Project would result in exposure of residential land uses to noise levels associated with operation of heavy duty construction equipment. Construction activities would require the use of excavators, graders, trenchers, front loaders, dump trucks, cranes, and augers, etc. Maximum noise levels from such equipment would be up to 85 dBA at 50 feet (FHWA, 2006). There would be approximately 100 residences within 50 feet of active Project construction activities. As part of the CPUC's permit application process, PG&E provided noise estimates for construction activities that would be associated with the Project. The CPUC's consultant, Environmental Science Associates (ESA), reviewed the noise level estimates and found them to be partially inaccurate and overly conservative. Therefore, ESA revised the noise estimates using the same assumptions and methods as used for the PG&E estimates, with the exception of the attenuation rate (ESA, 2014). To reflect absorptive surfaces, such as soft dirt, grass, and scattered bushes and trees that exist in the Project area, the ESA estimates use the excess ground attenuation rate. The PG&E estimates use the basic geometric spreading loss rate, which would be more appropriate for reflective ground surfaces, such as a paved lot or smooth water surface.

Noise at any one receptor location would be dominated by the closest and loudest equipment. The worst-case scenario assumes each piece of construction equipment would produce a reference noise level of 85 dB L_{max} at a distance of 50 feet and would be used 40 percent of the time. The analysis includes the assumptions that one piece of equipment would operate 50 feet away, two pieces of equipment would operate concurrently 100 feet away, and a maximum of four pieces of equipment would operate concurrently 200 feet away and beyond from any given sensitive receptor. **Table 3.12-3** summarizes the estimated construction noise levels that would occur at various distances based on this scenario.

TABLE 3.12-3
WORST-CASE NOISE LEVELS FROM CONSTRUCTION EQUIPMENT

Distance from Construction Activities (feet)	Hourly L_{max} (dBA)	Hourly L_{eq} (dBA)
50	85.0	81.0
100	80.5	76.5
200	76.0	72.0
400	68.4	64.5
800	60.9	56.9
1,600	53.4	49.4
3,200	45.9	41.9
6,400	38.3	34.4

SOURCE: ESA, 2014, based on PG&E, 2013.

Helicopter Activity. In addition to conventional construction equipment, the use of a helicopter would be required for a period of approximately 5 days for one of the proposed tower modifications, located approximately 800 feet northwest of the intersection of Broadstone Parkway and Empire Ranch Road. Noise from the helicopter would be substantial at the tower location, along the flight path, and at the helicopter landing zone, which would be as close as 200 feet from the nearest residential receptors. Helicopter noise levels during takeoff, approach, and level flyover would be 85 dBA, 88 dBA, and 86 dBA L_{max}, respectively, with a lateral offset of approximately 500 feet and a helicopter altitude of approximately 400 feet above ground level (PG&E, 2013).[6] Assuming these reference noise levels, the closest residences to the helicopter landing site at 200 feet could be exposed to an L_{max} of up to 96.5 dBA, and an hourly L_{eq} of up to 86.5 dBA, assuming a reference noise level that represents an average of takeoff and approach noise levels with a usage rate of 10 percent. The closest residences to the tower modification site at 230 feet from the site could be exposed to an L_{max} of up to 93.2 dBA, and an hourly L_{eq} of up to 89.2 dBA, assuming a usage rate of 40 percent (ESA, 2014).

Corona Noise. Prior to reconductoring the 115 kV Missouri Flat-Gold Hill line, it would be necessary to convert the Gold Hill No. 1 60 kV line to 115 kV to temporarily provide power during construction. The temporary increase of the power line from 60 kV to 115 kV could slightly increase audible corona noise in the vicinity of the line. The term corona is used to

6 Takeoff and landing noise level data were collected at 492 feet from the side of the approach and departure centerline, assuming a 6-degree approach and departure flight paths and an altitude of 394 feet above ground level. The helicopter represented by these data is the Bell 212.

describe the breakdown of air into charged particles caused by the electrical field at the surface of a conductor. Audible noise levels generated by corona discharge vary depending on weather conditions as well as on the voltage and condition of the line. Wet weather conditions often increase corona discharge due to accumulation of raindrops, fog, frost, or condensation on the conductor surface, which causes surface irregularities thereby promoting corona discharge.

According to the Electric Power Research Institute (EPRI), corona noise levels 25 feet directly below 138 kV transmission lines (conductors) under wet conditions would be up to 37 dBA (EPRI, 1978). Temporary noise levels from the converted power line conductors would be expected to be lower as the voltage would be 115 kV rather than 138 kV; nevertheless, for the purpose of this analysis the noise level of 37 dB is used to represent the worst-case corona noise levels that would occur directly below the temporarily converted power line conductors.

Impact Conclusion

As stated Section 3.12.1, *Environmental Setting*, up to approximately 100 residences would be within 50 feet of the Project reconductoring alignments. Therefore, based on the noise levels presented in Table 3.12-3, it is reasonable to conclude that some residences along the alignments would be exposed to short-term noise of up to 85 dBA L_{max} and 81 dBA L_{eq}. In addition, residences that would be in the vicinity of the proposed helicopter activities could be exposed to noise levels of up to 97 dBA L_{max} and 89 dBA L_{eq}. Short-term noise levels associated with the converted power line conductors would be expected to be up to 37 dBA directly below the converted power line conductors.

As summarized in Table 3.12-1, ambient noise levels at residences near U.S. 50 in the vicinity of the proposed Project alignments are estimated to range from 55 dBA to 68 dBA L_{eq} and the residential neighborhoods adjacent to the proposed alignments that are setback from U.S. 50 and other major roadways can generally be characterized by 50 dBA to 60 dBA daytime ambient noise levels. Therefore, although the short-term increase in corona noise associated with the temporary conversion of the 65 kV line to 115 kV line would not likely be audible relative to ambient noise levels, Project-related construction equipment and helicopter noise would result in an increase in ambient noise levels at sensitive receptor locations in the vicinity of the Project. The Federal Transit Administration (FTA) has identified a daytime hourly L_{eq} level of 90 dBA as a noise level where adverse community reaction could occur associated with short-term construction activities (FTA, 2006). This level is used in this analysis to gauge whether short-term noise levels would represent a substantial increase in ambient noise levels that could cause a substantial nuisance to local sensitive receptors. Given that noise levels associated with helicopter activity would be up to 89 dBA L_{eq} at the closest residences, the associated increase in local noise levels would not be considered substantial; however, Project-related construction noise could be perceived by nearby residences as a substantial nuisance, potentially resulting in significant impacts.

Implementation of **Mitigation Measure 3.12-3** would require PG&E to implement noise-reducing practices during construction of the Project and **Mitigation Measures 3.12-4** and **3.12-5** would require PG&E to provide written notifications to noise-sensitive receptors in the vicinity of proposed construction sites, including the helicopter activity areas, that include the specific dates that activities will occur as well as descriptions the potential associated nuisances. Given that the

proposed construction activities would mostly occur in a linear fashion and the associated short-term nuisances at any given sensitive receptor location would primarily be limited to a period of several days to several weeks, the written notifications that would be required per Mitigation Measures 3.12-4 and 3.12-5 would allow people that would be exposed to adverse noise to plan activities to avoid a substantial nuisance if necessary. This nuisance-related impact would be mitigated to a less-than-significant level.

> **Mitigation Measure 3.12-3:** PG&E and/or the construction contractor shall employ noise-reducing practices during construction of the Project, including, but not necessarily limited to: locating equipment as far as practical from noise sensitive uses; requiring that all construction equipment powered by gasoline or diesel engines have sound-control devices that are at least as effective as those originally provided by the manufacturer; ensuring that all equipment be operated and maintained to minimize noise generation; and prohibiting gasoline or diesel engines from having unmuffled exhaust.
>
> **Mitigation Measure 3.12-4:** At least 30 days prior to the start of construction, PG&E or the construction contractor shall notify residences (and other noise-sensitive receptors) within 200 feet of the construction areas of the construction schedule and the associated potential nuisance in writing.
>
> **Mitigation Measure 3.12-5:** At least 30 days prior to the start of helicopter-related construction activities, written notifications shall be provided to residences and other noise-sensitive receptors within 500 feet of the helicopter landing zone, tower modification site, and flight path that include the specific dates and time of day that the helicopter-related activities are expected to occur.
>
> **Significance after Mitigation:** Less than Significant.

e) For a project located within an airport land use plan area, or, where such a plan has not been adopted, in an area within two miles of a public airport or public use airport, would the project expose people residing or working in the area to excessive noise levels: *NO IMPACT.*

The Project would be located approximately 1.3 miles south of the Cameron Airpark Airport. The El Dorado County Airport Land Use Compatibility Plan establishes a noise contour map for the Cameron Airpark Airport that represents the projected noise exposure of the area. The 55-dB contour is the outermost noise boundary, representing the area surrounding the airport with the lowest noise levels. The Project alignment is outside of the CNEL 55 dB airport noise contour and outside of the noise compatibility restrictions on land use. Therefore, aircraft activity associated with the Cameron Airpark Airport would not expose Project construction workers or maintenance workers to excess noise levels. There would be no impact.

f) For a project located in the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels: *NO IMPACT*.

The Project is not located within the vicinity of a private airstrip. Therefore, there would be no impact associated with this criterion.

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3.13 Population and Housing

Issues (and Supporting Information Sources):		*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
13.	**POPULATION AND HOUSING— Would the project:**				
a)	Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b)	Displace substantial numbers of existing housing units, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c)	Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

3.13.1 Environmental Setting

The Project would be constructed within El Dorado and Sacramento counties, within the communities of Shingle Springs, Cameron Park, and El Dorado Hills; and in the City of Folsom. The developed portions of the Project area are predominantly residential with some light-industrial and commercial development. Rolling grasslands and oak woodlands dominate the areas outside the existing communities.

Population

Table 3.13-1 summarizes historic and projected population growth from 2000 to 2020 for El Dorado County and Sacramento County as well as the City of Folsom. As demonstrated in the table, the population in these areas is expected to increase substantially over the next 20 years.

TABLE 3.13-1
HISTORIC AND PROJECTED POPULATION GROWTH, 2000 – 2020

Area	2000 Population	2010 Population	% Change 2000 - 2010	Projected 2020 Population	% Change 2010 - 2020
El Dorado County	156,299	181,058	15.8	203,095	12.2
Sacramento County	1,223,499	1,418,788	16.0	1,543,522	8.5
City of Folsom	51,884	72,203	39.2	81,060	12.3

SOURCE: U.S. Census Bureau, 2014; California Department of Finance, 2013b.

Housing

Table 3.13-2 depicts housing data for El Dorado County, Sacramento County, and the City of Folsom.

TABLE 3.13-2
2013 HOUSING DATA ESTIMATES

	Total Housing Units	Occupied Housing Units	Vacant Housing Units	Vacancy Rate (percent)
El Dorado County	88,495	70,496	17,999	20.3
Sacramento County	559,806	517,562	42,244	7.6
City of Folsom	26,526	25,350	1,176	4.4

SOURCE: California Department of Finance, 2013a.

3.13.2 Regulatory Setting

CEQA Guidelines Section 15126.2 requires a discussion of the ways in which a project could directly or indirectly foster economic development or population growth, and how that growth would, in turn, affect the surrounding environment. The El Dorado County and City of Folsom general plans do not include applicable goals, objectives, or policies related to population and housing that would apply to the Project.

3.13.3 Applicant Proposed Measures

The Project includes no APMs that focus on potential effects to population and housing.

3.13.4 Environmental Impacts and Mitigation Measures

a) Whether the Project would induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure): *LESS THAN SIGNIFICANT*.

The Project does not include new homes or businesses, and so would not directly induce substantial temporary or permanent population growth in the area. Accordingly, the Project would have no direct impact on population growth inducement.

The Project could have an indirect impact on the population growth inducement in the area if it encouraged people to move to the area to construct, operate, or maintain the Project. During the approximately 24-month construction period (summer 2015 through summer 2017), up to 45 construction workers would be employed during peak construction (see *Section 2.7.2, Construction Workforce and Equipment*). Construction would be performed by either PG&E construction crews or contractors who reside generally within El Dorado and Sacramento Counties or adjacent areas and would not require substantial number of workers to relocate to the area to complete the work. Operation and maintenance activities associated with the Project also would not result in a substantial increase in area residents, given that there are existing power lines in place and there are no changes to existing operation and maintenance activities anticipated as a result of Project implementation. Accordingly, the Project would have a less than significant indirect impact on population growth associated with the Project's temporary or permanent workforce.

The Project also could have an indirect impact on population growth inducement if it extends infrastructure into the area that could accommodate growth. The Project would replace existing infrastructure and conductor on the Missouri Flat-Gold Hill Line, but would not increase the voltage on this line. The Project also would temporarily convert the Gold Hill No. 1 line, an existing 60 kV power line, to 115 kV to provide power to customers during Project construction, and would return the Gold Hill No. 1 line to operating at 60 kV after completion of Project construction. The capacity of the Gold Hill No. 1 line would be increased but no plans have been identified to operate it at a higher voltage following completion of the Project. The Project would improve the reliability of the Missouri Flat-Gold Hill Line, and would therefore accommodate the planned 2 percent growth in El Dorado County by reducing the risk of overloading in the event of an outage on either circuit of the Missouri Flat-Gold Hill Line.

The Project's proposed improvement in the reliability of electrical services is consistent with development anticipated by plans and with El Dorado County's expected population growth. Furthermore, the availability of electrical capacity by itself does not normally induce growth within a particular area. Other factors such as economic conditions, land availability, population trends, availability of water supply or sewer services, and local planning policies have a more direct effect on growth. Accordingly, the Project would have a less than significant indirect impact on population growth associated with extension of infrastructure.

b) Whether the Project would displace substantial numbers of existing housing units, necessitating the construction of replacement housing elsewhere: *NO IMPACT*.

Because no housing units would be displaced by the Project, the construction of replacement housing would not be required. The Project would mostly traverse the existing PG&E rights-of-way along Highway 50 and through the city of Folsom and the communities of El Dorado Hills, Cameron Park, and Shingle Springs. The developed portions of the Project area are predominantly residential housing units with some light-industrial and commercial development; however, none of these units would be displaced as a result of Project implementation. No impact would occur.

c) Whether the Project would displace substantial numbers of people, necessitating the construction of replacement housing elsewhere: *NO IMPACT*.

As noted above, the Project would not displace any housing; it also would not displace people or any other structures that are currently occupied by people. Therefore, the Project would have no impact associated with the displacement of people or the construction of replacement housing.

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3.14 Public Services

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
14. PUBLIC SERVICES— Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:				
i) Fire protection?	☐	☐	☐	☒
ii) Police protection?	☐	☐	☐	☒
iii) Schools?	☐	☐	☐	☒
iv) Parks?	☐	☐	☐	☒
v) Other public facilities?	☐	☐	☐	☒

3.14.1 Environmental Setting

Fire Protection

Several agencies provide fire protection service in the Project area including the California Department of Forestry and Fire Protection (CAL FIRE), Cameron Park Fire Department, El Dorado County Fire District, El Dorado Hills Fire Department, and Folsom Fire Department.

CAL FIRE

In the Project area, the CAL FIRE Amador-El Dorado Unit operates CAL FIRE Station 43. Station 43 is located at 5560 Mother Lode Drive approximately 2.75 miles east of the Project alignment. The station is equipped with two frontline engines and a frontline dozer transport (CAL FIRE, 2014).

Cameron Park Fire Department

The Cameron Park Fire Department provides fire and emergency services to the unincorporated community of Cameron Park with assistance from CAL FIRE. This partnership has supported the Cameron Park Fire Department by increasing the availability of chief officers and station personnel, as well as fire engines, bull dozers, hand crews, and aircraft. The Cameron Park Fire Department operates out of two CAL FIRE stations. The nearest station to the Project is Fire Station 89, located at 3200 Country Club Drive in Cameron Park, approximately 0.15 mile north of the Project alignment (Cameron Park Community Services District, 2014a). This station is equipped with a Type III engine as well as a reserve Type I engine and reserve Medic Unit (CAL FIRE, 2014). The Cameron Park Fire Department has 54 employees, of which approximately 30 are volunteers (Cameron Park Community Services District, 2014a).

El Dorado County Fire District

The El Dorado County Fire District provides fire protection to Shingle Springs, South Cameron Estates, Crazy Horse & Red Hawk Casino from Station 28, located at 3860 Ponderosa Road Shingle Springs, approximately 0.5 mile north of the Project alignment. Station 28 is continually staffed with an engine company including one Captain-EMT/Captain-Paramedic and two Firefighter-EMTs/Firefighter-Paramedics (El Dorado County Fire District, 2014).

El Dorado Hills Fire Department

El Dorado Hills Fire Department provides fire protection and emergency services in the community of El Dorado Hills. The Project would be served by Station 87, located at 4680 Golden Foothill Parkway El Dorado Hills, approximately 1.15 miles south of the Project alignment (El Dorado Hills Fire Department, 2014).

Folsom Fire Department

Within the City of Folsom, fire protection and emergency services are provided by the Folsom Fire Department. The Folsom Fire Department has four stations with the nearest to the Project being Station 37, located at 70 Clarksville Road, approximately 0.10 mile east of the Gold Hill Substation. Additional services provided by the department include fire suppression, rescue, prevention, public education, hazardous materials response, and emergency medical services (Folsom Fire Department, 2014).

Police Protection

El Dorado County Sheriff's Office

Law enforcement within El Dorado County is provided by the County Sheriff's office. The Sheriff's office is located in the Town of Placerville with substations in South Lake Tahoe and El Dorado Hills. The nearest Sheriff's Office substation to the Project is located at 4354 Town Center Drive, El Dorado Hills (El Dorado County Sheriff's Office, 2014).

City of Folsom Police Department

The City of Folsom Police Department is located at 46 Natoma Street, approximately 2.30 miles northwest of the Gold Hill Substation. The department employees 110 staff to provide protection and safety to the city's 70,000 residents. In addition, the Folsom Police Department divides the City of Folsom its patrol into four police beats. The Project lies within police beats three and four (City of Folsom, 2014a).

Schools and Libraries

School districts with schools that are located within approximately 0.5 mile of the Project alignment include Buckeye Union School District, El Dorado Union High School District, Los Rios Community College District and Folsom Cordova Unified School District (El Dorado County Office of Education, 2014). There are also two private schools in the Project area: Providence Christian School, and Holy Trinity School Ministry.

The El Dorado County Library has two branches in the Project area, including Cameron Park Library and El Dorado Hills Library (El Dorado County Library, 2014). The Folsom Public Library is also within the Project area (City of Folsom, 2014b).

Parks

Park departments or districts within the Project area include El Dorado Parks and Trails, Cameron Park Community Services District, and El Dorado Hills Community Services District (El Dorado County Parks and Trails, 2014; Cameron Park Community Services District, 2014b; El Dorado Hills Community Services District, 2014; City of Folsom, 2014c). See *Section 3.15, Recreation*, for additional discussion of recreational facilities, including parks, in the Project area.

Emergency Medical Services

El Dorado County is serviced by the Marshall Medical Center, a nonprofit community healthcare provider based out of Placerville. Marshall Medical Center also includes outpatient facilities in Cameron Park, Placerville, El Dorado Hills, and Georgetown (Marshal Medical Center, 2014). Within the City of Folsom there are several health care companies, which offer outpatient services.

3.14.2 Regulatory Setting

There are no federal or state regulations related to public services that apply to the Project. Additionally, the El Dorado County and City of Folsom general plans do not include applicable goals, objectives, and/or policies related to public services that would apply to the Project.

3.14.3 Applicant Proposed Measures

The Project includes no APMs that focus on fire, police, schools, parks, or other public services.

3.14.4 Impacts and Mitigation Measures

a.i) Whether the Project would result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection: *NO IMPACT*.

The Project would not introduce any new uses to the Project area that would generate long-term changes to fire protection services. Furthermore, the fire protection facilities and infrastructure required to protect the Project are already in place, and would not change as a result of the Project. Project construction could result in emergency situations that could require emergency response services. Given that construction activities would be temporary in nature, lasting approximately 24 months, increases in demand would not require construction of new or physically altered governmental facilities, the construction of which could cause environmental impacts, in order to maintain acceptable service ratios. Therefore, no impact would occur.

a.ii) Whether the Project would result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police protection: *NO IMPACT*.

The Project would not introduce any new uses to the Project area that would generate long-term changes to the existing demand for police protection services. Project construction may cause an increase in the existing demand for police services due to possible theft of construction equipment and/or vandalism that might occur during the construction period. Additionally, construction activities may include temporary road closures or rolling stops for locations requiring traffic control measures or safety measures, which would typically be coordinated by the police. Although Project construction may result in increased demand for police services, such increase would not be substantial and would not require the construction of a new or modification of an existing police station, the construction of which could cause significant environmental effects, in order to maintain acceptable service ratios. Therefore, no impact would occur.

a.iii) Whether the Project would result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for schools: *NO IMPACT*.

The Project is estimated to employ up to 45 crew members during peak construction activities. The Project would not result in a substantial increase in the local population or demand for housing, which typically are associated with an increased demand for school services. Therefore, the Project would not result in a substantial increase in demand for such services and would not require the construction of a new or modification of an existing school, the construction of which could cause significant environmental effects. Therefore, no impact would occur.

a.iv) Whether the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for parks: *NO IMPACT*.

For the reasons described in Section 3.15.4, which describes the Project's potential impacts with respect to accelerated deterioration of park facilities and construction of new park facilities, the Project does not propose and would not require the construction of new or modified parks, the construction of which could cause significant environmental effects. Therefore, no impact would occur.

a.v) Whether the Project would result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for other public facilities: *NO IMPACT*.

The Project would not result in substantial adverse impacts to other public facilities (e.g., public libraries or community healthcare providers) because, as discussed above, the Project would not

result in a significant increase in local population or housing, which would typically be associated with increased demand for such public service facilities. Although unlikely, it is possible that construction of the Project could result in some increased demand for other types of public services. However, any such increase would not be substantial and would not require the construction of new or modification of existing public facilities, the construction of which could cause significant environmental effects. Therefore, no impact would occur.

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3.15 Recreation

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
15. RECREATION—Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
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?	☐	☐	☐	☒

3.15.1 Environmental Setting

Existing recreational and open space resources within the vicinity of the Project are discussed by jurisdiction below.

Federal Recreation Resources

Approximately 0.4 mile of the existing Missouri Flat-Gold Hill Line is located within an existing PG&E ROW within the southeastern portion of the Cameron Park Unit of the BLM-administered Pine Hill Preserve located northwest of the Shingle Springs Substation (see Figure 3.4-1g). The 4,746-acre Pine Hill Preserve is managed to protect the habitat of eight rare plant species and to provide the community with recreational and educational opportunities to promote the protection of these rare plants and their habitat (BLM, 2008a). Because the Preserve is designated as an Area of Critical Environmental Concern (ACEC), allowable uses in the Cameron Park Unit are restricted to non-motorized recreational use of existing designated trails, including hiking and wildlife observation by the general public and guided tours (BLM, 2008a, b). Parking for access to the Cameron Park Unit is limited. Camping is not allowed within the Cameron Park Unit, and the BLM manages this unit to discourage illegal camping through the use of periodic BLM Law Enforcement and volunteer patrols (BLM, 2008a).

The Project also would parallel the California National Historic Trail, specifically the Carson Route from Nevada to Sacramento. This trail is a 1,000-mile historic route that commemorates the 250,000 emigrants who traveled to California during the mass migration of the 1840s and 1850s (NPS, 2014).

State Recreation Resources

The Project would be located within approximately 3 miles of three State Parks: Folsom Powerhouse State Historic Park, Folsom Lake State Recreation Area, and Prairie City State Vehicular Recreation Area (SVRA).

> *Folsom Powerhouse State Historic Park* is located at 9980 Greenback Lane within the City of Folsom. On display at the Folsom Powerhouse State Historic Park is one of the oldest hydroelectric facilities in the world, which is also listed on the National Register of Historic Places. Additional viewing attractions at this State Historic Park include the General

Electric transformers, the forebays, and canal system which bring water from the dam (California Department of Parks and Recreation, 2014b). The park provides recreational trails, picnic areas, a visitor center, and parking areas providing accessible vehicle and bus parking (California State Parks, 2011).

Folsom Lake State Recreation Area offers a wide range of recreational opportunities including hiking, biking, running, camping, picnicking, horseback riding, boating, and fishing. The 18,000-acre recreational area also includes Lake Natoma, downstream of Folsom Lake (California Department of Parks and Recreation, 2014a).

Prairie City SVRA is an open driving area for motorcycles and all-terrain and four-wheel drive vehicles. Prairie City SVRA features the Hangtown MX track, 1/4 Midget track, Go-Kart Track, Clay Oval Track, Mud Drags, and a four-wheel drive obstacle course. The park is located at 13300 White Rock Road in Rancho Cordova (California Department of Parks and Recreation, 2014c).

Local Recreation Resources

El Dorado County

El Dorado County operates three parks within the County, one of which is located in the community of Shingle Springs. Bradford Park is located approximately 0.5 mile east of the Project alignment and includes a playground, sports field and picnic areas (El Dorado County, 2014).

Local parks within the community of Cameron Park, which are within 1 mile of the Project alignment include: Christa McAuliffe Park, Dave West Park, and Hacienda Park. These parks offer a wide range of recreational opportunities including soccer fields, ball fields, playgrounds, picnic areas, trails, and a skate park facility. The Project alignment crosses Christa McAuliffe Park, which is located at 2400 Merrychase Drive (Cameron Park Community Services District, 2014). Additional recreational facilities within 1 mile of the Project alignment include the Cameron Park Golf Course and Country Club.

Recreation opportunities and facilities provided by the El Dorado Hills Community Service District include an archery range, skate park facility, pools, athletic fields, and parks. Local parks within the community of El Dorado Hills which are within 1 mile of the Project alignment include: Laurel Oaks Park, Allan Lindsey Park, Village Green Park, Ridgeview Park, Peter Bertelsen Park, Deputy Jeff Mitchell Field, and Creekside Green Park. The Project alignment is adjacent to Peter Bertelsen Park, located at 831 Redwood Lane (El Dorado Hills Community Service District, 2014).

City of Folsom

The Folsom Parks and Recreation Department provides and maintains a full range of recreational activities and park facilities with the City of Folsom (City of Folsom, 2014b). There are a total of 47 within the City of Folsom, 17 of which are within 1 mile of the Project alignment. These parks include: Nisenan Park, Handy Family Park, Beacon Hill Park, Phillip C. Cohn Park, Prewett Mini Park, Cambridge Place Mini Park, Chadwick Mini Park, Folsom's Kid Play Park, Wellfleet Mini Park, Thorndike Mini Park, Keller Mini Park, Cummings Family Park, Amos P. Catlin Park, John

Kemp Community Park, Kentfield Mini Park, Windsor Mini Park, and Livermore Community Park (City of Folsom, 2010).

Within the City of Folsom there are approximately 34 miles of paved recreations trails. There are several bicycle paths, bicycle lanes, and bicycle routes adjacent to or within the vicinity of the Project (City of Folsom, 2014a). Between Cavitt Drive and Empire Ranch Road along Scholar Way and Broadstone Parkway, several Class I bicycle paths are located within the Project alignment (City of Folsom, 2012).

3.15.2 Regulatory Setting

Federal

Bureau of Land Management

The Pine Hill Preserve Management Plan, a Cooperative Management Agreement among nine local, state, and federal agencies and one private organization, enables the preserve to work in coordination with these partners to increase protection of rare plant habitat and to provide the best management alternatives to maintain the rare plant populations' viability (BLM, 2008a). The BLM implements relevant aspects of the plan within lands it manages. The plan indicates that activities that have the potential to cause significant disturbance, such as construction of roads and high-voltage transmission lines, if permitted would require careful planning to avoid or to minimize resource impacts. The plan outlines management tasks, one of which is relevant to proposed improvements to unpaved roads within the Preserve:

> Identify and implement appropriate measures to minimize impacts on rare plant habitat while providing road and trail maintenance, management, and public access.

PG&E would be required to obtain a Special Use Permit to construct the portion of the Project that would be located on BLM land; PG&E has contacted the BLM to initiate this process.

State

No State plans or policies concerning recreation apply to the Project.

Local

El Dorado County

The *El Dorado County General Plan* (2004) identifies policies regarding recreation in the Parks and Recreation element of the General Plan.

> ***Policy 9.1.1.1*:** The County shall assist in the development of regional, community, and neighborhood parks, ensure a diverse range of recreational opportunities at a regional, community, and neighborhood level, and provide park design guidelines and development standards for park development. The following national standards shall be used as guidelines for the acquisition and development of park facilities:

GUIDELINES FOR ACQUISITION AND DEVELOPMENT OF PARK FACILITIES	
Park Type	**Development**
Regional Park	1.5 ac/1,000 population
Community Parks	1.5 ac/1,000 population
Neighborhood Parks	2 ac/1,000 population
Specific Standards (Neighborhood and Community Parks)	
Cameron Park Community Service District	5 ac/1,000 population
El Dorado Hills Community Services District	5 ac/1,000 population
Planned Communities	5 ac/1,000 population

City of Folsom

The *City of Folsom General Plan* (1988) identifies policies regarding recreation in the Parks and Recreation element of the General Plan.

Goal 35: To achieve and maintain quality parks which provide optimum satisfaction to the leisure and recreation needs of the citizens.

***Policy 35.12*:** The following standards are the minimum acceptable standards for parks, open space and recreation facilities in the City of Folsom:

- *Parkland Acreage Standards*. 5 acres per 1,000 population.
  - *Mini Park.* .5 to 1 acres per 1,000 – 2,000 population.
  - *Neighborhood Park*. 2.5 to 3.5 acres per 2,000 – 5,000 population.
  - *Community Park.* 2.5 to 3.5 acres per 12,000 – 25,000 population.
  - *Special Use Recreation Area/Natural Area/Wildlife Area/Parkway*. Variable with community 25,000 – 50,000 population.
  - *Regional*. 5 to 10 acres contiguous to or encompassing natural resources.

3.15.3 Applicant Proposed Measures

The Project includes the following APM proposed by PG&E to minimize potential Project impacts on recreational resources.

APM REC-1: Coordination with Park and Open Space Management and Signage

PG&E will coordinate closely with park and open space management for temporary public land closures during project construction activities. If traditional access is temporarily unavailable, signs advising recreational facility users of construction activities, including directions to alternative trails and/or bikeways, will be posted at entrance gates to park and open space areas. Signage will be posted at least 1 week in advance of construction, near parks and open space areas.

3.15.4 Impacts and Mitigation Measures

a) Whether the Project would increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated: *LESS THAN SIGNIFICANT.*

As described in *Section 3.15.1, Environmental Setting*, the Project would be located adjacent to recreation activities.

The Project would not result in a significant increase in local population or housing, which typically would be associated with increased demand for parks or other recreational facilities. The number of construction workers that would be required for Project construction, at its peak, would be approximately 45 crew members per day. The Project construction activities would be temporary, lasting approximately 24 months. It is possible that construction workers could increase the use of existing park and recreation facilities. However, any such increase would not be substantial and would not result in a substantial increase in demand for existing park or recreational facilities, resulting in substantial physical deterioration of existing facilities. The impacts would be less than significant.

In addition to potential impacts from some increased usage of parks and other recreational facilities, the Project would include construction activities within and/or adjacent to Christa McAuliffe Park, Peter Bertelsen Park, and the Class I bicycle path along Scholar Way and Broadstone Parkway in Folsom. Overhead lines would be strung above Christa McAuliffe Park and the bicycle path. An existing tubular steel pole adjacent to Peter Bertelsen Park would be removed and replaced within the park and may be fenced for public safety, but this would result in fewer than 1,000 square feet of the park becoming inaccessible, which represents just 0.2 percent of the nearly 11-acre park (PG&E, 2013; El Dorado Hills Community Service District, 2007). Additionally, the Project would include reconductoring of overhead lines, replacement of TSPs, and unpaved road improvement within the Cameron Park Unit of the Pine Hill Preserve. These activities may temporarily decrease access to and/or within the Preserve, but access would be restored per BLM management policies after completion of construction. These activities would not result in the displacement of users to other parks that would result in their increased use and/or accelerated degradation.

Impacts to these recreational facilities would be temporary in nature, but could result in short-term closures or partial closures. Furthermore, construction equipment used during reconductoring and pole replacement would generate noise, dust, and exhaust emissions that could also displace recreational users. As a result, the use of other nearby recreational facilities could increase during this period as users are displaced from facilities along the Project alignment; however, the increase would be temporary, as construction would progress at a rate of 1,500 to 2,500 feet per week (Table 2-6). Therefore, construction of the Project would not cause or accelerate any substantial physical deterioration of Project area parks or other recreational facilities.

No changes to existing operation and maintenance activities are anticipated with Project implementation. As a result, the operation, maintenance, and presence of the Project would be similar to the existing facilities and conditions, and would not result in the displacement of

recreational users compared to existing conditions. Additionally, operation and maintenance would result in no increase in area residents or employees. Therefore, Project operation and maintenance would not result in a measurable change in the existing level of use at neighborhood and regional parks or other recreational facilities, and so would not cause or accelerate any substantial physical deterioration of those facilities. Impacts would be less than significant.

Additionally, PG&E has committed to implementing APM REC-1, which would ensure coordination between PG&E and recreational facilities management for temporary public land closures during Project construction activities. If traditional access is temporarily unavailable, signs advising recreational users of construction activities, including directions to alternative trails and/or bikeways, would be posted at the entrances of the facilities.

b) Whether the Project includes recreational facilities or requires the construction or expansion of recreational facilities which might have an adverse physical effect on the environment: *NO IMPACT*.

The Project does not propose and would not require the addition of new or the expansion of any existing recreational facilities that might have an adverse physical effect on the environment for the reasons described above under a). Therefore, the Project would have no impact regarding this criterion b).

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3.16 Transportation and Traffic

Issues (and Supporting Information Sources):		*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
16.	**TRANSPORTATION AND TRAFFIC— Would the project:**				
a)	Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☒	☐
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?	☐	☐	☐	☒

3.16.1 Environmental Setting

Roadway Network

The backbone of the regional transportation system in the Project area is U.S. Highway 50 (U.S. 50), which is a major east-west route of the U.S. Highway System that carries traffic from West Sacramento, California (west of the Project area), to points east. This roadway would be used to access the Project area during construction and operation. The local transportation system in the Project area includes roads maintained by El Dorado County and the City of Folsom. **Table 3.16-1** summarizes the characteristics of the relevant regional and local roadways in the Project area.

Existing Roadway Levels of Service

Level of service (LOS) is a qualitative measure that describes operational conditions as they relate to the traffic stream and perceptions by motorists and passengers, in terms of factors such as speed and travel time, delays, freedom to maneuver, traffic interruptions, comfort, convenience and safety. There are six levels of operational service, given letter designations from LOS A to LOS F, with LOS A representing the best operating conditions (free-flow) and LOS F the worst (severely congested flow with high delays). The ratio of a road's traffic volume to its capacity is

TABLE 3.16-1
SUMMARY OF STUDY AREA ROADWAY CHARACTERISTICS

Roadway	Jurisdiction	Classification	No. of Lanes	Daily Traffic Volume	Peak-Hour Traffic Volume	Physical Relationship to Power Line
U.S. 50 (at Scott Road / East Bidwell Street)	Caltrans	Interstate	6	90,000	8,600	Access Road
U.S. 50 (at Latrobe Road)	Caltrans	Interstate	7	90,000	8,600	Access Road
U.S. 50 (at Bass Lake Road)	Caltrans	Interstate	5	70,000	7,000	Access Road
U.S. 50 (at Cambridge Road)	Caltrans	Interstate	4	63,000	5,700	Access Road
U.S. 50 (at Cameron Park Drive)	Caltrans	Interstate	4	63,000	5,900	Overhead Crossing
U.S. 50 (at South Shingle Springs Road)	Caltrans	Interstate	4	63,000	5,900	Access Road
East Bidwell Street	City of Folsom	N/A	4	N/A	N/A	Overhead Crossing
Broadstone Parkway	City of Folsom	N/A	4	N/A	N/A	Overhead Crossing
Empire Ranch Road	City of Folsom	N/A	4	N/A	N/A	Overhead Crossing
Bass Lake Road	El Dorado County	Rural Minor Arterial / Urban Collector	2	N/A	N/A	Overhead Crossing
Cambridge Road	El Dorado County	Rural Minor Arterial / Urban Collector	2	N/A	N/A	Overhead Crossing
Cameron Park Road	El Dorado County	Urban Minor Arterial	2	N/A	N/A	Overhead Crossing
South Shingle Springs Road	El Dorado County	Urban Minor Arterial	2	N/A	N/A	Access Road
Durock Road	El Dorado County	Rural Minor Arterial / Urban Collector	2	N/A	N/A	Overhead Crossing

SOURCES: Caltrans, 2012 Traffic Volumes on the California State Highway System, 2013; and El Dorado County Transportation Commission, El Dorado County Regional Transportation Plan 2010-2030, November 2010.

computed, and the resulting volume/capacity (v/c) ratio is assigned an LOS grade, indicative of traffic conditions (see **Table 3.16-2** for the range of v/c ratios for each LOS, and **Table 3.16-3** for existing levels of service on U.S. 50).

TABLE 3.16-2
DEFINITIONS OF FREEWAY LEVELS OF SERVICE (LOS)

LOS	V/C Ratio	Traffic Flow Characteristics
A	0.00 – 0.30	Free flow; negligible delays
B	0.31 – 0.50	Stable operations; minimal delays
C	0.51 – 0.71	Stable operations; acceptable delays
D	0.72 – 0.89	Approaching unstable operations; queue develop rapidly, but no excessive delays
E	0.90 – 1.00	Unstable operations; substantial delays
F	>1.00	Forced flow; jammed conditions

SOURCE: Transportation Research Board, 2000 Highway Capacity Manual

TABLE 3.16-3
EXISTING PEAK-HOUR LEVELS OF SERVICE (LOS) ON U.S. 50

Roadway	Traffic Volume	Design Capacity[a]	V/C Ratio	LOS
U.S. 50 (at Scott Road / East Bidwell Street)	8,600	11,400	0.75	D
U.S. 50 (at Latrobe Road)	8,600	13,300	0.65	C
U.S. 50 (at Bass Lake Road)	7,000	9,500	0.74	D
U.S. 50 (at Cambridge Road)	5,700	7,600	0.75	D
U.S. 50 (at Cameron Park Drive)	5,900	7,600	0.77	D
U.S. 50 (at South Shingle Springs Road)	5,900	7,600	0.77	D

[a] Design Capacity = 1,900 vehicles per hour per lane times the number of lanes (see Table 3.16-1)

SOURCES: Caltrans, *2012 Traffic Volumes on the California State Highway System*, 2013; and PG&E, *Missouri Flat – Gold Hill 115 kV Power Line Reconductoring Project Proponent's Environmental Assessment*, August 2013.

Bicycle Facilities

Bikeways are typically classified as Class I, Class II, or Class III facilities, as defined by the State in Streets and Highway Code Section 890.4. Class I bikeways are bike paths with exclusive right-of-way for use by bicyclists or pedestrians. Class II bikeways are bike lanes striped with the paved areas of roadways and established for the preferential use of bicycles, while Class III bikeways are signed bike routes that allow bicycles to share streets or sidewalks with vehicles or pedestrians.

El Dorado County

The *El Dorado County Bicycle Transportation Plan* describes the bikeways in unincorporated El Dorado County (EDCTC, 2010b). Several bikeways are in the Project area, including two Class II routes in unincorporated El Dorado County that cross the Project alignment.

City of Folsom

The *City of Folsom Bikeway Master Plan* describes the existing bikeways in the City of Folsom (City of Folsom, 2013a). Several bikeways are in the Project area, including five Class I routes, five Class II routes, and one Class III route that either cross or are directly adjacent to the Project alignment.

Air Traffic Facilities

One airport—Cameron Airpark, owned by the Cameron Park Airport District—is located in the Project area. It is accessed via Cameron Park Drive, about 1.5 miles north of U.S. 50. Based on statistics collected for the 12-month period ending June 30, 2011 (the most recent 12-month period for which data is available), there were 96 single engine aircraft and 10 multi-engine aircraft based at Cameron Airpark (SkyVector, 2014). Annual operations, on average, included 25,272 general aircraft local operations, 10,000 general aircraft itinerant operations, and 764 annual air taxi operations (SkyVector, 2014). Helicopter parking is not authorized, and no helicopters are based there (Id.). The helicopter that may be used by the Project would likely be stationed at Sacramento Mather Airport, a public-use airport located approximately 12 miles southwest of the proposed tower modification or at Auburn Airport, a public-use airport located approximately 20 miles north of the proposed tower modification.

Public Transit and Rail Services

El Dorado Transit operates four local bus routes, serving western El Dorado County (El Dorado Transit, 2014). The Cameron Park Route crosses the Project alignment and uses some of the Project area access roads, including U.S. 50 and Cameron Park Drive. El Dorado Transit also provides commuter service from El Dorado County to downtown Sacramento. Six park-and-ride locations are within El Dorado County, along the commuter bus route.

The City of Folsom offers fixed line bus service (Folsom Stage Line) that runs Monday through Friday in the City of Folsom, as well as light rail service to the City of Sacramento, from Historic Folsom Light Rail Station to Sacramento Valley Station (City of Folsom, 2014). Fixed-line Routes 10 and 20 cross the Project alignment and use various Project area access roads, including East Bidwell Street and Broadstone Parkway.

3.16.2 Regulatory Setting

Federal

The U.S. Department of Transportation (DOT) is the administering agency for the following regulations:

- Title 49 Code of Federal Regulations (CFR) Sections 171 through 177 (49 CFR 171–177), which govern the transportation of hazardous materials, the types of materials defined as hazardous, and the marking of transportation vehicles.

- Title 49 CFR 350–399 and Appendices A through G, Federal Motor Carrier Safety Regulations, which address safety considerations for the transport of goods, materials, and substances over public highways.

- Title 49 CFR 397.9, the Hazardous Materials Transportation Act of 1974, which directs DOT to establish criteria and regulations for the safe transportation of hazardous materials.

State

California Department of Transportation (Caltrans) owns the rights-of-way for state highways, including any on- and off-ramps that provide access to the Project area. Any Project-related work within the state rights-of-way requires a ministerial Encroachment Permit from Caltrans.

Caltrans is also the administrating agency for regulations related to traffic safety, including the licensing of drivers, oversized (weight and load) vehicle limitations, transportation of hazardous and combustible materials, and the safe operation of vehicles.

Local

El Dorado County

The *El Dorado County Regional Transportation Plan* identifies LOS standards for the county system. The El Dorado County standard for is LOS D, except in Community Regions, defined in the General Plan as areas which are appropriate for the highest intensity of self-sustaining compact urban-type development or suburban type development within the county, where the standard is LOS E (EDCTC, 2010a).

The *El Dorado County Bicycle Transportation Plan* includes development of a bicycle transportation system that provides a network of on- and off-street bikeways throughout western El Dorado County. The plan also supports alternative modes of transportation aside from driving, and it allows bike commuters to bypass vehicle congestion (EDCTC, 2010b). The Park-and-Ride Facilities Master Plan for El Dorado County identifies the policies, actions, and financing needed to guarantee adequate parking capacity to support the El Dorado County Transit Authority's commuter bus service, carpooling, vanpooling and other forms of shared-rides (EDCTC, 2007).

City of Folsom

The *City of Folsom General Plan* identifies a goal of achieving at least an LOS C throughout the city (Policy 17.8) and seeks to maintain this goal by regularly updating the Folsom Area Traffic Study (City of Folsom, 1988). The City of Folsom supports alternative transportation through the *City of Folsom Bikeway Master Plan* (City of Folsom, 2007).

3.16.3 Applicant Proposed Measures

The Project would include the following APMs, which PG&E has designed to address potential impacts that it anticipated could result from the Project.

APM TRA-1: Air Transit and Neighborhood Coordination

PG&E would implement the following protocols that pertain to helicopter use during construction and air traffic:

- PG&E would comply with all applicable FAA regulations regarding air traffic within 2 miles of the Project alignment.
- PG&E's helicopter operator would coordinate all Project helicopter operations with the local airport before and during Project construction.
- PG&E does not anticipate that residents would be required to temporarily vacate their homes or businesses. In the unlikely event that final construction plans require otherwise, PG&E would coordinate with potentially affected residents or businesses to minimize the duration of the necessary work and any resultant inconvenience.

APM TRA-2: Temporary Traffic Controls

PG&E would obtain all necessary transportation and/or encroachment permits, including those for the U.S. 50 crossings and transport of oversized loads and certain materials, and would comply with permit requirements designed to prevent excessive congestion or traffic hazards during temporary lane closures. PG&E would develop lane closure/width reduction or traffic diversion plans as required by the encroachment permits. Construction activities that are in, along, or cross local roadways would follow best management practices and/or local jurisdictional encroachment permit requirements, to minimize impacts to traffic and transportation in the Project area.

3.16.4 Environmental Impacts and Mitigation Measures

a) Whether the Project would conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit: *LESS THAN SIGNIFICANT.*

Most construction activities would occur within PG&E's existing transmission rights-of-way and would not be performed in regional or local roadways. Crossing structures would be installed where the Project alignment crosses over major roads, such as U.S. 50, to allow traffic to safely use the road while PG&E removes the existing conductor and pulls the new conductor into place. Temporary road closures also could be required at various locations (e.g., Platt Circle during the relocation of the existing distribution line from overhead to underground) to ensure public safety. Operation of Class I and Class II bike routes and public transit routes in the Project area may be temporarily affected when sections of the line are being reconductored at road overhead crossings (listed in Table 3.16-1). However, PG&E proposes to implement temporary traffic controls that are designed to prevent excessive congestion or traffic hazards (APM TRA-2), which would minimize impacts to traffic flow (including bicyclists and public transit) in the affected areas.

The anticipated temporary and short-term construction-related traffic impacts would be related to truck routes and access routes in the Project area. The roadways that potentially would be affected

by construction-related traffic are listed in Table 3.16-1, and shown on the Detailed Alignment figures for the Project (see Figures 2-2 through 2-8 in *Section 2, Project Description*). On a typical work day, approximately 15 to 20 construction workers would be at the day's work sites, with up to 45 daily workers at any time, associated with the variety of work activities that may occur concurrently. Transport vehicles (e.g., crew-cab trucks and half-ton pickups) would be used to transport personnel to work sites (anticipated to carry 2 to 4 workers per vehicle). Construction materials would be delivered using line trucks and staged near existing structures. In addition, construction equipment would be brought to the work sites by trucks, but those truck trips would not be a daily occurrence, but rather would be delivered and staged in the Project work area, and then removed when it is no longer needed. The number of daily truck trips generated by Project construction would vary depending on the type and location of construction activities on each day. However, the typical number of truck trips is estimated to range from 12 to 75 trucks (i.e., 24 to 150 one-way trips) per day, with an average of approximately 35 trucks (70 one-way trips) per day.

The above-described construction-generated traffic would be temporary and therefore would not result in long-term degradation in operating conditions on area roadways. Project-generated truck trips would be spread over the course of the work day, and construction workers would commute to and from the worksite primarily before or after peak traffic hours. Project-generated traffic (trucks and worker vehicles) would increase the daily traffic volume on U.S. 50 by no more than about 0.5 percent, which would not be substantial relative to existing traffic conditions, and Project traffic would not significantly disrupt daily traffic flow. While the increase in traffic volume on local roads would be noticeable, there would be sufficient carrying capacity on those roads to accommodate the added traffic during the construction period. The primary impact from construction truck traffic would be a temporary and intermittent reduction of roadway capacities due to the slower movements of trucks compared to passenger vehicles. Drivers could experience delays if they were traveling behind a construction truck. Construction-related traffic would not conflict with any traffic plans, ordinances, or policies that establish measures of effectiveness for the performance of the circulation system. Therefore, the impact would be less than significant.

No changes to existing operation and maintenance activities are anticipated with Project implementation. That is, existing power lines are inspected yearly (ground inspection every other year), or as needed when driven by an event or incident, such as an emergency, and those inspections would not change from existing conditions with Project implementation. The Project would result in less conductor breakage from corrosion and brittleness, thereby fewer events or incidents that require emergency responses and inspections. Therefore, there would be no impact under Project operation and maintenance.

b) Whether the Project would conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways: *NO IMPACT*.

The Project is located in El Dorado County and the City of Folsom. Both cities have established LOS standards, and El Dorado County has a congestion management plan (CMP) that is intended to monitor and address long-term traffic impacts due to future development and that do not apply to temporary impacts associated with construction projects. Project construction would be

transitory in nature and effects on traffic flow on area roadways would be temporary. Furthermore, the Project's upgraded power lines would require no change to existing operation and maintenance activities. Therefore, the Project would not generate new long-term traffic, and consideration of LOS impacts on CMP roadways or local roadways during operation of the Project components is not applicable, and is not discussed further in this section.

c) Whether the Project would result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks: *LESS THAN SIGNIFICANT.*

Construction-related helicopter use along the Project alignment would increase existing air traffic temporarily (during the 20-month construction period) and intermittently (i.e., a maximum of up to 5 days of operation, 6 hours of operation per day, and 4 landings/take-offs per day) between Sacramento Mather Airport or Auburn Airport and the potential helicopter landing zone shown on Figure 2-3. This minor increase in air traffic levels would not result in substantial safety risks because there is no evidence of existing air traffic congestion that would be exacerbated by the Project to a point where safety would be affected.

Project-related helicopter use would create a new air traffic pattern by adding flights to new destinations; however, there would be few trips total, and no flight would be longer than approximately 20 miles. This minor change in the location of air traffic would not result in substantial safety risks to other pilots because it is not commonly shared airspace. It also would not result in substantial safety risks to people on the ground. Helicopters that are carrying equipment or construction materials would not pass over major highways, and they would pass near, but not directly over, a limited area containing habitable structures.

One existing lattice steel tower (about 800 feet northwest of the intersection of Broadstone Parkway and Empire Ranch Road) is located in a seasonal pond that contains standing water for much of the year. To avoid impacts to this aquatic resource, this tower is anticipated to be accessed using a helicopter to complete tower reinforcement work and transport personnel and materials. To accommodate use of a helicopter, a helicopter landing zone has been identified approximately 560 feet southeast of the intersection of Montridge Way and Wilson Boulevard in an undeveloped area of El Dorado County. However, the exact location and footprint would depend on conditions on the ground and would not be determined until just prior to construction. In accordance with APM TRA-1, PG&E's helicopter operator would follow protocols regarding air traffic and would coordinate with the local airport during all construction-related helicopter operations. Therefore, the impact associated with changes in air traffic patterns would be less than significant.

Further, as described in *Section 3.16.1, Environmental Setting*, there is one airport near the Project area: Cameron Airpark is located approximately 1.5 miles north of U.S. 50. The construction, operation and maintenance of Project infrastructure, including pole heights of up to 30 feet higher than existing poles, would not interfere with existing air traffic, and so would not result in substantial safety risks to pilots flying into and out of Cameron Airpark, because the increase would be negligible compared to the existing pole heights, and because the new poles would not be tall enough to affect runway activities, including take off, approach, or landing. Therefore, the impact associated with increased or changed air traffic patterns in the vicinity of

Cameron Airpark would be less than significant. However, as indicated in *Section 3.8, Hazards and Hazardous Materials*, ~~Mitigation Measure 3.8-1 would require that~~ PG&E would submit Project plans to the Federal Aviation Administration for review and approval in accordance with Federal Aviation Regulation Part 77.

d) Whether the Project would substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment): *LESS THAN SIGNIFICANT.*

Project construction would not alter any public roadways or intersections, including access roads to power lines, towers or poles, and substations, nor would it introduce incompatible uses to the Project area. Some existing access roads may be reestablished as part of the construction activities, as necessary; however, these roads have been previously used for maintenance activities for the existing power lines. One new spur road, which would be graded and graveled, would be established to access one pole north of the intersection of Finders Way and Saratoga Way in El Dorado Hills. Any road closures that would occur on private and county roads would be temporary, consistent with applicable regulations, and would be coordinated with the County or property owner(s); APM TRA-2 (implementation of temporary traffic controls designed to prevent increased traffic hazards) would ensure that potential impacts would be less than significant.

e) Whether the Project would result in inadequate emergency access: *LESS THAN SIGNIFICANT.*

Emergency access routes would be maintained throughout Project construction and operation and maintenance. Construction vehicles would access Project construction areas by using existing paved, dirt, and/or gravel roads and overland travel routes. In addition, as described above, a helicopter would be used to access one tower. Construction vehicles and equipment needed at the pull sites are expected to be staged or parked within Project area rights-of-way, approved temporary construction easements, or alongside access roads. Any road closures would be temporary, would be coordinated with Caltrans and/or local jurisdictions, and access for emergency vehicles would be maintained at all times. APM TRA-2 (implementation of temporary traffic controls designed to ensure coordination with appropriate jurisdictions to maintain access for emergency vehicles) would ensure that potential impacts would be less than significant.

f) Whether the Project would conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities: NO IMPACT.

The Project would not directly or indirectly eliminate alternative transportation corridors or facilities (e.g., bicycle lanes, bus routes/stops, pedestrian pathways, etc.). In addition, the Project would not include changes in policies or programs that support modes of alternative transportation. Therefore, the Project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. As a result, the Project would result in no impact related to this criterion f).

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3.17 Utilities and Service Systems

Issues (and Supporting Information Sources):		*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
17.	**UTILITIES AND SERVICE SYSTEMS—Would the project:**				
a)	Conflict with wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b)	Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c)	Require or result in the construction of new storm water drainage facilities, or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
d)	Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒
e)	Result in a determination by the wastewater treatment provider that would serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f)	Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g)	Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

3.17.1 Environmental Setting

Water Services

El Dorado County

The El Dorado Irrigation District provides potable and recycled water and wastewater services within portions of El Dorado County in the Project area, including the communities of Cameron Park, El Dorado Hills, and Shingle Springs (El Dorado Irrigation District, 2010). The El Dorado Irrigation District has three primary sources of water including Jenkinson Lake, South Fork American River, and the Folsom Reservoir. The District serves approximately 100,000 customers and maintains 1,250 miles of water pipelines, 50 miles of canals and ditches, 5 water treatment plants, 36 storage tanks/reservoirs, 38 pump stations, 560 miles of wastewater pipeline and force mains, 4 wastewater treatment plants, and 64 lift stations (El Dorado Irrigation District, 2014a). The District also provides recycled water from two of its wastewater treatment plants, producing more than 1 billion gallons of recycled water each year for almost 4,000 customers and businesses in the El Dorado Hills community (El Dorado Irrigation District, 2014b).

City of Folsom

The City of Folsom Environmental and Water Resources Department provides water services to most of the City of Folsom, drawing all water from nearby Folsom Lake through a combination of appropriative surface water rights for American River water and contract water rights with the Central Valley Project and San Juan Water District (City of Folsom, 2011).

Wastewater Services

El Dorado County

Wastewater services in unincorporated El Dorado County in the Project area are provided by El Dorado Irrigation District, as described above.

City of Folsom

Within the City of Folsom, the City's Wastewater Division manages and maintains the wastewater collection system. This wastewater collection system includes 267 miles of pipeline and nine lift stations. The City of Folsom's wastewater collection system discharges into the Sacramento Regional County Sanitation District's sewer system, and is ultimately treated at the Sacramento Regional Wastewater Treatment Plant in the City of Elk Grove (City of Folsom, 2014a).

Solid Waste and Recycling Services

El Dorado County

Within the Project area, solid waste collection, transfer, disposal, and recycling services are provided by El Dorado Disposal for unincorporated El Dorado County including the communities of Cameron Park and El Dorado Hills (El Dorado Disposal, 2014). Waste collected by El Dorado Disposal is taken to Kiefer Landfill, located in Sloughhouse, approximately 10 miles south of the Project. The Kiefer Landfill is permitted to receive 10,815 tons of waste per day; it has a remaining capacity of approximately 112,900,000 cubic yards and is expected to reach its permitted capacity in 2064 (CalRecycle, 2014).

City of Folsom

The City of Folsom Solid Waste Division collects and disposes of refuse, recyclables, and green waste within the city limits (City of Folsom, 2014b). Waste collected in the City of Folsom is taken to the Kiefer Landfill, described above.

3.17.2 Regulatory Setting

Federal

No federal regulations pertaining to Utilities and Service Systems apply to the Project.

State

California Integrated Waste Management Act

The Integrated Waste Management Act was enacted in 1989 as Assembly Bill (AB) 939 and codified in Public Resources Code Section 40050 et seq. The Act required cities and unincorporated portions of counties throughout California to divert a minimum of 25 percent of solid waste from landfills by 1995 and 50 percent by 2000. Diversion includes waste prevention, reuse, and recycling. The Act resulted in the creation of the California Integrated Waste Management Board, which now is known as CalRecycle. Under the Act, jurisdictions also have to submit solid waste planning documentation to CalRecycle. The Act also set into place a comprehensive statewide system of permitting, inspections, and maintenance for solid waste facilities, and authorized local jurisdictions to impose fees based on the types and amounts of waste generated.

22 California Code of Regulations Division 4.5

Title 22 of the California Code of Regulations discusses an array of requirements with respect to the disposal and recycling of hazardous and universal wastes. Specific standards and requirements are included for the identification, collection, transport, disposal, and recycling of hazardous wastes. Additional standards are included for the collection, transport, disposal and recycling of universal wastes, where universal wastes are defined as those wastes identified in Section 66273.9 of Title 22 of the California Code of Regulations, including batteries, electronic devices, mercury containing equipment, lamps, cathode ray tubes, and aerosol cans. Requirements include recycling, recovery, returning spent items to the manufacturer, or disposal at an appropriately permitted facility. Division 4.5 of Title 22 also provides restrictions and standards relevant to waste destination facilities, and provides authorization requirements for various waste handlers. Note that Title 22 includes California's Universal Waste Rule, as well as other additional waste handling and disposal requirements.

Regional

Central Valley Regional Water Quality Control Board

The mission of the Central Valley Regional Water Quality Control Board (CVRWQCB) is to protect water quality by regulating potentially polluting practices and enforcing state and federal laws and policies. The CVRWQCB has jurisdiction over nearly 60,000 square miles of the state. It includes all or part of 38 counties and nearly 80 percent of the state's irrigated agricultural land. The CVRWQCB is responsible for: preparing new or revised policies to address region-wide water quality concerns; adopting, monitoring compliance with, and enforcing waste discharge requirements and NPDES permits; providing recommendations to the State Board on financial assistance programs, proposals for water diversion, budget development, and other statewide programs and policies; coordinating with other public agencies which are concerned with water quality control; and informing and involving the public on water quality issues.

Local

Countywide Integrated Waste Management Plan

El Dorado County's Countywide Integrated Waste Management Plan (CIWMP) was prepared in accordance with the Integrated Waste Management Act, described above, to demonstrate the County's compliance with the Act's solid waste planning requirements. The Summary Plan element of the CIWMP contains goals and policies, as well as a summary of integrated waste management issues faced by El Dorado County and its cities (El Dorado County, 1995a). It summarizes the steps needed to meet and maintain the 50 percent diversion mandates. The Countywide siting element is required to demonstrate that there are at least 15 years of remaining disposal capacity available to serve all jurisdictions within the County (El Dorado County, 1995b). If the County's annual report to CalRecycle indicates that there is no longer at least 15 years of remaining disposal capacity, the Countywide siting element must be updated to describe and identify the new or expanded solid waste disposal and transformation facilities necessary to provide a minimum of 15 years of combined permitted disposal capacity (14 Cal. Code Regs. §18755). As described above, the Kiefer Landfill is anticipated to have remaining permitted capacity through 2064.

El Dorado County

City of Folsom

The *City of Folsom General Plan* contains the following policy regarding solid waste disposal (City of Folsom, 1998):

> ***Policy 28.6*:** The City shall encourage community wide recycling in an effort to conserve natural resources and reduce solid waste disposal. This may be established through the development of recycling programs promoted and sponsored by the City with non-profit groups. These programs could include but not be limited to curbside recycling programs, siting of a recycling center or drop off collection centers.

3.17.3 Applicant Proposed Measures

The Project includes no APMs designed by PG&E specifically to address utilities and service systems.

3.17.4 Environmental Impacts and Mitigation Measures

a) Whether the Project would exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board: *NO IMPACT*.

The Project would not exceed any wastewater treatment requirements of the Central Valley Regional Water Quality Control Board. Portable washing stations would be established at various locations throughout the Project alignment to minimize time between the concrete pour and truck clean out. These stations would include dike walls and tarping. Alternatively, self-washing concrete trucks with mobile containment may be used or equipment would be washed and contained in accordance with local encroachment permits. Washed materials are typically allowed to dry before transport and disposal. During construction, portable toilets would be provided for

crews. Construction activities would be temporary, lasting approximately 24 months, and peak construction would employ 45 workers per day. Accordingly, wastewater generated during construction would be limited and handled by a licensed provider in accordance with all applicable requirements. Because the Project would not result in additional staffing at the substation or along the proposed power line alignments after construction is completed, no additional wastewater would be generated during operation or maintenance of the Project. Accordingly, the Project would have no impact with respect to exceeding applicable wastewater treatment requirements. See also, e) below.

b) Whether the Project would require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects: *NO IMPACT*.

The Project would not require or result in the construction or expansion of water or wastewater treatment facilities. No such facilities would be developed as part of the Project and no construction-, operation-, or maintenance-related activity is expected to displace or destroy existing water wells, pipelines, or other facilities that provided water or wastewater services in the Project area.

The Project would require water use during construction, primarily as a dust control measure. However, this water use would be temporary in nature and would not generate wastewater that would require treatment or disposal, because it would be ground-applied during dry weather and would be absorbed into the ground or would evaporate, creating no runoff. As described in a), wastewater generated during construction would be limited and handled by a licensed provider with available capacity for the Project's wastewater needs. The Project would not require or result in the construction of new or expanded water or wastewater treatment plant facilities; therefore, no impact would occur. See also, d) and e) below.

c) Whether the Project would require or result in the construction of new storm water drainage facilities, or expansion of existing facilities, the construction of which could cause significant environmental effects: *NO IMPACT*.

The Project would replace existing conductor and poles, and modify existing lattice steel towers. For the towers and poles that would be removed, holes would be filled and compacted, and the area would be smoothed to match the surrounding grade. New unpaved permanent access roads would be smoothed and graded, not increasing the amount of impervious surfaces. Furthermore, minor modifications made to the existing substations are not anticipated to expand the existing facilities.

Since the Project would not substantially increase the amount of impervious surfaces, it would not create a substantial amount of additional runoff water. Therefore, the Project would not require or result in the construction or expansion of storm drainage facilities, and no impact would occur.

d) Whether sufficient water supplies would be available to serve the Project from existing entitlements and resources, or whether new or expanded entitlements would be needed: *NO IMPACT*.

Water use during the construction period would be available from existing sources and would not require local water providers to obtain additional water entitlements. The primary use of water during Project construction would be for dust control measures; small amounts of water would also be available for fire suppression. Water would be trucked in from municipal providers (e.g., the El Dorado Irrigation District and/or City of Folsom Environmental and Water Resources Department). As noted in Section 3.9.4, item b), the Project could require about 5.76 million gallons of water during the construction period. This estimate assumes that a 4,000 gallon water truck would be filled four times per day over the duration of Project construction. As noted in APM AQ-1, reclaimed water sources for dust suppression should be used whenever possible. No new or expanded water entitlements would be needed. Project operation and maintenance water use would be similar to existing conditions. Accordingly, the Project would have no impact associated with water supplies.

e) Whether the Project would result in a determination by the wastewater treatment provider that would serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments: *NO IMPACT*.

As described above in b) and d), the primary use of water during Project construction would be for dust control. This water would evaporate or be absorbed into the ground, and would not require treatment as wastewater. In addition, construction would generate small volumes of sanitary wastewater for a limited time that would be disposed of by a licensed provider with available capacity to serve Project needs. The Project would not result in a determination by a wastewater treatment provider that it has inadequate capacity to serve the Project's projected demand in addition to its existing commitments; therefore, no impact would occur.

f) Whether the Project would be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs: *LESS THAN SIGNIFICANT*.

Project construction would generate various waste materials, in the form of utility poles, utility line cables, scrap metal from the replacement of existing towers and substation modifications, soil, and vegetation.

The Project would require the removal and disposal of approximately 61 tubular steel poles and 80 wood poles and associated hardware, concrete foundations, and conductor. Removed poles would be recycled or disposed of in an appropriate landfill with sufficient capacity to accept the material. Any treated wood poles removed that cannot be recycled would be disposed of in an appropriate disposal facility in accordance with applicable regulations as described in Section 2.7.1.3. As indicated in Section 2.7.1.5, removed conductor would be collected for salvage. Other miscellaneous non-hazardous construction materials that cannot be reused or recycled would be disposed of at the Kiefer Landfill.

Soil and vegetative matter from excavations and clearing for the replacement foundation and poles would be stored at the Project sites and then reused to backfill the holes left by removal of the existing TSPs and wood poles. As described in Section 2.7.1.8, approximately 3,050 cubic yards of soil would be excavated for installation of new poles, and only 2,700 cubic yards of concrete or soil would be needed to backfill holes for new poles. Thus, at least 350 cubic yards of excavated soils would need to be reused, recycled, or disposed of during construction. Some of the excavated soils would be feathered around the work area.

Project operation and maintenance would result in very minimal solid waste generation, similar to the existing facilities.

As described in Section 3.17.1, the Kiefer Landfill is permitted to receive 10,815 tons of waste per day and has a remaining capacity of approximately 112,900,000 cubic yards (CalRecycle, 2014c). Because the majority of waste resulting from the removal of existing structures and materials would be salvageable, the remaining construction waste would be minor and would be accommodated by Kiefer Landfill's daily and total permitted capacity. Therefore, impacts would be less than significant.

g) Whether the Project would comply with federal, state, and local statutes and regulations related to solid waste: *NO IMPACT*.

As discussed above, the Project would generate waste during construction and minimal waste during operation and maintenance. Construction waste would include disposal of a limited amount of materials that would not be recycled or reused. The construction waste generated would be minimal and would be disposed of at the Kiefer Landfill As discussed above, this landfill has sufficient capacity to accept anticipated Project waste.

References

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3.18 Mandatory Findings of Significance

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

3.18.1 Mandatory Findings of Significance Discussion

a) Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory: *LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.*

Although the Project has the potential to substantially degrade the quality of the environment, it does not have the potential to substantially reduce the habitat of a fish or wildlife species, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or cause a fish or wildlife population to drop below self-sustaining levels or threaten to eliminate a plant or animal community or eliminate important examples of the major periods of California history or prehistory. As discussed in the *Aesthetics*, *Air Quality*, *Biological Resources*, and *Noise* sections of this IS/MND, the Project would result in potentially significant impacts (predominantly temporary impacts as a result of construction of the Project) that would have the potential to degrade the quality of the environment. However, adoption and implementation of mitigation measures would reduce these individual impacts to levels that would be less than significant.

As described in Section 3.1, *Aesthetics*, the construction-related lighting could adversely affect nighttime views. Implementation of mitigation measures would reduce these impacts to less than significant levels.

As described in Section 3.3, *Air Quality*, Project construction would violate air quality standards and contribute to a cumulatively considerable net increase of any criteria pollutant within the region. Implementation of mitigation measures would reduce these impacts to less than significant levels.

As described in Section 3.4, *Biological Resources*, the Project would have the potential to adversely affect: species identified as a candidate, sensitive, or special-status species; sensitive habitats, including federally protected wetlands; and could conflict with local policies or ordinances protecting biological resources. Implementation of mitigation measures would reduce these impacts to less than significant levels.

As described in Section 3.12, *Noise*, Project construction would result in the exposure of persons to, or generation of, noise levels in excess of standards established for the City of Folsom and result in increased ambient noise levels in the Project vicinity. Implementation of mitigation measures would reduce these impacts to less than significant levels.

b) Have impacts that are individually limited, but cumulatively considerable: *LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED*.

The Project does not have impacts that are individually limited but cumulatively considerable. CEQA Guidelines Section 15130 requires a discussion of the cumulative impacts of a project when the project's incremental contribution to a significant cumulative effect is "cumulatively considerable," meaning that the project's incremental effects are considerable when viewed in connection with the effects of past, current, and probable future projects. An incremental, project-specific contribution to a cumulative impact is less than cumulatively considerable, and thus is not significant, if, for example, the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact.

Consistent with CEQA Guidelines Section 15130(b), the CPUC prepared a list of past, present, and reasonably anticipated future projects that could produce related or cumulative impacts, including those projects outside the control of the Lead Agency and also considered projections contained in planning documents designed to evaluate regional or area-wide conditions. The following factors were used to determine an appropriate list of projects to be considered in this cumulative analysis:

- Similar Environmental Impacts – A relevant project is defined as a "reasonably foreseeable" project that would contribute to effects on resources also affected by the Project. For the purpose of this analysis, relevant projects with potential similar environmental impacts include other electric transmission, or public utility-related projects.

- Geographic Scope and Location – A relevant project for the cumulative effect is located within a defined geographic scope (3-miles) of the Project.

- Timing and Duration of Implementation – Effects associated with activities for a relevant project (e.g., short-term construction or demolition, or long-term operations) that could coincide in terms of timing with the effects of the Project.

Table 3.18-1 lists past, present, and reasonably foreseeable projects and activities within the geographic scope of potential Project impacts. The list of projects was developed by initially reviewing websites and planning documents, as well as researching other projects under the jurisdiction of El Dorado County, Sacramento County, City of Folsom, and the California Department of Transportation (Caltrans). Sacramento County projects include specific plans, a master plan, zoning code amendments, as well as community development and commercial projects; however, none are located within the vicinity of the Project (Sacramento County, 2014). Two Caltrans road improvement projects (i.e., Highway 50 HOV Lane [State Route 99 to Watt Ave]) and the Sly Park Road Undercrossing Bridge Replacement project) are located along Highway 50; however, they would not occur within the defined geographic scope of the Project to be included in this cumulative analysis (Caltrans, 2014). In addition, the PEA, the *El Dorado County General Plan* (and its specific plans), and the *City of Folsom General Plan* were reviewed to identify projects that may be considered cumulatively reasonable (PG&E, 2013; County of El Dorado, 2004; City of Folsom, 1988). Table 3.18-1 includes eight City of Folsom and seven El Dorado County projects (City of Folsom 2013 and 2014; County of El Dorado 2012a-c, 2013a-d, 2014a-c) located within the vicinity of the Project, that together make up the cumulative scenario for the Project. **Figure 3.18-1** provides geographic locations of identified projects included in the cumulative project scenario. The public review of this IS/MND will include all of the above agency's input with regard to any specific cumulative projects.

The projects identified below are considered reasonably likely to be constructed and/or operated during a similar timeframe as the Project. Since the impacts related to construction of the Project would be temporary and localized, the potential to combine with similar impacts of other projects would only occur if construction activities were occurring at the same time and in close proximity to the Project. In the event that the cumulative projects are constructed at the same time and in close proximity to the Project, there would be a potential for short-term construction-related cumulative impacts to occur. However, for the reasons explained below, either there is no existing significant cumulative impact to which the Project's incremental, temporary, construction-related impacts could contribute, or such incremental impacts would not be cumulatively considerable.

Operation of the Project would not result in the potential for any individually significant impact, and any less than significant operational impacts of the Project would not be cumulatively considerable.

Aesthetics

The geographic scope of the cumulative impacts to aesthetics includes the viewsheds that could be affected by the Project from public roadways, trails, and open space areas. The temporal scope for impacts associated with Aesthetics includes all phases of the Project from construction through operation and maintenance.

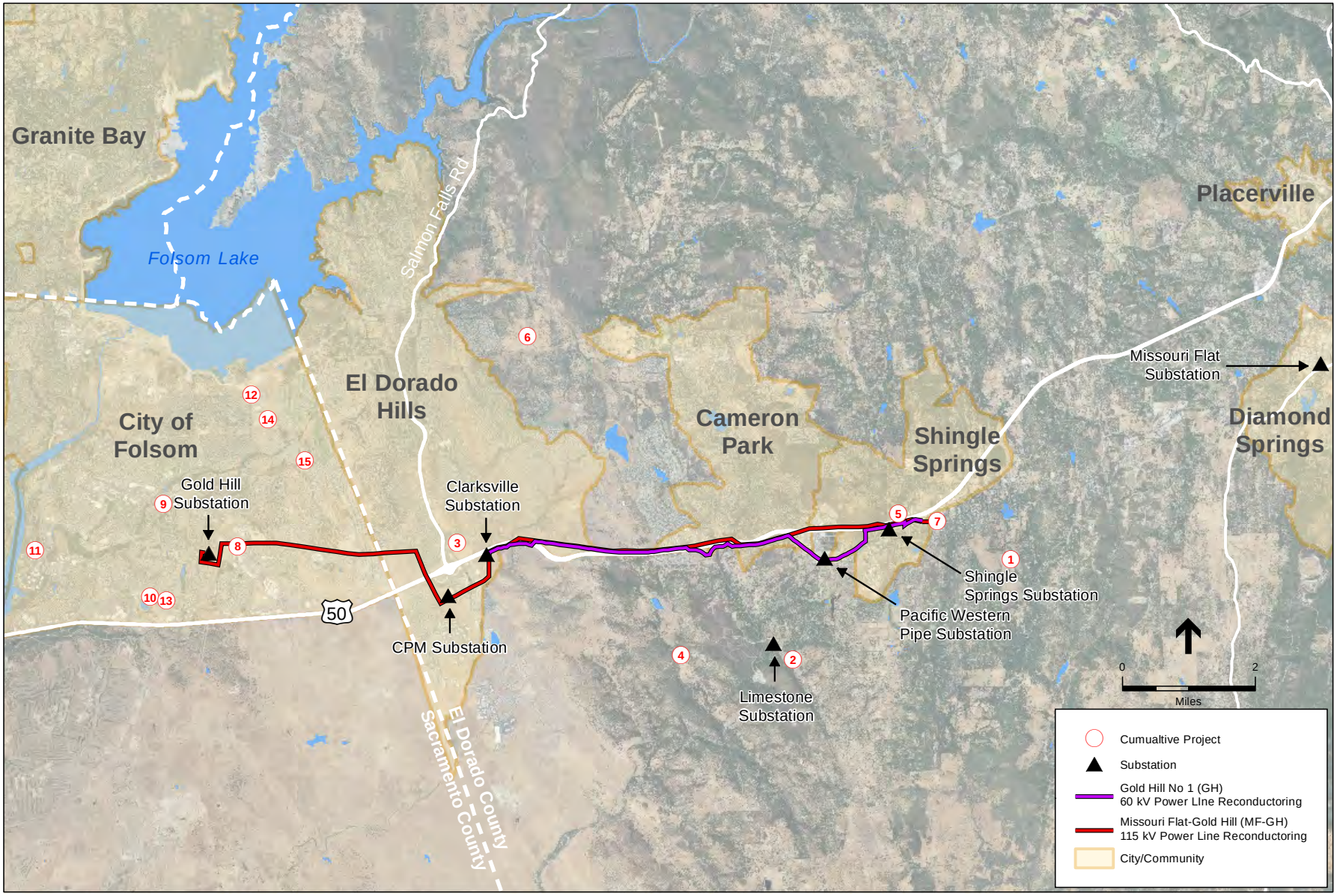
The majority of impacts resulting from the Project would occur during the construction phase in association with power line reconductoring, pole removal, new structure installation, new pole installation, and the presence and operation of heavy machinery at staging areas, work areas, helicopter landing zones, and pull sites. The potential for fugitive dust created during construction

TABLE 3.18-1
CUMULATIVE SCENARIO FOR THE MISSOURI FLAT-GOLD HILL 115 KV POWER LINE RECONDUCTORING PROJECT

Map ID	APN(s) or Project Name	Description	Address / Location	Agency / Organization	Details	Status / Timeline	Distance from Proposed Project
1	San Stino Residential Project (090-190-01-100)	Residential Development	4661 French Creek Road	County of El Dorado	1,041-unit detached residential subdivision on 645 acres.	Notice of preparation of a Draft EIR submitted on February 22, 2013.	~1.25 miles east of the Missouri Flat-Gold Hill 115v Power Line.
2	Lime Rock Valley Specific Plan (109-010-09, 10, 13, 14, and 109-020-01, 04, 05, 06 & 20)	Specific Plan for Residential Development	Deer Creek Road and Marble Valley Road	County of El Dorado	800 residential units on approximately 377 acres, a 15-acre neighborhood park with recreational amenities, and approximately 314 acres of public and private open space.	Notice of preparation of Draft EIR submitted on February 20, 2013. Draft EIR expected for release the summer of 2014.	~1.25 miles south of the Gold Hill Line.
3	Central El Dorado Specific Plan	Specific Plan for Residential and Commercial Development	El Dorado Hills Boulevard and Serrano Parkway	County of El Dorado	1,028 residential units, 11 acres of public facility/recreational use or 50,000 square feet of commercial use, 15 acres of public village park, and 85 acres of public parks and open space.	Notice of preparation of Draft EIR submitted on February 20, 2013. Draft EIR expected for release the summer of 2014.	~0.05 miles north of the Missouri Flat-Gold Hill 115v Power Line and Gold Hill Line.
4	Village of Marble Valley Specific Plan (087-200-74; 119-020-56 and 119-020-57; 119-030-13 through 119-030-19; and 119-330-01)	Specific Plan for Residential and Commercial Development	Marble Valley Road	County of El Dorado	3,236 residential units, 475,000 square feet of commercial uses, 87 acres of public facilities/recreation uses, 1,282 acres of open space, 42 acres of agriculture use, on 2,341 acres.	Notice of preparation of Draft EIR submitted on February 20, 2013. Draft EIR expected for release the summer of 2014.	~0.05 miles south of the Missouri Flat-Gold Hill 115v Power Line and Gold Hill Line.
5	Tilden Park Commercial-Residential Development Project (070-280-59 & 070-280-60)	Residential and Commercial Development	4108 Wild Chaparral Drive, Shingle Springs	County of El Dorado	14 residential lots, two commercial lots, and two open space lots on 12 acres.	Notice of preparation of Draft EIR submitted on December 19, 2012.	~0.05 miles north of the Missouri Flat-Gold Hill 115v Power Line.
6	Dixon Ranch Residential Project (126-020-01-100, 126-020-02-100, 126-020-03-100, 126-020-04-100, 126-150-23-100)	Residential Development	Green Valley Road and Malcolm Dixon Road	County of El Dorado	Subdivide 280 acres to include 605 single family units, and 84 acres of open space.	Notice of preparation of Draft EIR submitted on December 14, 2012.	~3 miles north of the Missouri Flat-Gold Hill 115v Power Line and Gold Hill Line.
7	Pacific Gas & Electric Road and Public Utility Easement Acquisition and Temporary Use (090-430-23)	Road and Utility Easement	Sunset Lane and Becken Lane	County of El Dorado	10,959 square foot portion of a parcel would allow construction of a 28 foot wide road approximately 460 feet long.	Draft Negative Declaration and Initial Study submitted on November 13, 2012.	~0.05 miles north of the Missouri Flat-Gold Hill 115v Power Line.

TABLE 3.18-1 (Continued)
CUMULATIVE SCENARIO FOR THE MISSOURI FLAT-GOLD HILL 115 KV POWER LINE RECONDUCTORING PROJECT

Map ID	APN(s) or Project Name	Description	Address / Location	Agency / Organization	Details	Status / Timeline	Distance from Proposed Project
8	East Bidwell Street Complete Streets Corridor Plan	Road Improvements	East Bidwell Street	City of Folsom	Transportation improvements along East Bidwell Street including: a streetscape vision; improvements to pedestrian, bicycle, and transit facilities; green and sustainable roadway and landscape improvements; and transportation improvements to meet the needs of existing and future development.	Anticipated to be complete spring of 2014.	Adjacent to the Missouri Flat-Gold Hill 115v Power Line.
9	Oakmont of Folsom	Residential Development	Southwest corner of the intersection of East Bidwell Street and Creekside Drive	City of Folsom	Development of a 60,000 square foot residential senior care facility.	Anticipate construction to be complete summer of 2014.	~1 mile southeast of the Missouri Flat-Gold Hill 115v Power Line.
10	Parkside Subdivision	Residential Development	Barnhill Drive at Iron Point Road	City of Folsom	78 single family units	Under construction	~1.15 mile northeast of the Missouri Flat-Gold Hill 115v Power Line.
11	The Island Subdivision	Residential Development	Parkshore Drive, east of Folsom Boulevard	City of Folsom	290 single family units and 60 affordable rental units.	Approved	~1.7 miles west of the Missouri Flat-Gold Hill 115v Power Line.
12	The Knolls Subdivision	Residential Development	Northeast corner of the intersection of East Natoma Street and Green Valley	City of Folsom	79 single family units	Under construction	~2.25 miles northeast of the Missouri Flat-Gold Hill 115v Power Line.
13	Willow Bridge Subdivision	Residential Development	South Side of Iron Point Road at McAdoo Drive	City of Folsom	115 single family units	Under construction	~0.85 miles southeast of the Missouri Flat-Gold Hill 115v Power Line.
14	Marbella at Parkway/The Collection-Trails at Folsom	Residential Development	Parkway Drive North	City of Folsom	93 single family units	Under construction	~1.80 miles east of the Missouri Flat-Gold Hill 115v Power Line.
15	Serenade Senior Apartments	Residential Development	Northwest Corner of East Natoma Street and Golf Links Drive	City of Folsom	218 Senior Apartment Units	Project on hold	~1.30 miles east of the Missouri Flat-Gold Hill 115v Power Line.



SOURCE: AECOM, 2013; City of Folsom, 2012/2013; El Dorado County, 2013

Missouri Flat Project . D207584.16

Figure 3.18-1

Cumulative Projects

would be minimized with the implementation of APM AQ-1 as described in Section 3.3, *Air Quality*. The potential for impacts associated with temporary nighttime construction experienced by residents would be minimized with the implementation of APM AE-2 and Mitigation Measure 3.1-1, as described in Section 3.1, *Aesthetics*. Overall, impacts during construction would be temporary and remain less than significant. The cumulative construction impacts on aesthetics would be less than significant because they would be temporary and the viewer would not be exposed to activities for permanent periods of time.

As discussed in Section 3.1, *Aesthetics*, impacts could result from the taller height of 44 of the 60 poles along the Missouri Flat-Gold Hill Line and taller height of the 80 of 120 poles to be replaced along the Gold Hill No. 1 Line. However, the difference in height is unlikely to be immediately perceived by motorists, recreationalists, and other users within the Project viewshed as the new poles would have a similar alignment and would be similar in appearance to the existing condition. APM AE-1, as described in Section 3.1, *Aesthetics*, would reduce significant individual effects on visual resources by reducing the potential of the Project to introduce of permanent amounts of glare along the Project alignments. With mitigation incorporated at the Project level, the cumulative operation and maintenance impacts on Aesthetics would be less than significant.

The projects described in Table 3.17-1 include numerous residential development projects in eastern Sacramento County and western El Dorado County that could alter the visual character of areas within the Project vicinity. The projects within the geographic scope of the Project that could cause impacts similar to those of the Project include the East Bidwell Complete Streets Corridor Plan, the Central El Dorado Specific Plan, the Tilden Park Commercial-Residential Development Project, and the PG&E Road and Public Utility Easement Acquisition and Temporary Use. These projects are described in greater detail in Table 3.18-1 and are shown on Figure 3.18-1, *Cumulative Projects*. Many of these projects would have the potential to contribute new visual impacts within the viewshed that could be affected by the Project from public roadways, trails, open space, and residential areas. The projects would generally be located in suburban and rural developed areas and could potentially affect the area's visual character. Future development within the Project vicinity is guided by applicable city and county General Plans and design review processes, in addition to associated planning and environmental documents.

The East Bidwell Complete Streets Corridor Plan could contribute temporal impacts during construction, but could result in an improved appearance of East Bidwell Street due to landscaping and roadway improvements. Impacts resulting from the El Dorado Specific Plan could result in potentially significant impacts due to the transformation of existing undeveloped open space area in a residential neighborhood. However, the development could be similar in appearance to surrounding developments and is proposed to contain 100 acres of open space and parks within the proposed 257 acre planned community. The Tilden Park Commercial-Residential Development Project could also result in potentially significant impacts due to the proposed development of existing open space into residential and commercial uses, changing the appearance of the landscape. The PG&E Road and Public Utility Easement project includes the construction and use of an approximately 28-foot wide by approximately 460 feet long public road to provide emergency

access to a 40-unit housing project from Sunset Lane. It is not anticipated that the easement project will create significant impacts to aesthetic values due to the lack of vegetation that would be cleared as the project area is currently a gravel drive and parking area. In addition, the project is not in the vicinity of any public parks, scenic vistas, or scenic roadways.

As discussed *Chapter 2, Project Description*, the Project would replace existing electrical infrastructure along the majority of the alignment. The Project would contribute to cumulative adverse influences where aboveground facilities or evidence of underground facilities (e.g., cleared ROWs) occupy the same field of view as other built facilities or impacted landscapes that are currently in the viewsheds of sensitive viewers in the Project area. Existing utility infrastructure (described in the impact analysis above), including transmission lines and substations, have compromised the existing visual setting in the Project vicinity. The Project, along with the past, present, and reasonably foreseeable projects, would not cause or contribute to a cumulatively significant effect because it would not dominate the landscape setting. When considered with the existing visual setting and the past, present, and reasonably foreseeable projects in the project area, the Project's contribution would not be cumulatively considerable because it would not significantly alter existing scenic quality or viewshed.

Agriculture and Forestry Resources

The geographical context of cumulative impacts on agricultural and forestry resources include agricultural and forest land within western El Dorado County and the City of Folsom. However, when considered in combination with the impacts associated with other projects in Table 3.18-1, the Project's incremental contribution to impact on agricultural and forestry resources would not be cumulatively considerable given that the Project would have no impacts with respect to such resources.

Air Quality

The geographic scope of cumulative air quality impacts includes the Mountain Counties Air Basin (MCAB) and the Sacramento Valley Air Basin (SVAB), which are designated as non-attainment for the State and federal ozone standards, the State PM10 standard, and the federal PM2.5 standard. The SVAB is also non-attainment of the State PM2.5 standard. As described in Section 3.3, *Air Quality*, pursuant to El Dorado County Air Quality Management District (EDCAQMD) policy, projects that would be consistent with the applicable air quality management plans, meet all applicable rules and regulations, and would not result in emissions that exceed EDCAQMD significance thresholds would not be considered to have a significant cumulative impact. Similarly, Sacramento Metropolitan Air Quality Management District (SMAQMD) recommends identifying significant cumulative impacts for projects that would result in emissions that would exceed the SMAQMD significance thresholds.

As discussed under Section 3.3 a) through c), the Project would be consistent with all applicable air quality plans, and average daily emissions of criteria pollutants from construction of the part of the Project in El Dorado County would be less than the adopted EDCAQMD significance thresholds and the emissions from construction of the part of the Project in Sacramento County would be less than the adopted SMAQMD significance thresholds. In addition, implementation of

Mitigation Measures 3.3-1 and 3.3-2 would ensure that all applicable SCAQMD Rule 403 fugitive dust control measures and SMAQMD Basic Construction Emission Control Practices for fugitive dust are implemented as appropriate. Therefore, construction emissions that would be associated with the Project would not be cumulatively considerable and the cumulative impact would be mitigated to less than significant. The proposed Project would require no change to PG&E's existing operation and maintenance activities, and would result in no net change in long-term emissions. Therefore¸ no operation-related cumulative impacts would occur.

Biological Resources

The cumulative context for biological resources varies depending on the biological resource. For special-status wildlife and wetland resources, the geographic scope of the analysis includes the lower foothills of the Sierra Nevada foothills ecological section. For special-status species that have distinct populations or occurrence areas, such as special-status plant species, the geographic scope includes gabbroic chaparral, foothill grassland, vernal pool, and cismontane woodland habitat within the Clarksville, Shingle Springs, Pilot Hill, and Coloma quadrangles. The temporal scope of the analysis for cumulative impacts to biological resources extends between summer of 2015 through summer of 2017.

Biological impacts resulting from Project implementation would be localized around individual utility towers and poles, limited staging areas and access roads, and approximately 1,000 feet of line undergrounding. The Project activities would result in ground-disturbance during construction, with no changes to existing operation and maintenance activities anticipated with Project implementation. Thus, Project-level impacts would be limited to the construction phase and would be less than significant following mitigation. Nonetheless, the Project would make incremental, less-than-significant contributions to cumulative impacts, if any, on the following biological resources: The Project would result in a loss of approximately 1 to 2 acres of upland habitat (0.02 acre of gabbroic chaparral habitat, 1.0 acre of white-leaf Manzanita/Sonoma sage chaparral habitat, and minor amounts of riparian habitat), approximately 225 trees (125 of which are native oak trees), and the potential loss of special-status individuals. The Project would also temporarily impact several seasonal drainages and one seasonal wetland during site access.

Cumulative projects in the area include 13 residential development projects, one road improvement project, and a road and utility easement acquisition and temporary use (see Table 3.18-1). Impacts on biological resources related to potential road improvements would include loss of relatively small areas of disturbed or fragmented habitat in areas with existing urbanization. Subdivision requests ranging from 14 residential lots to 3,236 units would require more than 1,600 acres of land, assuming a conservative average lot size of 0.5 acre; some of these subdivisions are proposed in undeveloped foothill grasslands and oak woodland habitat which could result in a large area of habitat conversion, depending on the number of lots constructed and the nature and extent of roadway and other infrastructure necessary to serve them. Indirect impacts on habitats and species also could result from the attraction of additional people, introduction of domestic pets and exotic plant species to the area. The cumulative impact of these projects on upland habitat, wetland habitat, native trees and special-status species is not significant in percentage terms relative to remaining resources, to the extent that such resources

can be assessed using publicly available digital and satellite imagery (e.g., Google Earth). However, even if there were an existing cumulative impact, the incremental contribution of the Project would not be cumulatively considerable.

Cultural Resources

The cumulative setting for cultural resources includes Sacramento and El Dorado Counties for historic period resources, and the portions of foothills identified as the territory of the local Native American community for prehistoric archaeological resources. Potential impacts to cultural resources resulting from the Project would be localized around individual utility towers and poles, and limited primarily to ground-disturbance during construction. However, with the incorporation of the Applicant Proposed Measures, impacts related to the unanticipated discovery of cultural resources during construction would be less than significant. Cumulative projects within five miles of the project area include 10 housing subdivisions, 3 specific plans for residential and commercial development, and 2 road-improvement projects. While these other projects may have impacts to cultural resources, they would be required to go through the CEQA process, including an assessment of impacts to cultural resources. Measures similar to the ones for the Project presented in Section 3.5, *Cultural Resources*, would also be implemented to comply with CEQA. The potential unanticipated discovery of cultural resources by the Project would not cause or contribute to a significant cumulative effect and would not be cumulatively considerable.

Geology, Soils, and Seismicity

Impacts on geology and soils are generally localized and do not result in regionally cumulative impacts. Geologic conditions can vary significantly over short distances creating entirely different effects elsewhere. Unless a project would alter the soils and rock underlying other adjacent projects or affect surrounding land due to landslides, impacts related to geologic, soils, and seismic hazards would be limited to the project site. The geographic scope of cumulative impacts related to geologic, soils, or seismic hazards therefore includes the Project site and any projects immediately adjacent to it. Potential impacts of the Project include: exposure of structures to seismic ground shaking and liquefaction; creation or worsening of landsliding risks at or around the project site; exposure of soil to erosive forces; and placement of structures on unstable or expansive soil. However, with the incorporation of standard construction and engineering practices, APMs GEO-1 and GEO-2, and Mitigation Measure 3.6-1, all geologic, soils, and seismic hazard impacts of the Project would be less than significant.

Three projects are located adjacent to the Missouri Hills-Gold Flat 115 kV line and are therefore within the geographic scope of cumulative geologic impacts: the PG&E Road and Public Utility Easement Acquisition and Temporary Use, which would construct a 28-foot wide road just north of the Missouri Flat-Gold Hill 115kV power line; East Bidwell Street Complete Streets Corridor Plan, which would implement transportation improvements along East Bidwell Street adjacent to the Missouri Flat-Gold Hill 115kV line in Folsom; and Tilden Park Commercial-Residential Development Project, which would develop 12 acres just north of the Missouri Flat-Gold Hill 115kV line in unincorporated El Dorado County. These projects would be constructed in accordance with the most recent version of the California Building Code construction and seismic safety requirements and recommendations contained in the respective project-specific

geotechnical reports prepared prior to their construction. For this reason, the cumulative impact would not be significant and the less-than-significant incremental Project-specific impacts on geology, soils, and seismicity would not cause or contribute to a significant cumulative effect and would not be cumulatively considerable.

Greenhouse Gas Emissions

Greenhouse gas (GHG) emissions are inherently a cumulative concern, in that the significance of GHG emissions is determined based on whether such emissions would have a cumulatively considerable impact on global climate change. Although the geographic scope of cumulative impacts related to GHG emissions is global, this analysis focuses on impacts associated with potential conflicts with California's reduction goals and this Project's direct and/or indirect generation of GHG emissions.

As discussed in *Section 3.7, Greenhouse Gas Emissions*, the total amortized GHG construction emissions in the form of CO_2e would be approximately 27 metric tons per year. Adding 27 metric tons of CO_2e to the operational emissions of 9 metric tons CO_2e per year equals a total Project annual GHG emissions rate of approximately 36 metric tons CO_2e per year, which would be substantially less than the significance threshold of 10,000 metric tons CO_2e per year, which is based on the Executive Order S-3-05 GHG emissions reductions goal of 80 percent below 1990 levels by 2050. Therefore, the GHG emissions that would be generated by the Project would not be cumulatively considerable and would not cause or contribute to a significant adverse cumulative effect related to global climate change and would not be cumulatively considerable.

Hazards and Hazardous Materials

Depending on the pathway of migration, the geographic scope for cumulative effects relating to hazards and hazardous materials would be the air basin, watershed boundary, groundwater basin, or extent of affected soils. Materials delivery routes also would be included in the event of a traffic accident-related spill. Cumulative hazards and hazardous materials-related effects could arise at any point from the Project construction or operation and related activities. Other projects in the vicinity of the Project would create similar hazardous material effects during standard construction activities.

There is no existing significant adverse cumulative condition relating to hazards and hazardous materials in the vicinity of the Project and, alone, the incremental impacts of the Project would not cause a significant adverse cumulative impact. Further, construction activities associated with the Project would increase the hazard potential in the study area by a less than significant amount, and operation of the Project would have no impact. With mitigation incorporated, the Project would result in a less-than-significant impact related to the proximity of an airport. Current and reasonably foreseeable projects would also be required to comply with measures that would minimize and/or avoid exposure of hazardous materials to people or the environment. Accordingly, no significant cumulative impact would result from the cumulative scenario to which the Project's incremental impact could contribute.

Hydrology and Water Quality

The geographic context for the cumulative impacts associated with hydrology and water quality are the Lower American, North Fork American, South Fork American, Upper Cosumnes and Lower Sacramento watersheds downstream and within the vicinity of projects identified in Table 3.18-1, as well as two groundwater subbasins, the Cosumnes Subbasin and South American Subbasin.

Construction-related impacts on water quality, associated with the Project and projects identified in Table 3.18-1 have the potential to result from several different sources. Among these sources are contamination from fuels or other hazardous materials and an increase in erosion caused by grading or vegetation clearing that leads to increased sedimentation. Vegetation may be cleared or mowed to improve existing access roads or establish overland access routes, work areas, pull sites, or helicopter landing zones for construction. In some instances, minor grading may also be needed to improve work areas or existing access roads. The Project, along with projects identified in Table 3.18-1, have the potential to adversely affect water quality temporarily because of erosion and subsequent sedimentation that can occur when off-road vehicle use or earth-disturbing activities increase.

However, the Project, along with the projects identified in Table 3.18-1, would be required to comply with applicable federal, State, and local water quality regulations, which includes obtaining coverage under the Construction General Permit, Section 401 (of the Clean Water Act) water quality certification, and/or Waste Discharge Requirements (WDRs). The Construction General Permit reduces the ability of combined sites to adversely impact water quality. Under the Construction General Permit the Project, along with the projects identified in Table 3.18-1, would be required to prepare and implement a Stormwater Pollution Prevention Plan (SWPPP), which includes storm water management measures that would effectively control erosion and sedimentation and other construction related pollutants during construction. Other management measures, such as construction of infiltration/detention basins, would be required to be identified and implemented that would effectively treat pollutants that would be expected for the post-construction land use for certain projects. Construction and operational related stormwater runoff from the Project, and other related projects within the region, would be controlled by the requirements of a National Pollution Discharge Elimination System (NPDES) permit (e.g., General Permit), WDR measures, and mitigation measures required as part of this IS/MND. Other new development in the area would also be required to control construction and operational stormwater by implementing federal, State, and local requirements regarding hydrology and water quality, as well as by requirements introduced through CEQA review where applicable. The imposition of such requirements would result in a less-than-significant cumulative impact. In addition to the applicable federal, State, and local water quality regulations, PG&E would implement APM HYDRO-1 and APM HYDRO-2 to further minimize potential construction-related impacts. Therefore, the incremental impact of the Project, in combination with the projects identified in Table 3.18-1, would not cause or contribute to a significant cumulative effect and would not be cumulatively considerable.

Land Use and Planning

Because the Project would have no adverse effect on land use and planning, there is no potential for the Project to cause or contribute to any cumulative impact to land use and planning.

Mineral Resources

There is no designated production-consumption region to which the Project alignment area belongs; for this reason, the geographic scope of cumulative impacts to mineral resources comprises the areas of Sacramento and El Dorado Counties that have been classified by the California Geological Survey under the Mineral Land Classification program. All of the cumulative projects listed in Table 3.18-1 are within this geographic scope. If the Project, along with other projects within this geographic scope, would result in the loss of availability of mineral resources of value locally or to the State, the projects could contribute to a cumulative impact on mineral resources and the Project's impact would be cumulatively considerable. However, no known mineral resources are mapped along the Project alignment and the structures built would mostly occur within existing PG&E right-of-way; thus the Project's impact on mineral resource availability would not be cumulatively considerable.

Noise

Noise levels tend to lessen quickly with distance from a source; therefore, the geographic scope for cumulative impacts associated with noise would be limited to projects within 0.5 mile of the Project boundary. Construction of the Project would result in potentially significant impacts associated with construction equipment; however, this impact would be reduced to less than significant with mitigation incorporated. Operation and maintenance activities would not result in permanent increases to existing noise levels in the study area; therefore, no impact would occur.

As identified in Table 3.18-1, there are a number of projects located within 0.5 mile of the Project that are reasonably foreseeable (in addition to past and present projects) and that would have the potential to be constructed simultaneously with the Project. If construction of these projects were to occur simultaneously with construction of the Project, the potential for impacts to nearby sensitive receptors from construction noise would increase. However, as discussed in *Section 3.12, Noise*, with implementation of Mitigation Measures 3.12-1 through 3.12-5, the Project's incremental contribution to noise levels in the Project area from construction activities and the associated nuisance would be less than significant. Other projects constructed simultaneously with the Project would be subject to applicable local noise standards as well, thereby reducing their own incremental contribution during construction. Therefore, when considered in combination with cumulative development, the Project's incremental contribution to temporary noise impacts from construction, with proposed mitigation, would not be cumulatively considerable.

Operation and maintenance of the Project would cause no impact to increases in existing noise levels in the Project area, so there is no potential for the Project to cause or contribute to any adverse cumulative effect.

Population and Housing

The geographic context for the cumulative impacts associated with population and housing issues are the unincorporated communities located in western El Dorado County and the City of Folsom; the temporal scope of impacts would include construction, operation and maintenance of the Project, in combination with build-out of the past, present, and reasonably foreseeable future projects.

Both El Dorado County and the City of Folsom are expected to undergo population growth over the next few decades. As described in *Section 3.12, Population and Housing,* by 2020, the population of El Dorado County is expected to increase 12 percent from 2010 levels to 203,095 persons while the population of the City of Folsom is expected to increase nearly 12 percent from 2010 level to 81,060 persons (U.S. Census Bureau, 2014; California Department of Finance, 2013). The projects listed in Table 3.18-1 include numerous subdivisions for single- and multi-family residences, which would have a direct impact on population growth in the study area, and other projects, which could have an indirect impact. The Project, along with the past, present, and reasonably foreseeable projects, would not cause or contribute to a cumulatively significant effect because it would have no direct impact on population growth in the study area.

Because the Project's construction crews would not be expected to relocate into the study area to construct the Project, any incremental indirect impacts on population growth associated with the Project's labor force would not be cumulatively considerable. Additionally, the cumulative projects, as well as other future development, would be subject to the applicable city and/or county planning process, as well as environmental review on a project-by-project basis. As such, build-out of the projects listed in Table 3.18-1 would not be likely to result in the inducement of substantial direct or indirect population growth in the area beyond what is planned. Accordingly, the Project's incremental impact on indirect population growth associated with the extension of infrastructure would not be cumulatively considerable.

Public Services

Project would have no effect on public services and so would not cause or contribute to any cumulative impact to public resources.

Recreation

The geographic scope of this impact is the regional recreation facilities in the study area, generally located within western El Dorado County and the City of Folsom. The temporal scope of impacts would include construction, operation and maintenance of the Project, in combination with build-out of the past, present, and reasonably foreseeable future projects.

With regards to the potential increased use of existing neighborhood and regional parks or other recreational facilities, such that substantial physical deterioration of the facility would occur or be accelerated, impacts from the Project would be temporary in nature within a limited 24-month construction period and would be less than significant. The projects identified in Table 3.18-1 include several residential projects that could increase the demand on existing park and recreation facilities and/or result in the need for new facilities within the Project vicinity by increasing the

population in the area. The Project would have no incremental demand on existing recreational facilities once construction is complete. Accordingly, no significant cumulative impact would result from the cumulative scenario to which the Project's incremental impact could contribute.

Transportation and Traffic

The geographic context for the cumulative impacts associated with transportation and traffic issues is limited to the areas where roadways would be crossed during conductor stringing activities. The temporal context for the cumulative transportation and traffic impacts is limited to the Project's construction phase. The temporary and short-term Project construction-related traffic impacts would be related to truck routes and Project area access routes used by Project-generated worker and truck trips, air traffic patterns affected by the Project's use of helicopters for some construction activities, and access for emergency service vehicles. In conjunction with other projects identified in Table 3.18-1, significant cumulative impacts could occur if construction activities (i.e., truck and worker trip-generating activities) for those other projects were to overlapping (in time and place) with the Project. Implementation of APM TRA-1 and APM TRA-2 (see *Section 3.16, Transportation and Traffic*) would ensure that the Project's contribution to any transportation and traffic-related cumulative impacts during construction would not be cumulatively considerable.

Utilities and Service Systems

The geographic scope of utilities and service system-related impacts is the service area of affected utilities and service systems, which generally is limited to the area within western El Dorado County and the City of Folsom. As described in *Section 3.17, Utilities and Service Systems,* the Project would result in no impacts to utilities during operations or maintenance. Accordingly, the timeframe within which the Project could contribute to any adverse cumulative condition would be limited to the construction period. Construction of the Project would generate solid waste; however, the Project would be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs and impacts would be less than significant. Operation of the residential projects identified in Table 3.18-1 would result in long-term increases in solid waste generation. Accordingly, no significant cumulative impact would result from the cumulative scenario to which the Project's incremental impact could contribute.

c) Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly: *LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.*

The Project has the potential to have environmental effects that could cause substantial direct or indirect adverse effects on human beings; however, the implementation of mitigation measures would reduce such impacts to less-than-significant levels. As analyzed in the context of criterion a), the Project's impacts relating to *Air Quality and Noise* could cause adverse effects on human beings. Impacts regarding soil instability during Project construction, as identified in Section 3.6, *Geology, Soils, and Seismicity*, could also occur. However, implementation of the mitigation measures identified in the respective sections of this IS/MND would reduce or avoid such impacts on human beings to a less than significant level.

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SECTION 5

Mitigation Monitoring, Reporting and Compliance Program

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PUBLIC UTILITIES COMMISSION
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MITIGATION MONITORING, REPORTING AND COMPLIANCE PROGRAM

Pacific Gas and Electric's Missouri Flat-Gold Hill 115 kV Power Line Reconductoring Project

(APPLICATION NO. A.13-08-014)

Introduction

This document describes the mitigation monitoring, reporting, and compliance program (MMRCP) for ensuring the effective implementation of the mitigation measures required for approval by the California Public Utilities Commission (CPUC) ~~approval~~ of the application by the Pacific Gas and Electric Company~~'s~~ (PG&E) ~~application~~ to construct, operate and maintain the Missouri Flat-Gold Hill 115 kV Power Line Reconductoring Project (Project). The MMRCP includes all measures proposed by PG&E (APMs), and all mitigation measures identified by the CPUC to reduce potentially significiant impacts to less than significant. ~~All mitigation measures are presented in Table 5-1 provided at the end of this MMRCP.~~

If the Project is approved, this MMRCP would serve as a self-contained general reference for the MMRCP ~~Mitigation Monitoring, Reporting and Compliance Program~~ adopted by the Commission for the Project. If and when the Project is approved by the Commission, the CPUC will compile the Final MMRCP to assure that it includes all measures ~~Plan from the Mitigation Monitoring Program in the Final Mitigated Negative Declaration (MND),~~ as adopted.

California Public Utilities Commission – MMRCP Authority

The California Public Utilities Code in numerous places confers authority upon the CPUC to regulate the terms of service and the safety, practices, and equipment of utilities subject to its jurisdiction. It is the standard practice of the CPUC, pursuant to its statutory responsibility to protect the environment, to require that mitigation measures stipulated as conditions of approval are implemented properly, monitored, and reported on. In 1989, this requirement was codified statewide as Section 21081.6 of the Public Resources Code. Section 21081.6 requires a public agency to adopt a reporting or monitoring program when it adopts a mitigated negative declaration for a project that could have potentially significant environmental effects. California Environmental Quality Act (CEQA) Guidelines Section 15097 was added in 1999 to further clarify agency requirements for mitigation monitoring and reporting.

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

The purpose of a MMRCP is to ensure that measures adopted to mitigate or avoid significant impacts of a project are implemented. The CPUC views the MMRCP as a working guide to facilitate not only the implementation of mitigation measures by the project proponent, but also the monitoring, compliance, and reporting activities of the CPUC and any monitors it may designate.

The CPUC will address its responsibility under Public Resources Code Section 21081.6 when it takes action on PG&E's application. If the CPUC approves the application, it also will adopt a MMRCP that includes the mitigation measures ultimately made ~~a~~ conditions of approval by the CPUC. Because the CPUC must decide whether or not to approve the PG&E application and because the application may cause either direct or reasonably foreseeable indirect effects on the environment, CEQA requires the CPUC to consider the potential environmental impacts that could occur as the result of its decision and to consider mitigation for any identified significant environmental impacts.

If the CPUC approves PG&E's application for authority to reinforce the electric transmission and distribution system, PG&E would be responsible for implementation of all of the Applicant Proposed Measures (APM) identified in Section 2.9 of the Final IS/MND Project Description, ~~design features (APMs)~~ and all mitigation measures governing the ~~both~~ construction, ~~and future~~ operation and maintenance of the Project. Though other federal, State, and local agencies would have permit and approval authority over some aspects of ~~construction of~~ the Project ~~power line~~, the CPUC would continue to act as the lead agency for monitoring compliance with all mitigation measures required by the adopted IS/MND. All approvals and permits obtained by PG&E would be submitted to the CPUC ~~for mitigation compliance~~ prior to commencing the activity for which the permits and approvals were obtained.

In accordance with CEQA, the CPUC reviewed the impacts that would result from approval of the application. The activities considered include replacing existing conductor (reconductoring), replacing existing poles, and modifying existing lattice steel towers on the Missouri Flat-Gold Hill 115 kilovolt (kV) Power Line (Missouri Flat-Gold Hill Line); modifying and upgrading existing substations, and temporarily converting the Gold Hill No. 1 60 kV Power Line (Gold Hill No. 1 Line), an existing 60 kV power line, to 115 kV to provide power to customers during construction of the Project.

The CPUC review concluded that implementation of the ~~Proposed~~ Project would not result in any significant unmitigable impacts. All potential impacts would be mitigated to less than significant levels or would be less than significant. PG&E has agreed to incorporate all the CPUC-recommended mitigation measures into the ~~Proposed~~ Project. The CPUC has included the stipulated mitigation measures as conditions of approval of the application and has circulated an IS/MND for public review.

Because the CPUC must decide whether or not to approve the PG&E application and because the application may cause either direct or reasonably foreseeable indirect effects on the environment, CEQA requires the CPUC to consider the potential environmental impacts that could occur as the result of its decisions and to consider mitigation for any identified significant environmental impacts.

The attached IS/MND presents and analyzes potential environmental impacts that would result from construction, operation, and maintenance of the reconductored power line and substation modifications, and recommends mitigation measures, as appropriate. Based on the IS/MND, approval of the application would have no impact or less than significant impacts in the following areas:

- Agriculture and Forestry Resources
- Energy Conservation
- Cultural Resources
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Population and Housing
- Public Services
- Recreation
- Transportation and Traffic
- Utilities and Service Systems

The IS/MND indicates that approval of the application would result in potentially significant impacts in the areas listed below, and so identifies APMs and mitigation measures that have been accepted by PG&E to reduce the significance below established thresholds.~~of:~~

- Aesthetics
- Air Quality
- Biological Resources
- Geology, Soils, and Seismicity
- Noise

Roles and Responsibilities

As the lead agency under CEQA, the CPUC is required to monitor this ~~p~~Project to ensure that the required mitigation measures and all A~~pplicant P~~roposed M~~seasures~~ are implemented. The CPUC will be responsible for ensuring full compliance with the provisions of this MMRCP and has primary responsibility for implementation of the monitoring program. The purpose of the monitoring program is to document that the mitigation measures and APMs required and relied upon by the CPUC are implemented and that mitigated environmental impacts are reduced to a less-than-significant ~~the~~ level ~~identified in the Program~~. The CPUC has the authority to halt any activity associated with the ~~proposed p~~Project if the activity is determined to be a deviation from the approved ~~p~~Project or the adopted APMs and mitigation measures.

The CPUC may delegate duties and responsibilities for monitoring to other mitigation monitors or consultants as deemed necessary. The CPUC will ensure that the person(s) delegated any duties or responsibilities are qualified to monitor compliance.

The CPUC, along with its mitigation monitor, will ensure that any variance process, which will be designed specifically for the ~~Proposed~~ Project, or deviation from the procedures identified under the monitoring program is consistent with CEQA requirements; no ~~p~~Project variance will be approved by the CPUC if it creates new significant environmental impacts. As defined in this MMRCP, a variance should be strictly limited to minor ~~p~~Project changes that will not trigger other permit requirements, that does not increase the severity of an impact or create a new impact, and that clearly and strictly complies with the intent of the mitigation measure. A change to the ~~Proposed~~ Project that has the potential for creating significant environmental effects will be evaluated to determine whether supplemental CEQA review is required. Any proposed deviation from the approved ~~p~~Project and adopted mitigation measures, including correction of such deviation, shall be reported immediately to the CPUC and the mitigation monitor assigned to the construction for their review and CPUC approval. In some cases, a variance also may require approval by a CEQA responsible agency.

Enforcement and Responsibility

The CPUC is responsible for enforcing the procedures for monitoring through the environmental monitor. The environmental monitor shall note problems with monitoring, notify appropriate agencies or individuals about any problems, and report the problems to the CPUC. The CPUC has the authority to halt any construction, operation, or maintenance activity associated with the ~~P~~project if the activity is determined to be a deviation from the approved ~~p~~Project or adopted APMs or mitigation measures. The CPUC may assign its authority to its environmental monitor.

Mitigation Compliance Responsibility

PG&E is responsible for successfully implementing all of the adopted APMs and mitigation measures in this MMRCP. The MMRCP contains criteria that define whether mitigation is successful. Standards for successful mitigation also are implicit in many mitigation measures that include such requirements as obtaining permits or avoiding a specific impact entirely. Additional mitigation success thresholds will be established by applicable agencies with jurisdiction through the permit process and through the review and approval of specific plans for the implementation of mitigation measures.

PG&E shall inform the CPUC and its mitigation monitor in writing of any mitigation measures that are not or cannot be successfully implemented. The CPUC in coordination with its mitigation monitor will assess whether alternative mitigation is appropriate and specify to PG&E the subsequent actions required.

Dispute Resolution Process

This MMRCP is expected to reduce or eliminate many of the potential disputes concerning the implementation of the adopted measures. However, in the event that a dispute occurs, the following procedure will be observed:

- **Step 1.** Disputes and complaints (including those of the public) should be directed first to the CPUC's designated Project Manager for resolution. The Project Manager will attempt to resolve the dispute.

- **Step 2.** Should this informal process fail, the CPUC Project Manager may initiate enforcement or compliance action to address deviations from the Proposed Project or adopted Mitigation Monitoring, Reporting and Compliance Program.

- **Step 3**. If a dispute or complaint regarding the implementation or evaluation of the MMRCP or the mitigation measures cannot be resolved informally or through enforcement or compliance action by the CPUC, any affected participant in the dispute or complaint may file a written "notice of dispute" with the CPUC's Executive Director. This notice should be filed in order to resolve the dispute in a timely manner, with copies concurrently served on other affected participants. Within 10 days of receipt, the Executive Director or designee(s) shall meet or confer with the filer and other affected participants for purposes of resolving the dispute. The Executive Director shall issue an Executive Resolution describing his/her decision, and serve it on the filer and other affected participants.

- **Step 4.** If one or more of the affected parties is not satisfied with the decision as described in the Resolution, such party(ies) may appeal it to the Commission via a procedure to be specified by the Commission.

Parties also may seek review by the Commission through existing procedures specified in the Commission's Rules of Practice and Procedure for formal and expedited relief.

General Monitoring Procedures

Mitigation Monitor

Many of the monitoring procedures will be conducted during the construction phase of the ~~p~~Project. The CPUC and the mitigation monitor are responsible for integrating the mitigation monitoring procedures into the construction process in coordination with PG&E. To oversee the monitoring procedures and to ensure success, the mitigation monitor assigned to the construction must be on site during that portion of construction that has the potential to create a significant environmental impact or other impact for which mitigation is required. The mitigation monitor is responsible for ensuring that all procedures specified in this MMRCP ~~the monitoring and reporting program~~ are followed.

Construction Personnel

A key feature contributing to the success of mitigation monitoring will be obtaining the full cooperation of construction personnel and supervisors. Many of the mitigation measures and APMs require action on the part of the construction supervisors or crews for successful implementation. To ensure success, the following actions, detailed in specific mitigation measures included in this ~~the~~ MMRCP, will be taken:

- PG&E shall require all contractors to comply with the conditions of project approval, including all applicable APMs and mitigation measures.

- One or more pre-construction meetings will be held to inform all and train construction personnel about the requirements of the MMRCP.

- A written summary of mitigation monitoring procedures will be provided to construction supervisors for all APMs and mitigation measures requiring their attention.

General Reporting Procedures

Site visits and specified monitoring procedures performed by other individuals will be reported to the mitigation monitor assigned to the construction. A monitoring record form will be submitted to the mitigation monitor by the individual conducting the visit or procedure so that details of the visit can be recorded and progress tracked by the mitigation monitor. A checklist will be developed and maintained by the mitigation monitor to track all procedures required for each mitigation measure and to ensure that the timing specified for the procedures is adhered to. The mitigation monitor will note any problems that may occur and take appropriate action to rectify the problems. PG&E shall provide the CPUC with written quarterly reports of the project, which shall include progress of construction, resulting impacts, mitigation implemented, and all other noteworthy elements of the ~~p~~Project. Quarterly reports shall be required as long as mitigation measures are applicable.

Public Access to Records

The public is allowed access to records and reports used to track the monitoring program. Monitoring records and reports will be made available for public inspection by the CPUC on request. The CPUC and PG&E will develop a filing and tracking system.

Condition Effectiveness Review

In order to fulfill its statutory mandates to mitigate or avoid significant effects on the environment and to design a MMRCP to ensure compliance during project implementation (Pub. Res. Code §~~CEQA~~ 21081.6):

- The CPUC may conduct a comprehensive review of conditions which are not effectively mitigating impacts at any time it deems appropriate, including as a result of the Dispute Resolution procedure outlined above; and

- If in either review, the CPUC determines that any conditions are not adequately mitigating significant environmental impacts caused by the project, or that recent proven technological advances could provide more effective mitigation, then the CPUC may impose additional reasonable conditions to effectively mitigate these impacts.

These reviews will be conducted in a manner consistent with the CPUC's rules and practices.

Mitigation Monitoring, Reporting and Compliance Program

The table attached to this MMRCP ~~program~~ presents a compilation of the APMs and mitigation measures in the IS/MND. The purpose of the table is to provide a single comprehensive list of impacts, mitigation measures, APMs, monitoring and reporting requirements, and timing. PG&E proposed ~~the following Applicant Proposed Measures (~~APMs~~)~~ to minimize impacts to the environment from implementation of the ~~Proposed~~ Project. The impact analysis in this IS/MND assumed that these APMs would be implemented as part of the Proposed Project.[1]

[1] The APMs that were previously listed here have been moved to Table 5-1.

TABLE 5-1
MITIGATION MONITORING, REPORTING, AND COMPLIANCE PROGRAM FOR THE PG&E MISSOURI FLAT-GOLD HILL 115 KV POWER LINE RECONDUCTORING PROJECT

Environmental Impact	Applicant Proposed Measures and Mitigation Measures Identified in the ~~Proposed in this~~ IS/MND	Implementing Actions	Monitoring/Reporting Requirements	Timing
Aesthetics				
Light and Glare	**APM AE-1: Include Non-Reflective Finish** Non-specular conductor and a non-reflective finish for the poles will be used to reduce the potential for new sources of glare.	PG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	During project operation.
Light and Glare	**APM AE-2: Minimize Effects of Temporary Nighttime Construction Lighting on Sensitive Receptors** If temporary lighting is required for nighttime construction, it will be focused on work areas and directed on-site to minimize potential effects with respect to nearby sensitive receptors, particularly residences.	PG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	During all phases of construction activities.
Light and Glare	**Mitigation Measure 3.1-1: Reduce construction night lighting impacts.** PG&E shall design and install all lighting at construction and storage yards and staging areas such that light bulbs and reflectors are not visible from public viewing areas; lighting does not cause reflected glare; and illumination of the Project facilities, vicinity, and nighttime sky is minimized. • Lighting shall be designed so exterior lighting is hooded, with lights directed downward or toward the area to be illuminated so that light trespass to the nighttime sky is minimized. The design of the lighting shall be such that the luminescence or light sources are shielded to minimize light trespass outside the Project boundary. • All lighting shall be of minimum necessary brightness consistent with worker safety. • Per APM NO-1, residents affected by nighttime project construction due to planned clearance restrictions will be notified.	PG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	During all phases of construction activities.
Agriculture and Forestry Resources				
No mitigation required.				

TABLE 5-1 (Continued)
MITIGATION MONITORING, REPORTING, AND COMPLIANCE PROGRAM FOR THE PG&E MISSOURI FLAT-GOLD HILL 115 KV POWER LINE RECONDUCTORING PROJECT

Environmental Impact	Applicant Proposed Measures and Mitigation Measures Identified in the ~~Proposed in this~~ IS/MND	Implementing Actions	Monitoring/Reporting Requirements	Timing
Air Quality ~~and Greenhouse Gas Emissions~~				
Fugitive Dust	**APM AQ-1: Minimize Fugitive Dust** PG&E will minimize fugitive dust during construction by implementing the following measures, which comply with EDCAQMD and SMAQMD requirements: • Reduce the amount of the disturbed area where possible. • Use water trucks or sprinkler systems in sufficient quantity to prevent airborne dust from leaving the site. Increase watering frequency whenever wind speeds exceed 15 miles per hour (mph). Use reclaimed non potable water whenever possible. Do not use non-potable water in or around crops intended for human consumption. • Implement permanent dust control measures as soon as possible following completion of any soil-disturbing activities. • Enforce a policy that vehicle speed for all construction vehicles is not to exceed 15 mph on any unpaved surface. • Water all active construction areas as needed to suppress dust. Base the frequency on the type of operation and the soil and wind exposure. • Cover or maintain at least two feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. • Cover inactive storage piles. • Sweep public roads if visible soil material is carried out from a work site. • Post a publicly visible sign with the phone number for the EDCAQMD for compliance in reporting any Rule 205 (Nuisance) violations, as well as the telephone number and person to contact regarding dust complaints. Instruct this person to respond to complaints and take corrective action within 48 hours. • Limit the area of earth-disturbing activities at any one time.	PG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	During all phases of construction activities.

TABLE 5-1 (Continued)
MITIGATION MONITORING, REPORTING, AND COMPLIANCE PROGRAM FOR THE PG&E MISSOURI FLAT-GOLD HILL 115 KV POWER LINE RECONDUCTORING PROJECT

Environmental Impact	Applicant Proposed Measures and Mitigation Measures Identified in the ~~Proposed in this~~ IS/MND	Implementing Actions	Monitoring/Reporting Requirements	Timing
Air Quality ~~and Greenhouse Gas Emissions~~ (cont.)				
Exposure to Diesel Particulate Matter (DPM)	**APM AQ-2: Minimize Vehicle and Equipment Emissions** PG&E will minimize vehicle emissions during project construction by implementing the following measures: • Maintain construction equipment in proper working conditions in accordance with PG&E standards. • Minimize unnecessary construction vehicle idling time. The ability to limit construction vehicle idling time will depend 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, so that idling is reduced as far as possible below the maximum of 5 consecutive minutes allowed by California law; if a vehicle is not required for use immediately or continuously for construction activities, its engine will be shut off. Construction foremen will include briefings to crews on vehicle use as part of pre-construction conferences. Those briefings will include discussion of a "common sense" approach to vehicle use. • Minimize construction equipment exhaust by using low-emission or electric construction equipment where feasible. Portable diesel-fueled construction equipment with engines 50 hp or larger and manufactured in 2000 or later will be registered under the CARB Statewide Portable Equipment Registration Program. • Minimize welding and cutting by using compression of mechanical applications where practical and within standards. • Encourage use of natural gas powered vehicles for passenger cars and light duty trucks where feasible and available.	PG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	During all phases of construction activities.

TABLE 5-1 (Continued)
MITIGATION MONITORING, REPORTING, AND COMPLIANCE PROGRAM FOR THE PG&E MISSOURI FLAT-GOLD HILL 115 KV POWER LINE RECONDUCTORING PROJECT

Environmental Impact	Applicant Proposed Measures and Mitigation Measures Identified in the ~~Proposed in this~~ IS/MND	Implementing Actions	Monitoring/Reporting Requirements	Timing
Air Quality ~~and Greenhouse Gas Emissions~~ (cont.)				
Exposure to Naturally Occurring Asbestos (NOA)	**APM AQ-3: Minimize Potential Naturally Occurring Asbestos Emissions** The project will develop a preemptive Asbestos Dust Mitigation Plan to identify all necessary best management practices that will be implemented if NOA is encountered at any time during construction. The Asbestos Dust Mitigation Plan will be compliant with the requirements of CARB's Asbestos ATCM, EDCAQMD's Rule 223-2 (Fugitive Dust – Asbestos Hazard Mitigation), and SMAQMD's Rule 902 (Asbestos). Before beginning any earth-disturbing activities in areas identified in Section 3.6, Geology and Soils (i.e., "areas more likely to contain asbestos," "areas where the presence of asbestos is possible but unlikely," "areas moderately likely to contain NOA," or "areas least likely to contain naturally occurring asbestos"), a geological evaluation will be performed by a registered geologist to determine whether NOA is present. In addition, before beginning any earth-disturbing activities that will occur within 50 feet of residences and 500 feet of schools, a geological evaluation also will be performed by a registered geologist, to test for the presence of NOA. If NOA is detected during any geological evaluation or during subsequent construction activities, PG&E will minimize NOA emissions by implementing the Asbestos Dust Mitigation Plan, which will comply with the requirements of CARB's Asbestos ATCM, EDCAQMD's Rule 223-2 (Fugitive Dust – Asbestos Hazard Mitigation), and SMAQMD's Rule 902 (Asbestos). CARB's Asbestos ATCM includes asbestos management requirements that range from creating and implementing an Asbestos Dust Mitigation Plan, observing pre-notifications of construction activities, maintaining construction best management practices, meeting post-construction stabilization requirements, and performing administrative recordkeeping. Construction best management practices include monitoring all potential NOA emission sources: road dust (e.g., limiting vehicle speeds); earth-disturbing activities (e.g., watering before, during, and after disturbance); track-out from work sites (e.g., washing equipment and vehicle tires); material export (e.g., haul truck material handling requirements); and post-construction stabilization (e.g., covering,	PG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	Prior to construction and during all phases of construction activities.

TABLE 5-1 (Continued)
MITIGATION MONITORING, REPORTING, AND COMPLIANCE PROGRAM FOR THE PG&E MISSOURI FLAT-GOLD HILL 115 KV POWER LINE RECONDUCTORING PROJECT

Environmental Impact	Applicant Proposed Measures and Mitigation Measures Identified in the ~~Proposed in this~~ IS/MND	Implementing Actions	Monitoring/Reporting Requirements	Timing
Air Quality ~~and Greenhouse Gas Emissions~~ (cont.)				
Exposure to Naturally Occurring Asbestos (NOA) (cont.)	chemical stabilizers, or vegetation). In addition, prior to construction, PG&E will consult with the local air district or air pollution control officer, to determine if air monitoring for asbestos will be required. The project will comply with EDCAQMD's Rule 223-2, which provides a list of best management practices to minimize the generation of asbestos dust from construction activities. The Asbestos Dust Mitigation Plan will include, but will not be limited to measures from EDCAQMD's Rule 223-2, as applicable. Implementation of the following asbestos best management practices for the project would be required where applicable, to ensure adequate performance of the Asbestos Dust Mitigation Plan: ***Backfilling*** • Mix backfill soil with water before moving the soil. • Have a dedicated water truck or a high-capacity hose connected to backfilling equipment. • Empty the loader bucket slowly to prevent dust plumes from being generated. • Minimize the drop height from the loader bucket. ***Clearing and Grubbing*** • Maintain live perennial vegetation where possible. • Apply water in sufficient quantity to prevent generation of visible dust. ***Cut and Fill*** • Pre-water with sprinklers or water trucks and allow time for penetration. • Use water as necessary to minimize dust. • Install upwind fencing to prevent material movement on site. • Suspend operations when winds generate visible dust emissions despite control measures. • Use tarps or other suitable enclosures on haul trucks. • Provide water while loading and unloading to reduce visible dust plumes.			

TABLE 5-1 (Continued)
MITIGATION MONITORING, REPORTING, AND COMPLIANCE PROGRAM FOR THE PG&E MISSOURI FLAT-GOLD HILL 115 KV POWER LINE RECONDUCTORING PROJECT

Environmental Impact	Applicant Proposed Measures and Mitigation Measures Identified in the ~~Proposed in this~~ IS/MND	Implementing Actions	Monitoring/Reporting Requirements	Timing
Air Quality ~~and Greenhouse Gas Emissions~~ (cont.)				
Exposure to Naturally Occurring Asbestos (NOA) (cont.)	• If excavated material is classified as a hazardous waste material, verify that off-site transport complies with state and federal rules and regulations. ***Disturbed Soil*** • Limit vehicular traffic and disturbances on soils where possible. • Limit vehicle speeds to 15 miles per hour. • Apply water or a stabilizing agent in sufficient quantities to prevent generation of visible dust plumes. ***General Site Management*** • Wash mud and soil from equipment and vehicles after completing earth-disturbing activities to prevent them from crusting and drying. • Prohibit the use of blower devices, dry rotary brushes, or dry brooms. • Restrict vehicular access to established, unpaved travel paths and parking lots, to meet stabilization requirements. • Document all locations and quantities of cut and fill, and off-site soil transport. • Provide signage at work sites that meet Occupational Safety and Health Administration requirements.			
Air Quality Standards and Net Increase of Any Criteria Pollutant	**Mitigation Measure 3.3-1:** The following SCAQMD Rule 403 Best Available Fugitive Dust Control Measures shall be implemented during construction, where applicable, within El Dorado County: • For inactive disturbed surfaces, either: apply water to at least 80 percent of all inactive disturbed surface areas on a daily basis when there is evidence of wind driven fugitive dust (excluding any areas which are inaccessible due to excessive slope or other safety conditions); or apply dust suppressants to inactive disturbed surface areas in sufficient quantity and frequency to maintain a stabilized surface; or establish a vegetative ground cover within 21 days after active operations have ceased; (ground cover must be of sufficient density to expose less than 30 percent of unstabilized ground within 90 days of planting); or	PG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	During all phases of construction activities.

TABLE 5-1 (Continued)
MITIGATION MONITORING, REPORTING, AND COMPLIANCE PROGRAM FOR THE PG&E MISSOURI FLAT-GOLD HILL 115 KV POWER LINE RECONDUCTORING PROJECT

Environmental Impact	Applicant Proposed Measures and Mitigation Measures Identified in the ~~Proposed in this~~ IS/MND	Implementing Actions	Monitoring/Reporting Requirements	Timing
Air Quality ~~and Greenhouse Gas Emissions~~ (cont.)				
Air Quality Standards and Net Increase of Any Criteria Pollutant (cont.)	utilize any combination of these controls together to control fugitive dust on all inactive disturbed surface areas. • Water all unpaved roads used for any vehicular traffic once daily, during dry weather conditions. • To control track-out, pave or apply chemical stabilization at sufficient concentration and frequency to maintain a stabilized surface starting from the point of intersection with the public paved surface, and extending for a centerline distance of at least 100 feet and a width of at least 20 feet; or pave from the point of intersection with the public paved road surface, and extending for a centerline distance of at least 25 feet and a width of at least 20 feet, and install a track-out control device immediately adjacent to the paved surface such that exiting vehicles do not travel on any unpaved road surface after passing through the track-out control device. • When wind gusts exceed 25 mph, implement the applicable Best Available Fugitive Dust Control Measures for High Wind Conditions identified in Appendix C-1, Table C.5 of the EDCAQMD Guide to Air Quality Assessment Determining Significance of Air Quality Impact Under the California Environmental Quality Act (EDCAQMD, 2002).			
	Mitigation Measure 3.3-2: The following SMAQMD Basic Construction Emission Control Practices shall be implemented during construction, where applicable, within Sacramento County: • Water all exposed surfaces two times daily. Exposed surfaces include, but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads; • Any haul trucks that would be traveling along freeways or major roadways should be covered; and • Use wet power vacuum street sweepers to remove any visible track-out mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited.	PG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	During all phases of construction activities.

TABLE 5-1 (Continued)
MITIGATION MONITORING, REPORTING, AND COMPLIANCE PROGRAM FOR THE PG&E MISSOURI FLAT-GOLD HILL 115 KV POWER LINE RECONDUCTORING PROJECT

Environmental Impact	Applicant Proposed Measures and Mitigation Measures Identified in the ~~Proposed in this~~ IS/MND	Implementing Actions	Monitoring/Reporting Requirements	Timing
Biological Resources				
Special-status Species	**APM BIO-1: General Biological Resources Measures** ***APM BIO-1.1: Worker Environmental Awareness Training Program.*** A qualified biologist will develop an environmental awareness training program that is specific for the project. All on-site construction personnel will attend the training before they begin work on the project. Training will include a discussion of the avoidance and minimization measures that are being implemented to protect biological resources as well as the terms and conditions of project permits. Training will include information about the FESA and CESA, special-status species as defined in the Regulatory Setting (Section 3.4.2) and the Special-Status Species section, and the consequences of noncompliance with these acts. Under this program, workers will be informed about the presence, life history, and habitat requirements of all special-status species that may be affected in the project area. Training also will include information on State and federal laws protecting nesting birds, wetlands, and other water resources. An educational brochure will be produced for construction crews working on the project. The brochure will include color photos of sensitive species as well as a discussion of relevant APMs. ***APM BIO-1.2: Identification and Marking of Sensitive Resource Areas.*** Sensitive resource areas identified during pre-construction surveys in the project area will be clearly marked in the field or on project maps. Sensitive resource areas will include active bird nests within specified buffer zones (see APM BIO-3), special-status plants adjacent to work sites, special-status vegetation types adjacent to work sites, and vernal pool and wetland boundaries in and adjacent to work sites. Such areas will be avoided during construction to the extent practicable. ***APM BIO-1.3: Construction Monitoring.*** A qualified biologist will monitor construction activities in sensitive habitats previously identified by a qualified biologist. The monitor will ensure implementation of and compliance with all avoidance and mitigation measures. The monitor will have the authority to stop or redirect work if construction activities are likely to affect sensitive biological resources. If a listed wildlife species is encountered during construction, project activities will cease in the area where the animal is found until the	PG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	Prior to commencement of construction activities, and during all phases of construction activities.

TABLE 5-1 (Continued)
MITIGATION MONITORING, REPORTING, AND COMPLIANCE PROGRAM FOR THE PG&E MISSOURI FLAT-GOLD HILL 115 KV POWER LINE RECONDUCTORING PROJECT

Environmental Impact	Applicant Proposed Measures and Mitigation Measures Identified in the ~~Proposed in this~~ IS/MND	Implementing Actions	Monitoring/Reporting Requirements	Timing
Biological Resources (cont.)				
	biologist determines the animal has moved out of harm's way, or with prior authorization from the USFWS and/or CDFW if necessary, relocates the animal out of harm's way, and/or takes other appropriate steps to protect the animal. Work may resume once the biologist has determined that construction activities will not harm any listed wildlife species. If recommended by the biologist, a temporary silt-fence barrier will be installed to prevent wildlife species from entering the work area(s) during project activities. The biological monitor will be responsible for any necessary reporting to USFWS and/or CDFW of any capture and relocation, or inadvertent harm, entrapment or death of a listed species.			
Native Trees	***APM BIO-1.4: Tree Removal and Mitigation.*** Trees being felled in the vicinity of a sensitive resource area exclusion zone will be directionally felled away from the zone, where possible. Trees and other vegetation that are removed from the project area will be removed using equipment and access routes that avoid sensitive resource areas. Oak tree removal will be minimized to what is required to implement the project. Oak trees greater than 6 inches diameter at breast height (dbh), or having multiple trunks with an aggregate over 10 inches dbh, that are removed will be documented and replaced based on a 1:1 ratio or other measure derived through coordination with El Dorado County that provides an equal level of compensation.			
Special-Status Species	***APM BIO-2: Special-Status Species Pre-construction Surveys.*** Before project construction begins, a qualified biologist will perform a pre-construction survey for work areas within 100 feet of suitable habitat for special-status species. If any special-status species are found nearby but outside the proposed work area, they will not be disturbed. If recommended by the biologist, a temporary silt-fence barrier will be installed to prevent special-status species from entering the work area(s) during project activities. If a special-status species is found in a work area Prior to commencement of construction activities, the biologist will relocate the species out of harm's way (if prior authorization from USFWS and CDFW is not required for the species), or with prior authorization from USFWS and/or CDFW if necessary, and/or take other appropriate steps to protect the animal.	PG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	Prior to commencement of construction activities,

TABLE 5-1 (Continued)
MITIGATION MONITORING, REPORTING, AND COMPLIANCE PROGRAM FOR THE PG&E MISSOURI FLAT-GOLD HILL 115 KV POWER LINE RECONDUCTORING PROJECT

Environmental Impact	Applicant Proposed Measures and Mitigation Measures Identified in the ~~Proposed in this~~ IS/MND	Implementing Actions	Monitoring/Reporting Requirements	Timing
Biological Resources (cont.)				
Active Nests	**APM BIO-3: Special-Status Bird Measures** Before project activities in proximity to nesting birds begins, PG&E will obtain the applicable permit or follow relevant protocol that is authorized by Section 3503 and/or Section 3503.5 of the California Fish and Game Code, or by any regulation adopted pursuant thereto, pertaining to nesting birds. If no such permit or protocol is available under the above authorities before project construction begins, PG&E will comply with the following measure: ***APM BIO-3.1: Pre-construction Survey and Avoidance of Active Nests.*** For any tree trimming or other potential nest-disturbing activities to be conducted between February 1 and August 31, a qualified biologist will conduct a pre-construction survey for nesting birds. The survey will be conducted no more than one week prior to the start of work activities and will cover all affected 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 biologist. The standard buffers included in PG&E's Avian Conservation Strategy (e.g., 50 to 400 feet from non-special-status bird nests, 75 to 350 feet from non-raptor special-status bird nests, and 300 to 1,320 feet from raptor nests, depending on species) will serve as a guideline for exclusion zones, but may be modified on a site-specific basis as determined by the biologist. To the extent practicable, no project vehicles, chain saws, 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. If it is not practicable to avoid work in an exclusion zone around an active nest (e.g., a bird is sitting on eggs or bird activity is such that the nest could be interpreted as active, per USFWS [2003] *Migratory Bird Permit Memorandum*), work activities will be modified to minimize disturbance of nesting birds but may proceed in these zones at the discretion of the biologist. 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 determines that particular activities pose a high risk of disturbing an active nest, the biologist will recommend additional, feasible measures to minimize the risk of nest disturbance, potentially including temporary cessation of work activities near active nests.	PG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	Prior to commencement of construction activities, and during all phases of construction activities.

TABLE 5-1 (Continued)
MITIGATION MONITORING, REPORTING, AND COMPLIANCE PROGRAM FOR THE PG&E MISSOURI FLAT-GOLD HILL 115 KV POWER LINE RECONDUCTORING PROJECT

Environmental Impact	Applicant Proposed Measures and Mitigation Measures Identified in the ~~Proposed in this~~ IS/MND	Implementing Actions	Monitoring/Reporting Requirements	Timing
Biological Resources (cont.)				
Special-Status Species: Valley Elderberry Longhorn Beetle	**APM BIO-4: Valley Elderberry Longhorn Beetle Habitat Avoidance and Mitigation** PG&E's Valley Elderberry Longhorn Beetle Conservation Program allows PG&E to perform routine operations and maintenance activities and new construction, subject to certain terms and conditions as specified in the USFWS Biological Opinion (File 1-1-01-F-0114). The Biological Opinion provides for thirty years of incidental take coverage and was initiated on June 27, 2003. It defines reasonable and prudent measures required to avoid and minimize impacts to habitat for the federally listed valley elderberry longhorn beetle (VELB). PG&E will implement the surveying, avoidance, and any necessary compensation measures required for the Conservation Program as authorized by USFWS. These measures may include, for example: (1) surveying for and flagging all elderberry plants with one or more stems measuring 1 inch or more in diameter at ground level that are within 20 feet of work sites; (2) avoiding all such elderberry plants to the extent feasible; and (3) reporting unavoidable impacts to elderberry shrubs to USFWS for coverage under the Conservation Program's funding of VELB habitat acquisition, development, and protection.	PG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	Prior to commencement of construction activities, and during all phases of construction activities.
Special-Status Plants	**APM BIO-5: Special-Status Plant Avoidance and Impact Minimization Measures** In addition to APM BIO-1 and APM BIO-2, the following measures will be implemented in gabbroic chaparral habitat in and immediately east of the BLM Pine Hill Preserve, and south of U.S. 50, where the highway borders the BLM Pine Hill Preserve, to avoid and minimize impacts on special-status plants. ***APM BIO-5.1: Seasonal Timing Restrictions.*** If a special-status annual plant species is present, any work that may impact the plant will occur after plant senescence and prior to the first significant rain, to the extent practicable. ***APM BIO-5.2: Noxious Weed Assessment and Control Plan.*** Prior to the commencement of construction activities in the BLM Pine Hill Preserve, a Noxious Weed Assessment and Control Plan will be developed and implemented for work in the BLM Pine Hill Preserve. The plan will assess the areas at risk for noxious weed	PG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	Prior to commencement of construction activities, and during all phases of construction activities. Post-project monitoring to be applied in accordance with the Rare Plant Strategy.

TABLE 5-1 (Continued)
MITIGATION MONITORING, REPORTING, AND COMPLIANCE PROGRAM FOR THE PG&E MISSOURI FLAT-GOLD HILL 115 KV POWER LINE RECONDUCTORING PROJECT

Environmental Impact	Applicant Proposed Measures and Mitigation Measures Identified in the ~~Proposed in this~~ IS/MND	Implementing Actions	Monitoring/Reporting Requirements	Timing
Biological Resources (cont.)				
Special-Status Plants (cont.)	introduction and/or spread and will identify measures for equipment and vehicle inspection. ***APM BIO-5.3: Plant Salvage Requirements.*** Prior to the commencement of construction activities in the BLM Pine Hill Preserve or other areas within the Project footprint known to support rare plant populations, PG&E will refine its Rare Plant Strategy that specifies salvage and propagation methods for listed plants, as well as pre- and post-Project monitoring methods. The Rare Plant Strategy will be submitted to USFWS for review and approval as may be required in the biological opinion from USFWS. At a minimum, the Strategy will include information such as: methods of collection of reproductive structures from affected plants, restoration techniques for temporarily disturbed occurrences, assessments of potential transplant and enhancement sites, success and performance criteria (e.g., documented germination of collected seed within an equal or larger area than affected by the project), and monitoring programs (e.g., 3 to 5 years), as well as measures to ensure long-term site sustainability, as required by USFWS during the Section 7 consultation process. Prior to construction, the location of special-status plants that will be affected by grading and excavation will be surveyed and documented, and the seeds and/or rhizomes of special-status plants that may be destroyed during construction will be collected in accordance with the Rare Plant Strategy. Following construction, which plants were permanently or temporarily impacted by the project will be determined. Collected seeds and/or rhizomes will be planted per planting guidelines described in the Rare Plant Strategy in coordination with BLM and USFWS. Post-project monitoring methods will be applied in accordance with the Rare Plant Strategy to determine if propagation activities met the success criteria described in the Rare Plant Strategy. ***APM BIO-5.4: Topsoil Stockpiling Requirements.*** Where grading or excavation is required in gabbroic chaparral habitat, and where noxious weeds are absent, the upper 4 inches of topsoil will be stockpiled separately during grading or excavations, following any necessary plant salvage efforts. When this topsoil is replaced, compaction will be minimized to the extent consistent with utility standards.			

TABLE 5-1 (Continued)
MITIGATION MONITORING, REPORTING, AND COMPLIANCE PROGRAM FOR THE PG&E MISSOURI FLAT-GOLD HILL 115 KV POWER LINE RECONDUCTORING PROJECT

Environmental Impact	Applicant Proposed Measures and Mitigation Measures Identified in the ~~Proposed in this~~ IS/MND	Implementing Actions	Monitoring/Reporting Requirements	Timing
Biological Resources (cont.)				
Special-Status Plants	***APM BIO-5.5: Locking Gate Installation.*** Following project completion, and upon agreement of private landowners, locking gates will be installed at the two main roads leading into the BLM Pine Hill Preserve to limit unauthorized vehicle access that may threaten special-status plant populations.			
Special-Status Plants	**APM BIO-6: Special-Status Plant Impact Mitigation** To compensate for permanent impacts on special-status plants, PG&E will explore options with USFWS, and will implement the preferred option. The options may include: on-site planting of propagated seeds and cuttings in accordance with the USFWS-approved Rare Plant Strategy; and/or providing funding to the BLM Pine Hill Preserve for the purpose of habitat enhancement, management, and/or monitoring of gabbroic chaparral habitat.	PG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	During all phases of construction activities.
Wetlands	**APM BIO-7: Seasonal Wetland Protection** Seasonal wetlands that may provide habitat for special-status species will not be entered. Travel across seasonal wetlands that do not provide such habitat will be limited to the greatest extent feasible. Where travel across seasonal wetlands is necessary, it will occur during dry conditions to avoid soil compaction and mixing. If travel is required during wet conditions, matting and other protection measures will be implemented to avoid soil compaction or mixing. Matting and other protection measures will be approved by the biological monitor before work at that location begins. During construction monitoring, the biological monitor may temporarily stop construction work if matting and protection measures are inadequately applied; construction work may resume after matting and other protection measures are installed effectively to protect seasonal wetlands.	PG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	Prior to commencement of construction activities, and during all phases of construction activities.
Special-Status Species: Vernal Pool Invertebrates	**Mitigation Measure 3.4-1:** In areas where construction vehicles require crossing over seasonal wetlands and vernal pools that have the potential to support vernal pool invertebrates (crustacean habitat), the following protective measures would be implemented to reduce the effects of surface disturbance and compaction: a) No equipment or materials shall be stored in or adjacent to seasonal wetlands or vernal pools.	PG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	During all phases of construction activities.

TABLE 5-1 (Continued)
MITIGATION MONITORING, REPORTING, AND COMPLIANCE PROGRAM FOR THE PG&E MISSOURI FLAT-GOLD HILL 115 KV POWER LINE RECONDUCTORING PROJECT

Environmental Impact	Applicant Proposed Measures and Mitigation Measures Identified in the ~~Proposed in this~~ IS/MND	Implementing Actions	Monitoring/Reporting Requirements	Timing
Biological Resources (cont.)				
Special-Status Species: Vernal Pool Invertebrates (cont.)	b) Prior to allowing any vehicles or heavy equipment to cross a seasonal wetland, the Project proponent or its contractor shall employ geotextile fabric, wooden mats, or similar protective materials to protect the ground surface in areas where vehicles would encroach upon vernal pool crustacean habitat. Such materials would distribute the weight of vehicles and equipment over a greater area and prevent significant disturbance of soil in these areas. The project proponent or its contractor shall ensure that adequate calculations have been conducted prior to implementation of this measure to ensure the wooden mats can adequately distribute the weight of vehicles and heavy equipment to prevent compaction. c) Materials shall only remain in the wetland areas as long as necessary for the completion of work			
Active Nests	**Mitigation Measure 3.4-2:** The following measure supplements APM BIO-3.1, (i.e. using the nest buffer areas described in APM BIO 3.1 as guidance). The PG&E biologist shall coordinate with CDFW to determine whether work, as modified to minimize disturbance of nesting birds may proceed in an exclusion zone around an active nest (if avoidance is not practicable). If any nests that are fully formed and have the potential to support eggs are found, the biologist shall monitor the nest for potential nesting activities. Project activities are only allowed to commence after it is determined that the nest is not actively being used by nesting birds, unless approved in coordination with CDFW per previous sentence. The biologist will monitor all work occurring within exclusion zones daily when construction is occurring and assess their effect on the nesting birds. If the biologist determines that particular activities pose a high risk of disturbing an active nest, the biologist will recommend additional feasible measures to minimize the risk of nest disturbance, potentially including temporary cessation of work activities within exclusion zones near active nests.	PG&E and its contractors to implement measure as defined.	PG&E biologist to coordinate with CDFW regarding construction activities within a nesting bird exclusion zone. CPUC mitigation monitor to inspect compliance.	During all phases of construction activities.
Rare Plants	**Mitigation Measure 3.4-3:** In addition to the areas within the BLM Pine Hill Preserve, PG&E will apply the measures identified in APM BIO-5.3 to other areas within the project footprint known to support rare plant populations.	PG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	Prior to commencement of construction activities. Post-project propagation in accordance with Rare Plant Strategy.

TABLE 5-1 (Continued)
MITIGATION MONITORING, REPORTING, AND COMPLIANCE PROGRAM FOR THE PG&E MISSOURI FLAT-GOLD HILL 115 KV POWER LINE RECONDUCTORING PROJECT

Environmental Impact	Applicant Proposed Measures and Mitigation Measures Identified in the ~~Proposed in this~~ IS/MND	Implementing Actions	Monitoring/Reporting Requirements	Timing
Biological Resources (cont.)				
Rare Plants (cont.)	**Mitigation Measure 3.4-4:** In addition to the measures described in APM BIO-6, PG&E will provide notification to CDFW at least 10 days prior to affecting special-status plants to allow for the salvage of special-status plants (~~CDFG Section~~ Fish and Game Code §~~10~~913(c)).	PG&E and its contractors to implement measure as defined.	PG&E to provide notification to CDFW.	At least 10 days prior to affecting special-status plants.
Native Trees	**Mitigation Measure 3.4-5:** Retained oak trees over 6" diameter at breast height (dbh) or having multiple trunks with an aggregate over 10" dbh, or sensitive natural community trees, located adjacent to ground-disturbing construction activities that could damage tree roots, shall be protected through the implementation of the following protective measures: a) A Tree Protection Zone (TPZ) shall be established between any such retained tree or group of trees and the ground-disturbing construction activities. The TPZ shall be 1.5 times the radius of the dripline (canopy edge). However, a smaller TPZ may be approved by the CPUC monitor in coordination with the qualified biologist and construction personnel if necessary due to topography or other reasons, if the CPUC monitor concludes that the smaller TPZ is adequate to protect the tree(s) from significant impacts. b) The TPZ of any protected trees shall be marked with high visibility fencing, which shall remain in place for the duration of ground-disturbing construction activities in the area. c) Construction-related activities, including grading, trenching, or drilling shall be prohibited within the TPZ. No construction-related vehicles, personal vehicles, or machinery shall be operated or parked within the TPZ. No construction materials, equipment, machinery, or other supplies shall be stored within a TPZ. No wires or signs shall be attached to any tree. d) Where the TPZ cannot be fully implemented as described in Mitigation Measure 3.4-5a through c, and construction-related activities are determined by the CPUC monitor to have a significant impact to a retained oak tree such that tree health may decline over time and result in tree mortality at a rate faster than normally expected, the CPUC monitor will determine whether the tree shall be removed or retained. Mitigation for the removed or retained tree is defined in Mitigation Measure 3.4-6, below.	PG&E and its contractors to implement measure as defined.	A Tree Protection Zone (TPZ) shall be established around any tree or group of trees to be retained. CPUC mitigation monitor to inspect compliance.	Prior to commencement of construction activities. During all phases of construction activities.

TABLE 5-1 (Continued)
MITIGATION MONITORING, REPORTING, AND COMPLIANCE PROGRAM FOR THE PG&E MISSOURI FLAT-GOLD HILL 115 KV POWER LINE RECONDUCTORING PROJECT

Environmental Impact	Applicant Proposed Measures and Mitigation Measures Identified in the ~~Proposed in this~~ IS/MND	Implementing Actions	Monitoring/Reporting Requirements	Timing
Biological Resources (cont.)				
Native Trees (cont.)	**Mitigation Measure 3.4-6:** Removed native oak trees and retained native oak trees (as defined in Policy 7.4.5.2) that are significantly impacted by construction-related activities and determined by the CPUC monitor to potentially decline and result in tree mortality at a rate faster than expected, shall be mitigated through replacement at a 1:1 ratio. The number of trees planted may be greater than the 1:1 ratio to achieve at least 100 percent replacement of impacted trees at the end of the monitoring period. As part of this mitigation, PG&E shall prepare an Oak Mitigation Plan when tree planting locations have been determined. The plan shall include, but is not limited to, details of the number of oak trees to be planted, based on the final total of trees removed or significantly impacted (Mitigation Measure 3.4-5d) by the Project, specific planting locations, maintenance and irrigation needs, monitoring requirements (i.e., at least 5 years monitoring plant vigor and growth), reporting requirements (e.g., annual reporting to the CPUC), and success criteria to be met before monitoring is concluded (e.g., 100 percent survival at a 1:1 replacement ratio; an independent assessment of "good" overall tree vigor; and tree viability without irrigation). The Oak Mitigation Plan shall be submitted to the CPUC for review and approval prior to implementation.	PG&E and its contractors to implement measure as defined.	PG&E shall prepare an Oak Mitigation Plan. CPUC mitigation monitor to inspect compliance.	Subsequent to selection of tree planting locations.
Cultural Resources				
Historical, Archaeological, and Paleontological Resources	**APM CUL-1: Develop and Implement Worker Environmental Awareness Program Prior to Construction** PG&E will design and implement a worker environmental awareness program that will be provided to all project personnel involved in earth-moving activities. No construction worker will be involved in field operations without having participated in the worker environmental awareness program. The worker environmental awareness program will include a kick-off tailgate session to present site avoidance requirements and procedures to be followed if unanticipated cultural or paleontological resources are discovered during project implementation, and a discussion of actions that could be taken against persons violating historic preservation laws and PG&E policies. Key project workers involved with ground-disturbing activities will receive a pamphlet listing how to identify a cultural resource or fossil and what to do if	PG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	Prior to commencement of construction activities.

TABLE 5-1 (Continued)
MITIGATION MONITORING, REPORTING, AND COMPLIANCE PROGRAM FOR THE PG&E MISSOURI FLAT-GOLD HILL 115 KV POWER LINE RECONDUCTORING PROJECT

Environmental Impact	Applicant Proposed Measures and Mitigation Measures Identified in the ~~Proposed in this~~ IS/MND	Implementing Actions	Monitoring/Reporting Requirements	Timing
Cultural Resources (cont.)				
Historical, Archaeological, and Paleontological Resources (cont.)	an unanticipated discovery is made during construction. The worker environmental awareness training may be conducted in concert with other environmental or safety awareness and education training programs for the project, and may be recorded for use in subsequent training sessions.			
Historical and Archaeological Resources	**APM CUL-2: Manage Unanticipated Cultural Resources Discoveries Properly** In the unlikely event that previously unidentified cultural resources are uncovered during project implementation, all work within 100 feet of the discovery will be halted and redirected to another location. The find will be secured, and a CPUC-approved, qualified cultural resources specialist/archaeologist will be contacted immediately. The specialist will inspect the discovery and determine whether further investigation is required. If the discovery can be avoided and no further impacts will occur, the resource shall be documented on California State Department of Parks and Recreation cultural resource record forms and no further effort shall be required. If additional disturbance to the resource cannot be avoided, a CPUC-approved, qualified cultural resources specialist/ archaeologist will evaluate the resource's significance and CRHR eligibility and determine whether it is (1) eligible for the CRHR (and thus a historical resource for purposes of CEQA); or (2) a unique archaeological resource as defined by CEQA. If the resource is determined to be neither a unique archaeological nor an historical resource, work may commence in the area. If the resource meets the criteria for either an historical or unique archaeological resource, or both, work shall remain halted, and the cultural resources specialist/archaeologist shall consult with CPUC staff regarding methods to ensure that no substantial adverse change would occur to the significance of the resource pursuant to CEQA Guidelines Section 15064.5(b). Preservation in place, i.e. avoidance, is the preferred method of mitigation for impacts to cultural resources. Other methods to be considered shall include evaluation, collection, recordation, and analysis of any significant cultural materials in accordance with a Cultural Resources Management Plan prepared by the CPUC approved qualified	PG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	During all phases of construction activities.

TABLE 5-1 (Continued)
MITIGATION MONITORING, REPORTING, AND COMPLIANCE PROGRAM FOR THE PG&E MISSOURI FLAT-GOLD HILL 115 KV POWER LINE RECONDUCTORING PROJECT

Environmental Impact	Applicant Proposed Measures and Mitigation Measures Identified in the ~~Proposed in this~~ IS/MND	Implementing Actions	Monitoring/Reporting Requirements	Timing
Cultural Resources (cont.)				
Historical and Archaeological Resources (cont.)	cultural resource specialist/archaeologist. The methods and results of evaluation or data recovery work at an archaeological find will be documented in a professional-level technical report to be filed with the NCIC. If previously unidentified cultural resources are uncovered during project implementation on BLM land, procedures will be similar to those described above; however, if additional disturbance to a cultural resource cannot be avoided, PG&E will evaluate the significance and NRHP eligibility per Section 106 of the NHPA in consultation with BLM. Any cultural resource or paleontological work conducted on BLM lands will be conducted under a valid cultural resource and paleontological use permit issued by the BLM California State office, and may require a fieldwork authorization by the local field office. Cultural materials and paleontological resources collected under a BLM-use permit will be curated in an accredited museum repository.			
Human Remains	**APM CUL-3: Follow Statutory Requirements for Treatment of Human Remains** In the unlikely event that human remains or suspected human remains are uncovered during pre-construction testing or during construction, all work within 100 feet of the discovery will be halted and redirected to another location. The find will be secured, and a CPUC-approved, qualified cultural resources specialist will be contacted immediately to inspect the find and determine whether the remains are human. If the remains are not human, the cultural resources specialist will determine whether the find is an archaeological deposit and whether APM CUL-2 applies. If the remains are human, the cultural resources specialist will immediately implement the provisions in PRC Sections 5097.9 through 5097.996, beginning with the immediate notification to the affected county coroner. The coroner has 2 working days to examine human remains after being notified. If the coroner determines that the remains are Native American, California Health and Safety Code 7050.5 and PRC Section 5097.98 require that the cultural resources specialist contact the NAHC within 24 hours. The NAHC, as required by PRC Section 5097.98, determines and notifies the Most Likely Descendant.	PG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	During all phases of construction activities.

TABLE 5-1 (Continued)
MITIGATION MONITORING, REPORTING, AND COMPLIANCE PROGRAM FOR THE PG&E MISSOURI FLAT-GOLD HILL 115 KV POWER LINE RECONDUCTORING PROJECT

Environmental Impact	Applicant Proposed Measures and Mitigation Measures Identified in the ~~Proposed in this~~ IS/MND	Implementing Actions	Monitoring/Reporting Requirements	Timing
Cultural Resources (cont.)				
Human Remains (cont.)	If potential human remains are discovered during any project activity on lands administered by BLM, the procedures identified in NAGPRA will be closely adhered to and the following steps will be taken: 1. All activities that may further disturb the potential human remains will cease immediately in the vicinity of the discovery. 2. PG&E will take appropriate steps to secure and protect human remains and any funerary objects from further disturbance. 3. PG&E's cultural resources specialist will notify BLM's archaeologist by telephone within 24 hours of discovery, followed within 3 days by written confirmation. Human remains or associated funerary objects will not be excavated or otherwise removed unless a permit is issued under ARPA and after consultation between the appropriate Native American representative(s), BLM, and PG&E. 4. The activity that resulted in the inadvertent discovery will not resume until clearance is provided by BLM.			
Historical and Archaeological Resources	**APM CUL-4: Flag and Avoid Cultural Resources** The boundaries of all known cultural resources that lie within 100 feet of a designated work area will be marked with flagging tape, safety fencing, and/or a sign designating it as an "environmentally sensitive area" to ensure that PG&E construction crews and heavy equipment will not intrude on these resources during construction. For those eligible or potentially eligible sites that contain an existing access road within their site boundary, the road will be used as-is (i.e., no grading, widening, or other substantial improvements), and signs or safety fencing will be established on either side of the road within the site's boundary to avoid impacts caused by construction vehicles. If it is infeasible or impractical to use an access road as-is, and grading, widening or other substantial improvement is necessary, PG&E will implement mitigation or treatment measures specific to the resource potentially affected by the work. Examples of such measures would include preservation in place, and evaluation, collection, recordation, and analysis of any significant cultural materials.	PG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	During all phases of construction activities.

TABLE 5-1 (Continued)
MITIGATION MONITORING, REPORTING, AND COMPLIANCE PROGRAM FOR THE PG&E MISSOURI FLAT-GOLD HILL 115 KV POWER LINE RECONDUCTORING PROJECT

Environmental Impact	Applicant Proposed Measures and Mitigation Measures Identified in the ~~Proposed in this~~ IS/MND	Implementing Actions	Monitoring/Reporting Requirements	Timing
Cultural Resources (cont.)				
Paleontological Resources	**APM CUL-5: Avoid Paleontologically Sensitive Locations** No direct impacts on fossil-bearing deposits (ground disturbance) will occur within the approximately 0.29-acre project area containing Quaternary alluvium just west of Empire Ranch Road and the El Dorado-Sacramento County boundary. However, should project development result in the disturbance of this geologic unit at a depth of 10 feet or greater, a qualified paleontologist will be retained as needed to ensure that impacts on any potential paleontological resources are avoided. If fossil remains are uncovered during project implementation, all work within 50 feet of the discovery will be halted and the construction crew immediately will notify PG&E. A paleontologist will be retained by PG&E and approved by the CPUC to evaluate the resource. If the discovery can be avoided and no further impacts will occur, no further effort shall be required. If the resource cannot be avoided and may be subject to further impact, the CPUC-approved paleontologist shall evaluate the resource and determine whether it is "unique" under CEQA, Appendix G, part V. If the resource is determined to not be unique, work may commence in the area. If the resource is determined to be a unique paleontological resource, work shall remain halted, and the paleontologist shall consult with CPUC staff regarding methods to ensure that no substantial adverse change would occur to the significance of the resource pursuant to CEQA. Preservation in place, i.e. avoidance, is the preferred method of mitigation for impacts to paleontological resources. Other methods include ensuring that the fossils are recovered, prepared, identified, catalogued, and analyzed according to current professional standards under the direction of a qualified paleontologist. All recovered fossils shall be curated at an accredited and permanent scientific institution according to Society of Vertebrate Paleontology standard guidelines (SVP [2010]) standards; typically the Natural History Museum of Los Angeles County and UC Berkeley accept paleontological collections at no cost to the donor. Work may commence upon completion of treatment, as approved by the CPUC. Components of the treatment plan related to "unique" fossil specimens that are encountered during construction may include a field survey, additional construction monitoring, specific sampling and data recovery procedures, museum storage coordination for any specimen recovered, and a report of findings.	PG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	During all phases of construction activities.

TABLE 5-1 (Continued)
MITIGATION MONITORING, REPORTING, AND COMPLIANCE PROGRAM FOR THE PG&E MISSOURI FLAT-GOLD HILL 115 KV POWER LINE RECONDUCTORING PROJECT

Environmental Impact	Applicant Proposed Measures and Mitigation Measures Identified in the ~~Proposed in this~~ IS/MND	Implementing Actions	Monitoring/Reporting Requirements	Timing
Geology, Soils, and Seismicity				
Loose Soils	**APM GEO-1: Minimization of Construction in Soft or Loose Soils** Where soft or loose soils are encountered during project construction, appropriate measures will be implemented to avoid, accommodate, replace, or improve such soils. Depending on site-specific conditions and permit requirements, these measures may include: • locating construction facilities and operations away from areas of soft and loose soil; • over-excavating soft or loose soils and replacing them with engineered backfill materials; • increasing the density and strength of soft or loose soils through mechanical vibration and/or compaction; • installing material over access roads such as aggregate rock, steel plates, or timber mats; and • treating soft or loose soils in place with binding or cementing agents.	PG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	During all phases of construction activities.
Slope Instability	**APM GEO-2: Reduction of Slope Instability during Construction** Existing natural or temporarily constructed slopes affected by construction or operations will be evaluated for stability by qualified construction staff at the beginning of each construction day that employees may be exposed to the areas immediately upslope or downslope from the area of concern can be reasonably anticipated. In developing grading and construction procedures for access roads, the stability of both temporary and permanent cut, fill, and otherwise affected slopes will be analyzed. Construction slopes and grading will be designed to limit the potential for slope instability and minimize the potential for erosion and flooding during construction. During construction, slopes affected by construction activities will be monitored by qualified construction staff and maintained in a stable condition. Construction activities likely to result in slope instability will be suspended, as necessary, during and immediately following periods of heavy precipitation when unstable slopes are more susceptible to failure.	PG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	During all phases of construction activities.

TABLE 5-1 (Continued)
MITIGATION MONITORING, REPORTING, AND COMPLIANCE PROGRAM FOR THE PG&E MISSOURI FLAT-GOLD HILL 115 KV POWER LINE RECONDUCTORING PROJECT

Environmental Impact	Applicant Proposed Measures and Mitigation Measures Identified in the ~~Proposed in this~~ IS/MND	Implementing Actions	Monitoring/Reporting Requirements	Timing
Geology, Soils, and Seismicity (cont.)				
Soil Instability	**Mitigation Measure 3.6-1:** If grading plans are required, designs will be signed by a professional engineer and submitted to CPUC for approval within a reasonable timeframe prior to construction initiation.	PG&E and its contractors to implement measure as defined.	PG&E to submit grading plans to CPUC.	Prior to commencement of grading activities.
Greenhouse Gas Emissions				
Construction GHG Emissions	**APM GHG-1: Minimize GHG Emissions** • Maintain construction equipment in proper working conditions in accordance with PG&E standards. • Minimize unnecessary construction vehicle idling time. The ability to limit construction vehicle idling time will depend 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, so that idling is reduced as far as possible below the maximum of 5 consecutive minutes allowed by California law; if a vehicle is not required for use immediately or continuously for construction activities, its engine will be shut off. Construction foremen will include briefings to crews on vehicle use as part of pre-construction conferences. Those briefings will include discussion of a "common sense" approach to vehicle use. • Minimize construction equipment exhaust by using low-emission or electric construction equipment where feasible. Portable diesel fueled construction equipment with engines 50 hp or larger and manufactured in 2000 or later will be registered under the CARB Statewide Portable Equipment Registration Program. • Minimize welding and cutting by using compression of mechanical applications where practical and within standards. • Encourage use of natural gas powered vehicles for passenger cars and light-duty trucks where feasible and available.	PG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	During all phases of construction activities and maintenance.

TABLE 5-1 (Continued)
MITIGATION MONITORING, REPORTING, AND COMPLIANCE PROGRAM FOR THE PG&E MISSOURI FLAT-GOLD HILL 115 KV POWER LINE RECONDUCTORING PROJECT

Environmental Impact	Applicant Proposed Measures and Mitigation Measures Identified in the ~~Proposed in this~~ IS/MND	Implementing Actions	Monitoring/Reporting Requirements	Timing
Greenhouse Gas Emissions (cont.)				
Operation GHG Emissions	**APM GHG-2: Minimize SF_6 Emissions** • Incorporate the new breakers at Gold Hill Substation into PG&E's system-wide SF_6 emission reduction program. CARB has adopted the Regulation for Reducing Sulfur Hexafluoride Emissions from Gas Insulated Switchgear sections 95350 to 95359, title 17, California Code of Regulations, which requires that company-wide SF_6 emission rate not exceed 1 percent by 2020. Since 1998, PG&E has implemented a programmatic plan to inventory, track, and recycle SF_6 inputs, and inventory and monitor system-wide SF_6 leakage rates to facilitate timely replacement of leaking breakers. PG&E has improved its leak detection procedures and increased awareness of SF_6 issues within the company. X-ray technology is now used to inspect internal circuit breaker components to eliminate dismantling of breakers, reducing SF_6 handling and accidental releases. As an active member of EPA's SF_6 Emission Reduction Partnership for Electrical Power Systems, PG&E has focused on reducing SF_6 emissions from its transmission and distribution operations and has reduced the SF_6 leak rate by 89 percent and absolute SF_6 emissions by 83 percent. • Require that breakers to be replaced at Gold Hill Substation have a manufacturer's guaranteed maximum leakage rate of 0.5 percent per year or less for SF_6. • Maintain substation breakers in accordance with PG&E's maintenance standards. • Comply with CARB Early Action Measures as these policies become effective.	PG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	During all phases of construction activities, and during Project operation and maintenance.
Hazards and Hazardous Materials				
Exposure to Hazardous Materials	**APM HAZ-1: Hazardous-Substance Control and Emergency Response** PG&E will implement a Hazardous Substance Control and Emergency Response Plan, which will identify methods and techniques to minimize exposure of the public and construction workers to potentially hazardous materials during all phases of project implementation. The Hazardous Substance Control and	PG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	During all phases of construction activities and maintenance.

TABLE 5-1 (Continued)
MITIGATION MONITORING, REPORTING, AND COMPLIANCE PROGRAM FOR THE PG&E MISSOURI FLAT-GOLD HILL 115 KV POWER LINE RECONDUCTORING PROJECT

Environmental Impact	Applicant Proposed Measures and Mitigation Measures Identified in the ~~Proposed in this~~ IS/MND	Implementing Actions	Monitoring/Reporting Requirements	Timing
Hazards and Hazardous Materials (cont.)				
Exposure to Hazardous Materials (cont.)	Emergency Response Plan shall be submitted to the CPUC prior to the start of construction activities. The procedures require PG&E to provide worker training in hazardous-substance control and emergency response that is appropriate to the workers' roles. The procedures also require implementation of appropriate control methods and approved containment and spill-control practices for construction and materials stored in the project area. If it is necessary to store chemicals, the chemicals will be managed in accordance with all applicable regulations. Material safety data sheets will be maintained and kept available in the project area, as applicable. Project construction may require blading/leveling of the soil surface and excavation or auguring to a depth of approximately 24 feet. However, if soils suspected of contamination (based on visual, olfactory, or other evidence) are removed during grading or excavation/auguring activities, the excavated soil will be tested. If they are contaminated above hazardous-waste levels, those soils will be contained and disposed of at a licensed waste facility. Any known or suspected contaminated soil will undergo testing and investigation procedures, supervised by a qualified person as appropriate, to meet the requirements of 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 will include but will not be limited to the following measures: • proper disposal of potentially contaminated soils; • establishment of project area–specific buffers for construction vehicles and equipment located near sensitive resources; and • implementation of emergency-response and reporting procedures to address spills of hazardous materials.			
Wildland Fire	**APM HAZ-2: Smoking and Fire Rules** Smoking will be permitted only in designated smoking areas or within the cabs of vehicles or equipment.	PG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	During all phases of construction activities.

TABLE 5-1 (Continued)
MITIGATION MONITORING, REPORTING, AND COMPLIANCE PROGRAM FOR THE PG&E MISSOURI FLAT-GOLD HILL 115 KV POWER LINE RECONDUCTORING PROJECT

Environmental Impact	Applicant Proposed Measures and Mitigation Measures Identified in the ~~Proposed in this~~ IS/MND	Implementing Actions	Monitoring/Reporting Requirements	Timing
Hazards and Hazardous Materials (cont.)				
Wildland Fire	**APM HAZ-3: Fire Risk Management** Project personnel will be directed to park away from dry vegetation. During fire season in designated SRAs, all motorized equipment driving off paved or maintained gravel/dirt roads will have federally approved or State-approved spark arrestors. All off-road vehicles will be equipped with a backpack pump (filled with water) and a shovel. Fire-resistant mats and/or windscreens will be used when welding. In addition, during fire "red flag" conditions (as determined by CAL FIRE), welding will be curtailed. Every fuel truck will carry a large fire extinguisher with a minimum rating of 40 B:C, and all flammable materials will be removed from equipment parking and storage areas.	PG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	During all phases of construction activities.
Hydrology and Water Quality				
Water Quality and Erosion	**APM HYDRO-1: Stormwater Pollution Prevention Plan** PG&E will file a Notice of Intent with the SWRCB for coverage under the General Construction Storm Water Permit and will prepare and implement an SWPPP in accordance with General Order No. 2009-0009-DWQ, as amended, which typically includes measures such as placement of straw wattles or silt fencing, flagging, mulching, seeding and other means to help stabilize disturbed areas and reduce erosion and sedimentation.	PG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	Prior to construction.
Water Quality and Drainage	**APM HYDRO-2: Water Feature Protection Requirements** Where access through hydrologic resources are required, PG&E shall install temporary bridges or plates over drainages (spanning the ordinary high water mark) and install fiberglass or wood matting in wetland features to reduce water quality impacts to these features.	PG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	During all phases of construction activities.
Land Use and Planning				
No mitigation required.				
Mineral Resources				
No mitigation required.				

TABLE 5-1 (Continued)
MITIGATION MONITORING, REPORTING, AND COMPLIANCE PROGRAM FOR THE PG&E MISSOURI FLAT-GOLD HILL 115 KV POWER LINE RECONDUCTORING PROJECT

Environmental Impact	Applicant Proposed Measures and Mitigation Measures Identified in the ~~Proposed in this~~ IS/MND	Implementing Actions	Monitoring/Reporting Requirements	Timing
Noise				
Construction Noise	**APM NO-1: Minimize Noise-Related Disruption by Notifying Residents** Should nighttime project construction be necessary because of planned clearance restrictions, affected residents will be notified at least 7 days in advance by mail, personal visit, or door hanger and informed of the expected work schedule.	PG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	At least 7 days prior to nighttime construction activities.
Construction Noise	**APM NO-2: Minimize Noise with Portable Barriers** Compressors and other small stationary equipment used during project construction will be shielded with portable barriers if the equipment is located near noise-sensitive receptors.	PG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	During all phases of construction activities.
Construction Noise	**Mitigation Measure 3.12-1:** Construction activity shall be limited to between the hours of 7:00 a.m. and 6:00 p.m., Monday through Friday, and 8:00 a.m. and 5:00 p.m. on weekends, and on federally-recognized holidays, except with CPUC approval to conduct certain work during electrical line clearances pursuant to Mitigation Measure 3.12-2, or where necessary to ensure worker safety.	PG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	During all phases of construction activities.
	Mitigation Measure 3.12-2: In the event that limited nighttime (i.e., between 6:00 p.m. and 7:00 a.m.) construction activity is determined to be necessary for safety reasons or for line clearance reasons within 500 feet of an occupied residential dwelling unit, a nighttime noise reduction plan shall be developed by PG&E and submitted to the CPUC for review and approval at least 30 days prior to commencement of construction activities. The noise reduction plan shall include a set of site-specific noise attenuation measures that apply state of the art noise reduction technology to ensure that nighttime construction noise levels and associated nuisance are reduced. The measures shall include, but not be limited to, the control strategies and methods for implementation that are listed below. • Plan construction activities to minimize the amount of nighttime construction. • Provide notice to all residences within 500 feet of planned nighttime construction activities that includes the specific night(s) and approximate timeframe when construction activities would occur.	PG&E and its contractors to implement measure as defined.	If necessary, a nighttime noise reduction plan shall be developed by PG&E and submitted to the CPUC for review and approval. CPUC mitigation monitor to inspect compliance.	Prior to the start of nighttime construction activities. During all phases of construction activities.

TABLE 5-1 (Continued)
MITIGATION MONITORING, REPORTING, AND COMPLIANCE PROGRAM FOR THE PG&E MISSOURI FLAT-GOLD HILL 115 KV POWER LINE RECONDUCTORING PROJECT

Environmental Impact	Applicant Proposed Measures and Mitigation Measures Identified in the ~~Proposed in this~~ IS/MND	Implementing Actions	Monitoring/Reporting Requirements	Timing
Noise (cont.)				
Construction Noise (cont.)	• Offer temporary relocation of residents within 200 feet of nighttime construction activities that would occur after 10:00 p.m. • Temporary noise barriers, such as acoustical shields and/or blankets, shall be installed immediately adjacent to all nighttime stationary noise sources (e.g., generators, pumps) that block the line of sound between nighttime activities and the closest residences.			
	Mitigation Measure 3.12-3: PG&E and/or the construction contractor shall employ noise-reducing practices during construction of the Project, including, but not necessarily limited to: locating equipment as far as practical from noise sensitive uses; requiring that all construction equipment powered by gasoline or diesel engines have sound-control devices that are at least as effective as those originally provided by the manufacturer; ensuring that all equipment be operated and maintained to minimize noise generation; and prohibiting gasoline or diesel engines from having unmuffled exhaust.	PG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	During all phases of construction activities.
	Mitigation Measure 3.12-4: At least 30 days prior to the start of construction, PG&E or the construction contractor shall notify residences (and other noise-sensitive receptors) within 200 feet of the construction areas of the construction schedule and the associated potential nuisance in writing.	PG&E and its contractors to implement measure as defined.	PG&E to notify residences and noise-sensitive receptors within 200 feet of construction area of the construction schedule and potential nuisance.	At least 30 days prior to commencement of construction activities.
	Mitigation Measure 3.12-5: At least 30 days prior to the start of helicopter-related construction activities, written notifications shall be provided to residences and other noise-sensitive receptors within 500 feet of the helicopter landing zone, tower modification site, and flight path that include the specific dates and time of day that the helicopter-related activities are expected to occur.	PG&E and its contractors to implement measure as defined.	PG&E to notify residences and noise-sensitive receptors within 500 feet of helicopter landing zone, tower modification site, and flight path of helicopter-related construction activities.	At least 30 days prior to commencement of helicopter-related construction activities.
Population and Housing				
No mitigation required.				
Public Services				
No mitigation required.				

TABLE 5-1 (Continued)
MITIGATION MONITORING, REPORTING, AND COMPLIANCE PROGRAM FOR THE PG&E MISSOURI FLAT-GOLD HILL 115 KV POWER LINE RECONDUCTORING PROJECT

Environmental Impact	Applicant Proposed Measures and Mitigation Measures Identified in the ~~Proposed in this~~ IS/MND	Implementing Actions	Monitoring/Reporting Requirements	Timing
Recreation				
Temporary Recreation Effects	**APM REC-1: Coordination with Park and Open Space Management and Signage** PG&E will coordinate closely with park and open space management for temporary public land closures during project construction activities. If traditional access is temporarily unavailable, signs advising recreational facility users of construction activities, including directions to alternative trails and/or bikeways, will be posted at entrance gates to park and open space areas. Signage will be posted at least 1 week in advance of construction, near parks and open space areas.	PG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	At least 1 week in advance of construction, during all phases of construction activities.
Transportation and Traffic				
Air Traffic Patterns	**APM TRA-1: Air Transit and Neighborhood Coordination** PG&E will implement the following protocols that pertain to helicopter use during construction and air traffic: • PG&E will comply with all applicable FAA regulations regarding air traffic within 2 miles of the project alignment. • PG&E's helicopter operator will coordinate all project helicopter operations with the local airport before and during project construction. • PG&E does not anticipate that residents will be required to temporarily vacate their homes or businesses. In the unlikely event that final construction plans require otherwise, PG&E will coordinate with potentially affected residents or businesses to minimize the duration of the necessary work and any resultant inconvenience.	PG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	During all phases of construction activities.
Road Closures and Emergency Access	**APM TRA-2: Temporary Traffic Controls** PG&E will obtain any necessary transportation and/or encroachment permits, including those for the U.S. 50 crossings and transport of oversized loads and certain materials, and will comply with permit requirements designed to prevent excessive congestion or traffic hazards during lane closures. PG&E will develop lane closure/width reduction or traffic diversion plans as required by the encroachment permits. Construction activities that are in, along, or cross local roadways will follow best management practices and/or local jurisdictional encroachment permit requirements, to minimize impacts to traffic and transportation in the project area.	PG&E and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	During all phases of construction activities.

TABLE 5-1 (Continued)
MITIGATION MONITORING, REPORTING, AND COMPLIANCE PROGRAM FOR THE PG&E MISSOURI FLAT-GOLD HILL 115 KV POWER LINE RECONDUCTORING PROJECT

Environmental Impact	Applicant Proposed Measures and Mitigation Measures Identified in the ~~Proposed in this~~ IS/MND	Implementing Actions	Monitoring/Reporting Requirements	Timing
Utilities and Service Systems				
No mitigation required.				

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SECTION 6
Comments and Responses

6.1 Introduction

This chapter includes copies of the comment letters received during the public review period on the Draft IS/MND and the responses to those comments. A total of five comment letters were received in response to the Draft IS/MND for PG&E's Missouri Flat-Gold Hill 115kV Power Line Reconductoring Project application (A.13-08-014).

6.2 List of Comment Letters Received

The comment letters received on the Draft IS/MND are listed below in Table 6-1 in order of date. Each comment letter has been assigned a corresponding alphabet letter designation.

TABLE 6-1
LIST OF WRITTEN COMMENTERS

Letter	Commenter	Date
A	Central Valley Regional Water Quality Control Board (RWQCB)	January 15, 2015
B	California Department of Transportation (Caltrans), District 3	January 22, 2015
C	California Department of Fish and Wildlife (CDFW)	January 26, 2015
D	Sacramento Municipal Utility District (SMUD)	January 29, 2015
E	Pacific Gas and Electric Company (PG&E)	February 6, 2015

6.3 Responses to Comments

This section contains responses to all of the substantive comments received on the Draft IS/MND during the public review period (December 23, 2014 through February 6, 2015). Each comment letter was assigned a letter according to the system identified previously (e.g., A, B, etc.). Each substantive comment was assigned a comment number (e.g., A-1, A-2, etc.). On the following pages of this section, each comment letter is reproduced in its entirety followed by the response to each comment within the letter. The comments received resulted in minor revisions to the Draft IS/MND, as addressed in this section and reflected in the text changes in sections 2 through 5.

Comment Letter A

15 January 2015

Connie Chen
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102

CERTIFIED MAIL
7014 2120 0001 3978 4351

COMMENTS TO REQUEST FOR REVIEW FOR THE MITIGATED NEGATIVE DECLARATION, MISSOURI FLAT-GOLD HILL 115KV POWER LINE RECONDUCTORING PROJECT, SCH# 2014122065, EL DORADO AND SACRAMENTO COUNTIES

Pursuant to the State Clearinghouse's 24 December 2014 request, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has reviewed the *Request for Review for the Mitigated Negative Declaration* for the Missouri Flat-Gold Hill 115 kV Power Line Reconductoring Project, located in El Dorado and Sacramento Counties.

Our agency is delegated with the responsibility of protecting the quality of surface and groundwaters of the state; therefore our comments will address concerns surrounding those issues.

Construction Storm Water General Permit

Dischargers whose project disturb one or more acres of soil or where projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction Activities (Construction General Permit), Construction General Permit Order No. 2009-009-DWQ. Construction activity subject to this permit includes clearing, grading, grubbing, disturbances to the ground, such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP).

A-1

For more information on the Construction General Permit, visit the State Water Resources Control Board website at:
http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml.

Phase I and II Municipal Separate Storm Sewer System (MS4) Permits[1]

The Phase I and II MS4 permits require the Permittees reduce pollutants and runoff flows from new development and redevelopment using Best Management Practices (BMPs) to the maximum extent practicable (MEP). MS4 Permittees have their own development standards, also known as Low Impact Development (LID)/post-construction standards that include a hydromodification component. The MS4 permits also require specific design concepts for LID/post-construction BMPs in the early stages of a project during the entitlement and CEQA process and the development plan review process.

A-2

For more information on which Phase I MS4 Permit this project applies to, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/municipal_permits/.

For more information on the Phase II MS4 permit and who it applies to, visit the State Water Resources Control Board at:
http://www.waterboards.ca.gov/water_issues/programs/stormwater/phase_ii_municipal.shtml

Industrial Storm Water General Permit

Storm water discharges associated with industrial sites must comply with the regulations contained in the Industrial Storm Water General Permit Order No. 97-03-DWQ.

A-3

For more information on the Industrial Storm Water General Permit, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/industrial_general_permits/index.shtml.

Clean Water Act Section 404 Permit

If the project will involve the discharge of dredged or fill material in navigable waters or wetlands, a permit pursuant to Section 404 of the Clean Water Act may be needed from the United States Army Corps of Engineers (USACOE). If a Section 404 permit is required by the USACOE, the Central Valley Water Board will review the permit application to ensure that discharge will not violate water quality standards. If the project requires surface water drainage realignment, the applicant is advised to contact the Department of Fish and Game for information on Streambed Alteration Permit requirements.

A-4

If you have any questions regarding the Clean Water Act Section 404 permits, please contact the Regulatory Division of the Sacramento District of USACOE at (916) 557-5250.

[1] Municipal Permits = The Phase I Municipal Separate Storm Water System (MS4) Permit covers medium sized Municipalities (serving between 100,000 and 250,000 people) and large sized municipalities (serving over 250,000 people). The Phase II MS4 provides coverage for small municipalities, including non-traditional Small MS4s, which include military bases, public campuses, prisons and hospitals.

Clean Water Act Section 401 Permit – Water Quality Certification

If an USACOE permit (e.g., Non-Reporting Nationwide Permit, Nationwide Permit, Letter of Permission, Individual Permit, Regional General Permit, Programmatic General Permit), or any other federal permit (e.g., Section 9 from the United States Coast Guard), is required for this project due to the disturbance of waters of the United States (such as streams and wetlands), then a Water Quality Certification must be obtained from the Central Valley Water Board prior to initiation of project activities. There are no waivers for 401 Water Quality Certifications.

A-5

Waste Discharge Requirements

If USACOE determines that only non-jurisdictional waters of the State (i.e., "non-federal" waters of the State) are present in the proposed project area, the proposed project will require a Waste Discharge Requirement (WDR) permit to be issued by Central Valley Water Board. Under the California Porter-Cologne Water Quality Control Act, discharges to all waters of the State, including all wetlands and other waters of the State including, but not limited to, isolated wetlands, are subject to State regulation.

For more information on the Water Quality Certification and WDR processes, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/help/business_help/permit2.shtml.

A-6

Regulatory Compliance for Commercially Irrigated Agriculture

If the property will be used for commercial irrigated agricultural, the discharger will be required to obtain regulatory coverage under the Irrigated Lands Regulatory Program.
There are two options to comply:

1. **Obtain Coverage Under a Coalition Group.** Join the local Coalition Group that supports land owners with the implementation of the Irrigated Lands Regulatory Program. The Coalition Group conducts water quality monitoring and reporting to the Central Valley Water Board on behalf of its growers. The Coalition Groups charge an annual membership fee, which varies by Coalition Group. To find the Coalition Group in your area, visit the Central Valley Water Board's website at: http://www.waterboards.ca.gov/centralvalley/water_issues/irrigated_lands/app_approval/index.shtml; or contact water board staff at (916) 464-4611 or via email at IrrLands@waterboards.ca.gov.

2. **Obtain Coverage Under the General Waste Discharge Requirements for Individual Growers, General Order R5-2013-0100**. Dischargers not participating in a third-party group (Coalition) are regulated individually. Depending on the specific site conditions, growers may be required to monitor runoff from their property, install monitoring wells, and submit a notice of intent, farm plan, and other action plans regarding their actions to comply with their General Order. Yearly costs would include State administrative fees (for example, annual fees for farm sizes from 10-100 acres are currently $1,084 + $6.70/Acre); the cost to prepare annual monitoring reports; and water quality monitoring costs. To enroll as an Individual Discharger under the Irrigated Lands Regulatory

A-7

Program, call the Central Valley Water Board phone line at (916) 464-4611 or e-mail board staff at IrrLands@waterboards.ca.gov.

A-7 cont.

Low or Limited Threat General NPDES Permit

If the proposed project includes construction dewatering and it is necessary to discharge the groundwater to waters of the United States, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. Dewatering discharges are typically considered a low or limited threat to water quality and may be covered under the General Order for *Dewatering and Other Low Threat Discharges to Surface Waters* (Low Threat General Order) or the General Order for *Limited Threat Discharges of Treated/Untreated Groundwater from Cleanup Sites, Wastewater from Superchlorination Projects, and Other Limited Threat Wastewaters to Surface Water* (Limited Threat General Order). A complete application must be submitted to the Central Valley Water Board to obtain coverage under these General NPDES permits.

A-8

For more information regarding the Low Threat General Order and the application process, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2013-0074.pdf

For more information regarding the Limited Threat General Order and the application process, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2013-0073.pdf

If you have questions regarding these comments, please contact me at (916) 464-4684 or tcleak@waterboards.ca.gov.

Trevor Cleak
Environmental Scientist

cc: State Clearinghouse unit, Governor's Office of Planning and Research, Sacramento

6.3.1 Letter A – Responses to Comments from RWQCB

A-1 The commenter lists requirements for the Construction General Storm Water General Permit. IS/ MND Sections 2.7.1.9, 3.6.2, and 3.9.2 summarize water quality regulations that are applicable to the Project, which includes obtaining coverage under the Construction General Permit. The Project would be required to comply with applicable federal, State, and local water quality regulations. Moreover, per BMPs contained in the stormwater pollution prevention plan (SWPPP) and the requirements of Applicant Proposed Measure (APM) HYDRO-1, "PG&E will file a Notice of Intent (NOI) with the SWRCB for coverage under the General Construction Storm Water Permit and will prepare and implement an SWPPP in accordance with General Order No. 2009-0009-DWQ, which typically includes measures such as placement of straw wattles or silt fencing, flagging, mulching, seeding and other means to help stabilize disturbed areas and reduce erosion and sedimentation" (p. 2-49). The implementation and enforcement of this APM would be required by the Mitigation Monitoring, Reporting, and Compliance Program (MMRCP) if the Project is approved. See Section 5.

A-2 The commenter discusses requirements for Phase I and Phase II Municipal Separate Storm Water Systems (MS4). These requirements are acknowledged. IS/ MND Section 3.9.2 summarizes the water quality regulations that apply to the Project, including compliance with MS4 requirements (p. 3.9-5): "…Post-construction requirements require that construction sites match pre-project hydrology to ensure that the physical and biological integrity of aquatic ecosystems are sustained in their existing condition, unless the site is located within an area subject to the post-construction standards of an active Phase I or II municipal separate storm sewer system (MS4) permit that has an approved stormwater management plan. The Project is within a MS4 area. The post-construction standards include structural and nonstructural control measures to replicate the pre-project water balance and pre-project drainage density, and reduce pollutants in storm water discharges. A SWPPP must be prepared before construction begins."

A-3 The commenter discusses requirements for an Industrial Storm Water General Permit. These requirements are acknowledged. This comment does not address any concern or issue specifically related to the adequacy of the Draft IS/MND. The Project site would consist of a utility right-of-way (ROW), which is not within one of the 10 categories of industrial activities that would require an Industrial Storm Water General Permit. IS/MND Section 3.9.2 addresses California's National Pollutant Discharge Elimination System (NPDES), and the NPDES General Permit for Discharges of Storm Water Associated with Construction Activity (p. 3.9-5 et seq.). The Project would be required to comply with applicable federal, state, and local water quality regulations, and impacts pertaining to polluted storm water run-off and impacts to drainage systems would be less than significant (p. 3.9-10).

A-4 The commenter discusses Clean Water Act Section 404 Permit requirements. These requirements are described in the IS/MND. The Project does not require a Section 404

Permit. See IS/ MND Section 3.4.4, criterion c, for a discussion of potential impacts on federally protected wetlands as defined by Section 404 of the Clean Water Act. As discussed on IS/ MND page 3.4-50, "With the application of APM BIO-7 (Seasonal Wetland Protection), APM HYDRO-1 (Stormwater Pollution Prevention Plan), APM HYDRO-2 (Water Feature Protection Requirements), and Mitigation Measure 3.4-1, in addition to the limited scope and temporary nature of proposed activities in the vicinity of some seasonal drainages and one seasonal wetland, which is predominantly dry year-round, the Project would not result in adverse effects on these features."

A-5 The commenter discusses Clean Water Act Section 401 Permit requirements. These requirements are discussed on IS/MND page 3.18-12: "…the Project, along with the projects identified in Table 3.18-1, would be required to comply with applicable federal, State, and local water quality regulations, which includes obtaining coverage under the Construction General Permit, Section 401 (of the Clean Water Act) water quality certification, and/or Waste Discharge Requirements (WDRs). The Construction General Permit reduces the ability of combined sites to adversely impact water quality…the incremental impact of the Project, in combination with the projects identified in Table 3.18-1, would not cause or contribute to a significant cumulative effect and would not be cumulatively considerable."

A-6 The commenter discusses Waste Discharge Requirements (WDRs). The Project's compliance with these requirements is discussed in Section 3.9, *Hydrology and Water Quality*, in the regulatory setting (p. 3.9-7) and in the impact analysis under criterion a (pp. 3.9-9 and 3.9-10). Impacts pertaining to violation of any water quality standards or waste discharge requirements would be less than significant.

A-7 The commenter summarized requirements for regulatory compliance for commercially irrigated agriculture. The Project does not include any agricultural components. Potential impacts to agriculture in the vicinity of the Project are analyzed in Section 3.2, *Agriculture and Forestry Resources*. The Project would not traverse land identified as important farmland, or conflict with existing zoning for agricultural use. There would be no impact to agriculture (p. 3.2-4 et seq.).

A-8 The commenter discusses NPDES requirements pertaining to construction dewatering that requires discharge into the groundwater of the United States. For a discussion of regulatory requirements pertaining to NPDES and associated potential impacts, see IS/MND sections 3.6.2, 3.8.2, 3.9.2, and 3.18-12. Regarding low-threat discharges, see page 3.9-7, which states: "The RWQCB has adopted a waiver of WDR (Resolution R5-2013-0145, *Waiver of Reports of Waste Discharge and Waste Discharge Requirements for Specific Types of Discharge within the Central Valley Region*) for specific types of low-threat discharges to the land surface within the Central Valley region. Construction dewatering and dredged material disposal to land are among the activities covered by this waiver, providing the subject activities meet the conditions specified within the waiver. Waivers serve much the same purpose as general permits (i.e., they are intended to describe a range of protective measures that could be applied to a broad

category of activities). This waiver must be obtained from the RWQCB for any actions that would potentially involve dewatering and/or long-term storage of excavated material on the land surface."

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY EDMUND G. BROWN Jr., Governor

DEPARTMENT OF TRANSPORTATION
DISTRICT 3 – SACRAMENTO AREA OFFICE
2379 GATEWAY OAKS DRIVE, STE 150 - MS 19
SACRAMENTO, CA 95833
PHONE (916) 274-0635
FAX (916) 263-1796
TTY 711

Serious drought.
Help save water!

January 22, 2015

032015-ELD-0002
03-ELD-50 / PM 0.517
SCH# 2014122065

Ms. Connie Chen
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102

Missouri Flat-Gold Hill 115 kV Power Line Reconductoring – Initial Study/Mitigated Negative Declaration (IS/MND)

Dear Ms. Chen:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review for the project referenced above. The proposed project will reinforce the electric transmission and distribution system in El Dorado County by replacing existing conductor (reconductoring) and existing poles, and modifying existing lattice steel towers on the Missouri Flat-Gold Hill 115 kilovolt (kV) Power Line (Missouri Flat-Gold Hill Line).The Missouri Flat-Gold Hill Line is an approximately 12.5-mile, double-circuit power line between the City of Folsom in Sacramento County and the community of Shingle Springs in El Dorado County. The Missouri Flat-Gold Hill 115 kV Power Line Reconductoring Project (Project) will also modify and upgrade existing substations and temporarily convert the Gold Hill No. 1 60 kV Power Line (Gold Hill No. 1 Line), an existing 60 kV power line, to 115 kV to provide power to customers during construction of the Project. The project route generally parallels United States Highway (US) 50 crossing the route in several locations. The following comments are based on the IS/MND:

Transportation Management Plan (TMP)

If it is determined that traffic restrictions and detours are needed on or affecting State highways, a TMP or construction Traffic Impact Study may be required of the developer for approval by Caltrans prior to construction. TMPs must be prepared in accordance with Caltrans' *Manual on Uniform Traffic Control Devices.* Further information is available at: http://www.dot.ca.gov/hq/traffops/engineering/mutcd/.

B-1

Encroachment Permit

Please be advised that any work or traffic control that would encroach onto the State Right of Way (ROW) requires an encroachment permit issued by Caltrans. To apply, a completed encroachment permit application, environmental documentation, and five sets of plans clearly indicating State ROW must be submitted to: Sergio Aceves, Chief, Office of Permits, California Department of Transportation, District 3, 703 B Street, Marysville, CA 95901. Traffic-related mitigation measures should be incorporated into the construction plans prior to the encroachment permit process. Further information is available at: http://www.dot.ca.gov/hq/traffops/developserv/permits/. B-2

Please provide our office with copies of any further actions regarding this project. We appreciate the opportunity to review and comment on any changes related to this development. B-3

If you have any questions regarding these comments or require additional information, please contact Eileen Cunningham, Intergovernmental Review Coordinator at (916) 274-0639 or by email at eileen.cunningham@dot.ca.gov.

Sincerely,

Eric Fredericks

ERIC FREDERICKS, Chief
Office of Transportation Planning – South

cc: Scott Morgan, State Clearinghouse

6.3.2 Letter B – Responses to Comments from Caltrans

B-1 The commenter notes that PG&E may be required to prepare a traffic management plan (TMP) or construction traffic impact study (TIS), if traffic restrictions and detours are needed on, or affecting, State highways. Potential traffic-related impacts are analyzed in Section 3.16, *Transportation and Traffic*. As stated on p. 3.16-6, crossing structures would be installed where the Project alignment crosses over major roads, such as U.S. 50, to allow traffic to safely use the road while PG&E removes the existing conductor and pulls the new conductor into place. There would be no traffic restrictions or detours that would affect U.S. 50 or any other State highway. As such, the requested submittal of a TMP or construction TIS for Caltrans approval would not be required.

Moreover, PG&E has committed to enforcing APM TRA-2, Temporary Traffic Controls (p. 3.16-6): "PG&E would obtain all necessary transportation and/or encroachment permits, including those for the U.S. 50 crossings and transport of oversized loads and certain materials, and would comply with permit requirements designed to prevent excessive congestion or traffic hazards during temporary lane closures. PG&E would develop lane closure/width reduction or traffic diversion plans as required by the encroachment permits. Construction activities that are in, along, or cross local roadways would follow best management practices and/or local jurisdictional encroachment permit requirements, to minimize impacts to traffic and transportation in the Project area." The implementation and enforcement of APM TRA-2 would be required by the MMRCP if the Project is approved (see Section 5).

B-2 The commenter notes that PG&E would be required to obtain an encroachment permit from Caltrans for any work that would occur within a State roadway and also notes the information that may need to be provided to Caltrans as part of the encroachment permit process. See response to Comment B-1, which explains that PG&E would obtain all necessary encroachment permits. Section 3.16, *Transportation and Traffic*, of the IS/MND shows that the Project would have no impact or less-than-significant impacts pertaining to traffic and transportation (p. 3.16-6 et seq.), based in part on the implementation and enforcement of APM TRA-1 and APM TRA-2, which would be required by the MMRCP if the Project is approved (see Section 5). Those APMs would be incorporated into construction plans prior to the encroachment permit process.

B-3 The commenter requests that copies of additional information about the Project be submitted to Caltrans. The commenter's contact information has been included on the project mailing list (see Appendix C). This comment is noted.

From: Calderaro, Angela@Wildlife [mailto:Angela.Calderaro@wildlife.ca.gov]
Sent: Monday, January 26, 2015 9:27 AM
To: Chen, Connie
Cc: Wildlife R2 CEQA
Subject: Review of Missouri Flat-Gold Hill 115kV Powerline Reconductoring Project (SCH 2014122065)

Good morning Connie,
I have reviewed the CEQA document for Missouri Flat-Gold Hill 115kV Powerline Re-conductoring Project (SCH 2014122065). The Department would just like you to be aware of new policy effective January 1, 2015. The Office of Administrative Law has approved regulations that will allow CDFW to permit the take of state-listed rare plants under the Native Plant Protection Act. These regulations will allow CDFW to authorize the take of state-listed rare plants using the same procedures and under the same conditions as incidental take permits, voluntary local programs, natural community conservation plans, safe harbor agreements, and scientific/educational/management permits. To remove rare plants, you may need to obtain a permit from the Department. In order to issue the permit, the CEQA will need to be sufficient to address impacts to these species.

C-1

Mitigation measure APM BIO-5.3 and other mentioned in the document may not be sufficient to fully mitigate the impacts to plant species designated as rare or state-listed by the Department.

If you have any questions, please feel free to contact me.
Thank you,

Angela Calderaro
Senior Environmental Scientist (Specialist)
Habitat Conservation Branch
California Department of Fish and Wildlife, North Central Region
1701 Nimbus Road, Rancho Cordova CA 95670
Office: 916-358-2920
Fax: 916-358-2912
Angela.Calderaro@wildlife.ca.gov
www.wildlife.ca.gov

To report a violation please call 1-888-DFG-Caltip.

6.3.3 Letter C – Responses to Comments from CDFW

C-1 The commenter is informing the CPUC of a January 1, 2015 regulatory change that allows the CDFW to permit the take of state-listed "rare" plants under the Native Plant Protection Act (NPPA). Previously, CDFW could permit take of threatened, endangered and candidate plants under the California Endangered Species Act (CESA) and other statutes, but did not have the authority to permit take, possession, propagation, transportation, exportation, importation, or sale of the 64 species, subspecies, and varieties of plants that have been designated as "rare" by the Fish and Game Commission. This response recognizes that State "rare" plants now receive the same regulatory treatment as CESA-covered plant species, and therefore have defined rules and procedures for permitting. It is also generally recognized that before CDFW can execute an Incidental Take Permit under the California Environmental Quality Act a project must demonstrate compliance with CEQA.

Potential impacts to these species are analyzed in Section 3.4, *Biological Resources*, and addressed by avoidance and mitigation measures in the IS/MND (see Section 5, Mitigation Monitoring, Reporting, and Compliance Program). Potential impacts to these species were addressed by APMs (APM BIO-5.3 APM BIO-6) and mitigation measures (Mitigation Measures 3.4-3 and 3.4-4). CEQA significance criteria 4.a (IS/MND page 3.4-1) asks whether or not the Project would have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

The IS/MND finds that two plant species that are identified as "rare" occur in the Project area and would be affected during construction: Layne's ragwort and Pine Hill ceanothus. The Draft and Final IS/MND and appendices clearly identify the magnitude of potential Project impacts to these species. Complete avoidance of effects to rare plants was not possible and steps were taken to minimize project impacts. The number of rare plants that would be affected by the Project was presented in Appendix F of the Final IS/MND (the Biological Opinion [BO] issued to the Project by the USFWS on February 9, 2015) and included 34 Layne's ragwort and 11 Pine Hill ceanothus. As the Final IS/MND states, permanent impacts would occur within a 0.02-acre area and temporary disturbance would occur within a 2 acre area. Thus, potential impacts to rare plants were fully considered and presented in the IS/MND.

The commenter expresses that Mitigation Measures APM BIO-5.3 and other mentioned in the document may not be sufficient to fully mitigate the impacts to plant species designated as rare or state-listed by CDFW. With the implementation of APMs and mitigation measures that were identified in the IS/MND, project impacts to special-status rare plants would be reduced to a less-than-significant level. This conclusion is supported by the findings of the BO included as Appendix F of the Final IS/MND. The

BO authorizes the "take" of federally-listed plants, which are categorized as either "rare" or "endangered" by the state, under the Federal Endangered Species Act and identifies conservation measures and conservation recommendations to minimize or avoid adverse effects of the project on these species. The USFWS concluded, upon reviewing the current status of Stebbins' morning glory, Pine Hill ceanothus, and Layne's butterweed, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects on these species, that, "it is the Service's biological opinion that the proposed Missouri Flat-Gold Hill Reconductoring Project, as described herein, is not likely to jeopardize the continued existence of these species" (USFWS, 2014).

While the IS/MND provides protection and mitigation for potential impacts to "rare" plant species, we note that the NPPA prohibits take of endangered or rare native plants (Fish & Game Code Section 1908), but includes some exceptions for certain agricultural operations; timber operations; nursery operations; emergencies; vegetation removal from canals, lateral ditches, building sites, roads, or other ROW by landowners; or public or private utilities providing service to the public (Fish & Game Code subsections (b) and (c) of Section 1907, Section 1912, and Section 1913). Thus, the regulatory action does not necessitate an additional level of review under CEQA beyond that already provided in the Missouri Flat IS/MND, and the new provisions that protect "rare" plants do not apply to the Project.

Powering forward. Together.

SMUD™

January 29, 2015

Connie Chen
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102-3298

Subject: MND, Missouri Flat-Gold Hill 115 kV Power Line Reconductoring Project (A. 13-08-014)

Dear Ms. Chen,

The Sacramento Municipal Utility District (SMUD) appreciates the opportunity to provide comments on the MND, Missouri Flat-Gold Hill 115 kV Power Line Reconductoring Project (A. 13-08-014). SMUD is the primary energy provider for Sacramento County and the proposed project location. SMUD's vision is to empower our customers with solutions and options that increase energy efficiency, protect the environment, reduce global warming, and lower the cost to serve our region. As a Responsible Agency, SMUD aims to ensure that the proposed project limits the potential for significant environmental effects on SMUD facilities, employees, and customers.

It is our desire that the MND, Missouri Flat-Gold Hill 115 kV Power Line Reconductoring Project (A. 13-08-014) will acknowledge any project impacts related to the following:

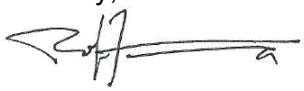
- Overhead and or underground transmission and distribution line easements
- Electrical load needs/requirements
- Energy Efficiency
- Utility line routing
- Climate Change

D-1

SMUD would like to be involved with discussing and resolving the above issues as well discussing any other potential issues. We aim to be partners in the efficient and sustainable delivery of the proposed project. Please ensure that the information included in this response is conveyed to the project planners and the appropriate project proponents.

Environmental leadership is a core value of SMUD and we look forward to collaborating with you on this project. Again, we appreciate the opportunity to provide input on the MND. If you have any questions regarding this letter, please contact Rob Ferrera, SMUD Environmental Specialist at (916) 732-6676.

Sincerely,



Rob Ferrera
Environmental Specialist
Environmental Management
Legislative & Regulatory Affairs
Sacramento Municipal Utility District

Cc: Jose Bodipo-Memba
Pat Durham
Joseph Schofield

Printed on Recycled Paper

6.3.4 Letter D – Responses to Comments from Sacramento Utility District (SMUD)

D-1 The comment requests that the IS/MND address potential impacts to overhead and or underground transmission and distribution line easements, electrical load needs/requirements, energy efficiency, utility line routing, and climate change, but does not identify any specific deficiencies in the IS/MND. As discussed in Section 2, *Project Description*, with one exception, the proposed alignment would be located in existing PG&E easements (p. 2-1). The only exception is where additional ROW would be required to accommodate the relocation of approximately 150 feet of an existing distribution feeder line associated with Limestone Substation near the intersection of Strolling Hills Road and Ridge Pass Drive. No additional ROW or easement expansions would be needed to accommodate construction or operation and maintenance of the line.

See Section 2.3, Existing System, for a discussion on electrical needs. Further, regarding electrical load needs/requirements, the CPUC's General Order 131-D requires the environmental analysis of an application for a Permit to Construct to focus solely on environmental issues and does not require a needs analysis. The consideration of project need appropriately is considered only in the context of an application for a Certificate of Public Convenience and Necessity (CPCN).

The comment requests that the IS/MND address potential impacts to energy efficiency. Energy efficiency is addressed in the IS/MND in Section 3.3, *Air Quality*, and Section 3.7, *Greenhouse Gas Emissions*, by APMs AQ-2 and GHG-1, which ensure that construction-related energy consumption would be minimized by maintaining construction equipment in proper working conditions in accordance with PG&E standards, minimizing unnecessary construction vehicle idling time, and using low-emission or electric construction equipment where feasible. Portable diesel-fueled construction equipment with engines 50 hp or larger and manufactured in 2000 or later would be registered under the CARB Statewide Portable Equipment Registration Program, and emissions from welding and cutting would be minimized by using compression of mechanical applications where practical and within standards. Use of natural gas powered vehicles for passenger cars and light duty trucks is encouraged where feasible and available.

Regarding energy conservation, the Project would consume energy during construction, including both direct and indirect uses of energy in the form of fuel (typically diesel fuel) and electricity. Direct energy use would include the consumption of petroleum for operation of construction vehicles and the use of electricity for construction equipment, such as welding machines and power tools. Energy consumed by power equipment used during construction would be relatively minimal, as would be the energy required for lighting and operation of ancillary electrical equipment. Indirect energy use includes the energy required to make the materials and components used in Project

construction. This includes energy used for extraction of raw materials, manufacturing, and transportation associated with manufacturing.

The precise amount of construction-related energy demand is uncertain. Even so, construction activities would not result in long-term depletion of non-renewable energy resources and would not permanently increase reliance on energy resources that are not renewable. Construction activities would not reduce or interrupt existing electrical or natural gas services due to insufficient supply. Because construction would not interrupt existing local service and because Project-specific construction-related energy demands are not expected to have a significant adverse effect on energy resources, energy consumption by construction activities would be less than significant. Additionally, implementation of APMs AQ-2 and GHG-1 would ensure that construction-related energy consumption would be minimized by ensuring energy is consumed in an efficient manner. The implementation and enforcement of these APMs would be required by the MMRCP if the Project is approved (see Section 5). Energy consumption required for operation and maintenance of the Project would be minimal and would not increase over baseline conditions. Small amounts of energy would be required for occasional use of electricity from the grid for maintenance activities and fuel usage for periodic visits by inspection and maintenance vehicles on-site would be required. As a result, neither construction nor operation of the Project would result in potentially significant impacts to energy conservation.

There would be no change to PG&E's existing operation and maintenance activities and no net change in long-term vehicle or equipment exhaust emissions as a result of Project implementation. As a result, energy consumed during operation and maintenance of the Project would be the same as existing conditions and there would be no impact to energy conservation and also no impact related to cumulative impacts as well.

Regarding impacts to utility lines, as discussed above, with one exception, the proposed alignment would be located in existing PG&E easements. Additional rights-of way (ROW) would be required to accommodate the relocation of approximately 150 feet of an existing distribution feeder line associated with Limestone Substation near the intersection of Strolling Hills Road and Ridge Pass Drive. No additional ROW or easement expansions would be needed to accommodate construction or operation and maintenance of the line. Impacts to utilities and service systems can also be found in Section 3.17.4.

Potential impacts from greenhouse gas (GHG) emissions on climate change can be found in Section 3.7, *Greenhouse Gas Emissions.* The Project would have a less-than-significant impact pertaining to generation of GHG emissions, either directly or indirectly, that may have a significant impact on the environment: "the GHG emissions that would be generated by the Project would not be cumulatively considerable and would not significantly contribute to global climate change" (p. 3.7-9). In addition, the Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs (p. 3.7-9 et seq.).

Comment Letter E

Sam Danner
Pacific Gas and Electric Company
Senior Land Planner
Environmental Management – Electric Transmission
2730 Gateway Oaks Drive
Sacramento, CA 95833
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Cell: (916) 539-7396
Email: sadk@pge.com

February 06, 2015

Connie Chen
California Public Utilities Commission
c/o Environmental Science Associates
550 Kearny Street, Suite 800
San Francisco CA 94108

RE: PG&E Missouri Flat-Gold Hill 115 kV Power Line Reconductoring Project
Draft Initial Study/Mitigated Negative Declaration

Dear Ms. Chen:

Thank you for the opportunity to review the draft Initial Study/Mitigated Negative Declaration (MND) for the Missouri Flat-Gold Hill 115 kV Power Line Reconductoring Project (Project). Pacific Gas and Electric Company (PG&E) appreciates the effort expended by Commission staff and its consultant to prepare a comprehensive CEQA document to cover the Project.

PG&E suggests the following minor corrections and comments concerning the draft MND:

Section 3.4.4(a), Environmental Impacts and Mitigation Measures, Page 3.4-44: In the first sentence of the subsection, please replace 'federal-and/or state- *listed* wildlife species' with 'federal- and/or state-special status species, as not all fourteen species referenced are listed under the federal or state endangered species acts. E-1

Section 3.4.4, Mitigation Measure 3.4-4, Page 3.4-49: Please correct the reference to the Native Plant Protection Act 'CDFG Section 10913(c)' to state 'Section 1913(c)'. E-2

Section 3.4.4(c), Page 3.4-50: As indicated in this section of the document, PG&E has designed the project to avoid any permanent impacts to wetlands and to limit temporary effects to approximately 50 feet of one seasonal wetland. PG&E does not believe that these temporary effects to a very small area would cause a 'substantial adverse effect' on federally protected wetlands. However, PG&E agrees that minimizing impacts to wetlands is important and has no objection to Mitigation Measure 3.4-1, which will further minimize temporary impacts to the resource. E-3

Section 3.16.4(c), Page 3.16-9: In the second line, please delete the reference to Mitigation Measure 3.8-1, which does not exist. E-4

Section 3.18(a), Mandatory Findings of Significance, Page 3.18-1: Please update the standard of significance in subsection (a) in the following manner in accordance with the language of E-5

revised CEQA Guidelines Section 15065(a)(1):

(a) Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory.

E-5 Cont.

We also recommend revisions to the text of the analysis in subsection (a) as necessary to match the above language. We do not believe that these revisions to the text will change the corresponding impact analysis.

E-6

PG&E appreciates the opportunity to provide these comments. Please feel free to contact me if further information or clarification is necessary.

Sincerely,

Sam Danner
Senior Land Planner
Pacific Gas and Electric Company

6.3.5 Letter E – Responses to Comments from PG&E

E-1 Based on the comment, IS/MND Section 3.4.4 (a) is updated as follows (p. 3.4-44):

> **Special-Status Wildlife**
>
> As described above, fourteen federal- and/or state-special status ~~listed~~ wildlife species have moderate to high potential to occur in the Project area:

E-2 Based on the comment, that Mitigation Measure 3.4-4 is corrected as follows (pp. 3.4-49 and 5-25):

> **Mitigation Measure 3.4-4:** In addition to the measures described in APM BIO-6, PG&E will provide notification to CDFW at least 10 days prior to affecting special-status plants to allow for the salvage of special-status plants (~~CDFG Section~~ Fish and Game Code §1~~0~~913(c)).

E-3 The commenter concurs with the analysis in Section 3.4.4 under criterion c) on page 3.4-50 of the IS/MND, but states that PG&E does not believe the temporary effects would cause a substantial adverse effect on federally protected wetlands. The comment is noted, as is the commenter's support of and agreement to implement Mitigation Measure 3.4-1.

E-4 In response to this comment, the reference to Mitigation Measure 3.8-1 on IS/MND page 3.16-9 has been corrected as follows:

> Therefore, the impact associated with increased or changed air traffic patterns in the vicinity of Cameron Airpark would be less than significant. However, as indicated in *Section 3.8, Hazards and Hazardous Materials*, ~~Mitigation Measure 3.8-1 would require that~~ PG&E would submit Project plans to the Federal Aviation Administration for review and approval in accordance with Federal Aviation Regulation Part 77.

E-5 The commenter requests that the following edits be made to Section 3.18 on IS/MND page 3.18-1. To maintain consistency with CEQA Guidelines Section 15065(a)(1), the text in the table at the top of page 3.18-1, and the text in subsection 3.18-1, have been revised as follows:

Issues (and Supporting Information Sources):		*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
18.	**MANDATORY FINDINGS OF SIGNIFICANCE — Would the project:**				
a)	Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or	☐	☒	☐	☐

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
animal or eliminate important examples of the major periods of California history or prehistory?				

a) Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory: *LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.*

E-6 In response to the change recommended by the commenter in Response E-5 above, the text is Section 3.18 under a) has been revised as follows (p. 3.18-1):

> Although the Project has the potential to substantially degrade the quality of the environment, it does not have the potential to substantially reduce the habitat of a fish or wildlife species, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or cause a fish or wildlife population to drop below self-sustaining levels or threaten to eliminate a plant or animal community or eliminate important examples of the major periods of California history or prehistory.

APPENDIX A
Electric and Magnetic Fields

A.1 Electric and Magnetic Fields Summary
A.2 Field Management Plan for Missouri Flat-Gold Hill 115 kV line Nos. 1 and 2
A.3 Field Management Plan for Gold Hill 60 kV line No. 1

APPENDIX A.1
Electric and Magnetic Fields Summary

Electric and Magnetic Fields

The California Public Utilities Commission (CPUC) and the California Department of Health Services (CDHS) have not concluded that exposure to magnetic fields from utility electric facilities is a health hazard. Many reports have concluded that the potential for health effects associated with electric and magnetic field (EMF) exposure is too speculative to allow the evaluation of impacts or the preparation of mitigation measures. EMF is a term used to describe electric and magnetic fields that are created by electric voltage (electric field) and electric current (magnetic field). Power frequency EMF is a natural consequence of electrical circuits, and can be either directly measured using the appropriate measuring instruments or calculated using appropriate information. EMF are present wherever electricity flows: around appliances and power lines, in offices, schools, and homes. Electric fields are invisible lines of force, created by voltage, and are shielded by most materials. Units of measure are volts per meter (V/m). Magnetic fields are invisible lines of force, created by electric current and are not shielded by most materials, such as lead, soil and concrete. Units of measure are Gauss (G) or milliGauss (mG, 111000 of a Gauss). Electric and magnetic field strengths diminish with distance. These fields are low energy, extremely low frequency fields, and should not be confused with high energy or ionizing radiation such as X-rays and gamma rays.

Possible Health Effects

The possible effects of EMF on human health have come under scientific scrutiny. Concern about EMF originally focused on electric fields; however, much of the recent research has focused on magnetic fields. Uncertainty exists as to what characteristics of magnetic field exposure need to be considered to assess human exposure effects. Among the characteristics considered are field intensity, transients, harmonics, and changes in intensity over time. These characteristics may vary from power lines to appliances to home wiring, and this may create different types of exposures. The exposure most often considered is intensity or magnitude of the field. There is a consensus among the medical and scientific communities that there is insufficient evidence to conclude that EMF causes adverse health effects. Neither the medical nor scientific communities have been able to provide any foundation upon which regulatory bodies could establish a standard or level of exposure that is known to be either safe or harmful. Laboratory experiments have shown that magnetic fields can cause biologic changes in living cells, but scientists are not sure whether any risk to human health can be associated with them. Some studies have suggested an association between surrogate measures of magnetic fields and certain cancers while others have not.

California Public Utilities Commission Summary

Background

On January 15, 1991, the CPUC initiated an investigation to consider its role in mitigating the health effects, if any, of electric and magnetic fields from utility facilities and power lines. A working group of interested parties, called the California EMF Consensus Group, was created by the CPUC to advise it on this issue. It consisted of 17 stakeholders representing citizens groups, consumer groups, environmental groups, state agencies, unions, and utilities. The Consensus Group was charged to 1) consider a balanced set of facts and concerns; 2) define near- term research objectives; and 3) develop interim policies and procedures to guide the electric utilities in educating their customers, reducing EMF, and responding to potential health concerns. The Consensus Group's fact-finding process was open to the public, and its report incorporated concerns expressed by the public. Its recommendations were filed with the CPUC in March of 1992. In August of 2004, the CPUC opened an Order Instituting Rulemaking to update the CPUC's policies and procedures related to electric and magnetic fields emanating from regulated utility facilities. The final decision was issued in D.06-01-042.

Findings

Based on the work of the Consensus Group, written testimony, and evidentiary hearings, the CPUC issued its decision (D.06-01-042) to address public concern about possible EMF health effects from electric utility facilities. The conclusions and findings included the following:

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

Interim Policies

The CPUC's decision specifically requires seven measures. One of these measures that is applicable to the Missouri Flat-Gold Hill 115 kV Power Line Reconductoring Project is as follows:

- *No-cost and low-cost steps to reduce EMF*. In response to a situation of scientific uncertainty and public concern, the CPUC felt it appropriate for utilities to take no-cost and low-cost measures where feasible to reduce exposure from new or upgraded utility facilities. It directs that no-cost mitigation measures be undertaken, and that low-cost options be implemented through the project certification process. Four percent of total project budgeted cost is the benchmark in developing EMF mitigation guidelines, and mitigation measures should achieve some noticeable reductions.

The CPUC will continue to monitor these issues. If new information develops in the future, the CPUC may amend its decision to reflect new scientific evidence.

Exemption Criteria

The CPUC agreed that "Utility management should have reasonable latitude to deviate and modify their guidelines as conditions warrant and as new EMF information is received. However, if the EMF guidelines are to be truly used as guidelines, the utilities should incorporate criteria which justify exempting specific types of projects from the guidelines."

Utilities may use the following guidelines to determine those specific types of projects that will be exempt from no/low cost field reduction:

1. Operation, repair, maintenance replacement or minor alteration of existing structures: facilities or equipment.
2. Restoration or rehabilitation of deteriorated or damaged structures, facilities or equipment to meet current standards of public safety.
3. Addition of safety devices.
4. Replacement or reconstruction of existing structures and facilities on the same site and for the same purpose as the replaced structure or facility.
5. Emergency restoration projects.
6. Re-conductoring projects except when structures are reframed or reconfigured.
7. Projects located on land under the jurisdiction of the Forest Service, Bureau of Land Management or other governmental agency.
8. Privately owned tree farms.
9. Agricultural land within the Williamson Act.
10. Areas not suited to residential/commercial development. Such areas might include steep slopes, areas subject to flooding or areas without access to public facilities.

The intent of the exemption criteria is to exclude two types of projects. The first type of project is one that either replaces or makes minor additions or modifications to existing facilities. This will include pole replacements or relocations less than 2,000 feet in length. Those projects where more than 2,000 feet of line is relocated or reconstructed or where the circuit is reinsulated or reconfigured should be considered for low cost magnetic field management techniques. The second type of project is one located in undeveloped areas.

EMF Reduction

Utilities must use the following Guidelines in the application of no and low cost steps to reduce magnetic field strengths:

1. Take low cost steps to reduce fields from new and upgraded facilities in accordance with CPUC decision D.06-01-042 on EMF.
2. No cost measures will be implemented when available and practical.
3. Mitigation measures should not compromise the reliability, operation, safety, or maintenance of the system.

4. Total cost of mitigation measures should not exceed four percent of the total cost of the Project.
5. Mitigation measures should have a noticeable reduction in the magnetic field level approximately 15 percent or more.

In accordance with CPUC Decision Nos. 93-11-013 and 06-01-042, PG&E will incorporate "no cost" and "low cost" magnetic field reduction steps for the proposed power line reconductorings. For additional information, see Appendices A.2 and A.3, which further describe PG&E's field management plans for the Project. The following measures would be included to reduce the magnetic field strength levels from electric power facilities:

Missouri Flat-Gold Hill 115 kV line Nos. 1 and 2

PG&E proposes to raise the height of thirteen poles in the school and residential land use areas by 10 feet taller than required for meeting General Order 95. The phases of the Missouri Flat-Gold Hill 115 kV line No. 2 would be arranged for minimum magnetic field level at the edge of the right of way. The phasing would be changed from Shingle Spring Substation to Clarksville Substation to Gold Hill Substation:

- Missouri Flat-Gold Hill 115 kV line No. 1 Phasing Top-C, Middle-B, Bottom-A; and
- Missouri Flat-Gold Hill 115 kV line No. 2 Phasing Top A, Middle-B, Bottom-C.

Gold Hill 60 kV line No. 1

The operating voltage of the 60 kV line would be increased to 115 kV. This voltage increase would reduce magnetic field levels by 47 percent. PG&E proposes to raise the height of 29 poles in the high density residential land use areas 10 feet taller than required for meeting General Order 95.

Appendix A.2

Field Management Plan for
Missouri Flat-Gold Hill
115 kV Line Nos. 1 and 2

TRANSMISSION MAGNETIC BASIC FIELD MANAGEMENT PLAN
MISSOURI FLAT-GOLD HILL 115 KV LINES RECONDUCTORING PROJECT

I. General Description of Project

Project Lead: Project Manager, Electric Transmission Maintenance and Construction

Transmission Lines: Missouri Flat-Gold Hill 115 kV line #1
Missouri Flat-Gold Hill 115 kV line #2

Distribution line Underbuild: 21 kV.

Scope of Work:

The current scope of work is to reconductor Missouri Flat-Gold Hill 115 kV lines No. 1 and 2 (~ 25 miles long total for both circuits) with 795 kcmil ACSS (Condor) conductor. These 2 lines are on a Double Circuit Pole Line (DCPL) and Double Circuit Tower Line (DCTL); the scope starts from 2 spans northeast of Shingle Spring Substation (pole 22/174) to Shingle Spring Substation, then to Clarksville Substation and ends at Gold Hill Substation. The Gold Hill-Clarksville 115 kV line and the Gold Hill 60 kV No. 1 lines (also a DCTL) run parallel to the Missouri Flat-Gold Hill 115 kV No. 1 & 2 lines from Clarksville Substation to Gold Hill Substation.

II. BACKGROUND: CPUC DECISION 93-11-013 AND EMF POLICY

On January 15, 1991, the CPUC initiated an investigation to consider its role in mitigating the health effects, if any, of electric and magnetic fields from utility facilities and power lines. A working group of interested parties, called the California EMF Consensus Group, was created by the CPUC to advise it on this issue. It consisted of 17 stakeholders representing citizens groups, consumer groups, environmental groups, state agencies, unions, and utilities. The Consensus Group's fact-finding process was open to the public, and its report incorporated concerns expressed by the public. Its recommendations were filed with the Commission in March 1992.

In August 2004 the CPUC began a proceeding known as a "rulemaking" (R.04-08-020) to explore whether changes should be made to existing CPUC policies and rules concerning EMF from electric transmission lines and other utility facilities.

Through a series of hearings and conferences, the Commission evaluated the results of its existing EMF mitigation policies and addressed possible improvements in implementation of these policies. The CPUC also explored whether new policies are warranted in light of recent scientific findings on the possible health effects of EMF exposure.

The CPUC completed the EMF rulemaking in January 2006 and presented these conclusions in Decision D.06-01-042:

- The CPUC affirmed its existing policy of requiring no-cost and low-cost mitigation measures to reduce EMF levels from new utility transmission lines and substation projects.

- The CPUC adopted rules and policies to improve utility design guidelines for reducing EMF, and provides for a utility workshop to implement these policies and standardize design guidelines.

- Despite numerous studies, including one ordered by the Commission and conducted by the California Department of Health Services, the CPUC stated "we are unable to determine whether there is a significant scientifically verifiable relationship between EMF exposure and negative health consequences."

- The CPUC said it will "remain vigilant" regarding new scientific studies on EMF, and if these studies indicate negative EMF health impacts, the Commission will reconsider its EMF policies and open a new rulemaking if necessary.

In response to a situation of scientific uncertainty and public concern, the decision specifically requires PG&E to consider "no-cost" and "low-cost" measures, where feasible, to reduce exposure from new or upgraded utility facilities. It directs that no-cost mitigation measures be undertaken, and that low-cost options, when they meet certain guidelines for field reduction and cost, be adopted through the project certification process. PG&E was directed to develop, submit

and follow EMF guidelines to implement the CPUC decision. Four percent of total project budgeted cost is the benchmark in implementing EMF mitigation, and mitigation measures should achieve incremental magnetic field reductions of at least 15%.

III. ELECTRIC AND MAGNETIC FIELDS (EMF)

EMF is a term used to describe electric and magnetic fields that are created by electric voltage (electric field) and electric current (magnetic field). Power frequency EMF is a natural consequence of electrical circuits, and can be either directly measured using the appropriate measuring instruments or calculated using appropriate information.

Electric fields are present whenever voltage exists on a wire, and are not dependent on current. The magnitude of the electric field is primarily a function of the configuration and operating voltage of the line and decreases with the distance from the source (line). The electric field can be shielded (i.e., the strength can be reduced) by any conducting surface, such as trees, fences, walls, buildings, and most types of structures. The strength of an electric field is measured in volts per meter (V/m) or kilovolts per meter (kV/m).

Magnetic fields are present whenever current flows in a conductor, and are not dependent on the voltage of the conductor. The strength of these fields also decreases with distance from the source. However, unlike electric fields, most common materials have little shielding effect on magnetic fields.

The magnetic field strength is a function of both the current on the conductor and the design of the system. Magnetic fields are measured in units called Gauss. However, for the low levels normally encountered near electric utility facilities, the field strength is expressed in a much smaller unit, the milliGauss (mG), which is one thousandth of a Gauss.

Power frequency EMF are present wherever electricity is used. This includes not only utility transmission lines, distribution lines, and substations, but also the building wiring in homes, offices, and schools, and in the appliances and machinery used in these locations. Magnetic field intensities from these sources can range from below 1 mG to above 1,000 mG (1 Gauss).

Magnetic field strengths diminish with distance. Fields from compact sources (i.e., those containing coils such as small appliances and transformers) drop off with distance “r” from the source by a factor of $1/r^3$. For three-phase power lines with balanced currents, the magnetic field strength drops off at a rate of $1/r^2$. Fields from unbalanced currents, which flow in paths such as neutral or ground conductors, fall off inversely proportional to the distance from the source, 1/r. Conductor spacing and configuration also affect the rate at which the magnetic field strength decreases, as well as the presence of other sources of electricity. The magnetic field levels of PG&E’s power lines will vary with customer demand.

Magnetic field strengths for typical transmission power line loads at the edge of rights-of-way are approximately 10 to 90 mG.

IV. No-Cost and Low-Cost Magnetic Field Mitigation

Base Case Phasing:

From Shingle Spring Sub to Clarksville Sub to Gold Hill Sub –

Missouri Flat-Gold Hill 115 kV line #1 Phasing	Top-C, Mid-B, Bot-A
Missouri Flat-Gold Hill 115 kV line #2 Phasing	Top B, Mid-A, Bot-C

Optimally Phase Circuits:

The phases of the Missouri Flat-Gold Hill 115 kV line #2 will be arranged for minimum magnetic field level at the edge of the right of way. The phasing will be changed to the following:

From Shingle Spring Sub to Clarksville Sub to Gold Hill Sub –

Missouri Flat-Gold Hill 115 kV line #1 Phasing	Top-C, Mid-B, Bot-A
Missouri Flat-Gold Hill 115 kV line #2 Phasing	**Top A, Mid-B, Bot-C**

V. General Description of Surrounding Land Uses

Schools or Daycare: Two poles.
Residential (rural): Eleven poles & thirteen towers.
Commercial/Industrial: Twenty-four poles.
Recreational: None.
Agricultural, Rural, and Undeveloped Land: Twenty-two poles & four towers.

Priority Areas where Low Cost Measures are to be Applied

The thirteen poles and thirteen towers in the school and residential land use areas are considered for magnetic field reduction.

The FMP does not propose to raise the thirteen lattice steel towers on the Missouri Flat-Gold Hill 115 kV line (structure nos. 31/231 to 33/247) for EMF mitigation due to structural reasons. PG&E is installing a larger conductor at a higher tension than these towers were originally designed for, and the existing towers without any raises are capable of supporting the new

conductor with mostly minor modifications (the tower supporting the cell antennas is the exception).

Following is a summary of the three options evaluated for raising these towers:

- Cage top extensions – due to the conductor loading of the new wire, a typical cage top extension cannot be installed on the towers without significant modifications to the towers; this raise type of extension is not recommended by engineering for this project.

- Waist cage extensions – while these extensions are technically feasible, they would still require significant structural modifications. Another drawback with the waist cage extensions is the need for access for large cranes for lifting - access to the towers in the residential areas is not very good and would cause significant ground disturbance and impose on the residents. This type of extension is not recommended by engineering for this project.

- Vertical extensions – these extensions are placed at the base of the tower, which requires the existing tower to have level/even leg extensions; none of the towers in the residential area has level/even legs so this option to raise the towers is not feasible.

This FMP proposes to raise the height of thirteen poles in the school and residential land use areas by 10 feet taller than required for meeting General Order 95. No other low-cost mitigation is available for this project.

VI. Conclusion - Field Reduction Options Selected

This FMP proposes to raise the height of thirteen poles in the school and residential land use areas by 10 feet taller than required for meeting General Order 95. No other low-cost mitigation is available for this project.

The phases of the Missouri Flat-Gold Hill 115 kV line #2 will be arranged for minimum magnetic field level at the edge of the right of way. The phasing will be changed to the following:

From Shingle Spring Sub to Clarksville Sub to Gold Hill Sub –

Missouri Flat-Gold Hill 115 kV line #1 Phasing	Top-C, Mid-B, Bot-A
Missouri Flat-Gold Hill 115 kV line #2 Phasing	**Top A, Mid-B, Bot-C**

Appendix A.3

Field Management Plan for Gold Hill 60 kV line No. 1

TRANSMISSION MAGNETIC FIELD MANAGEMENT PLAN
GOLD HILL #1 60 KV LINE RECONDUCTOR

I. General Description of Project

Project Lead: Project Manager, Electric Transmission Maintenance and Construction

Transmission Line: Gold Hill #1 60 kV line.

Distribution line Underbuild: 21 kV.

Scope of Work:

This job is a Shoofly Upgrade to 115kv from Gold Hill Sub to a few poles past Shingle Springs Sub. Transmission Conductor will be upgraded to 715A from Clarksville Sub to a few poles past Shingle Springs (approximately 7 miles) which will require reframing and/or replacing of existing poles. Most poles are accessible when dry with a few exceptions. Most all poles have distribution under-build.

Base Cost of Project: Approximately $8,500,000

TRANSMISSION MAGNETIC FIELD MANAGEMENT PLAN
GOLD HILL #1 60 KV LINE RECONDUCTOR

II. BACKGROUND: CPUC DECISION 93-11-013 AND EMF POLICY

On January 15, 1991, the CPUC initiated an investigation to consider its role in mitigating the health effects, if any, of electric and magnetic fields from utility facilities and power lines. A working group of interested parties, called the California EMF Consensus Group, was created by the CPUC to advise it on this issue. It consisted of 17 stakeholders representing citizens groups, consumer groups, environmental groups, state agencies, unions, and utilities. The Consensus Group's fact-finding process was open to the public, and its report incorporated concerns expressed by the public. Its recommendations were filed with the Commission in March 1992.

In August 2004 the CPUC began a proceeding known as a "rulemaking" (R.04-08-020) to explore whether changes should be made to existing CPUC policies and rules concerning EMF from electric transmission lines and other utility facilities.

Through a series of hearings and conferences, the Commission evaluated the results of its existing EMF mitigation policies and addressed possible improvements in implementation of these policies. The CPUC also explored whether new policies are warranted in light of recent scientific findings on the possible health effects of EMF exposure.

The CPUC completed the EMF rulemaking in January 2006 and presented these conclusions in Decision D.06-01-042:

- The CPUC affirmed its existing policy of requiring no-cost and low-cost mitigation measures to reduce EMF levels from new utility transmission lines and substation projects.

- The CPUC adopted rules and policies to improve utility design guidelines for reducing EMF, and provides for a utility workshop to implement these policies and standardize design guidelines.

- Despite numerous studies, including one ordered by the Commission and conducted by the California Department of Health Services, the CPUC stated "we are unable to determine whether there is a significant scientifically verifiable relationship between EMF exposure and negative health consequences."

- The CPUC said it will "remain vigilant" regarding new scientific studies on EMF, and if these studies indicate negative EMF health impacts, the Commission will reconsider its EMF policies and open a new rulemaking if necessary.

In response to a situation of scientific uncertainty and public concern, the decision specifically requires PG&E to consider "no-cost" and "low-cost" measures, where feasible, to reduce exposure from new or upgraded utility facilities. It directs that no-cost mitigation measures be undertaken, and that low-cost options, when they meet certain guidelines for field reduction and cost, be adopted through the project certification process. PG&E was directed to develop, submit and follow EMF guidelines to implement the CPUC decision. Four percent of total project

budgeted cost is the benchmark in implementing EMF mitigation, and mitigation measures should achieve incremental magnetic field reductions of at least 15%.

III. ELECTRIC AND MAGNETIC FIELDS (EMF)

EMF is a term used to describe electric and magnetic fields that are created by electric voltage (electric field) and electric current (magnetic field). Power frequency EMF is a natural consequence of electrical circuits, and can be either directly measured using the appropriate measuring instruments or calculated using appropriate information.

Electric fields are present whenever voltage exists on a wire, and are not dependent on current. The magnitude of the electric field is primarily a function of the configuration and operating voltage of the line and decreases with the distance from the source (line). The electric field can be shielded (i.e., the strength can be reduced) by any conducting surface, such as trees, fences, walls, buildings, and most types of structures. The strength of an electric field is measured in volts per meter (V/m) or kilovolts per meter (kV/m).

Magnetic fields are present whenever current flows in a conductor, and are not dependent on the voltage of the conductor. The strength of these fields also decreases with distance from the source. However, unlike electric fields, most common materials have little shielding effect on magnetic fields.

The magnetic field strength is a function of both the current on the conductor and the design of the system. Magnetic fields are measured in units called Gauss. However, for the low levels normally encountered near electric utility facilities, the field strength is expressed in a much smaller unit, the milliGauss (mG), which is one thousandth of a Gauss.

Power frequency EMF are present wherever electricity is used. This includes not only utility transmission lines, distribution lines, and substations, but also the building wiring in homes, offices, and schools, and in the appliances and machinery used in these locations. Magnetic field intensities from these sources can range from below 1 mG to above 1,000 mG (1 Gauss).

Magnetic field strengths diminish with distance. Fields from compact sources (i.e., those containing coils such as small appliances and transformers) drop off with distance “r” from the source by a factor of $1/r^3$. For three-phase power lines with balanced currents, the magnetic field strength drops off at a rate of $1/r^2$. Fields from unbalanced currents, which flow in paths such as neutral or ground conductors, fall off inversely proportional to the distance from the source, 1/r. Conductor spacing and configuration also affect the rate at which the magnetic field strength decreases, as well as the presence of other sources of electricity. The magnetic field levels of PG&E’s power lines will vary with customer demand.

Magnetic field strengths for typical transmission power line loads at the edge of rights-of-way are approximately 10 to 90 mG.

TRANSMISSION MAGNETIC FIELD MANAGEMENT PLAN
GOLD HILL #1 60 KV LINE RECONDUCTOR

IV. General Description of Surrounding Land Uses

Schools or Daycare: None.

Residential: One hundred-four poles.

High Density Residential	29
Low Density Residential	62
Multi-Family Residential	13

Commercial/Industrial: Thirty-three poles.

Recreational: None.

Agricultural, Rural, and Undeveloped Land: Fifty-three poles.

V. No Cost and Low Cost Magnetic Field Mitigation

No Cost Field Reduction

The operating voltage of the 60 kV line will be increased to 115 kV. This voltage increase will reduce magnetic field levels by 47%.

Priority Areas where Low Cost Measures are to be Applied

One hundred-four poles are in the residential land use area for consideration of magnetic field reduction.

Low Cost Magnetic Field Reduction Options

This FMP proposes to raise the height of twenty-nine poles in the high density residential land use areas ten feet taller than required for meeting General Order 95. No other low cost mitigation is available for this project.

VI. Conclusion - Field Reduction Options Selected

The operating voltage of the 60 kV line will be increased to 115 kV. This voltage increase will reduce magnetic field levels by 47%.

This FMP proposes to raise the height of twenty-nine poles in the high density residential land use areas ten feet taller than required for meeting General Order 95. No other low cost mitigation is available for this project.

APPENDIX B
Air Quality and Greenhouse Gas Emissions

B.1 Air Quality and Greenhouse Gas Emissions Estimates Supplement
B.2 PG&E's Air Quality and Greenhouse Gas Emissions Estimates

Appendix B.1

Air Quality and Greenhouse Gas Emissions Estimates Supplement

ESA Air Quality and Greenhouse Gas Emissions Supplement

Helicopter Operation Construction Emissions in El Dorado County

Bell 206 - Steel Lattice Tower Work	Total Fuel (gal/hr)	ROG	NOx	PM10	PM2.5	CO2e
Operation Emission Factor (kg/hr)[1]	38.26	0.91	0.74	0.02	0.02	370.00
Operation Emission Factor (lbs/hr)	84.35	2.01	1.63	0.04	0.04	815.70
1 hour of Helicopter Operations (lb)	84.35	2.01	1.63	0.04	0.04	815.70
5 hours of Helicopter Operations (MT)[2]	-	-	-	-	-	1.85

Note: 1 kg = 2.2046 pounds

[1] See Appendix B.2, page 61

[2] On the maximum emissions day, there would be 1 hour of helicopter operations in El Dorado County; there would 5 days of helicopter activity, for a total of 5 hours of helicopter operations in El Dorado County.

Maximum Day Construction Emissions in El Dorado County

Construction Phase	Maximum Pollutant Emissions (lbs/day)			
	ROG	NO_X	PM_{10}	$PM_{2.5}$
Tubular Steel Pole	1.26	13.13	0.71	0.57
Reconductoring	1.78	15.90	0.88	0.74
Wood Poles	1.13	11.93	0.69	0.55
Grading	0.74	6.97	0.45	0.35
Micropiles[1]	3.06	32.69	1.82	1.47
Helicopter Landings and Takeoffs[2]	1.95	0.83	0.01	0.01
Helicopter Operations [3]	2.01	1.63	0.04	0.04
Maximum Daily Emissions [4]	11.93	83.08	4.60	3.73

Based on Appendix B.2, page 67.

[1] This analysis assumes a maximum of five micropiles may be constructed per day.

[2] For purposes of a conservative analysis, emissions from four helicopter landing and take-offs were assumed to occur within the EDCAQMD's jurisdiction, which would capture the worst-case construction scenario.

[3] For purposes of a conservative analysis, it is assumed that up to 1 hour per day of helicopter operations activity would occur within El Dorado County; however, most of the helicopter operations would occur in Sacramento County in the vicinity of the subject towers (based on helicopter operation emission rates indentiifed in PG&E, 2014; see Appendix B.2, page).

[4] Maximum daily emissions assume project construction associated with all of the above construction activities occurring within the EDCAQMD jurisdiction can occur on the same day. In reality, these activities are likely to be phased and only a couple of the activities would occur on a single day.

Maximum Construction Emissions in El Dorado County for all Phases that Could Occur in the First Quarter

Construction Phase	Maximum Day Pollutant Emissions (lbs/day)			
	ROG	NO_X	PM_{10}	$PM_{2.5}$
Tubular Steel Pole	1.26	13.13	0.71	0.57
Reconductoring	1.78	15.9	0.88	0.74
Wood Poles	1.13	11.93	0.69	0.55
Grading	0.74	6.97	0.45	0.35
Interset Poles	1.35	16.04	0.66	0.52
Wood Poles at Substations	1.36	16.12	0.67	0.53
Distribution Underground	1.56	14.01	0.75	0.69
Distribution Grading	1.14	7.68	0.59	0.56
Micropiles[1]	3.06	32.69	1.82	1.47
Helicopter Landings and Takeoffs[2]	1.95	0.83	0.01	0.01
Helicopter Operations [3]	2.01	1.63	0.04	0.04

Based on Appendix B.2, page 67. Substation construction would not occur in the first quarter.

[1] This analysis assumes a maximum of five micropiles may be constructed per day.

[2] For purposes of a conservative analysis, emissions from four helicopter landing and take-offs were assumed to occur within the EDCAQMD's jurisdiction (PG&E, 2014).

[3] For purposes of a conservative analysis, it is assumed that up to 1 hour per day of helicopter operations activity would occur within El Dorado County; however, most of the helicopter operations would occur in Sacramento County in the vicinity of the subject towers. See above for estimate.

Average Daily Construction Emissions in El Dorado County for First Quarter

Construction Phase	Worst-case Workdays in Q1[1]	Quarterly Average Pollutant Emissions (lbs/day)[2]			
		ROG	NO_X	PM_{10}	$PM_{2.5}$
Tubular Steel Pole	60	1.26	13.13	0.71	0.57
Reconductoring	60	1.78	15.90	0.88	0.74
Wood Poles	60	1.13	11.93	0.69	0.55
Grading	5	0.06	0.58	0.04	0.03
Interset Poles	11	0.25	2.94	0.12	0.10
Wood Poles at Substations	7	0.16	1.88	0.08	0.06
Distribution Underground	13	0.34	3.04	0.16	0.15
Distribution Grading	26	0.49	3.33	0.26	0.24
Micropiles[3]	6.4	0.33	3.49	0.19	0.16
Helicopter Landings and Takeoffs[4]	5	0.16	0.07	0.00	0.00
Helicopter Operations [5]	5	0.17	0.14	0.00	0.00
Total Average Quarterly Emissions	-	6.13	56.42	3.13	2.60
EDCAQMD Threshold of Significance	-	82	82	-	-
Exceeds Thresholds?	-	No	No	-	-

[1] Worst-case workdays that would occur during the first quarter of construction are based on PG&E, 2014.

[2] It is assumed that there would be 60 workdays for the project as a whole in the first quarter of construction.

[3] This analysis assumes a maximum of five micropiles may be constructed per day.

[4] For purposes of a conservative analysis, emissions from four helicopter landing and take-offs were assumed to occur within the EDCAQMD's jurisdiction (PG&E, 2014).

[5] For purposes of a conservative analysis, it is assumed that up to 1 hour per day of helicopter operations activity would occur within El Dorado County; however, most of the helicopter operations would occur in Sacramento County in the vicinity of the subject towers. See below of estimate.

Total GHG Construction Emissions

Construction Phase	CO_2e metric tons
El Dorado County	
Tubular Steel Pole	36.99
Reconductoring	105.35
Wood Poles	191.5
Substation	23.68
Grading	233.91
Interset Poles	18.96
Wood Poles at Substations	12.1
Distribution Underground	14.94
Distribution Grading	17.38
Micropiles	26.19
Helicopter Landings and Takeoffs	1.26
Helicopter Operations	1.85
Subtotal	684.11
Sacramento County	
Reconductoring	25.44
Steel Lattice Towers	59.77
Helicopter Operations	11.1
Grading	3.36
Substation*	23.68
Subtotal	123.35
Total	**807.46**
Amortized over 30 years	26.92

Based on Appendix B.2, pages 66 and 7.

*Appendix B.2 does not identify substation emissions generated within Sacramento County; however, it is assumed that substation-related emissions generated in Sacramento County would be approximately the same as the emissions generated in El Dorado County.

SF6 Emissions

Pounds SF6	160
Conversion of SF6 to CO2e	23900
pounds SF6 leaked (0.5%)	0.8
Metric tons CO2e	8.67

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Appendix B.2

PG&E's Air Quality and Greenhouse Gas Emissions Estimates

ProjectName	LocationScope	EMFAC_ID	WindSpeed	PrecipitationFrequency	ClimateZone	UrbanizationLevel	OperationalYear
MF-GH EDCAPCD (New PD Construction)	AD	EDCAPCD	2.7	70	2	Urban	2015

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tblConstructionPhase

PhaseNumber	PhaseName	PhaseType	PhaseStartDate	PhaseEndDate	NumDaysWeek	NumDays
1	Dist Undergrd Grading	Grading	2015/01/01	2015/02/05	5	26
2	Distribution Underground	Building Construction	2015/01/01	2015/01/19	5	13
3	Wood Poles at Substation	Building Construction	2015/01/01	2015/01/09	5	7
4	Micropiles	Building Construction	2015/01/01	2015/02/13	5	32
5	Interset Poles	Building Construction	2015/01/01	2015/01/15	5	11

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PhaseName	OffRoadEquipmentType	OffRoadEquipmentUnitAmount	UsageHours	HorsePower	LoadFactor
Dist Undergrd Grading	Concrete/Industrial Saws	1	8	81	0.73
Dist Undergrd Grading	Off-Highway Trucks	1	1	381	0.38
Dist Undergrd Grading	Rubber Tired Dozers	1	1	358	0.59
Dist Undergrd Grading	Tractors/Loaders/Backhoes	3	8	75	0.37
Distribution Underground	Concrete/Industrial Saws	2	4	81	0.49
Distribution Underground	Cranes	1	4	208	0.43
Distribution Underground	Forklifts	2	6	149	0.3
Distribution Underground	Other Material Handling Equipment	1	8	196	0.4
Distribution Underground	Tractors/Loaders/Backhoes	2	4	75	0.37
Wood Poles at Substation	Bore/Drill Rigs	1	4	82	0.5
Wood Poles at Substation	Cranes	1	4	208	0.29
Wood Poles at Substation	Forklifts	2	6	149	0.3
Wood Poles at Substation	Other Material Handling Equipment	1	8	196	0.4
Wood Poles at Substation	Tractors/Loaders/Backhoes	2	8	75	0.55
Micropiles	Bore/Drill Rigs	2	4	82	0.5
Micropiles	Cement and Mortar Mixers	2	6	9	0.38
Micropiles	Cranes	1	4	208	0.43
Micropiles	Forklifts	2	6	149	0.3
Micropiles	Tractors/Loaders/Backhoes	1	4	75	0.37
Interset Poles	Bore/Drill Rigs	1	4	82	0.5
Interset Poles	Cranes	1	4	208	0.28
Interset Poles	Forklifts	2	6	149	0.3
Interset Poles	Other Material Handling Equipment	1	8	196	0.4
Interset Poles	Tractors/Loaders/Backhoes	2	8	75	0.55

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MF-GH EDCAPCD (New PD Construction)

El Dorado County APCD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Utility Company**	
Climate Zone	2	**Precipitation Freq (Days)**	70		

1.3 User Entered Comments

Project Characteristics -

Land Use -

Construction Phase - Interset poles and wood poles duration is based on wood pole replacement; distribution underground duration provided by applicant; micropiles assumes 4 days per micropile and 8 micropiles (conservative assumption)

Off-road Equipment - average construction equipment from PD

Off-road Equipment - assumptions from LDSP

Off-road Equipment - PD information

Off-road Equipment - same assumptions as LDSP

Off-road Equipment - trenching phase of distribution underground

Trips and VMT - all trip emissions modeled using EMFAC2011

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2015	4.73	39.13	23.27	0.06	0.00	1.87	1.87	0.00	1.87	1.87	0.00	5,650.56	0.00	0.42	0.00	5,659.40
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2015	4.73	39.13	23.27	0.06	0.00	1.87	1.87	0.00	1.87	1.87	0.00	5,650.56	0.00	0.42	0.00	5,659.40
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.00					0.00	0.00		0.00	0.00						0.00
Total	**0.00**					**0.00**	**0.00**		**0.00**	**0.00**						**0.00**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.00					0.00	0.00		0.00	0.00						0.00
Total	**0.00**					**0.00**	**0.00**		**0.00**	**0.00**						**0.00**

3.0 Construction Detail

3.1 Mitigation Measures Construction

3.2 Dist Undergrd Grading - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.06	7.18	6.00	0.01		0.51	0.51		0.51	0.51		1,014.88		0.10		1,016.88
Total	**1.06**	**7.18**	**6.00**	**0.01**		**0.51**	**0.51**		**0.51**	**0.51**		**1,014.88**		**0.10**		**1,016.88**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.2 Dist Undergrd Grading - 2015

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.06	7.18	6.00	0.01		0.51	0.51		0.51	0.51	0.00	1,014.88		0.10		1,016.88
Total	**1.06**	**7.18**	**6.00**	**0.01**		**0.51**	**0.51**		**0.51**	**0.51**	**0.00**	**1,014.88**		**0.10**		**1,016.88**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.3 Distribution Underground - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.38	11.01	6.15	0.02		0.59	0.59		0.59	0.59		1,460.43		0.12		1,463.01
Total	**1.38**	**11.01**	**6.15**	**0.02**		**0.59**	**0.59**		**0.59**	**0.59**		**1,460.43**		**0.12**		**1,463.01**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.3 Distribution Underground - 2015

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.38	11.01	6.15	0.02		0.59	0.59		0.59	0.59	0.00	1,460.43		0.12		1,463.01
Total	**1.38**	**11.01**	**6.15**	**0.02**		**0.59**	**0.59**		**0.59**	**0.59**	**0.00**	**1,460.43**		**0.12**		**1,463.01**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.4 Wood Poles at Substation - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.94	8.81	3.70	0.01		0.30	0.30		0.30	0.30		1,292.39		0.08		1,294.14
Total	**0.94**	**8.81**	**3.70**	**0.01**		**0.30**	**0.30**		**0.30**	**0.30**		**1,292.39**		**0.08**		**1,294.14**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.4 Wood Poles at Substation - 2015

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.94	8.81	3.70	0.01		0.30	0.30		0.30	0.30	0.00	1,292.39		0.08		1,294.14
Total	**0.94**	**8.81**	**3.70**	**0.01**		**0.30**	**0.30**		**0.30**	**0.30**	**0.00**	**1,292.39**		**0.08**		**1,294.14**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.5 Micropiles - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.41	3.40	3.74	0.01		0.18	0.18		0.18	0.18		600.88		0.04		601.65
Total	**0.41**	**3.40**	**3.74**	**0.01**		**0.18**	**0.18**		**0.18**	**0.18**		**600.88**		**0.04**		**601.65**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.5 Micropiles - 2015

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.41	3.40	3.74	0.01		0.18	0.18		0.18	0.18	0.00	600.88		0.04		601.65
Total	**0.41**	**3.40**	**3.74**	**0.01**		**0.18**	**0.18**		**0.18**	**0.18**	**0.00**	**600.88**		**0.04**		**601.65**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.6 Interset Poles - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.93	8.73	3.68	0.01		0.29	0.29		0.29	0.29		1,281.98		0.08		1,283.71
Total	**0.93**	**8.73**	**3.68**	**0.01**		**0.29**	**0.29**		**0.29**	**0.29**		**1,281.98**		**0.08**		**1,283.71**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.6 Interset Poles - 2015

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.93	8.73	3.68	0.01		0.29	0.29		0.29	0.29	0.00	1,281.98		0.08		1,283.71
Total	**0.93**	**8.73**	**3.68**	**0.01**		**0.29**	**0.29**		**0.29**	**0.29**	**0.00**	**1,281.98**		**0.08**		**1,283.71**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Total					

4.3 Trip Type Information

	Miles			Trip %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW

5.0 Energy Detail

5.1 Mitigation Measures Energy

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.00					0.00	0.00		0.00	0.00						0.00
Unmitigated	0.00					0.00	0.00		0.00	0.00						0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.00					0.00	0.00		0.00	0.00						0.00
Consumer Products	0.00					0.00	0.00		0.00	0.00						0.00
Total	**0.00**					**0.00**	**0.00**		**0.00**	**0.00**						**0.00**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.00					0.00	0.00		0.00	0.00						0.00
Consumer Products	0.00					0.00	0.00		0.00	0.00						0.00
Total	**0.00**					**0.00**	**0.00**		**0.00**	**0.00**						**0.00**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Vegetation

tblProjectCharacteristics

ProjectName	LocationSc	EMFAC_ID	WindSpeed	PrecipitationFrequency	ClimateZone	UrbanizationLevel	OperationalYear
MF-GH Substation Construction	AD	EDCAPCD	2.7	70	2	Rural	2015

tblConstructionPhase

PhaseNumber	PhaseName	PhaseType	PhaseStartDate	PhaseEndDate	NumDaysWeek	NumDays
1	Substation Modifications	Building Construction	2015/01/01	2015/01/28	5	20

tblOffRoadEquipment

PhaseName	OffRoadEquipmentType	OffRoadEquipmentUnitAmount	UsageHours	HorsePower	LoadFactor
Substation Modifications	Forklifts	1	4	149	0.2
Substation Modifications	Tractors/Loaders/Backhoes	1	4	75	0.37

MF-GH Substation Construction

El Dorado County APCD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.7	**Utility Company**	
Climate Zone	2	**Precipitation Freq (Days)**	70		

1.3 User Entered Comments

Project Characteristics -

Land Use -

Construction Phase - Assumed to be approximately 20 days of construction

Off-road Equipment - Worst-case assumed that forklift and tractor/loader/backhoe is needed. Likely to use hand work rather than construction equipment

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2015	0.28	1.95	1.82	0.00	0.00	0.13	0.13	0.00	0.13	0.13	0.00	288.15	0.00	0.03	0.00	288.68
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2015	0.28	1.95	1.82	0.00	0.00	0.13	0.13	0.00	0.13	0.13	0.00	288.15	0.00	0.03	0.00	288.68
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.00					0.00	0.00		0.00	0.00						0.00
Total	**0.00**					**0.00**	**0.00**		**0.00**	**0.00**						**0.00**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.00					0.00	0.00		0.00	0.00						0.00
Total	**0.00**					**0.00**	**0.00**		**0.00**	**0.00**						**0.00**

3.0 Construction Detail

3.1 Mitigation Measures Construction

3.2 Substation Modifications - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.28	1.95	1.82	0.00		0.13	0.13		0.13	0.13		288.15		0.03		288.68
Total	**0.28**	**1.95**	**1.82**	**0.00**		**0.13**	**0.13**		**0.13**	**0.13**		**288.15**		**0.03**		**288.68**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.2 Substation Modifications - 2015

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.28	1.95	1.82	0.00		0.13	0.13		0.13	0.13	0.00	288.15		0.03		288.68
Total	**0.28**	**1.95**	**1.82**	**0.00**		**0.13**	**0.13**		**0.13**	**0.13**	**0.00**	**288.15**		**0.03**		**288.68**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Total					

4.3 Trip Type Information

	Miles			Trip %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW

5.0 Energy Detail

5.1 Mitigation Measures Energy

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.00					0.00	0.00		0.00	0.00						0.00
Unmitigated	0.00					0.00	0.00		0.00	0.00						0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.00					0.00	0.00		0.00	0.00						0.00
Consumer Products	0.00					0.00	0.00		0.00	0.00						0.00
Total	**0.00**					**0.00**	**0.00**		**0.00**	**0.00**						**0.00**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.00					0.00	0.00		0.00	0.00						0.00
Consumer Products	0.00					0.00	0.00		0.00	0.00						0.00
Total	**0.00**					**0.00**	**0.00**		**0.00**	**0.00**						**0.00**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Vegetation

ProjectName	LocationScope	EMFAC_ID	WindSpeed	PrecipitationFrequency	ClimateZone	UrbanizationLevel	OperationalYear
MF-GH EDCAQMD Activities	AD	EDCAPCD	2.7	70	2	Urban	2015

tblConstructionPhase

PhaseNumber	PhaseName	PhaseType	PhaseStartDate	PhaseEndDate	NumDaysWeek	NumDays
1	LDSP	Building Construction	2015/01/01	2015/07/01	5	130
2	TSP	Building Construction	2015/01/01	2015/05/14	5	96
3	Reconductoring	Building Construction	2015/01/01	2015/04/01	5	65
4	Grading	Grading	2015/01/05	2015/01/09	5	5

tblOffRoadEquipment

PhaseName	OffRoadEquipmentType	OffRoadEquipmentUnitAmount	UsageHours	HorsePower	LoadFactor
LDSP	Bore/Drill Rigs	1	4	208	0.29
LDSP	Cranes	1	4	149	0.2
LDSP	Other Material Handling Equipment	1	8	75	0.37
TSP	Aerial Lifts	1	6	34	0.31
TSP	Bore/Drill Rigs	1	4	82	0.2
TSP	Concrete/Industrial Saws	1	6	81	0.49
TSP	Cranes	1	4	208	0.29
Reconductoring	Aerial Lifts	2	6	34	0.31
Reconductoring	Other Material Handling Equipment	2	6	149	0.4
Grading	Graders	1	4	162	0.41
Grading	Tractors/Loaders/Backhoes	1	6	75	0.37

MF-GH EDCAQMD Activities

El Dorado County APCD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Utility Company**	
Climate Zone	2	**Precipitation Freq (Days)**	70		

1.3 User Entered Comments

Project Characteristics -

Land Use -

Construction Phase - Reconductoring 9.6 miles, TSP for 96 poles, LDSP for 80 poles, standard grading for each pole

Off-road Equipment - Bore/Drill rig = auger, which overestimates; crane; and other material handling equipment for line truck

Off-road Equipment - Bore/drill rig for auger; crane; lift = worst case assuming cutting existing pole, drilling hole, and placing new pole equipment occurs on the same day

Off-road Equipment - 2 lifts and 2 line trucks for reconductoring

Off-road Equipment - Assumes worst-case for site preparation

Grading - Maximum is 0.4 acres per site, using max of 0.5 assuming some extra disturbance

Construction Off-road Equipment Mitigation -

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2015	3.53	23.18	17.43	0.03	0.17	1.43	1.60	0.00	1.43	1.43	0.00	3,133.11	0.00	0.31	0.00	3,139.72
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2015	3.53	23.18	17.43	0.03	0.11	1.43	1.55	0.00	1.43	1.43	0.00	3,133.11	0.00	0.31	0.00	3,139.72
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.00					0.00	0.00		0.00	0.00						0.00
Total	**0.00**					**0.00**	**0.00**		**0.00**	**0.00**						**0.00**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.00					0.00	0.00		0.00	0.00						0.00
Total	**0.00**					**0.00**	**0.00**		**0.00**	**0.00**						**0.00**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 LDSP - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.71	4.62	3.39	0.01		0.32	0.32		0.32	0.32		729.11		0.06		730.44
Total	**0.71**	**4.62**	**3.39**	**0.01**		**0.32**	**0.32**		**0.32**	**0.32**		**729.11**		**0.06**		**730.44**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.2 LDSP - 2015

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.71	4.62	3.39	0.01		0.32	0.32		0.32	0.32	0.00	729.11		0.06		730.44
Total	**0.71**	**4.62**	**3.39**	**0.01**		**0.32**	**0.32**		**0.32**	**0.32**	**0.00**	**729.11**		**0.06**		**730.44**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.3 TSP - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.84	5.82	3.80	0.01		0.34	0.34		0.34	0.34		761.38		0.07		762.95
Total	**0.84**	**5.82**	**3.80**	**0.01**		**0.34**	**0.34**		**0.34**	**0.34**		**761.38**		**0.07**		**762.95**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.3 TSP - 2015

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.84	5.82	3.80	0.01		0.34	0.34		0.34	0.34	0.00	761.38		0.07		762.95
Total	**0.84**	**5.82**	**3.80**	**0.01**		**0.34**	**0.34**		**0.34**	**0.34**	**0.00**	**761.38**		**0.07**		**762.95**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.4 Reconductoring - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.36	8.59	6.58	0.01		0.51	0.51		0.51	0.51		1,053.56		0.12		1,056.13
Total	**1.36**	**8.59**	**6.58**	**0.01**		**0.51**	**0.51**		**0.51**	**0.51**		**1,053.56**		**0.12**		**1,056.13**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.4 Reconductoring - 2015

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.36	8.59	6.58	0.01		0.51	0.51		0.51	0.51	0.00	1,053.56		0.12		1,056.13
Total	**1.36**	**8.59**	**6.58**	**0.01**		**0.51**	**0.51**		**0.51**	**0.51**	**0.00**	**1,053.56**		**0.12**		**1,056.13**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.5 Grading - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.11	0.00	0.11	0.00	0.00	0.00						0.00
Off-Road	0.58	4.12	3.37	0.01		0.26	0.26		0.26	0.26		540.97		0.05		542.07
Total	**0.58**	**4.12**	**3.37**	**0.01**	**0.11**	**0.26**	**0.37**	**0.00**	**0.26**	**0.26**		**540.97**		**0.05**		**542.07**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.04	0.03	0.30	0.00	0.07	0.00	0.07	0.00	0.00	0.00		48.08		0.00		48.14
Total	**0.04**	**0.03**	**0.30**	**0.00**	**0.07**	**0.00**	**0.07**	**0.00**	**0.00**	**0.00**		**48.08**		**0.00**		**48.14**

3.5 Grading - 2015

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.05	0.00	0.05	0.00	0.00	0.00						0.00
Off-Road	0.58	4.12	3.37	0.01		0.26	0.26		0.26	0.26	0.00	540.97		0.05		542.07
Total	**0.58**	**4.12**	**3.37**	**0.01**	**0.05**	**0.26**	**0.31**	**0.00**	**0.26**	**0.26**	**0.00**	**540.97**		**0.05**		**542.07**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.04	0.03	0.30	0.00	0.07	0.00	0.07	0.00	0.00	0.00		48.08		0.00		48.14
Total	**0.04**	**0.03**	**0.30**	**0.00**	**0.07**	**0.00**	**0.07**	**0.00**	**0.00**	**0.00**		**48.08**		**0.00**		**48.14**

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Total					

4.3 Trip Type Information

	Miles			Trip %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW

5.0 Energy Detail

5.1 Mitigation Measures Energy

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.00					0.00	0.00		0.00	0.00						0.00
Unmitigated	0.00					0.00	0.00		0.00	0.00						0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.00					0.00	0.00		0.00	0.00						0.00
Consumer Products	0.00					0.00	0.00		0.00	0.00						0.00
Total	**0.00**					**0.00**	**0.00**		**0.00**	**0.00**						**0.00**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.00					0.00	0.00		0.00	0.00						0.00
Consumer Products	0.00					0.00	0.00		0.00	0.00						0.00
Total	**0.00**					**0.00**	**0.00**		**0.00**	**0.00**						**0.00**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Vegetation

ProjectName	LocationScope	EMFAC_ID	WindSpeed	PrecipitationFrequency	ClimateZone	UrbanizationLevel	OperationalYear
MF-GH Construction - Reconduct (SMAQMD)	C	SAC	3.5	58	6	Rural	2015

tblConstructionPhase

PhaseNumber	PhaseName	PhaseType	PhaseStartDate	PhaseEndDate	NumDaysWeek	NumDays
1	Reconductoring	Building Construction	2015/01/01	2015/01/27	5	19
2	Steel Lattice Towers	Building Construction	2015/02/02	2015/03/13	5	30

tblOffRoadEquipment

PhaseName	OffRoadEquipmentType	OffRoadEquipmentUnitAmount	UsageHours	HorsePower	LoadFactor
Reconductoring	Aerial Lifts	2	4	208	0.29
Reconductoring	Other Material Handling Equipment	2	6	149	0.2
Steel Lattice Towers	Aerial Lifts	1	1	34	0.31
Steel Lattice Towers	Cranes	1	4	208	0.29
Steel Lattice Towers	Other Material Handling Equipment	2	8	196	0.4

MF-GH Construction - Reconduct (SMAQMD)

Sacramento County, Summer

1.0 Project Characteristics

1.1 Land Usage

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	3.5	**Utility Company**	Sacramento Municipal Utility District
Climate Zone	6	**Precipitation Freq (Days)**	58		

1.3 User Entered Comments

Project Characteristics -

Land Use -

Construction Phase - Reconductoring includes 2.9 miles. 10 steel lattice tower modifications (3 days per modification).

Off-road Equipment - two aerial lifts and two "other material handling equipment" to represent line trucks

Off-road Equipment - dfafd

Off-road Equipment - Crane, lift, and other equipment for line trucks

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2015	1.47	13.51	4.30	0.02	0.00	0.44	0.44	0.00	0.44	0.44	0.00	1,885.39	0.00	0.13	0.00	1,888.12
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2015	1.47	13.51	4.30	0.02	0.00	0.44	0.44	0.00	0.44	0.44	0.00	1,885.39	0.00	0.13	0.00	1,888.12
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.00					0.00	0.00		0.00	0.00						0.00
Total	**0.00**					**0.00**	**0.00**		**0.00**	**0.00**						**0.00**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.00					0.00	0.00		0.00	0.00						0.00
Total	**0.00**					**0.00**	**0.00**		**0.00**	**0.00**						**0.00**

3.0 Construction Detail

3.1 Mitigation Measures Construction

3.2 Reconductoring - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.49	3.61	2.64	0.00		0.20	0.20		0.20	0.20		447.62		0.04		448.55
Total	**0.49**	**3.61**	**2.64**	**0.00**		**0.20**	**0.20**		**0.20**	**0.20**		**447.62**		**0.04**		**448.55**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.2 Reconductoring - 2015

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.49	3.61	2.64	0.00		0.20	0.20		0.20	0.20	0.00	447.62		0.04		448.55
Total	**0.49**	**3.61**	**2.64**	**0.00**		**0.20**	**0.20**		**0.20**	**0.20**	**0.00**	**447.62**		**0.04**		**448.55**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.3 Steel Lattice Towers - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.47	13.51	4.30	0.02		0.44	0.44		0.44	0.44		1,885.39		0.13		1,888.12
Total	**1.47**	**13.51**	**4.30**	**0.02**		**0.44**	**0.44**		**0.44**	**0.44**		**1,885.39**		**0.13**		**1,888.12**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.3 Steel Lattice Towers - 2015

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.47	13.51	4.30	0.02		0.44	0.44		0.44	0.44	0.00	1,885.39		0.13		1,888.12
Total	**1.47**	**13.51**	**4.30**	**0.02**		**0.44**	**0.44**		**0.44**	**0.44**	**0.00**	**1,885.39**		**0.13**		**1,888.12**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Total					

4.3 Trip Type Information

	Miles			Trip %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW

5.0 Energy Detail

5.1 Mitigation Measures Energy

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.00					0.00	0.00		0.00	0.00						0.00
Unmitigated	0.00					0.00	0.00		0.00	0.00						0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.00					0.00	0.00		0.00	0.00						0.00
Consumer Products	0.00					0.00	0.00		0.00	0.00						0.00
Total	**0.00**					**0.00**	**0.00**		**0.00**	**0.00**						**0.00**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.00					0.00	0.00		0.00	0.00						0.00
Consumer Products	0.00					0.00	0.00		0.00	0.00						0.00
Total	**0.00**					**0.00**	**0.00**		**0.00**	**0.00**						**0.00**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Vegetation

Missouri Flats Gold Hill Reconductoring
Construction Emissions (SMAQMD)

CalEEMod Outputs	Pollutants (lbs/day)					
Construction Phase	**ROG**	**NO_X**	**PM_{10}**	**$PM_{2.5}$**	**MT CO_2e (total)**	**Mitigated MT CO_2e (total)**
Reconductoring	***0.85***	***10.38***	***0.55***	***0.41***	***25.44***	***24.83***
Construction Equipment	0.49	3.61	0.2	0.2	3.86	3.67
Construction Worker	0.13	0.98	0.17	0.09	8.34	7.92
Haul Trucks	0.24	5.79	0.18	0.12	13.25	13.25
Steel Lattice Towers	***9.87***	***26.81***	***0.99***	***0.85***	***67.16***	***65.22***
Construction Equipment	1.47	13.51	0.44	0.44	25.69	24.41
Helicopter Operations (Operations)	8.04	6.53	0.19	0.19	7.40	7.40
Construction Worker	0.13	0.98	0.17	0.09	13.16	12.50
Haul Trucks	0.24	5.79	0.18	0.12	20.92	20.92
Grading	***0.72***	***6.76***	***0.44***	***0.34***	***3.36***	***3.19***
Construction Equipment	0.58	4.12	0.31	0.26	1.23	1.17
Construction Worker	0.04	0.33	0.06	0.03	0.73	0.69
Haul Trucks	0.09	2.32	0.07	0.05	1.39	1.32
Maximum Daily Emissions	**11.44**	**43.95**	**1.98**	**1.60**	**95.96**	**93.24**

				Maximum Daily (lbs/day)				
On-Road Mobile Sources	**Average Daily Round Trips**	**Phase Duration (days)**	**Trip Length (one-way)**	**ROG**	**NO_X**	**PM_{10}**	**$PM_{2.5}$**	**CO_2e (total MT)**
Reconductoring - (2.9 SC, 16.6 EDC)								
Construction Worker	15	19	40	0.13	0.98	0.17	0.09	8.34
Haul Trucks	5	19	40	0.24	5.79	0.18	0.12	13.25
Steel Lattice Towers - (SC)								
Construction Worker	15	30	40	0.13	0.98	0.17	0.09	13.16
Haul Trucks	5	30	40	0.24	5.79	0.18	0.12	20.92
Grading								
Construction Equipment	5	5	40	0.04	0.33	0.06	0.03	0.73
Haul Trucks	2	5	40	0.09	2.32	0.07	0.05	1.39

						Total Emissions (lbs/day)				
Helicoper Emissions	**LTOs/day**	**Hours/Day**	**Total Days**	**Total Hours**	**Total LTOs**	**ROG**	**NO_X**	**PM_{10}**	**$PM_{2.5}$**	**CO_2e (total MT)**
Steel Lattice Tower										
Bell 206 (LTO Emissions - El Dorado County)	2	-	5	-	10	1.95	0.41	0.01	0.01	0.63
Bell 206 (Operational Emissions - Sacramento County)	-	4	5	20	-	8.04	6.53	0.19	0.19	7.40
Total	2	4	5	20	10	**9.98**	**6.94**	**0.21**	**0.21**	**8.03**

	Helicopter Emission Factors (kg/LTO or kg/hr)					
Helicopter Type and Operation	**Total Fuel (gal/hr)**	**ROG**	**NO_X**	**PM_{10}**	**$PM_{2.5}$**	**CO_2e**
Bell 206						
LTO	6.53	0.44	0.09	0.00	0.00	63
Operation	38.26	0.91	0.74	0.02	0.02	370

ROG/HC	1.2663	ratio
PM_{10}/PM_{TOTAL}	0.976	ratio
$PM_{2.5}/PM_{TOTAL}$	0.967	ratio
Average Fuel Weight	6.75	lbs/gal
Jet Fuel Emission Factors		
CO_2	9.57	kg/gal
N_2O	0.00031	kg/gal
CH_4	0.00027	kg/gal

Source:
Switzerland Federal Office of Civil Aviation (FOCA) Guidance on the Determination of Helicopter Emissions (http://www.bazl.admin.ch/fachleute/01169/02432/02433/02589/index.html?lang=en)
ARB Hydrocarbons Conversion (www.arb.ca.gov/msei/onroad/downloads/tsd/HC_**Conversion**s.doc)
SCAQMD PM2.5 Speciation Appendix A
EIA Voluntary Reporting of GHG Program - Emission Factors

Missouri Flats Gold Hill Reconductoring
Construction Emissions (EDCAQMD)

CalEEMod Outputs	Pollutants (lbs/day)							
Construction Phase	ROG	NO_x	PM_{10}	$PM_{2.5}$	MT CO_2e (total)	Mitigated MT CO_2e (total)		
Tubular Steel Poles (TSP)	***1.26***	***13.13***	***0.71***	***0.57***	***36.99***	***35.31***		
Construction Equipment	0.84	5.82	0.34	0.34	33.21	31.55		
Construction Worker	0.17	1.07	0.18	0.10	0.49	0.46		
Haul Trucks	0.25	6.24	0.20	0.13	3.30	3.30		
Reconductoring	***1.78***	***15.90***	***0.88***	***0.74***	***105.35***	***102.35***		
Construction Equipment	1.36	8.59	0.51	0.51	31.13	29.57		
Construction Worker	0.17	1.07	0.18	0.10	28.87	27.43		
Haul Trucks	0.25	6.24	0.20	0.13	45.35	45.35		
Previous LDSP - Now Wood	***1.13***	***11.93***	***0.69***	***0.55***	***191.50***	***186.46***		
Construction Equipment	0.71	4.62	0.32	0.32	43.06	40.91		
Construction Worker	0.17	1.07	0.18	0.10	57.74	54.85		
Haul Trucks	0.25	6.24	0.20	0.13	90.70	90.70		
Substation	***0.66***	***9.05***	***0.47***	***0.34***	***23.68***	***23.19***		
Construction Equipment	0.28	1.95	0.13	0.13	2.62	2.49		
Construction Worker	0.14	0.86	0.14	0.08	7.11	6.75		
Haul Trucks	0.25	6.24	0.20	0.13	13.95	13.95		
Grading	***0.74***	***6.97***	***0.45***	***0.35***	***233.91***	***222.21***		
Construction Equipment	0.58	4.12	0.31	0.26	1.23	1.17		
Construction Worker	0.06	0.36	0.06	0.03	0.74	0.70		
Haul Trucks	0.10	2.50	0.08	0.05	1.40	1.33		
Interset Poles	***1.35***	***16.04***	***0.66***	***0.52***	***18.96***	***18.40***		
Construction Equipment	0.93	8.73	0.29	0.29	6.40	6.08		
Construction Worker	0.17	1.07	0.18	0.10	4.89	4.64		
Haul Trucks	0.25	6.24	0.20	0.13	7.67	7.67		
Wood Poles (Substations)	***1.36***	***16.12***	***0.67***	***0.53***	***12.10***	***11.74***		
Construction Equipment	0.94	8.81	0.30	0.30	4.11	3.90		
Construction Worker	0.17	1.07	0.18	0.10	3.11	2.95		
Haul Trucks	0.25	6.24	0.20	0.13	4.88	4.88		
Distribution Underground	***1.56***	***14.01***	***0.75***	***0.69***	***14.94***	***14.38***		
Construction Equipment	1.38	11.01	0.59	0.59	8.62	8.19		
Construction Worker	0.08	0.50	0.08	0.05	2.69	2.56		
Haul Trucks	0.10	2.50	0.08	0.05	3.63	3.63		
DistriUnder - Grading	***1.14***	***7.68***	***0.59***	***0.56***	***17.38***	***16.51***		
Construction Equipment	1.06	7.18	0.51	0.51	11.99	11.39		
Construction Worker	0.08	0.50	0.08	0.05	5.39	5.12		
Micropiles (Single Micropile)	***0.61***	***6.54***	***0.36***	***0.29***	***26.19***	***25.32***		
Construction Equipment	0.41	3.40	0.18	0.18	8.73	8.29		
Construction Worker	0.10	0.64	0.11	0.06	8.53	8.10		
Haul Trucks	0.10	2.50	0.08	0.05	8.93	8.93		
Steel Lattice Towers	***1.95***	***0.41***	***0.01***	***0.01***	***0.63***	***0.63***		
Helicopter LTOs	1.95	0.41	0.01	0.01	0.63	0.63		
Maximum Daily (1 micropile)	7.46	54.89	3.11	2.52	-	-	Number of Micropiles	
Maximum Daily (Max Micropile)	**9.90**	**81.04**	**4.57**	**3.70**	**681.63**	**656.50**	4	

				Maximum Daily (lbs/day)				
On-Road Mobile Sources	Average Daily Round Trips	Phase Duration (days)	Trip Length (one-way)	ROG	NO_x	PM_{10}	$PM_{2.5}$	CO_2e (MT)
Tubular Steel Poles (TSP) - (EDC)								
Construction Worker	15	96	40	0.17	1.07	0.18	0.10	0.49
Haul Trucks	5	96	40	0.25	6.24	0.20	0.13	3.30
Reconductoring - (2.9 SC, 16.6 EDC)								
Construction Worker	15	65	40	0.17	1.07	0.18	0.10	28.87
Haul Trucks	5	65	40	0.25	6.24	0.20	0.13	45.35
Light-Duty Steel Poles - (EDC)								
Construction Worker	15	130	40	0.17	1.07	0.18	0.10	57.74
Haul Trucks	5	130	40	0.25	6.24	0.20	0.13	90.70
Substation								
Construction Worker	12	20	40	0.14	0.86	0.14	0.08	7.11
Haul Trucks	5	20	40	0.25	6.24	0.20	0.13	13.95
Grading								
Construction Worker	5	5	40	0.06	0.36	0.06	0.03	0.74
Haul Trucks	2	5	40	0.10	2.50	0.08	0.05	1.40
Interset Poles								
Construction Worker	15	11	40	0.17	1.07	0.18	0.10	4.89
Haul Trucks	5	11	40	0.25	6.24	0.20	0.13	7.67
Wood Poles								
Construction Worker	15	7	40	0.17	1.07	0.18	0.10	3.11
Haul Trucks	5	7	40	0.25	6.24	0.20	0.13	4.88
Micropiles								
Construction Worker	9	32	40	0.10	0.64	0.11	0.06	8.53
Haul Trucks	2	32	40	0.10	2.50	0.08	0.05	8.93
Distribution Underground								
Construction Worker	7	13	40	0.08	0.50	0.08	0.05	2.69
Haul Trucks	2	13	40	0.10	2.50	0.08	0.05	3.63
Distribution Underground - Grading								
Construction Worker	7	26	40	0.08	0.50	0.08	0.05	5.39
Haul Trucks	2	26	40	0.10	2.50	0.08	0.05	7.26

Missouri Flats Gold Hill Reconductoring Project
Construction On-Road Emission Factors (EMFAC2011)

El Dorado County Year 2015	Emission Factors (grams/mile)						
Vehicle Type	**ROG**	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**	**CO_2**
Construction Worker	0.065	0.404	1.343	0.004	0.066	0.038	370.114
Haul Truck	0.279	7.078	1.284	0.017	0.223	0.152	1744.183

Sacramento County Year 2015	Emission Factors (grams/mile)						
Vehicle Type	**ROG**	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**	**CO_2**
Construction Worker	0.048	0.369	1.058	0.004	0.064	0.035	365.609
Haul Truck	0.267	6.569	1.215	0.017	0.208	0.138	1742.931

					LTO Emissions					One hour emissions				
Aircraft_ ICAO	Aircraft_Name	Engine_Name	Max SHP per engine	Number_of_ Engines	LTO fuel (kg)	LTO NOx (g)	LTO HC (g)	LTO CO (g)	LTO PM non volatile (g)	One hour fuel (kg)	One hour NOx (kg)	One hour HC (kg)	One hour CO (kg)	One hour PM non vol. (kg)
B06	BELL 206B	DDA250-C20	400	1	18.2	75	385	499	3	109	0.61	0.82	1.03	0.019
B06	BELL 206B	DDA250-C20B	420	1	18.6	79	373	484	3	101	0.58	0.72	0.90	0.018
B06	BELL 206B	DDA250-C20J	420	1	18.6	79	373	484	3	101	0.58	0.72	0.90	0.018
B06	BELL 206B	DDA250-C20R	450	1	19.2	85	358	463	3	105	0.63	0.70	0.86	0.019
B06	BELL 206B	DDA250-C20R/4	450	1	19.2	85	358	463	3	105	0.63	0.70	0.86	0.019
B06	BELL 206L	DDA250-C20R	450	1	19.2	85	358	463	3	117	0.70	0.77	0.96	0.022
B06	BELL 206L	DDA250-C30	650	1	23.7	131	291	372	4	149	1.10	0.66	0.82	0.032
B06	BELL 206L	DDA250-C30P	650	1	23.7	131	291	372	4	149	1.10	0.66	0.82	0.032
	Bell 205 Average				20.0	94.0	348.5	449.9	3.2	117	0.74	0.72	0.89	0.02

					LTO Emissions					One hour emissions				
Aircraft_ ICAO	Aircraft_Name	Engine_Name	Max SHP per engine	Number_of_ Engines	LTO fuel (kg)	LTO NOx (g)	LTO HC (g)	LTO CO (g)	LTO PM non volatile (g)	One hour fuel (kg)	One hour NOx (kg)	One hour HC (kg)	One hour CO (kg)	One hour PM non vol. (kg)
MD52	MD 520N	DDA250-C20	400	1	18.2	75	385	499	3	109	0.61	0.82	1.03	0.019

Missouri Flats Gold Hill Reconductoring
Construction Emissions (SMAQMD) - Increased Helicopter Operations (25 hours)

CalEEMod Outputs	Pollutants (lbs/day)					
Construction Phase	**ROG**	**NO_X**	**PM_{10}**	**$PM_{2.5}$**	**MT CO_2e (total)**	**Mitigated MT CO_2e (total)**
Reconductoring	***0.85***	***10.38***	***0.55***	***0.41***	***25.44***	***24.83***
Construction Equipment	0.49	3.61	0.2	0.2	3.86	3.67
Construction Worker	0.13	0.98	0.17	0.09	8.34	7.92
Haul Trucks	0.24	5.79	0.18	0.12	13.25	13.25
Steel Lattice Towers	***25.82***	***37.43***	***1.31***	***1.16***	***79.53***	***67.07***
Construction Equipment	1.47	13.51	0.44	0.44	25.69	24.41
Helicopter Operations (Operations)	10.05	8.16	0.24	0.24	9.25	9.25
Construction Worker	0.13	0.98	0.17	0.09	13.16	12.50
Haul Trucks	0.24	5.79	0.18	0.12	20.92	20.92
Grading	***0.72***	***6.76***	***0.44***	***0.34***	***3.36***	***3.19***
Construction Equipment	0.58	4.12	0.31	0.26	1.23	1.17
Construction Worker	0.04	0.33	0.06	0.03	0.73	0.69
Haul Trucks	0.09	2.32	0.07	0.05	1.39	1.32
Maximum Daily Emissions	**27.39**	**54.57**	**2.30**	**1.92**	**108.32**	**95.09**

				Maximum Daily (lbs/day)				
On-Road Mobile Sources	**Average Daily Round Trips**	**Phase Duration (days)**	**Trip Length (one-way)**	**ROG**	**NO_X**	**PM_{10}**	**$PM_{2.5}$**	**CO_2e (total MT)**
Reconductoring - (2.9 SC, 16.6 EDC)								
Construction Worker	15	19	40	0.13	0.98	0.17	0.09	8.34
Haul Trucks	5	19	40	0.24	5.79	0.18	0.12	13.25
Steel Lattice Towers - (SC)								
Construction Worker	15	30	40	0.13	0.98	0.17	0.09	13.16
Haul Trucks	5	30	40	0.24	5.79	0.18	0.12	20.92
Grading								
Construction Equipment	5	5	40	0.04	0.33	0.06	0.03	0.73
Haul Trucks	2	5	40	0.09	2.32	0.07	0.05	1.39

						Total Emissions (lbs/day)				
Helicoper Emissions	**LTOs/day**	**Hours/Day**	**Total Days**	**Total Hours**	**Total LTOs**	**ROG**	**NO_X**	**PM_{10}**	**$PM_{2.5}$**	**CO_2e (total MT)**
Steel Lattice Tower										
Bell 206 (LTO Emissions - El Dorado County)	4	-	5	-	20	3.89	0.83	0.03	0.03	1.26
Bell 206 (Operational Emissions - Sacramento County)	-	5	5	25	-	10.05	8.16	0.24	0.24	9.25
Total	4	5	5	25	20	**13.94**	**8.99**	**0.27**	**0.27**	**10.51**

NOTE: Assumes 25 total hours of helicopter operations.

	Helicopter Emission Factors (kg/LTO or kg/hr)					
Helicopter Type and Operation	**Total Fuel (gal/hr)**	**ROG**	**NO_X**	**PM_{10}**	**$PM_{2.5}$**	**CO_2e**
Bell 206						
LTO	6.53	0.44	0.09	0.00	0.00	63
Operation	38.26	0.91	0.74	0.02	0.02	370

ROG/HC	1.2663	ratio
PM_{10}/PM_{TOTAL}	0.976	ratio
$PM_{2.5}/PM_{TOTAL}$	0.967	ratio
Average Fuel Weight	6.75	lbs/gal
Jet Fuel Emission Factors		
CO_2	9.57	kg/gal
N_2O	0.00031	kg/gal
CH_4	0.00027	kg/gal

Source:
Switzerland Federal Office of Civil Aviation (FOCA) Guidance on the Determination of Helicopter Emissions (http://www.bazl.admin.ch/fachleute/01169/02432/02433/02589/index.html?lang=en)
ARB Hydrocarbons Conversion (www.arb.ca.gov/msei/onroad/downloads/tsd/HC_**Conversion**s.doc)
SCAQMD PM2.5 Speciation Appendix A
EIA Voluntary Reporting of GHG Program - Emission Factors

Missouri Flats Gold Hill Reconductoring
Construction Emissions (SMAQMD) - Increased Helicopter Operations (30 hours)

CalEEMod Outputs	Pollutants (lbs/day)					
Construction Phase	**ROG**	**NO_X**	**PM_{10}**	**$PM_{2.5}$**	**MT CO_2e (total)**	**Mitigated MT CO_2e (total)**
Reconductoring	***0.85***	***10.38***	***0.55***	***0.41***	***25.44***	***24.83***
Construction Equipment	0.49	3.61	0.2	0.2	3.86	3.67
Construction Worker	0.13	0.98	0.17	0.09	8.34	7.92
Haul Trucks	0.24	5.79	0.18	0.12	13.25	13.25
Steel Lattice Towers	***29.84***	***40.70***	***1.40***	***1.26***	***83.22***	***68.92***
Construction Equipment	1.47	13.51	0.44	0.44	25.69	24.41
Helicopter Operations (Operations)	12.06	9.79	0.29	0.29	11.10	11.10
Construction Worker	0.13	0.98	0.17	0.09	13.16	12.50
Haul Trucks	0.24	5.79	0.18	0.12	20.92	20.92
Grading	***0.72***	***6.76***	***0.44***	***0.34***	***3.36***	***3.19***
Construction Equipment	0.58	4.12	0.31	0.26	1.23	1.17
Construction Worker	0.04	0.33	0.06	0.03	0.73	0.69
Haul Trucks	0.09	2.32	0.07	0.05	1.39	1.32
Maximum Daily Emissions	**31.41**	**57.84**	**2.39**	**2.01**	**112.02**	**96.94**

				Maximum Daily (lbs/day)				
On-Road Mobile Sources	**Average Daily Round Trips**	**Phase Duration (days)**	**Trip Length (one-way)**	**ROG**	**NO_X**	**PM_{10}**	**$PM_{2.5}$**	**CO_2e (total MT)**
Reconductoring - (2.9 SC, 16.6 EDC)								
Construction Worker	15	19	40	0.13	0.98	0.17	0.09	8.34
Haul Trucks	5	19	40	0.24	5.79	0.18	0.12	13.25
Steel Lattice Towers - (SC)								
Construction Worker	15	30	40	0.13	0.98	0.17	0.09	13.16
Haul Trucks	5	30	40	0.24	5.79	0.18	0.12	20.92
Grading								
Construction Equipment	5	5	40	0.04	0.33	0.06	0.03	0.73
Haul Trucks	2	5	40	0.09	2.32	0.07	0.05	1.39

						Total Emissions (lbs/day)				
Helicoper Emissions	**LTOs/day**	**Hours/Day**	**Total Days**	**Total Hours**	**Total LTOs**	**ROG**	**NO_X**	**PM_{10}**	**$PM_{2.5}$**	**CO_2e (total MT)**
Steel Lattice Tower										
Bell 206 (LTO Emissions - El Dorado County)	4	-	5	-	20	3.89	0.83	0.03	0.03	1.26
Bell 206 (Operational Emissions - Sacramento County)	-	6	5	30	-	12.06	9.79	0.29	0.29	11.10
Total	4	6	5	30	20	**15.95**	**10.62**	**0.32**	**0.32**	**12.36**

NOTE: Assumes 30 total hours of helicopter operations.

	Helicopter Emission Factors (kg/LTO or kg/hr)					
Helicopter Type and Operation	**Total Fuel (gal/hr)**	**ROG**	**NO_X**	**PM_{10}**	**$PM_{2.5}$**	**CO_2e**
Bell 206						
LTO	6.53	0.44	0.09	0.00	0.00	63
Operation	38.26	0.91	0.74	0.02	0.02	370

ROG/HC	1.2663	ratio
PM_{10}/PM_{TOTAL}	0.976	ratio
$PM_{2.5}/PM_{TOTAL}$	0.967	ratio
Average Fuel Weight	6.75	lbs/gal
Jet Fuel Emission Factors		
CO_2	9.57	kg/gal
N_2O	0.00031	kg/gal
CH_4	0.00027	kg/gal

Source:
Switzerland Federal Office of Civil Aviation (FOCA) Guidance on the Determination of Helicopter Emissions (http://www.bazl.admin.ch/fachleute/01169/02432/02433/02589/index.html?lang=en)
ARB Hydrocarbons Conversion (www.arb.ca.gov/msei/onroad/downloads/tsd/HC_**Conversion**s.doc)
SCAQMD PM2.5 Speciation Appendix A
EIA Voluntary Reporting of GHG Program - Emission Factors

Missouri Flats Gold Hill Reconductoring
Construction Emissions (EDCAQMD) - Increased Helicopter Operations (4 LTOs Per Day)

CalEEMod Outputs	Pollutants (lbs/day)						
Construction Phase	ROG	NO_x	PM_{10}	$PM_{2.5}$	MT CO_2e (total)	Mitigated MT CO_2e (total)	
Tubular Steel Poles (TSP)	***1.26***	***13.13***	***0.71***	***0.57***	***36.99***	***35.31***	
Construction Equipment	0.84	5.82	0.34	0.34	33.21	31.55	
Construction Worker	0.17	1.07	0.18	0.10	0.49	0.46	
Haul Trucks	0.25	6.24	0.20	0.13	3.30	3.30	
Reconductoring	***1.78***	***15.90***	***0.88***	***0.74***	***105.35***	***102.35***	
Construction Equipment	1.36	8.59	0.51	0.51	31.13	29.57	
Construction Worker	0.17	1.07	0.18	0.10	28.87	27.43	
Haul Trucks	0.25	6.24	0.20	0.13	45.35	45.35	
Previous LDSP - Now Wood	***1.13***	***11.93***	***0.69***	***0.55***	***191.50***	***186.46***	
Construction Equipment	0.71	4.62	0.32	0.32	43.06	40.91	
Construction Worker	0.17	1.07	0.18	0.10	57.74	54.85	
Haul Trucks	0.25	6.24	0.20	0.13	90.70	90.70	
Substation	***0.66***	***9.05***	***0.47***	***0.34***	***23.68***	***23.19***	
Construction Equipment	0.28	1.95	0.13	0.13	2.62	2.49	
Construction Worker	0.14	0.86	0.14	0.08	7.11	6.75	
Haul Trucks	0.25	6.24	0.20	0.13	13.95	13.95	
Grading	***0.74***	***6.97***	***0.45***	***0.35***	***233.91***	***222.21***	
Construction Equipment	0.58	4.12	0.31	0.26	1.23	1.17	
Construction Worker	0.06	0.36	0.06	0.03	0.74	0.70	
Haul Trucks	0.10	2.50	0.08	0.05	1.40	1.33	
Interset Poles	***1.35***	***16.04***	***0.66***	***0.52***	***18.96***	***18.40***	
Construction Equipment	0.93	8.73	0.29	0.29	6.40	6.08	
Construction Worker	0.17	1.07	0.18	0.10	4.89	4.64	
Haul Trucks	0.25	6.24	0.20	0.13	7.67	7.67	
Wood Poles (Substations)	***1.36***	***16.12***	***0.67***	***0.53***	***12.10***	***11.74***	
Construction Equipment	0.94	8.81	0.30	0.30	4.11	3.90	
Construction Worker	0.17	1.07	0.18	0.10	3.11	2.95	
Haul Trucks	0.25	6.24	0.20	0.13	4.88	4.88	
Distribution Underground	***1.56***	***14.01***	***0.75***	***0.69***	***14.94***	***14.38***	
Construction Equipment	1.38	11.01	0.59	0.59	8.62	8.19	
Construction Worker	0.08	0.50	0.08	0.05	2.69	2.56	
Haul Trucks	0.10	2.50	0.08	0.05	3.63	3.63	
DistriUnder - Grading	***1.14***	***7.68***	***0.59***	***0.56***	***17.38***	***16.51***	
Construction Equipment	1.06	7.18	0.51	0.51	11.99	11.39	
Construction Worker	0.08	0.50	0.08	0.05	5.39	5.12	
Micropiles (Single Micropile)	***0.61***	***6.54***	***0.36***	***0.29***	***26.19***	***25.32***	
Construction Equipment	0.41	3.40	0.18	0.18	8.73	8.29	
Construction Worker	0.10	0.64	0.11	0.06	8.53	8.10	
Haul Trucks	0.10	2.50	0.08	0.05	8.93	8.93	
Steel Lattice Towers	***3.89***	***0.83***	***0.03***	***0.03***	***1.26***	***1.26***	
Helicopter LTOs	3.89	0.83	0.03	0.03	1.26	1.26	
Maximum Daily (1 micropile)	9.40	55.30	3.13	2.54	-	-	Number of Micropiles
Maximum Daily (Max Micropile)	**11.85**	**81.45**	**4.58**	**3.71**	**682.26**	**657.13**	4

NOTE: Assumes 4 LTOs per day and 20 total LTOs.

				Maximum Daily (lbs/day)				
On-Road Mobile Sources	Average Daily Round Trips	Phase Duration (days)	Trip Length (one-way)	ROG	NO_x	PM_{10}	$PM_{2.5}$	CO_2e (MT)
Tubular Steel Poles (TSP) - (EDC)								
Construction Worker	15	96	40	0.17	1.07	0.18	0.10	0.49
Haul Trucks	5	96	40	0.25	6.24	0.20	0.13	3.30
Reconductoring - (2.9 SC, 16.6 EDC)								
Construction Worker	15	65	40	0.17	1.07	0.18	0.10	28.87
Haul Trucks	5	65	40	0.25	6.24	0.20	0.13	45.35
Light-Duty Steel Poles - (EDC)								
Construction Worker	15	130	40	0.17	1.07	0.18	0.10	57.74
Haul Trucks	5	130	40	0.25	6.24	0.20	0.13	90.70
Substation								
Construction Worker	12	20	40	0.14	0.86	0.14	0.08	7.11
Haul Trucks	5	20	40	0.25	6.24	0.20	0.13	13.95
Grading								
Construction Worker	5	5	40	0.06	0.36	0.06	0.03	0.74
Haul Trucks	2	5	40	0.10	2.50	0.08	0.05	1.40
Interset Poles								
Construction Worker	15	11	40	0.17	1.07	0.18	0.10	4.89
Haul Trucks	5	11	40	0.25	6.24	0.20	0.13	7.67
Wood Poles								
Construction Worker	15	7	40	0.17	1.07	0.18	0.10	3.11
Haul Trucks	5	7	40	0.25	6.24	0.20	0.13	4.88
Micropiles								
Construction Worker	9	32	40	0.10	0.64	0.11	0.06	8.53
Haul Trucks	2	32	40	0.10	2.50	0.08	0.05	8.93
Distribution Underground								
Construction Worker	7	13	40	0.08	0.50	0.08	0.05	2.69
Haul Trucks	2	13	40	0.10	2.50	0.08	0.05	3.63
Distribution Underground - Grading								
Construction Worker	7	26	40	0.08	0.50	0.08	0.05	5.39
Haul Trucks	2	26	40	0.10	2.50	0.08	0.05	7.26

APPENDIX C

Certificate of Service and Mailing List

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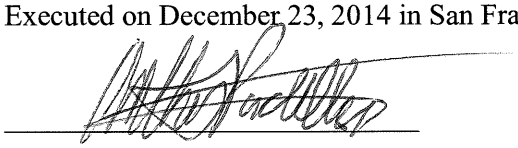
We, Anthony Padilla, of ESA, and Stan Williams, of Phoenix1 Printing, certify that we have on this date caused the following:

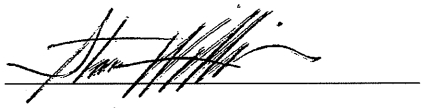
Publication of the Notice of Intent (NOI) to adopt an Initial Study/Mitigated Negative Declaration (IS/MND) for Pacific Gas and Electric's Application to the California Public Utilities Commission pursuant to General Order (GO) 131-D to construct and operate the Missouri Flat-Gold Hill 115 kV Power Line Reconductoring Project. The NOI is to be served by United Stated Postal Service (USPS) mail to owners of property within 300 feet of the Proposed Project. Copies of the NOI and Draft IS/MND are to be delivered via USPS mail or an overnight delivery service to Responsible, Trustee, and other local, State and federal public agencies whose jurisdiction falls within the Project area; and planning departments of El Dorado County, Sacramento County, and the City of Folsom as documented in the comprehensive mailing list included in Appendix C of the Draft IS/MND.

I declare under penalty of perjury pursuant to the laws of the State of California that the foregoing is true and correct.

Executed on December 23, 2014 in San Francisco and Martinez, California.



Anthony Padilla



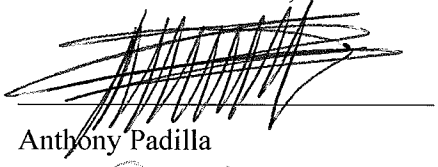
Stan Williams

We, Anthony Padilla, of ESA, and Stan Williams, of Phoenix1 Printing, certify that we have on this date caused the following:

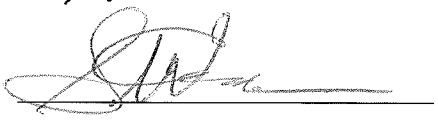
Publication of the Notice of Completion (NOC) of a Final Initial Study/Mitigated Negative Declaration (IS/MND) for Pacific Gas and Electric's Application to the California Public Utilities Commission pursuant to General Order (GO) 131-D to construct and operate the Missouri Flat-Gold Hill 115 kV Power Line Reconductoring Project. The NOC is to be served by overnight delivery service to the California State Clearinghouse. Copies of the Final IS/MND are to be delivered via United States Postal Service (USPS) mail or an overnight delivery service to Responsible, Trustee, and other local, State and federal public agencies whose jurisdiction falls within the Project area; planning departments of El Dorado County, Sacramento County, and the City of Folsom; and all agencies and individuals who submitted comments on the Draft IS/MND, as documented in the comprehensive mailing list included in Appendix C of the Final IS/MND.

I declare under penalty of perjury pursuant to the laws of the State of California that the foregoing is true and correct.

Executed on March 19, 2015 in San Francisco and Martinez, California.



Anthony Padilla



Stan Williams

MASTER MAILING LIST: AGENCIES, ORGANIZATIONS, AND INDIVIDUALS SENT A PRINTED COPY OF DRAFT IS/MND

AGENCY/ORGANIZATION/ INDIVIDUAL	CONTACT NAME	STREET	CITY, STATE, ZIP
LEAD AGENCY/APPLICANT			
Project Manager, California Public Utilities Commission	Connie Chen	Energy Division Infrastructure Permitting 505 Van Ness Avenue	San Francisco, CA 94102
Project Manager , Pacific Gas & Electric Company	Sam Danner	Environmental Planning & Permitting 2730 Gateway Oaks Drive	Sacramento, CA 95833
LOCAL, STATE AND FEDERAL AGENCIES			
Cameron Park Library		2500 Country Club Drive	Cameron Park, CA 95682
El Dorado Hills Library		7455 Silva Valley Parkway	El Dorado Hills, CA 95762
Folsom Public Library		411 Stafford Street, Georgia Murray Building	Folsom, CA 95630

MASTER MAILING LIST: AGENCIES, ORGANIZATIONS, AND INDIVIDUALS SENT A COMPACT DISC (CD) OF DRAFT IS/MND

AGENCY/ORGANIZATION/ RESIDENT	CONTACT NAME	STREET	CITY, STATE, ZIP
El Dorado County, Planning Services	Aaron Mount	2850 Fairlane Court, Building C	Placerville, CA 95667
City of Folsom, Engineering Services	Dan Wolfe	50 Natoma Street	Folsom, CA 95630
Sacramento County, Planning & Environmental Review	Cathy Hack	827 7th Street, Room 230	Sacramento, CA 95814
Bureau of Land Management (Mother Lode Field Office)	Graciela Hinshaw	5152 Hillsdale Circle	El Dorado Hills, CA 95762
U.S. Fish and Wildlife Service	Casey Collins	2800 Cottage Way, Suite W2606	Sacramento, CA 95825
California Department of Fish and Wildlife, North Central Region	Tina Bartlett, Regional Manager	1701 Nimbus Road	Rancho Cordova, CA 95670
State Clearinghouse		1400 Tenth Street	Sacramento, CA 95814

MASTER MAILING LIST:
AGENCIES, ORGANIZATIONS, AND INDIVIDUALS SENT THE NOTICE OF INTENT

AGENCY/ORGANIZATION/ INDIVIDUAL	CONTACT NAME	STREET	CITY, STATE, ZIP
Pacific Gas & Electric Company	Jo Lynn Lambert	707 Brookside Avenue	Redlands, CA 92373
Pacific Gas & Electric Company	Case Administration	PO Box 770000	San Francisco, CA 94117
California Energy Markets		425 Divisadero Street, Suite 200	San Francisco, CA 94117
CPUC, Division of Administrative Law	Karin M. Hieta	505 Van Ness Avenue, Room 5103	San Francisco, CA 94102
El Dorado Hills Community Services District		1021 Harvard Way	El Dorado Hills, CA 95762
Cameron Park Community Services District		2502 Country Club Drive	Cameron Park, 95682
Buckeye Union School District		P.O. Box 4768	El Dorado Hills, CA 95762
Folsom Cordova Unified School District		1965 Birkmont Drive	Rancho Cordova, CA 95742
Folsom Lake College		10 College Parkway	Folsom, CA 95630
Holy Trinity School Ministry		3115 Tierra de Dios Drive	El Dorado Hills, CA 95762
El Dorado County Clerk		360 Fair Lane	Placerville, CA 95667
Sacramento County Clerk		600 8th Street	Sacramento, CA 95814
		330 FAIR LANE	PLACERVILLE CA 95667
		P O BOX 877	MENDOCINO CA 95460
		4331 SWIFT CIR	SHINGLE SPRINGS CA 95682
		3861 WILD CHAPARRAL DR	SHINGLE SPRINGS CA 95682
		63 NATOMA ST	FOLSOM CA 95630
		P O BOX 911	MARYSVILLE CA 95901
		3901 WILD CHAPARAL	SHINGLE SPRINGS CA 95682
		3442 BROWNS VALLEY RD #400	VACAVILLE CA 95688
		1200 DEL PASO RD #140	SACRAMENTO CA 95834
		3716 LOS SANTOS DR	SHINGLE SPRINGS CA 95682
		3333 COUNTRY CLUB DR	CAMERON PARK CA 95682
		P O BOX 44573	KAMUELA HI 96743
		P O BOX 26	VILLA GRANDE CA 95486
		3956 LOS SANTOS DR	CAMERON PARK CA 95682
		3967 LOS SANTOS DR	CAMERON PARK CA 95682
		P O BOX 5554	EL DORADO HILLS CA 95762
		3278 COUNTRY CLUB DR	CAMERON PARK CA 95682
		3286 COUNTRY CLUB DR	CAMERON PARK CA 95682
		3290 COUNTRY CLUB DR	CAMERON PARK CA 95682
		3300 COUNTRY CLUB DR	CAMERON PARK CA 95682
		3306 COUNTRY CLUB DR	CAMERON PARK CA 95682
		9124 ORCHARD SHADE DR	EL DORADO HILLS CA 95762
		3320 COUNTRY CLUB DR	CAMERON PARK CA 95682
		3328 COUNTRY CLUB DR	CAMERON PARK CA 95682
		P O BOX 153	ORANGEVALE CA 95662
		1323 WHITE OAK WAY	SAN CARLOS CA 94070
		P O BOX 1686	CAMERON PARK CA 95682

MASTER MAILING LIST (continued)
AGENCIES, ORGANIZATIONS, AND INDIVIDUALS SENT THE NOTICE OF INTENT

AGENCY/ORGANIZATION/ INDIVIDUAL	CONTACT NAME	STREET	CITY, STATE, ZIP
		265 ELQUIST LN	SUN VALLEY NV 89433
		5508 OAK RIVER CT	CARMICHAEL CA 95608
		1061 SANTA CRUZ WAY	ROHNERT PARK CA 94928
		3250 COUNTRY CLUB DR	CAMERON PARK CA 95682
		3240 COUNTRY CLUB DR	CAMERON PARK CA 95682
		11632 HEAVY TREE CT	GOLD RIVER CA 95670
		3200 COUNTRY CLUB DR	CAMERON PARK CA 95682
		2610 COUNTRYSIDE DR	PLACERVILLE CA 95667
		3842 CAMBRIDGE RD	CAMERON PARK CA 95682
		2695 COUNTRY CLUB DR	CAMERON PARK CA 95682
		P O BOX 1014	SHINGLE SPRINGS CA 95682
		3165 OAKWOOD RD	CAMERON PARK CA 95682
		3835 CAMBRIDGE RD	SHINGLE SPRINGS CA 95682
		6507 RIO BLANCO DR	RANCHO MURIETA CA 95683
		2991 ROYAL DR	CAMERON PARK CA 95682
		5157 BARNETT LOOP	SHINGLE SPRINGS CA 95682
		3980 RUSTIC RD	CAMERON PARK CA 95682
		3983 RUSTIC RD	CAMERON PARK CA 95682
		3111 SUDBURY RD	CAMERON PARK CA 95682
		17911 VON KARMAN AVE 5TH FL	IRVINE CA 92614
		KLINE LEE 151 CALLAN AVE #213	SAN LEANDRO CA 94577
		3181 CAMERON PARK DR #105	CAMERON PARK CA 95682
		2531 MERRYCHASE DR STE 300	CAMERON PARK CA 95682
		2522 MERRYCHASE DR	CAMERON PARK CA 95682
		2550 MERRYCHASE DR	CAMERON PARK CA 95682
		2564 MERRYCHASE DR	CAMERON PARK CA 95682
		301 NATOMA STREET SUITE 202	FOLSOM CA 95630
		2501 DEER TRAIL LN	CAMERON PARK CA 95682
		2110 BROADWAY #277	SACRAMENTO CA 95818
		3450 PALMER DR #4303	CAMERON PARK CA 95682
		P O BOX 5104	BELMONT CA 94002
		7450 DOWDY ST	GILROY CA 95020
		3700 LOWRRY DR	NORTH HIGHLANDS CA 95660
		30012 IVY GLENN DR STE 200	LAGUNA NIGUEL CA 92677
		2515 MERRYCHASE DR #D	CAMERON PARK CA 95682
		5356 OLD FRENCH TOWN RD	SHINGLE SPRINGS CA 95682
		3723 ANTILLES DR	CAMERON PARK CA 95682
		4331 CARLSON CT	SHINGLE SPRINGS CA 95682
		6871 OLYMPUS DR	GARDEN VALLEY CA 95633
		PO BOX 787	COLFAX CA 95713
		4701 GRESHAM DR	EL DORADO HILLS CA 95762
		3370 THORNHILL DR	EL DORADO HILLS CA 95762

MASTER MAILING LIST (continued)
AGENCIES, ORGANIZATIONS, AND INDIVIDUALS SENT THE NOTICE OF INTENT

AGENCY/ORGANIZATION/ INDIVIDUAL	CONTACT NAME	STREET	CITY, STATE, ZIP
		3144 QUAD LN #E	CAMERON PARK CA 95682
		3144 QUAD LN #45D	CAMERON PARK CA 95682
		3144 QUAD LN #C	CAMERON PARK CA 95682
		23 LYNESS ST	MANCHESTER CT 6040
		3370 COUNTRY CLUB DR	CAMERON PARK CA 95682
		3846 ARCHWOOD RD	CAMERON PARK CA 95682
		2367 E GREEN SPRINGS CT	RESCUE CA 95672
		2497 MERRYCHASE DR #2	CAMERON PARK CA 95682
		3939 PLACITAS DR	CAMERON PARK CA 95682
		P O BOX 5678	EL DORADO HILLS CA 95762
		2497 MERRYCHASE DR #5	CAMERON PARK CA 95682
		2497 MERRYCHASE DR #6	CAMERON PARK CA 95682
		P O BOX 5125	EL DORADO HILLS CA 95762
		176 ARMORY ST	HAMDEN CT 6517
		2497 MERRYCHASE DR #9	CAMERON PARK CA 95682
		1073 CALLANDER WY	FOLSOM CA 95630
		2497 MERRYCHASE DR #12	CAMERON PARK CA 95682
		1040 SAND RIDGE RD	EL DORADO CA 95623
		3969 CAMERON PARK DR	CAMERON PARK CA 95682
		PO BOX 872	PLACERVILLE CA 95667
		P O BOX 1939	CARMICHAEL CA 95609
		2580 SIERRA BLVD #E	SACRAMENTO CA 95825
		1 CVS DRIVE	WOONSOCKET RI 2895
		215 MARKET ST #616	SAN FRANCISCO CA 94105
		2641 OLD MEDER RD	RESCUE CA 95672
		736 FOUNTAIN HEAD CT	SAN RAMON CA 94583
		PO BOX 653	SHINGLE SPRINGS CA 95682
		P O BOX 2261	SHINGLE SPRINGS CA 95682
		6056 QUARTZ DR	EL DORADO CA 95623
		4070 MOTHER LODE DR	SHINGLE SPRINGS CA 95682
		P O BOX 966	CAMINO CA 95709
		4068 MOTHER LODE DR STE C	SHINGLE SPRINGS CA 95682
		2811 O ST	SACRAMENTO CA 95812
		P O BOX 1068	PLACERVILLE CA 95667
		1040 WOODLAND DR	HILLSBOROUGH CA 94010
		7180 KOLL CENTER PKWY #100	PLEASANTON CA 94566
		3120 FREEBOARD DR STE 202	WEST SACRAMENTO CA 95691
		4200 IDLE CREEK DR	SHINGLE SPRINGS CA 95682
		4201 IDLE CREEK DR	SHINGLE SPRINGS CA 95682
		5030 DEERWOOD DR	SHINGLE SPRINGS CA 95682
		4210 CREEKSIDE DR	SHINGLE SPRINGS CA 95682
		P O BOX 743	SHINGLE SPRINGS CA 95682

MASTER MAILING LIST (continued)
AGENCIES, ORGANIZATIONS, AND INDIVIDUALS SENT THE NOTICE OF INTENT

AGENCY/ORGANIZATION/ INDIVIDUAL	CONTACT NAME	STREET	CITY, STATE, ZIP
		4131 S SHINGLE RD 3	SHINGLE SPRINGS CA 95682
		3201 AQUAMARINE CT	RESCUE CA 95672
		P O BOX 12	SHINGLE SPRINGS CA 95682
		P O BOX 1096	CARMICHAEL CA 95609
		P O BOX 2990	NEWPORT BEACH CA 92658
		4601 BROOKSIDE RD	CAMERON PARK CA 95682
		502 E WHITMORE	MODESTO CA 95358
		2890 MOSQUITO RD	PLACERVILLE CA 95667
		3813 DUROCK RD	SHINGLE SPRINGS CA 95682
		1000 OROSCO DR	EL DORADO HILLS CA 95762
		480 LIVORNA RD	ALAMO CA 94507
		7649 SUNRISE BLVD #A	CITRUS HEIGHTS CA 95610
		3808 DUROCK RD	SHINGLE SPRINGS CA 95682
		1270 KATHY LN	PLACERVILLE CA 95667
		3755 DUROCK RD	SHINGLE SPRINGS CA 95682
		1142 LOMOND DR	EL DORADO HILLS CA 95762
		2040 PIN LN	SHINGLE SPRINGS CA 95682
		2041 PIN LN	CAMERON PARK CA 95682
		569 WEST A ST	DIXON CA 95620
		P O BOX 151	PLACERVILLE CA 95667
		1990 S BUNDY DR #250	LOS ANGELES CA 90025
		P O BOX 1638	SHINGLE SPRINGS CA 95682
		P O BOX 1421	SHINGLE SPRINGS CA 95682
		3350 COUNTRY CLUB DR #202	CAMERON PARK CA 95682
		3836 DUROCK RD	SHINGLE SPRINGS CA 95682
		3351 FAIRWAY DR	CAMERON PARK CA 95682
		4101 HAVEN LN	SHINGLE SPRINGS CA 95682
		3900 DUROCK RD	SHINGLE SPRINGS CA 95682
		3311 GRANDVIEW CIR	SHINGLE SPRINGS CA 95682
		P O BOX 4349	EL DORADO HILLS CA 95762
		112 MONTROSE CT	FOLSOM CA 95630
		3920 DUROCK RD	SHINGLE SPRINGS CA 95682
		6317 LONGVIEW DR	PLACERVILLE CA 95667
		P O BOX 278424	SACRAMENTO CA 95827
		P O BOX 1333	SHINGLE SPRINGS CA 95682
		4085 HEINZ LN	SHINGLE SPRINGS CA 95682
		5451 MILTON RANCH RD	SHINGLE SPRINGS CA 95682
		694 PLEASANT VALLEY RD #6	DIAMOND SPRINGS CA 95619
		1144 E MARKET ST EVANS DPT824	AKRON OH 44316
		310 FORDEN DR	KING CITY CA 93930
		PO BOX 592	SHINGLE SPRINGS CA 95682
		P O BOX 59	SHINGLE SPRINGS CA 95682

MASTER MAILING LIST (continued)
AGENCIES, ORGANIZATIONS, AND INDIVIDUALS SENT THE NOTICE OF INTENT

AGENCY/ORGANIZATION/ INDIVIDUAL	CONTACT NAME	STREET	CITY, STATE, ZIP
		3044 DOS VISTOS DR	SHINGLE SPRINGS CA 95682
		PO BOX 316	EL DORADO CA 95623
		PO BOX 66	SHINGLE SPRINGS CA 95682
		4247 LAIRD RD	LOOMIS CA 95650
		4061 OAKMONT DR	SHINGLE SPRINGS CA 95682
		4073 OAKMONT DR	SHINGLE SPRINGS CA 95682
		4121 FLYING C RD	CAMERON PARK CA 95682
		PO BOX 545	SHINGLE SPRINGS CA 95682
		3965 DUROCK RD	SHINGLE SPRINGS CA 95682
		940 RESCUE DR	RESCUE CA 95672
		P O BOX 8979	BREA CA 92822
		1280 COLOMA RD	PLACERVILLE CA 95667
		P O BOX 420	SHINGLE SPRINGS CA 95682
		4061 FLYING C RD	CAMERON PARK CA 95682
		4091 FLYING C RD	CAMERON PARK CA 95682
		4040 CAMERON RD	CAMERON PARK CA 95682
		4072 CAMERON RD	CAMERON PARK CA 95682
		P O BOX 1740	NEWPORT WA 99156
		4060 FLYING C RD #31	CAMERON PARK CA 95682
		437 CENTURY PARK DR	YUBA CITY CA 95991
		4064 FLYING C RD #2	CAMERON PARK CA 95682
		2941 STROLLING HILLS RD	SHINGLE SPRINGS CA 95682
		2890 STROLLING HILLS RD	SHINGLE SPRINGS CA 95682
		2940 STROLLING HILLS RD	CAMERON PARK CA 95682
		648 FISHER CIRCLE	FOLSOM CA 95630
		3100 RODEO RD	CAMERON PARK CA 95682
		381 WATER VIEW WY	FOLSOM CA 95630
		3197 LARIAT DR	CAMERON PARK CA 95682
		3227 LARIAT DR	CAMERON PARK CA 95682
		3261 LARIAT DR	CAMERON PARK CA 95682
		3301 LARIAT DR	CAMERON PARK CA 95682
		3333 LARIAT DR	SHINGLE SPRINGS CA 95682
		3838 LARIAT DR	CAMERON PARK CA 95682
		3800 LARIAT DR	CAMERON PARK CA 95682
		3770 LARIAT DR	SHINGLE SPRINGS CA 95682
		3550 DUROCK RD	SHINGLE SPRINGS CA 95682
		3722 LARIAT DR	CAMERON PARK CA 95682
		3340 LARIAT DR	CAMERON PARK CA 95682
		4700 LONGVIEW RD	CAMERON PARK CA 95682
		4700 CAMERON RD	CAMERON PARK CA 95682
		4160 AMERICAN RIVER DR	SACRAMENTO CA 95864
		4660 CAMERON RD	CAMERON PARK CA 95682

MASTER MAILING LIST (continued)
AGENCIES, ORGANIZATIONS, AND INDIVIDUALS SENT THE NOTICE OF INTENT

AGENCY/ORGANIZATION/ INDIVIDUAL	CONTACT NAME	STREET	CITY, STATE, ZIP
		4601 VALLEY VISTA RD	SHINGLE SPRINGS CA 95682
		4640 VALLEY VISTA RD	CAMERON PARK CA 95682
		4721 LONGVIEW RD	CAMERON PARK CA 95682
		4801 CAMERON RD	CAMERON PARK CA 95682
		4901 CAMERON RD	CAMERON PARK CA 95682
		4860 TRAILS END ROAD	CAMERON PARK CA 95682
		4880 TRAILS END RD	CAMERON PARK CA 95682
		4901 TRAILS END RD	CAMERON PARK CA 95682
		4900 TRAILS END RD	CAMERON PARK CA 95682
		4930 SLEEPY HOLLOW RD	CAMERON PARK CA 95682
		4970 SLEEPY HOLLOW RD	CAMERON PARK CA 95682
		4990 SLEEPY HOLLOW RD	CAMERON PARK CA 95682
		5030 SLEEPY HOLLOW RD	CAMERON PARK CA 95682
		3361 COACH LN	CAMERON PARK CA 95682
		5060 DA VINCI DR	EL DORADO HILLS CA 95762
		168 COURT ST	WOODLAND CA 95695
		P O BOX 715	WEST SACRAMENTO CA 95691
		6200 OAKTREE BLVD STE #250	INDEPENDENCE OH 44131
		837 JEFFERSON BLVD	WEST SACRAMENTO CA 95691
		7220 FAIR OAKS BLVD STE D	CARMICHAEL CA 95608
		11440 SAN VICENTE BLVD #200	LOS ANGELES CA 90049
		5221 CAMERON RD	CAMERON PARK CA 95682
		1390 S WINCHESTER BLVD STE C	SAN JOSE CA 95128
		4120 CAMERON PARK DR #200	CAMERON PARK CA 95682
		1354 DONEGAL WAY	OXNARD CA 93035
		7617 ALMA VISTA WAY STE C	SACRAMENTO CA 95831
		3421 COACH LN	CAMERON PARK CA 95682
		3400 CAMERON PARK DR	CAMERON PARK CA 95682
		1500 MADDEN LN	PLACERVILLE CA 95667
		3062 CEDAR RAVINE RD	PLACERVILLE CA 95667
		PO BOX 1836	SHINGLE SPRINGS CA 95682
		4571 BOCANA RD	CAMERON PARK CA 95682
		5200 SIERRA OAKS DR	EL DORADO CA 95623
		232 WEST ST APT 205	RENO NV 89501
		903 SANTA FE AVE	ALBANY CA 94706
		4107 CAMERON PARK DR	CAMERON PARK CA 95682
		4595 SOUTH POINT RD	DIAMOND SPRINGS CA 95619
		7233 PINE GROVE WAY	FOLSOM CA 95630
		4380 FOWLER LN	DIAMOND SPRINGS CA 95619
		4561 MEADOW CIR	RESCUE CA 95672
		2828 DONALD DOUGLAS LP N #102	SANTA MONICA CA 90405
		344 LISTOWE DR	FOLSOM CA 95630

MASTER MAILING LIST (continued)
AGENCIES, ORGANIZATIONS, AND INDIVIDUALS SENT THE NOTICE OF INTENT

AGENCY/ORGANIZATION/ INDIVIDUAL	CONTACT NAME	STREET	CITY, STATE, ZIP
		7071 GREEN VALLEY ROAD	PLACERVILLE CA 95667
		PO BOX 877	MENDOCINO CA 95460
		6015 HARWOOD AVE	OAKLAND CA 94618
		P O BOX 46	DIAMOND SPRINGS CA 95619
		PO BOX 2540	NAPA CA 94558
		5200 W CENTURY BLVD 10TH FLOOR	LOS ANGELES CA 90045
		1990 S BUNDY DR #250	LOS ANGELES CA 90025
		109 FAIRMONT DR	WEISER ID 83672
		5348 K ST	SACRAMENTO CA 95819
		6221 ENTERPRISE DR STE D	DIAMOND SPRINGS CA 95619
		4110 BUSINESS DR #A	SHINGLE SPRINGS CA 95682
		3681 STROLLING HILLS RD	CAMERON PARK CA 95682
		PIAZZA SNTA MARIA LIBRTRICE 40	00153 ROME
		P O BOX 961	PLACERVILLE CA 95667
		3041 LARIAT DR	CAMERON PARK CA 95682
		3011 LARIAT DR	CAMERON PARK CA 95682
		2831 LARIAT DR	CAMERON PARK CA 95682
		3100 RIDGE PASS DRIVE	CAMERON PARK CA 95682
		3355 CHAR MAR CIR	SHINGLE SPRINGS CA 95682
		4453 BARNETT RANCH RD	SHINGLE SPRINGS CA 95682
		4425 BARNETT RANCH RD	SHINGLE SPRINGS CA 95682
		3333 CHAR MAR CIR	SHINGLE SPRINGS CA 95682
		4411 BARNETT RANCH RD	SHINGLE SPRINGS CA 95682
		4405 BARNETT RANCH RD	SHINGLE SPRINGS CA 95682
		416 EVERETT DR	DANVILLE CA 94526
		4345 BARNETT RANCH RD	SHINGLE SPRINGS CA 95682
		6000 MILTON RANCH CT	SHINGLE SPRINGS CA 95682
		4521 BARNETT RANCH RD	SHINGLE SPRINGS CA 95682
		2881 STROLLING HILLS	CAMERON PARK CA 95682
		2901 RIDGE PASS DR	CAMERON PARK CA 95682
		2925 RIDGE PASS DR	CAMERON PARK CA 95682
		2940 RIDGE PASS DR	CAMERON PARK CA 95682
		2980 RIDGE PASS DR	CAMERON PARK CA 95682
		3000 RIDGE PASS DR	CAMERON PARK CA 95682
		2865 LARIAT DR	CAMERON PARK CA 95682
		3608 SUNDANCE TRL	PLACERVILLE CA 95667
		6221 D ENTERPRISE DR	DIAMOND SPRINGS CA 95619
		PO BOX 262	COOL CA 95614
		3430 ROBIN LN #6	CAMERON PARK CA 95682
		PO BOX 4140	EL DORADO HILLS CA 95762
		3325 COTHERIN RANCH RD	SHINGLE SPRINGS CA 95682
		7011 STEEPLE CHASE DR	SHINGLE SPRINGS CA 95682

MASTER MAILING LIST (continued)
AGENCIES, ORGANIZATIONS, AND INDIVIDUALS SENT THE NOTICE OF INTENT

AGENCY/ORGANIZATION/ INDIVIDUAL	CONTACT NAME	STREET	CITY, STATE, ZIP
		7006 STEEPLE CHASE CT	SHINGLE SPRINGS CA 95682
		585 TODD RD	SANTA ROSA CA 95407
		6258 MITCHELL RD	SHINGLE SPRINGS CA 95682
		6971 STEEPLE CHASE DR	SHINGLE SPRINGS CA 95682
		7003 STEEPLE CHASE DR	SHINGLE SPRINGS CA 95682
		5101 FLORIN PERKINS RD	SACRAMENTO CA 95826
		4331 RANCHO ROAD	CAMERON PARK CA 95682
		2195 TALON DR	LATROBE CA 95682
		2525 WHITE OAK RD	RESCUE CA 95672
		817 DOVER CT	EL DORADO HILLS CA 95762
		825 DOVER CT	EL DORADO HILLS CA 95762
		1320 MANCHESTER DR	EL DORADO HILLS CA 95762
		1300 MANCHESTER DR	EL DORADO HILLS CA 95762
		1310 MANCHESTER DR	EL DORADO HILLS CA 95762
		4364 TOWN CENTER BLVD STE 213	EL DORADO HILLS CA 95762
		50 BEALE ST	SAN FRANCISCO CA 94105
		150 PARKSHORE DR	FOLSOM CA 95630
		5665 POWER INN RD #140	SACRAMENTO CA 95864
		12121 WILSHIRE BLVD SUITE #207	LOS ANGELES CA 90025
		8780 NEW AVE	GILROY CA 95020
		3227 MONTROSE WAY	EL DORADO HILLS CA 95762
		3221 MONTROSE WAY	EL DORADO HILLS CA 95762
		3218 MONTROSE WAY	EL DORADO HILLS CA 95762
		3224 MONTROSE WAY	EL DORADO HILLS CA 95762
		3230 MONTROSE WAY	EL DORADO HILLS CA 95762
		4588 DUNNWOOD DR	EL DORADO HILLS CA 95762
		4582 DUNNWOOD DR	EL DORADO HILLS CA 95762
		529 MONTECITO CT	EL DORADO HILLS CA 95762
		2620 DARWIN PL	EL DORADO HILLS CA 95762
		526 MONTECITO CT	EL DORADO HILLS CA 95762
		522 MONTECITO CT	EL DORADO HILLS CA 95762
		719 BAYWOOD CT	EL DORADO HILLS CA 95762
		725 BAYWOOD CT	EL DORADO HILLS CA 95762
		724 BAYWOOD CT	EL DORADO HILLS CA 95762
		718 BAYWOOD CT	EL DORADO HILLS CA 95762
		710 BAYWOOD CT	EL DORADO HILLS CA 95762
		309 SUMMERFIELD CT	EL DORADO HILLS CA 95762
		313 SUMMERFIELD CT	EL DORADO HILLS CA 95762
		7997 BELHAVEN WAY	EL DORADO HILLS CA 95762
		312 SUMMERFIELD CT	EL DORADO HILLS CA 95762
		349 W 1150 N	MIDWAY UT 84049
		2603 CAMINO RAMON STE 150	SAN RAMON CA 94583

MASTER MAILING LIST (continued)
AGENCIES, ORGANIZATIONS, AND INDIVIDUALS SENT THE NOTICE OF INTENT

AGENCY/ORGANIZATION/ INDIVIDUAL	CONTACT NAME	STREET	CITY, STATE, ZIP
		4020 SIERRA COLLEGE BLVD #200	ROCKLIN CA 95677
		3115 BOEING RD	CAMERON PARK CA 95682
		1000 WHITE ROCK RD #700	EL DORADO HILLS CA 95762
		PO BOX 4732	EL DORADO HILLS CA 95762
		1130 WHITE ROCK RD #64	EL DORADO HILLS CA 95762
		1130 WHITE ROCK RD SP #65	EL DORADO HILLS CA 95762
		1130 WHITE ROCK RD SP 67	EL DORADO HILLS CA 95762
		1130 WHTIE ROCK RD #86	EL DORADO HILLS CA 95762
		1130 WHITE ROCK RD SP 87	EL DORADO HILLS CA 95762
		1130 WHITE ROCK RD #88	EL DORADO HILLS CA 95762
		1130 WHITE ROCK RD #89	EL DORADO HILLS CA 95762
		1130 WHITE ROCK RD SP 90	EL DORADO HILLS CA 95762
		1130 WHITE ROCK RD #91	EL DORADO HILLS CA 95762
		1130 WHITE ROCK RD #92	EL DORADO HILLS CA 95762
		1130 WHITE ROCK RD SP 93	EL DORADO HILLS CA 95762
		1130 WHITE ROCK RD #95	EL DORADO HILLS CA 95762
		1130 WHITE ROCK RD #96	EL DORADO HILLS CA 95762
		1130 WHITE ROCK RD SP 97	EL DORADO HILLS CA 95762
		1130 WHITE ROCK RD #98	EL DORADO HILLS CA 95762
		1130 WHITE ROCK RD #99	EL DORADO HILLS CA 95762
		1130 WHITE ROCK RD #100	EL DORADO HILLS CA 95762
		1130 WHITE ROCK RD SP 107	EL DORADO HILLS CA 95762
		1130 WHITE ROCK RD 108	EL DORADO HILLS CA 95762
		1130 WHITE ROCK RD SP #109	EL DORADO HILLS CA 95762
		1130 WHITEROCK RD SP 110	EL DORADO HILLS CA 95762
		1130 WHITE ROCK RD #111	EL DORADO HILLS CA 95762
		2748 KNOLLWOOD DR	CAMERON PARK CA 95682
		P O BOX 5179	EL DORADO HILLS CA 95762
		1021 HARVARD WAY	EL DORADO HILLS CA 95762
		7028 WINDCHIME WAY	ROSEVILLE CA 95747
		4020 MONTE VERDE DR	EL DORADO HILLS CA 95762
		10600 N DE ANZA BLVD STE 200	CUPERTINO CA 95014
		2850 FAIRLANE CT	PLACERVILLE CA 95667
		377 J ST	CRESCENT CITY CA 95531
		337 PLACERVILLE DR	PLACERVILLE CA 95667
		3111 TIERRA DE DIOS DR	EL DORADO HILLS CA 95762
		680 EASY ST	MORGAN HILL CA 95037
		3001 I ST STE 300	SACRAMENTO CA 95816
		4525 SERRANO PARKWAY	EL DORADO HILLS CA 95762
		2200 OLD BASS LAKE RD	EL DORADO HILLS CA 95762
		3433 SURRY LN	CAMERON PARK CA 95682
		1025 9TH ST #205	SACRAMENTO CA 95814

MASTER MAILING LIST (continued)
AGENCIES, ORGANIZATIONS, AND INDIVIDUALS SENT THE NOTICE OF INTENT

AGENCY/ORGANIZATION/ INDIVIDUAL	CONTACT NAME	STREET	CITY, STATE, ZIP
		2217 OLD BASS LAKE RD	EL DORADO HILLS CA 95762
		2021 OLD BASS LAKE RD	EL DORADO HILLS CA 95762
		3110 WEYMOUTH WAY	RESCUE CA 95672
		1191 LAKEHILLS CT	EL DORADO HILLS CA 95762
		2161 CITY LIGHTS DR	EL DORADO HILLS CA 95762
		3940 SILVER SPUR WAY	SACRAMENTO CA 95841
		2371 CITRUS RD STE. C	RANCHO CORDOVA CA 95742
		3961 MUSTANG WAY	EL DORADO HILLS CA 95762
		1339 NAVARRO DR	SUNNYVALE CA 94087
		1940 OLD BASS LAKE RD	EL DORADO HILLS CA 95762
		1690 KEVIN DR	SAN JOSE CA 95124
		1020 SUNCAST LN STE 105	EL DORADO HILLS CA 95762
		P O BOX 547	SHINGLE SPRINGS CA 95682
		3939 CAMBRIDGE RD #230	CAMERON PARK CA 95682
		4012 EL NORTE RD	CAMERON PARK CA 95682
		4131 TRINIDAD DR	CAMERON PARK CA 95682
		4200 GAILEY CIR	CAMERON PARK CA 95682
		4210 GAILEY CIR	CAMERON PARK CA 95682
		3242 WESTERN DR	CAMERON PARK CA 95682
		5771 LONDONDERRY LOOP NW	BREMERTON WA 98312
		4308 GAILEY CIR	CAMERON PARK CA 95682
		9985 FOLSOM BLVD	SACRAMENTO CA 95827
		2786 KNOLLWOOD DR	CAMERON PARK CA 95682
		1346 FISHERHAWK DR	SUNNYVALE CA 94087
		4295 GAILEY CIR	CAMERON PARK CA 95682
		6519 DONEGAL DR	CITRUS HEIGHTS CA 95621
		4209 GAILEY CIR	CAMERON PARK CA 95682
		4201 GAILEY CIR	CAMERON PARK CA 95682
		2200 COUNTRY CLUB DR	CAMERON PARK CA 95682
		3939 CAMBRIDGE RD	CAMERON PARK CA 95682
		4407 VOLTAIRE DR	CAMERON PARK CA 95682
		4413 VOLTAIRE DR	CAMERON PARK CA 95682
		4419 VOLTAIRE DR	CAMERON PARK CA 95682
		4425 VOLTAIRE DR	CAMERON PARK CA 95682
		4429 VOLTAIRE DR	CAMERON PARK CA 95682
		4173 CRAZY HORSE RD	CAMERON PARK CA 95682
		4165 CRAZY HORSE RD	CAMERON PARK CA 95682
		4410 VOLTAIRE DR	CAMERON PARK CA 95682
		4418 VOLTAIRE DR	SHINGLE SPRINGS CA 95682
		4424 VOLTAIRE DR	CAMERON PARK CA 95682
		PO BOX 807	CAMINO CA 95709
		4360 CRAZY HORSE RD	CAMERON PARK CA 95682

MASTER MAILING LIST (continued)
AGENCIES, ORGANIZATIONS, AND INDIVIDUALS SENT THE NOTICE OF INTENT

AGENCY/ORGANIZATION/ INDIVIDUAL	CONTACT NAME	STREET	CITY, STATE, ZIP
		P O BOX 41	RESCUE CA 95672
		504 CRAZY HORSE CT	CAMERON PARK CA 95682
		5052 BREESE CIR	EL DORADO HILLS CA 95762
		4738 SAINT ANDREWS DR	STOCKTON CA 95219
		833 SHASTA CIR	EL DORADO HILLS CA 95762
		825 SHASTA CIR	EL DORADO HILLS CA 95762
		1949 N STEMMONS FREEWAY	DALLAS TX 75207
		1021 HARVARD WY	EL DORADO HILLS CA 95762
		548 FINDERS WAY	EL DORADO HILLS CA 95762
		2030 CALLE DE PRIMAVERA	SANTA CLARA CA 95054
		536 FINDERS WAY	EL DORADO HILLS CA 95762
		530 FINDERS WAY	EL DORADO HILLS CA 95762
		524 FINDERS WAY	EL DORADO HILLS CA 95762
		520 FINDERS WAY	EL DORADO HILLS CA 95762
		512 FINDERS WY	EL DORADO HILLS CA 95762
		506 FINDERS WAY	EL DORADO HILLS CA 95762
		600 PLATT CIR	EL DORADO HILLS CA 95762
		501 FINDERS WAY	EL DORADO HILLS CA 95762
		521 FINDERS WY	EL DORADO HILLS CA 95762
		541 FINDERS WAY	EL DORADO HILLS CA 95762
		4129 CRESCENT HILL LN	SHINGLE SPRINGS CA 95682
		690 PLATT CIRCLE	EL DORADO HILLS CA 95762
		682 PLATT CIR	EL DORADO HILLS CA 95762
		674 PLATT CIR	EL DORADO HILLS CA 95762
		668 PLATT CIR	EL DORADO HILLS CA 95762
		660 PLATT CIR	EL DORADO HILLS CA 95762
		652 PLATT CIR	EL DORADO HILLS CA 95762
		640 PLATT CIR	EL DORADO HILLS CA 95762
		609 PLATT CIR	EL DORADO HILLS CA 95762
		627 PLATT CIR	EL DORADO HILLS CA 95762
		633 PLATT CIR	EL DORADO HILLS CA 95762
		639 PLATT CIR	EL DORADO HILLS CA 95762
		645 PLATT CIR	EL DORADO HILLS CA 95762
		649 PLATT CIR	EL DORADO HILLS CA 95762
		655 PLATT CIR	EL DORADO HILLS CA 95762
		661 PLATT CIR	EL DORADO HILLS CA 95762
		667 PLATT CIR	EL DORADO HILLS CA 95762
		331 LEO AVE	SAN LEANDRO CA 94577
		3135 HOPKINS PL	EL DORADO HILLS CA 95762
		721 PLATT CIR	EL DORADO HILLS CA 95762
		506 SEVILLE CT	EL DORADO HILLS CA 95762
		501 SEVILLE CT	EL DORADO HILLS CA 95762

MASTER MAILING LIST (continued)
AGENCIES, ORGANIZATIONS, AND INDIVIDUALS SENT THE NOTICE OF INTENT

AGENCY/ORGANIZATION/ INDIVIDUAL	CONTACT NAME	STREET	CITY, STATE, ZIP
		2687 CAPETANIOS DR	EL DORADO HILLS CA 95762
		675 MONTRIDGE WAY	EL DORADO HILLS CA 95762
		683 MONTRIDGE WAY	EL DORADO HILLS CA 95762
		699 MONTRIDGE WY	EL DORADO HILLS CA 95762
		705 MONTRIDGE WAY	EL DORADO HILLS CA 95762
		711 MONTRIDGE WAY	EL DORADO HILLS CA 95762
		820 FOLLIN LN	VIENNA VA 22180
		504 DEL MONTE CT	EL DORADO HILLS CA 95762
		500 DEL MONTE CT	EL DORADO HILLS CA 95762
		501 DEL MONTE CT	EL DORADO HILLS CA 95762
		704 MONTRIDGE WAY	EL DORADO HILLS CA 95762
		694 MONTRIDGE WAY	EL DORADO HILLS CA 95762
		P O BOX 4121	EL DORADO HILLS CA 95762
		503 SANTA CRUZ CT	EL DORADO HILLS CA 95762
		509 SANTA CRUZ CT	EL DORADO HILLS CA 95762
		P O BOX 5513	EL DORADO HILLS CA 95762
		523 SANTA CRUZ CT	EL DORADO HILLS CA 95762
		524 SANTA CRUZ CT	EL DORADO HILLS CA 95762
		522 SANTA CRUZ CT	EL DORADO HILLS CA 95762
		520 SANTA CRUZ CT	EL DORADO HILLS CA 95762
		512 SANTA CRUZ CT	EL DORADO HILLS CA 95762
		648 MONTRIDGE WAY	EL DORADO HILLS CA 95762
		640 MONTRIDGE WAY	EL DORADO HILLS CA 95762
		634 MONTRIDGE WAY	EL DORADO HILLS CA 95762
		1520 SOUTHRIDGE CT	EL DORADO HILLS CA 95762
		1518 SOUTHRIDGE COURT	EL DORADO HILLS CA 95762
		1516 SOUTHRIDGE CT	EL DORADO HILLS CA 95762
		1124 CRESTLINE CIR	EL DORADO HILLS CA 95762
		1120 CRESTLINE CIR	EL DORADO HILLS CA 95762
		1116 CRESTLINE CIR	EL DORADO HILLS CA 95762
		1110 CRESTLINE CIR	EL DORADO HILLS CA 95762
		1104 CRESTLINE CIR	EL DORADO HILLS CA 95762
		2992 CALICO COMMON ST	LIVERMORE CA 94551
		1092 CRESTLINE CIR	EL DORADO HILLS CA 95762
		1084 CRESTLINE CIR	EL DORADO HILLS CA 95762
		1080 CRESTLINE CIR	EL DORADO HILLS CA 95762
		1074 CRESTLINE CIR	EL DORADO HILLS CA 95762
		1521 SOUTHRIDGE CT	EL DORADO HILLS CA 95762
		357 PLATT CIR	EL DORADO HILLS CA 95762
		365 PLATT CIR	EL DORADO HILLS CA 95762
		5482 MILTON RANCH RD	SHINGLE SPRINGS CA 95682
		596 PLATT CIR	EL DORADO HILLS CA 95762

MASTER MAILING LIST (continued)
AGENCIES, ORGANIZATIONS, AND INDIVIDUALS SENT THE NOTICE OF INTENT

AGENCY/ORGANIZATION/ INDIVIDUAL	CONTACT NAME	STREET	CITY, STATE, ZIP
		456 PLATT CIR	EL DORADO HILLS CA 95762
		450 PLATT CIR	EL DORADO HILLS CA 95762
		442 PLATT CIR	EL DORADO HILLS CA 95762
		436 PLATT CIR	EL DORADO HILLS CA 95762
		428 PLATT CIR	EL DORADO HILLS CA 95762
		420 PLATT CIR	EL DORADO HILLS CA 95762
		404 PLATT CIR	EL DORADO HILLS CA 95762
		394 PLATT CIR	EL DORADO HILLS CA 95762
		386 PLATT CIR	EL DORADO HILLS CA 95762
		374 PLATT CIR	EL DORADO HILLS CA 95762
		4203 ARENZANO WAY	EL DORADO HILLS CA 95762
		358 PLATT CIR	EL DORADO HILLS CA 95762
		473 PLATT CIR	EL DORADO HILLS CA 95762
		481 PLATT CIR	EL DORADO HILLS CA 95762
		485 PLATT CIR	EL DORADO HILLS CA 95762
		493 PLATT CIR	EL DORADO HILLS CA 95762
		499 PLATT CIR	EL DORADO HILLS CA 95762
		511 PLATT CIR	EL DORADO HILLS CA 95762
		111 POWERS DR	EL DORADO HILLS CA 95762
		414 ARCHES AVE	EL DORADO HILLS CA 95762
		406 ARCHES AVE	EL DORADO HILLS CA 95762
		400 ARCHES AVE	EL DORADO HILLS CA 95762
		4158 HENSLEY CIR	EL DORADO HILLS CA 95762
		403 ARCHES AVE	EL DORADO HILLS CA 95762
		411 ARCHES AVE	EL DORADO HILLS CA 95762
		937 SPRING ST	PLACERVILLE CA 95667
		531 PLATT CIR	EL DORADO HILLS CA 95762
		543 PLATT CIR	EL DORADO HILLS CA 95762
		577 PLATT CIR	EL DORADO HILLS CA 95762
		581 PLATT CIR	EL DORADO HILLS CA 95762
		589 PLATT CIR	EL DORADO HILLS CA 95762
		555 PLATT CIR	EL DORADO HILLS CA 95762
		563 PLATT CIR	EL DORADO HILLS CA 95762
		569 PLATT CIRCLE	EL DORADO HILLS CA 95762
		1021 HARVARD WY	EL DORADO HILLS CA 95762
		590 PLATT CIR	EL DORADO HILLS CA 95762
		582 PLATT CIR	EL DORADO HILLS CA 95762
		576 PLATT CIR	EL DORADO HILLS CA 95762
		568 PLATT CIR	EL DORADO HILLS CA 95762
		562 PLATT CIR	EL DORADO HILLS CA 95762
		556 PLATT CIR	EL DORADO HILLS CA 95762
		554 PLATT CIR	EL DORADO HILLS CA 95762

MASTER MAILING LIST (continued)
AGENCIES, ORGANIZATIONS, AND INDIVIDUALS SENT THE NOTICE OF INTENT

AGENCY/ORGANIZATION/ INDIVIDUAL	CONTACT NAME	STREET	CITY, STATE, ZIP
		510 PLATT CIR	EL DORADO HILLS CA 95762
		498 PLATT CIR	EL DORADO HILLS CA 95762
		490 PLATT CIR	EL DORADO HILLS CA 95762
		484 PLATT CIR	EL DORADO HILLS CA 95762
		476 PLATT CIR	EL DORADO HILLS CA 95762
		468 PLATT CIR	EL DORADO HILLS CA 95762
		462 PLATT CIR	EL DORADO HILLS CA 95762
		245 MARKET ST	SAN FRANCISCO CA 94100
		2604 B EL CAMINO REAL #276	CARLSBAD CA 92008
		850 CHERRY AVE FSC551	SAN BRUNO CA 94099
		1019 FALLEN LEAF PL	VACAVILLE CA 95687
		1079 GAMAY DR	EL DORADO HILLS CA 95762
		7000 ROSSMORE LN	EL DORADO HILLS CA 95762
		17 E SIR FRANCIS DRAKE BL 200	LARKSPUR CA 94939
		PO BOX 2113	LOOMIS CA 95650
		4477 GOLDEN FOOTHILL PKWY	EL DORADO HILLS CA 95762
		11344 COLOMA RD #350	GOLD RIVER CA 95670
		1000 NICOLLET MALL	MINNEAPOLIS MN 55403
		120 VILLAGE SQUARE #100	ORINDA CA 94563
		7121 DUBLIN BLVD	DUBLIN CA 94568
		1000 MERCEDES LN	EL DORADO HILLS CA 95762
		4620 POST ST	EL DORADO HILLS CA 95762
		1441 TONG RD	EL DORADO HILLS CA 95762
		4330 GOLDEN CENTER DR STE #D	PLACERVILLE CA 95667
		7700 COLLEGE TOWN DR #101	SACRAMENTO CA 95826
		6221 ENTERPRISE DR	DIAMOND SPRINGS CA 95619
		6205 ENTERPRISE DR	DIAMOND SPRINGS CA 95619
		4410 MIRA VISTA	EL DORADO CA 95623
		PO BOX 6862	AUBURN CA 95604
		4600 MISSOURI FLAT RD	PLACERVILLE CA 95667
		4657 MISSOURI FLAT RD	PLACERVILLE CA 95667
		324 MUIRFIELD CT	CAMERON PARK CA 95682
		P O BOX 701	OAKLAND OR 97462
		5271 DAVIDSON RD	PLACERVILLE CA 95667
		5587 GREENSTONE CT	PLACERVILLE CA 95667
		DEPT OF TRANS P O BOX 911	MARYSVILLE CA 95901
		P O BOX 360	ROCKLIN CA 95677
		PO BOX 289	BUELLTON CA 93427
		500 CANAL ST	PLACERVILLE CA 95667
		11309 FOLSOM BLVD	RANCHO CORDOVA CA 95742
		P O BOX 160	DIAMOND SPRINGS CA 95619
		4594 SOUTH POINT RD	DIAMOND SPRINGS CA 95619

MASTER MAILING LIST (continued)
AGENCIES, ORGANIZATIONS, AND INDIVIDUALS SENT THE NOTICE OF INTENT

AGENCY/ORGANIZATION/ INDIVIDUAL	CONTACT NAME	STREET	CITY, STATE, ZIP
		3471 FOXMORE LN	RESCUE CA 95672
		273 PLEASANT VALLEY RD	DIAMOND SPRINGS CA 95619
		6565 COMMERCE WAY	DIAMOND SPRINGS CA 95619
		PO BOX 1604	PLACERVILLE CA 95667
		4500 BEAU VAL LANE	PLACERVILLE CA 95667
		24 RANCH DEL SOL	CAMINO CA 95709
		2040 COLOMA RD	PLACERVILLE CA 95667
		6566 COMMERCE WAY #A	DIAMOND SPRINGS CA 95619
		PO BOX 15520	SOUTH LAKE TAHOE CA 96151
		PO BOX 770000	SAN FRANCISCO CA 94177
		100 SCHOLAR WAY	FOLSOM CA 95630
		2811 O ST	SACRAMENTO CA 95812
		PO BOX 15830	SACRAMENTO CA 95852
		1888 CENTURY PARK E 1700	LOS ANGELES CA 90067
		50 E N TEMPLE ST 22ND FL	SALT LAKE CITY UT 94150
		2390 E BIDWELL ST	FOLSOM CA 95630
		50 NATOMA ST	FOLSOM CA 95630
		100 PENWOOD LN	FOLSOM CA 95630
		3096 CLERMONT WAY	EL DORADO HILLS CA 95762
		524 WALLINGFORD LN	FOLSOM CA 95630
		525 WALLINGFORD LN	FOLSOM CA 95630
		1897 INDIAN VALLEY RD	NOVATO CA 94947
		517 WALLINGFORD LN	FOLSOM CA 95630
		15110 WOODVALE LN	MEADOW VISTA CA 95722
		509 WALLINGFORD LN	FOLSOM CA 95630
		505 WALLINGFORD LN	FOLSOM CA 95630
		786 BIRCHPARK CIR 206	THOUSAND OAKS CA 91360
		104 SILBERHORN DR	FOLSOM CA 95630
		101 PENWOOD LN	FOLSOM CA 95630
		PO BOX 99507	STOCKTON CA 95759
		148 KENNERLY WAY	FOLSOM CA 95630
		146 KENNERLY WAY	FOLSOM CA 95630
		144 KENNERLY WAY	FOLSOM CA 95630
		2404 SUMMER DR	EL DORADO HILLS CA 95762
		140 KENNERLY WAY	FOLSOM CA 95630
		138 KENNERLY WAY	FOLSOM CA 95630
		136 KENNERLY WAY	FOLSOM CA 95630
		134 KENNERLY WAY	FOLSOM CA 95630
		132 KENNERLY WAY	FOLSOM CA 95630
		3324 KNOLLRIDGE DR	EL DORADO HILLS CA 95762
		128 KENNERLY WAY	FOLSOM CA 95630
		103 TYRELL CT	FOLSOM CA 95630

MASTER MAILING LIST (continued)
AGENCIES, ORGANIZATIONS, AND INDIVIDUALS SENT THE NOTICE OF INTENT

AGENCY/ORGANIZATION/ INDIVIDUAL	CONTACT NAME	STREET	CITY, STATE, ZIP
		105 TYRELL CT	FOLSOM CA 95630
		107 TYRELL CT	FOLSOM CA 95630
		3505 GIN LN	NAPLES FL 34102
		1783 ARROYO VISTA WAY	EL DORADO HILLS CA 95762
		1803 WOODGLEN DR	FOLSOM CA 95630
		105 GRANTHAM CT	FOLSOM CA 95630
		107 GRANTHAM CT	FOLSOM CA 95630
		109 GRANTHAM CT	FOLSOM CA 95630
		111 GRANTHAM CT	FOLSOM CA 95630
		8958 TERRACORVO CIR	STOCKTON CA 95212
		115 GRANTHAM CT	FOLSOM CA 95630
		7278 ALDER SPRING WAY	SAN JOSE CA 95139
		114 GRANTHAM CT	FOLSOM CA 95630
		155 CHAMBERSBURG WAY	FOLSOM CA 95630
		129 FINCHLEY LN	FOLSOM CA 95630
		108 GRANTHAM CT	FOLSOM CA 95630
		106 GRANTHAM CT	FOLSOM CA 95630
		104 GRANTHAM CT	FOLSOM CA 95630
		107 SEDGEFORD WAY	FOLSOM CA 95630
		117 FOXRIDGE DR	FOLSOM CA 95630
		1061 HOUSTON CIR	FOLSOM CA 95630
		103 SEDGEFORD CT	FOLSOM CA 95630
		105 SEDGEFORD CT	FOLSOM CA 95630
		107 SEDGEFORD CT	FOLSOM CA 95630
		109 SEDGEFORD CT	FOLSOM CA 95630
		110 SEDGEFORD CT	FOLSOM CA 95630
		109 ARROWSMITH DR	FOLSOM CA 95630
		15019 ESTHER DR	SAN JOSE CA 95124
		104 SEDGEFORD CT	FOLSOM CA 95630
		102 SEDGEFORD CT	FOLSOM CA 95630
		100 SEDGEFORD CT	FOLSOM CA 95630
		300 PERSIFER ST	FOLSOM CA 95630
		107 KILCAIRN CT	FOLSOM CA 95630
		106 KILCAIRN CT	FOLSOM CA 95630
		120 WEMBLEY CT	FOLSOM CA 95630
		118 WEMBLEY CT	FOLSOM CA 95630
		116 WEMBLEY CT	FOLSOM CA 95630
		114 WEMBLEY CT	FOLSOM CA 95630
		112 WEMBLEY CT	FOLSOM CA 95630
		110 WEMBLEY CT	FOLSOM CA 95630
		1591 GALBRAITH AVE SE	GRAND RAPIDS MI 49546
		106 WEMBLEY CT	FOLSOM CA 95630

MASTER MAILING LIST (continued)
AGENCIES, ORGANIZATIONS, AND INDIVIDUALS SENT THE NOTICE OF INTENT

AGENCY/ORGANIZATION/ INDIVIDUAL	CONTACT NAME	STREET	CITY, STATE, ZIP
		104 WEMBLEY CT	FOLSOM CA 95630
		107 ADDERLEY CT	FOLSOM CA 95630
		108 ADDERLEY CT	FOLSOM CA 95630
		106 ADDERLEY CT	FOLSOM CA 95630
		104 ADDERLEY CT	FOLSOM CA 95630
		102 ADDERLEY CT	FOLSOM CA 95630
		103 FOYLE CT	FOLSOM CA 95630
		105 FOYLE CT	FOLSOM CA 95630
		106 FOYLE CT	FOLSOM CA 95630
		104 FOYLE CT	FOLSOM CA 95630
		3430 LUYUNG DR	RANCHO CORDOVA CA 95742
		1304 HALIDON WAY	FOLSOM CA 95630
		125 E BIDWELL ST	FOLSOM CA 95630
		7191 MURIETA PKWY	RANCHO MURIETA CA 95683
		2870 GATEWAY OAKS DR 100	SACRAMENTO CA 95833
		2216 COVERDALE CT	FOLSOM CA 95630
		2220 COVERDALE CT	FOLSOM CA 95630
		2224 COVERDALE CT	FOLSOM CA 95630
		2228 COVERDALE CT	FOLSOM CA 95630
		1201 NEWMARK WAY	FOLSOM CA 95630
		1205 NEWMARK WAY	FOLSOM CA 95630
		1273 MANNING DR	EL DORADO HILLS CA 95762
		1213 NEWMARK WAY	FOLSOM CA 95630
		3724 SUMMIT DR	MOUNT SHASTA CA 96067
		2219 HARTER WAY	FOLSOM CA 95630
		2217 HARTER WAY	FOLSOM CA 95630
		2215 HARTER CT	FOLSOM CA 95630
		2213 HARTER CT	FOLSOM CA 95630
		2214 HARTER CT	FOLSOM CA 95630
		756 BLUESTONE CIR	FOLSOM CA 95630
		PO BOX 6095	FOLSOM CA 95763
		3601 FUJI CT	CAMINO CA 95709
		247 WELLFLEET CIR	FOLSOM CA 95630
		1200 NEWMARK WAY	FOLSOM CA 95630
		1151 HARTER WAY	FOLSOM CA 95630
		1203 HARTER DR	FOLSOM CA 95630
		1207 HARTER WAY	FOLSOM CA 95630
		1211 HARTER WAY	FOLSOM CA 95630
		2031 LINDEN GROVE WAY	CARMICHAEL CA 95608
		1137 NEWMARK WAY	FOLSOM CA 95630
		1216 HARTER WAY	FOLSOM CA 95630
		1212 HARTER WAY	FOLSOM CA 95630

MASTER MAILING LIST (continued)
AGENCIES, ORGANIZATIONS, AND INDIVIDUALS SENT THE NOTICE OF INTENT

AGENCY/ORGANIZATION/ INDIVIDUAL	CONTACT NAME	STREET	CITY, STATE, ZIP
		753 JENNIFER WAY	MILPITAS CA 95035
		1204 HARTER WAY	FOLSOM CA 95630
		1026 SMITH WAY	FOLSOM CA 95630
		1153 KNOPFLER CIR	FOLSOM CA 95630
		100 CORRIGAN CT	FOLSOM CA 95630
		2762 ABERDEEN LN	EL DORADO HILLS CA 95762
		1213 KNOPFLER CIR	FOLSOM CA 95630
		1217 KNOPFLER CIR	FOLSOM CA 95630
		1501 W MINERAL AVE	LITTLETON CO 80120
		1214 KNOPFLER CIR	FOLSOM CA 95630
		1210 KNOPFLER CIR	FOLSOM CA 95630
		1206 KNOPFLER CIR	FOLSOM CA 95630
		1158 KNOPFLER CIR	FOLSOM CA 95630
		1154 KNOPFLER CIR	FOLSOM CA 95630
		1246 KNOPFLER CIR	FOLSOM CA 95630
		1242 KNOPFLER CIR	FOLSOM CA 95630
		1238 KNOPFLER CIR	FOLSOM CA 95630
		1234 KNOPFLER CIR	FOLSOM CA 95630
		1230 KNOPFLER CIR	FOLSOM CA 95630
		2136 MAYALL CT	FOLSOM CA 95630
		2140 MAYALL CT	FOLSOM CA 95630
		2135 MAYALL CT	FOLSOM CA 95630
		2131 MAYALL CT	FOLSOM CA 95630
		1216 HALIDON WAY	FOLSOM CA 95630
		1212 HALIDON WAY	FOLSOM CA 95630
		1208 HALIDON WAY	FOLSOM CA 95630
		PO BOX 1159	DEERFIELD IL 60015
		11211 GOLD COUNTRY BLVD	GOLD RIVER CA 95670
		900 RESERVE DR 250	ROSEVILLE CA 95678
		2525 E BIDWELL ST	FOLSOM CA 95630
		291 WATER VIEW WAY	FOLSOM CA 95630
		3620 FAIR OAKS BLVD	SACRAMENTO CA 95864
		3 PARK PLZ 1000	IRVINE CA 92614
		551 HILLSWICK CIR	FOLSOM CA 95630
		555 HILLSWICK CIR	FOLSOM CA 95630
		559 HILLSWICK CIR	FOLSOM CA 95630
		563 HILLSWICK CIR	FOLSOM CA 95630
		567 HILLSWICK CIR	FOLSOM CA 95630
		571 HILLSWICK CIR	FOLSOM CA 95630
		575 HILLSWICK CIR	FOLSOM CA 95630
		579 HILLSWICK CIR	FOLSOM CA 95630
		583 HILLSWICK CIR	FOLSOM CA 95630

MASTER MAILING LIST (continued)
AGENCIES, ORGANIZATIONS, AND INDIVIDUALS SENT THE NOTICE OF INTENT

AGENCY/ORGANIZATION/ INDIVIDUAL	CONTACT NAME	STREET	CITY, STATE, ZIP
		587 HILLSWICK CIR	FOLSOM CA 95630
		492 E NAPA ST	SONOMA CA 95476
		599 HILLSWICK CIR	FOLSOM CA 95630
		728 BLUESTONE CIR	FOLSOM CA 95630
		607 HILLSWICK CIR	FOLSOM CA 95630
		1720 AZAVEDO CT	FOLSOM CA 95630
		615 HILLSWICK CIR	FOLSOM CA 95630
		84 ORCHARD ESTATES DR	WALNUT CREEK CA 94598
		623 HILLSWICK CIR	FOLSOM CA 95630
		627 HILLSWICK CIR	FOLSOM CA 95630
		1726 CHASEWOOD DR	AUSTIN TX 78727
		635 HILLSWICK CIR	FOLSOM CA 95630
		4930 POLK ST 4	NORTH HIGHLAND CA 95660
		643 HILLSWICK CIR	FOLSOM CA 95630
		647 HILLSWICK CIR	FOLSOM CA 95630
		656 HILLSWICK CIR	FOLSOM CA 95630
		652 HILLSWICK CIR	FOLSOM CA 95630
		PO BOX 2205	PLACERVILLE CA 95667
		644 HILLSWICK CIR	FOLSOM CA 95630
		614 HILLSWICK CIR	FOLSOM CA 95630
		608 HILLSWICK CIR	FOLSOM CA 95630
		604 HILLSWICK CIR	FOLSOM CA 95630
		3620 ROSECREST CIR	EL DORADO HILLS CA 95762
		248 AMETHYST WAY	FRANKLIN PARK NJ 8823
		401 SEASONS CT	EL DORADO HILLS CA 95762
		588 HILLSWICK CIR	FOLSOM CA 95630
		584 HILLSWICK CIR	FOLSOM CA 95630
		562 HILLSWICK CIR	FOLSOM CA 95630
		558 HILLSWICK CIR	FOLSOM CA 95630
		5876 GLENEAGLES CIR	SAN JOSE CA 95138
		559 CAISLEAN CT	FOLSOM CA 95630
		562 CAISLEAN CT	FOLSOM CA 95630
		555 HEILER WAY	FOLSOM CA 95630
		559 HEILER WAY	FOLSOM CA 95630
		563 HEILER WAY	FOLSOM CA 95630
		560 HEILER WAY	FOLSOM CA 95630
		556 HEILER WAY	FOLSOM CA 95630
		145 BISCAYNE WAY	FOLSOM CA 95630
		548 HEILER WAY	FOLSOM CA 95630
		1476 LOTHIAN WAY	FOLSOM CA 95630
		1480 LOTHIAN WAY	FOLSOM CA 95630
		1484 LOTHIAN WAY	FOLSOM CA 95630

MASTER MAILING LIST (continued)
AGENCIES, ORGANIZATIONS, AND INDIVIDUALS SENT THE NOTICE OF INTENT

AGENCY/ORGANIZATION/ INDIVIDUAL	CONTACT NAME	STREET	CITY, STATE, ZIP
		1535 LATHERTON WAY	FOLSOM CA 95630
		1531 LATHERTON WAY	FOLSOM CA 95630
		1527 LATHERTON WAY	FOLSOM CA 95630
		1487 STRABANE WAY	FOLSOM CA 95630
		1483 STRABANE WAY	FOLSOM CA 95630
		1479 STRABANE WAY	FOLSOM CA 95630
		1473 STRABANE WAY	FOLSOM CA 95630
		1450 STRABANE WAY	FOLSOM CA 95630
		1454 STRABANE WAY	FOLSOM CA 95630
		1458 STRABANE WAY	FOLSOM CA 95630
		1462 STRABANE WAY	FOLSOM CA 95630
		1466 STRABANE WAY	FOLSOM CA 95630
		1117 GALSTON DR	FOLSOM CA 95630
		1474 STRABANE WAY	FOLSOM CA 95630
		2079 CARROLL CT	FOLSOM CA 95630
		1482 STRABANE WAY	FOLSOM CA 95630
		1486 STRABANE WAY	FOLSOM CA 95630
		1490 STRABANE WAY	FOLSOM CA 95630
		1494 STRABANE WAY	FOLSOM CA 95630
		1516 LATHERTON WAY	FOLSOM CA 95630
		1073 SANDWICK WAY	FOLSOM CA 95630
		1524 LATHERTON WAY	FOLSOM CA 95630
		1528 LATHERTON WAY	FOLSOM CA 95630
		1532 LATHERTON WAY	FOLSOM CA 95630
		1538 LATHERTON WAY	FOLSOM CA 95630
		551 GAGE CT	FOLSOM CA 95630
		555 GAGE CT	FOLSOM CA 95630
		559 GAGE CT	FOLSOM CA 95630
		563 GAGE CT	FOLSOM CA 95630
		1118 BRAMBLE LN	FOLSOM CA 95630
		571 GAGE CT	FOLSOM CA 95630
		570 GAGE CT	FOLSOM CA 95630
		566 GAGE CT	FOLSOM CA 95630
		562 GAGE CT	FOLSOM CA 95630
		558 GAGE CT	FOLSOM CA 95630
		17312 BOSWELL PL	GRANADA HILLS CA 91344
		1115 BEVINGER DR	EL DORADO HILLS CA 95762
		549 KILSYTH CT	FOLSOM CA 95630
		553 KILSYTH CT	FOLSOM CA 95630
		755 ARLINGTON RD	REDWOOD CITY CA 94062
		561 KILSYTH CT	FOLSOM CA 95630
		565 KILSYTH CT	FOLSOM CA 95630

MASTER MAILING LIST (continued)
AGENCIES, ORGANIZATIONS, AND INDIVIDUALS SENT THE NOTICE OF INTENT

AGENCY/ORGANIZATION/ INDIVIDUAL	CONTACT NAME	STREET	CITY, STATE, ZIP
		569 KILSYTH CT	FOLSOM CA 95630
		566 KILSYTH CT	FOLSOM CA 95630
		3997 IRONWOOD DR	EL DORADO HILLS CA 95762
		558 KILSYTH CT	FOLSOM CA 95630
		554 KILSYTH CT	FOLSOM CA 95630
		PO BOX 1986	FOLSOM CA 95763
		PO BOX 190316	SAN FRANCISCO CA 94119
		1689 CABHAN CT	FOLSOM CA 95630
		340 PALLADIO PKWY 521	FOLSOM CA 95630
		633 WESTCHESTER DR	FOLSOM CA 95630
		PO BOX 15830	SACRAMENTO CA 95852
		1983 COTTONWOOD CT	FOLSOM CA 95630
		1987 COTTONWOOD CT	FOLSOM CA 95630
		2007 STOCKMAN CIR	FOLSOM CA 95630
		1200 CREEKSIDE DR 3322	FOLSOM CA 95630
		2027 STOCKMAN CIR	FOLSOM CA 95630
		477 RODEO CT	FOLSOM CA 95630
		474 RODEO CT	FOLSOM CA 95630
		478 RODEO CT	FOLSOM CA 95630
		2046 STOCKMAN CIR	FOLSOM CA 95630
		2042 STOCKMAN CIR	FOLSOM CA 95630
		2038 STOCKMAN CIR	FOLSOM CA 95630
		2034 STOCKMAN CIR	FOLSOM CA 95630
		2030 STOCKMAN CIR	FOLSOM CA 95630
		2024 STOCKMAN CIR	FOLSOM CA 95630
		2018 STOCKMAN CIR	FOLSOM CA 95630
		252 SELBY RANCH RD 1	SACRAMENTO CA 95864
		2008 STOCKMAN CIR	FOLSOM CA 95630
		5755 HAMM RD	BELGRADE MT 59714
		1996 STOCKMAN CIR	FOLSOM CA 95630
		1992 STOCKMAN CIR	FOLSOM CA 95630
		1994 COTTONWOOD CT	FOLSOM CA 95630
		1990 COTTONWOOD CT	FOLSOM CA 95630
		1986 COTTONWOOD CT	FOLSOM CA 95630
		2104 STOCKMAN CIR	FOLSOM CA 95630
		2100 STOCKMAN CIR	FOLSOM CA 95630
		5046 NAWAL DR	EL DORADO HILLS CA 95762
		2092 STOCKMAN CIR	FOLSOM CA 95630
		2088 STOCKMAN CIR	FOLSOM CA 95630
		2084 STOCKMAN CIR	FOLSOM CA 95630
		2080 STOCKMAN CIR	FOLSOM CA 95630
		2076 STOCKMAN CIR	FOLSOM CA 95630

MASTER MAILING LIST (continued)
AGENCIES, ORGANIZATIONS, AND INDIVIDUALS SENT THE NOTICE OF INTENT

AGENCY/ORGANIZATION/ INDIVIDUAL	CONTACT NAME	STREET	CITY, STATE, ZIP
		2072 STOCKMAN CIR	FOLSOM CA 95630
		2068 STOCKMAN CIR	FOLSOM CA 95630
		4650 GAMEBIRD CT	SHINGLE SPRING CA 95682
		2060 STOCKMAN CIR	FOLSOM CA 95630
		2054 STOCKMAN CIR	FOLSOM CA 95630
		2050 STOCKMAN CIR	FOLSOM CA 95630
		2051 STOCKMAN CIR	FOLSOM CA 95630
		2057 STOCKMAN CIR	FOLSOM CA 95630
		479 STETSON CT	FOLSOM CA 95630
		480 STETSON CT	FOLSOM CA 95630
		484 STETSON CT	FOLSOM CA 95630
		488 STETSON CT	FOLSOM CA 95630
		2091 STOCKMAN CIR	FOLSOM CA 95630
		2095 STOCKMAN CIR	FOLSOM CA 95630
		2099 STOCKMAN CIR	FOLSOM CA 95630
		2250 E BIDWELL ST 120	FOLSOM CA 95630
		1309 ASTER LN	CUPERTINO CA 95014
		1687 SCHILLERS CT	FOLSOM CA 95630
		7701 BELLE ROSE CIR	ROSEVILLE CA 95678
		13416 BALAMOS DR	AUSTIN TX 78729
		9960 PHOENICIAN WAY	SACRAMENTO CA 95829
		975 STERLING CIR	FOLSOM CA 95630
		332 ARCHES AVE	FOLSOM CA 95630
		685 BONLEY CT	FOLSOM CA 95630
		681 BONLEY CT	FOLSOM CA 95630
		123 MOUNTAIN OAK CT	FOLSOM CA 95630
		673 BONLEY CT	FOLSOM CA 95630
		669 BONLEY CT	FOLSOM CA 95630
		7509 MADISON AVE 104	CITRUS HEIGHTS CA 95610
		367 LONGHORN RD	FOLSOM CA 95630
		676 BONLEY CT	FOLSOM CA 95630
		770 GLEN-MADY WAY	FOLSOM CA 95630
		771 GLEN-MADY WAY	FOLSOM CA 95630
		3169 CHASEN DR	CAMERON PARK CA 95682
		1803 WOODGLENN DR	FOLSOM CA 95630
		1799 WOODGLENN DR	FOLSOM CA 95630
		1793 WOODGLENN DR	FOLSOM CA 95630
		1717 DORNIE CIR	FOLSOM CA 95630
		1781 BARRHEAD CT	FOLSOM CA 95630
		1777 BARRHEAD CT	FOLSOM CA 95630
		1771 BARRHEAD CT	FOLSOM CA 95630
		1767 BARRHEAD CT	FOLSOM CA 95630

MASTER MAILING LIST (continued)
AGENCIES, ORGANIZATIONS, AND INDIVIDUALS SENT THE NOTICE OF INTENT

AGENCY/ORGANIZATION/ INDIVIDUAL	CONTACT NAME	STREET	CITY, STATE, ZIP
		1763 BARRHEAD CT	FOLSOM CA 95630
		1760 BARRHEAD CT	FOLSOM CA 95630
		1868 SHADETREE DR	SAN MARCOS CA 92078
		225 LUNA CIR	FOLSOM CA 95630
		1776 BARRHEAD CT	FOLSOM CA 95630
		PO BOX 1351	FOLSOM CA 95763
		1794 CAVERSHAM WAY	FOLSOM CA 95630
		1790 CAVERSHAM WAY	FOLSOM CA 95630
		1786 CAVERSHAM WAY	FOLSOM CA 95630
		1782 CAVERSHAM WAY	FOLSOM CA 95630
		1778 CAVERSHAM WAY	FOLSOM CA 95630
		5033 ARCHCREST WAY	SACRAMENTO CA 95835
		562 N LEMON ST	ORANGE CA 92867
		240 NATOMA STATION DR 27	FOLSOM CA 95630
		959 STERLING CIR	FOLSOM CA 95630
		616 PLUM CREEK CT	FOLSOM CA 95630
		1806 CAVERSHAM WAY	FOLSOM CA 95630
		1810 CAVERSHAM WAY	FOLSOM CA 95630
		1814 CAVERSHAM WAY	FOLSOM CA 95630
		50 E NATOMA ST	FOLSOM CA 95630
		475 TOBRURRY WAY	FOLSOM CA 95630
		1774 CAVERSHAM WAY	FOLSOM CA 95630
		517 PORTER CT	FOLSOM CA 95630
		521 PORTER CT	FOLSOM CA 95630
		314 S FRANKLIN ST 2	TITUSVILLE PA 16354
		529 PORTER CT	FOLSOM CA 95630
		533 PORTER CT	FOLSOM CA 95630
		537 PORTER CT	FOLSOM CA 95630
		561 PORTER CT	FOLSOM CA 95630
		2205 ACORN RIDGE CT	FOLSOM CA 95630
		4207 TORRAZZO WAY	EL DORADO HILLS CA 95762
		2200 HOMESTEAD HILLS CT	FOLSOM CA 95630
		2204 HOMESTEAD HILLS CT	FOLSOM CA 95630
		PO BOX 1902	FOLSOM CA 95763
		2212 HOMESTEAD HILLS CT	FOLSOM CA 95630
		2216 HOMESTEAD HILLS CT	FOLSOM CA 95630
		2220 HOMESTEAD HILLS CT	FOLSOM CA 95630
		31 PARAGON CT	MOUNTAIN VIEW CA 94040
		2219 HOMESTEAD HILLS CT	FOLSOM CA 95630
		2215 HOMESTEAD HILLS CT	FOLSOM CA 95630
		2211 HOMESTEAD HILLS CT	FOLSOM CA 95630
		2207 HOMESTEAD HILLS CT	FOLSOM CA 95630

MASTER MAILING LIST (continued)
AGENCIES, ORGANIZATIONS, AND INDIVIDUALS SENT THE NOTICE OF INTENT

AGENCY/ORGANIZATION/ INDIVIDUAL	CONTACT NAME	STREET	CITY, STATE, ZIP
		2203 HOMESTEAD HILLS CT	FOLSOM CA 95630
		505 PORTER CT	FOLSOM CA 95630
		501 PORTER CT	FOLSOM CA 95630
		2190 PALOMINO CT	FOLSOM CA 95630
		480 BARBARA WAY	HILLSBOROUGH CA 94010
		716 N FAIRHAVEN ST	ANAHEIM CA 92801
		2202 PALOMINO CT	FOLSOM CA 95630
		2206 PALOMINO CT	FOLSOM CA 95630
		23 LORRAINE DR TOR	TORONTO, CANADA
		PO BOX 581864	ELK GROVE CA 95758
		2207 PALOMINO CT	FOLSOM CA 95630
		2203 PALOMINO CT	FOLSOM CA 95630
		2199 PALOMINO CT	FOLSOM CA 95630
		2195 PALOMINO CT	FOLSOM CA 95630
		2191 PALOMINO CT	FOLSOM CA 95630
		2192 APPALOOSA DR	FOLSOM CA 95630
		2196 APPALOOSA DR	FOLSOM CA 95630
		2200 APPALOOSA DR	FOLSOM CA 95630
		2204 APPALOOSA DR	FOLSOM CA 95630
		2206 APPALOOSA CT	FOLSOM CA 95630
		2210 APPALOOSA CT	FOLSOM CA 95630
		2214 APPALOOSA CT	FOLSOM CA 95630
		2220 APPALOOSA CT	FOLSOM CA 95630
		2224 APPALOOSA CT	FOLSOM CA 95630
		465 PORTER RD	FOLSOM CA 95630
		469 PORTER RD	FOLSOM CA 95630
		2221 PALOMINO CT	FOLSOM CA 95630
		450 PINE ST	GRASS VALLEY CA 95945
		735 LEFEVRE CT	FOLSOM CA 95630
		739 LEFEVRE CT	FOLSOM CA 95630
		743 LEFEVRE CT	FOLSOM CA 95630
		746 LEFEVRE CT	FOLSOM CA 95630
		8 ARDEA PL	SACRAMENTO CA 95835
		542 LEFEVRE DR	FOLSOM CA 95630
		538 LEFEVRE DR	FOLSOM CA 95630
		534 LEFEVRE DR	FOLSOM CA 95630
		530 LEFEVRE DR	FOLSOM CA 95630
		537 LEFEVRE DR	FOLSOM CA 95630
		553 LEFEVRE DR	FOLSOM CA 95630
		557 LEFEVRE DR	FOLSOM CA 95630
		569 LEFEVRE DR	FOLSOM CA 95630
		588 LEFEVRE DR	FOLSOM CA 95630

MASTER MAILING LIST (continued)
AGENCIES, ORGANIZATIONS, AND INDIVIDUALS SENT THE NOTICE OF INTENT

AGENCY/ORGANIZATION/ INDIVIDUAL	CONTACT NAME	STREET	CITY, STATE, ZIP
		584 LEFEVRE DR	FOLSOM CA 95630
		580 LEFEVRE DR	FOLSOM CA 95630
		576 LEFEVRE DR	FOLSOM CA 95630
		575 LEFEVRE DR	FOLSOM CA 95630
		581 LEFEVRE DR	FOLSOM CA 95630
		587 LEFEVRE DR	FOLSOM CA 95630

MASTER MAILING LIST:
AGENCIES, ORGANIZATIONS, AND LIBRARIES
SENT A COPY OF FINAL IS/MND

AGENCY/ORGANIZATION/ LIBRARY	CONTACT NAME	STREET	CITY, STATE, ZIP
LEAD AGENCY/APPLICANT			
Project Manager, California Public Utilities Commission	Connie Chen	Energy Division Infrastructure Permitting 505 Van Ness Avenue	San Francisco, CA 94102
CPUC, Division of Administrative Law Judges	Karin M. Hieta	505 Van Ness Avenue, Room 5010	San Francisco, CA 94102
Project Manager , Pacific Gas & Electric Company	Sam Danner	Environmental Planning & Permitting 2730 Gateway Oaks Drive	Sacramento, CA 95833
Pacific Gas & Electric Company	Jo Lynn Lambert	707 Brookside Avenue	Redlands, CA 92373
Pacific Gas & Electric Company	Case Administration	PO Box 770000	San Francisco, CA 94117
LOCAL, STATE AND FEDERAL AGENCIES			
Central Valley Regional Water Quality Control Board	Trevor Cleak	11020 Sun Center Drive, #200	Rancho Cordova, CA 95670
California Department of Transportation, District 3	Eric Fredericks	2379 Gateway Oaks Drive, Ste. 150-MS 19	Sacramento, CA 95833
California Department of Fish and Wildlife	Angela Calderaro	1701 Nimbus Road	Rancho Cordova, CA 95670
Sacramento Municipal Utility District	Rob Ferrera	6201 S Street, PO Box 15830	Sacramento, CA 95852-0830
El Dorado County, Planning Services	Aaron Mount	2850 Fairlane Court, Building C	Placerville, CA 95667
City of Folsom, Engineering Services	Dan Wolfe	50 Natoma Street	Folsom, CA 95630
Sacramento County, Planning & Environmental Review	Cathy Hack	827 7th Street, Room 230	Sacramento, CA 95814
Bureau of Land Management (Mother Lode Field Office)	Graciela Hinshaw	5152 Hillsdale Circle	El Dorado Hills, CA 95762
U.S. Fish and Wildlife Service	Casey Collins	2800 Cottage Way, Suite W2606	Sacramento, CA 95825
El Dorado Hills Community Services District		1021 Harvard Way	El Dorado Hills, CA 95762
Cameron Park Community Services District		2502 Country Club Drive	Cameron Park, 95682

MASTER MAILING LIST (continued)
AGENCIES, ORGANIZATIONS, AND LIBRARIES
SENT A COPY OF FINAL IS/MND

AGENCY/ORGANIZATION/ LIBRARY	CONTACT NAME	STREET	CITY, STATE, ZIP
LOCAL, STATE AND FEDERAL AGENCIES (cont.)			
Buckeye Union School District		P.O. Box 4768	El Dorado Hills, CA 95762
Folsom Cordova Unified School District		1965 Birkmont Drive	Rancho Cordova, CA 95742
Folsom Lake College		10 College Parkway	Folsom, CA 95630
Holy Trinity School Ministry		3115 Tierra de Dios Drive	El Dorado Hills, CA 95762
State Clearinghouse		1400 Tenth Street	Sacramento, CA 95814
LIBRARIES			
Cameron Park Library		2500 Country Club Drive	Cameron Park, CA 95682
El Dorado Hills Library		7455 Silva Valley Parkway	El Dorado Hills, CA 95762
Folsom Public Library		411 Stafford Street, Georgia Murray Building	Folsom, CA 95630
ORGANIZATIONS			
California Energy Markets		425 Divisadero Street, Suite 200	San Francisco, CA 94117

APPENDIX D
Notice of Intent

STATE OF CALIFORNIA **EDMUND G. BROWN JR., Governor**

PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298

To: **State Clearinghouse, Responsible and Trustee Agencies, Property Owners & Interested Parties**

From: **Connie Chen, Environmental Project Manager**

Subject: **NOTICE OF INTENT TO ADOPT AN INITIAL STUDY/MITIGATED NEGATIVE DECLARATION (IS/MND)**
Missouri Flat-Gold Hill 115 kV Power Line Reconductoring Project (A.13-08-014)

Date: **December 23, 2014**

The California Public Utilities Commission (CPUC) has prepared a Draft Initial Study/Mitigated Negative Declaration (Draft IS/MND) under the California Environmental Quality Act (CEQA) for consideration of Pacific Gas and Electric Company's (PG&E's) application to construct, operate, and maintain the Missouri Flat-Gold Hill 115 kV Power Line Reconductoring Project (A.13-08-14). The Draft IS/MND details the Proposed Project; evaluates and describes the potential environmental impacts associated with the Project's construction, operation, and maintenance; identifies those impacts that could be significant; and presents mitigation measures which, if adopted by the CPUC, would avoid or minimize these impacts.

Description of the Project.
The Proposed Project is located in unincorporated El Dorado County and in the City of Folsom, in Sacramento County.

The Missouri Flat-Gold Hill Line (115 kV) and Gold Hill No. 1 Line (60kV) are existing power lines that mostly traverse lands within existing PG&E right-of-way along Highway 50 and through the City of Folsom, the communities of El Dorado Hills, Cameron Park, and Shingle Springs, and also a U.S. Bureau of Land Management parcel (Pine Hill Preserve). The developed portions of the Project area are predominantly residential with some light-industrial and commercial development. Rolling grasslands and oak woodlands dominate the areas outside the existing communities. PG&E requests authorization to:

- **Missouri Flat-Gold Hill Line Reconductoring:** Replace 12.8 miles of all aluminum 0.974-inch-diameter conductor with non-specular (dulled finish) 1.092-inch-diameter aluminum conductor steel supported. Replace 60 double-circuit tubular steel poles (TSPs) and one single-circuit TSP with new TSPs. Modify 13 double-circuit lattice steel towers (LSTs). The majority of LST modifications would include structural reinforcements and/or cross-arm replacement. One tower would be raised approximately 7 feet. In addition, approximately 1,000 feet of existing 21 kV overhead distribution line in El Dorado Hills would be placed underground.

  Construction activities would include preparation of temporary staging areas, work areas, and access road improvements; installation of temporary guard structures to prevent conductor from falling onto roadways or contacting other utility lines during replacement activities; installation of new poles; removal of existing conductor and replacement with new conductor; removal of old poles; and cleanup/site restoration.

- **Gold Hill No.1 Line Reconductoring:** Replace 7 miles of all aluminum 0.724-inch-diameter conductor with all aluminum 0.974-inch-diameter conductor in order to provide backup electric service while Missouri Flat-Gold Hill Line is being reconductored. Upon completion of this reconductoring, the voltage would be returned to 60 kV; however, the upgraded structures and facilities would remain in place. Replace 80 of 120 wood poles with new wood or light-duty steel poles and one new TSP. Replace 1-3 wood switch poles with TSPs. Relocate 150 feet of distribution

feeder line and replace 3 wood poles with 2 new wood poles. Construction activities would be similar as described above for the Missouri Flat-Gold Hill Line.

- **Substation and Switching Station Modifications:** Minor modifications to substation equipment and facilities at Shingle Springs, Pacific Western Pipe, Limestone, Clarksville, and Gold Hill substations, and Missouri Flat Switching Station to tie the new conductor into the substations and modify existing equipment to accommodate the line upgrades. All substation equipment would be sized adequately to match or exceed new line requirements. All modifications would be completed within existing substation or switching station fence lines and no substation expansions are proposed.

Public Comment on the Draft IS/MND.
The Draft IS/MND is available for a 45-day public comment period, December 23, 2014 through February 6, 2015. The public may present comments and concerns regarding the Proposed Project and the adequacy of the Draft IS/MND. Written comments on the Draft IS/MND must be postmarked or received by fax or e-mail no later than February 6, 2015. Please be sure to include your name, address, and telephone number in your correspondence.

Written comments on the Draft IS/MND should be sent to:

Ms. Connie Chen
Missouri Flat-Gold Hill 115 kV Power Line Reconductoring Project
c/o ESA
550 Kearny Street, Suite 800
San Francisco, CA 94108
Fax: (415) 896-0332
MissouriFlat@esassoc.com

Availability of Draft IS/MND.
Copies of the Draft IS/MND will be available for public review at the Cameron Park Library, El Dorado Hills Library, and the Folsom Public Library, and on the Project website:

http://www.cpuc.ca.gov/Environment/info/esa/missouri_flat/index.html

This website will be used to post all public documents during the environmental review process and to announce any upcoming public meetings. Printed copies or CD copies of the Draft IS/MND may be requested by telephone at (415) 896-5900 (ask for Cory Barringhaus) or by e-mail at MissouriFlat@esassoc.com.

Project information repositories include the following branches:

Cameron Park Library 2500 Country Club Drive Cameron Park, CA 95682 Phone: (530) 621-5500	El Dorado Hills Library 7455 Silva Valley Parkway El Dorado Hills, CA 95762 Phone: (916) 358-3500	Folsom Public Library Georgia Murray Building 411 Stafford Street Folsom, CA 95630 Phone: (916) 355-7374

REMINDER: Draft IS/MND comments will be accepted by fax, e-mail, or postmark through February 6, 2015. Please be sure to include your name, address, and telephone number.

APPENDIX E
Proof of Publication

Mountain Democrat

PROOF OF PUBLICATION
(2015.5 C.C.P.)

Proof of Publication of
PUBLIC NOTICE

STATE OF CALIFORNIA
County of El Dorado

I am a citizen of the United States and a resident of the County aforesaid; I'm over the age of eighteen years, and not a party to or interested in the above-entitled matter. I am principal clerk of the printer at the Mountain Democrat, 2889 Ray Lawyer Drive, a newspaper of general circulation, printed and published Monday, Wednesday, and Friday, in the City of Placerville, County of El Dorado, and which newspaper has been adjudged a newspaper of general circulation by the Superior Court to the County of El Dorado, State of California, under the date of March 7, 1952, Case Number 7258; that the notice, of which the annexed is a printed copy (set in type no smaller than non-pareil), has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to-wit:

12/24

All in the year **2014.**

I certify (or declare) under penalty of perjury that the foregoing is true and correct.

Dated at Placerville, California, this **24th** day of **DECEMBER, 2014**

Kirsten Matter

Signature

California Public Utilities Commission
Notice of Intent to Adopt an Initial Study/Mitigated Negative Declaration for the Pacific Gas and Electric's Missouri Flat-Gold Hill 115 kV Power Line Reconductoring Project

Notice is hereby given that the California Public Utilities Commission has released a Notice of Intent to adopt an Initial Study/Mitigated Negative Declaration (IS/MND) for the Pacific Gas and Electric Company's Missouri Flat-Gold Hill 115 kV Power Line Reconductoring Project (Proposed Project), for public review and comment. The IS/MND addresses direct and indirect impacts of the construction, operation, and maintenance of the Proposed Project. Public comments received during the 45-day comment period, December 23, 2014 to February 6, 2015, will be addressed in a Response to Comments document/Final MND. The Draft IS/MND is available for public review on the project website at: http://www.cpuc.ca.gov/Environment/info/esa/missouri_flat/index.html. The website includes further information on the environmental review process for this project. Printed copies or CD copies of the Draft IS/MND may be requested by telephone at (415) 962-8486. Comments may be submitted in writing to: Ms. Connie Chen, C/O ESA, 550 Kearny Street, Suite 800, San Francisco, CA 94108; by fax to (415) 896-0332; or by email to MissouriFlat@esassoc.com

12/24 06544236

16570201

CALIFORNIA PUBLIC UTILITIES COMMISSION
NOTICE OF INTENT

16570201

California Public Utilities Commission
Notice of Intent to Adopt an Initial Study/Mitigated Negative Declaration for the Pacific Gas and Electric's Missouri Flat-Gold Hill 115 kV Power Line Reconductoring Project

Notice is hereby given that the California Public Utilities Commission has released a Notice of Intent to adopt an Initial Study/Mitigated Negative Declaration (IS/MND) for the Pacific Gas and Electric Company's Missouri Flat-Gold Hill 115 kV Power Line Reconductoring Project (Proposed Project), for public review and comment. The IS/MND addresses direct and indirect impacts of the construction, operation, and maintenance of the Proposed Project. Public comments received during the 45-day comment period, December 23, 2014 to February 6, 2015, will be addressed in a Response to Comments document/Final MND. The Draft IS/MND is available for public review on the project website at: http://www.cpuc.ca.gov/Environment/info/esa/missouri_flat/index.html. The website includes further information on the environmental review process for this project. Printed copies or CD copies of the Draft IS/MND may be requested by telephone at (415) 962-8486. Comments may be submitted in writing to: Ms. Connie Chen, C/O ESA, 550 Kearny Street, Suite 800, San Francisco, CA 94108; by fax to (415) 896-0332; or by email to MissouriFlat@esassoc.com

PUBLISHED IN FOLSOM TELEGRAPH: DECEMBER 31, 2014

The above space is reserved for Court/County Filed Date Stamp

PROOF OF PUBLICATION
(2015.5 C.C.P.)

STATE OF CALIFORNIA
County of Sacramento

I am a citizen of the United States and employed by a publication in the County aforesaid. I am over the age of eighteen years, and not a party to the mentioned matter. I am the principal clerk of **The Folsom Telegraph**, a newspaper of general circulation, in the **City of Folsom**, which is printed and published in the **County of Placer.** This newspaper has been judged a newspaper of general circulation by the Superior Court of the State of California, in and for the **County of Sacramento**, on the date of April 3, 1952, Superior Court Order Number 89429. The notice, of which the attached is a printed copy (set in type not smaller than nonpareil) has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to-wit:

DECEMBER 31

I certify, under penalty of perjury, that the foregoing is true and correct.

Terry Clark

Dated in Folsom, California

DECEMBER 31, 2014

PROOF OF PUBLICATION
THE FOLSOM TELEGRAPH
921 Sutter Street
Folsom, CA 95630

APPENDIX F
USFWS Biological Opinion

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:
08ESMF00-
2014-F-0405

FEB 09 2015

Memorandum

To: Field Manager, Bureau of Land Management Mother Lode Field Office, El Dorado Hills, California

From: For Field Supervisor, Sacramento Fish and Wildlife Office, Sacramento, California

Subject: Formal Consultation on the Missouri Flat-Gold Hill Reconductoring Project in El Dorado County, California

This memorandum is in response to your April 11, 2014 request for formal consultation with the U.S. Fish and Wildlife Service (Service) on the Missouri Flat-Gold Hill Reconductoring Project (Project) in El Dorado County, California. The federal action in question is the issuance of a temporary use permit by the Bureau of Land Management (BLM) to Pacific Gas and Electric (PG&E). At issue are effects of the proposed Project on the federally listed endangered Stebbins' morning glory (*Calystegia stebbinsii*), the endangered Pine Hill ceanothus (*Ceanothus roderickii*), the threatened Layne's butterweed (*Packera layneae,* also referred to as Layne's ragwort), the threatened valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), the threatened vernal pool fairy shrimp (*Branchinecta lynchi*) and the threatened vernal pool tadpole shrimp (*Lepidurus packardi*). Your request was received on April 14, 2014. This response is provided under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (Act).

PG&E currently owns and operates a 115-kV power system that serves customers in El Dorado County and includes the double-circuit Missouri Flat-Gold Hill Line. Increased population and demand for electricity has put the system at risk of overloading. To address this problem, this Project is aimed at reconductoring both circuits of the Missouri Flat-Gold Hill Line, which will allow for uninterrupted service even in the event of an outage along the line.

Potential effects from the Project on the valley elderberry longhorn beetle are addressed by PG&E's Valley Elderberry Longhorn Beetle Conservation Program, a programmatic biological opinion that provides for incidental take during maintenance activities and routine operations (Service file number 1-1-01-F-0114). As specified in the Conservation Program, PG&E will implement the surveying, avoidance, compensation, and any other measures that are required. These measures may include: (1) surveying for and flagging all elderberry plants with one or more stems measuring one inch or more in diameter at ground level that area within 20 feet of work sites; (2) avoiding all elderberry plants to the extent feasible: and (3) reporting unavoidable impacts to the elderberry shrubs to the Service for coverage under the Conservation Program. As such, effects to valley elderberry longhorn beetle from the proposed Project will not be addressed further by this biological opinion.

The Service concurs that the Project may affect, but is not likely to adversely affect vernal pool fairy shrimp or vernal pool tadpole shrimp for the following reasons: (1) the Project has been designed specifically to avoid seasonal wetlands, seasonal depressions or vernal pools in which these species may be present; (2) PG&E will prepare a Stormwater Pollution Prevention Plan to reduce or eliminate impacts to aquatic habitat in the action area by providing appropriate controls for erosion and sedimentation: and (3) environmental awareness training prior to Project initiation and conducted by a Service-approved biologist will help avoid effects to these vernal pool species or their habitat or reduce such effects to the level of insignificance.

This document represents the Service's biological opinion on the effects of the proposed Project on the federally listed endangered Stebbins' morning glory, the endangered Pine Hill ceanothus, and the threatened Layne's butterweed. The following sources of information were used to develop this biological opinion: (1) the February, 2014 Biological Assessment for the Missouri Flat-Golf Hill 115 kV Power Line Reconductoring Project; (2) the February, 2014 Rare Plant Strategy; (3) information exchanged by email between Graciela Hinshaw of BLM, Sam Donner of PG&E and Bjorn Erickson of the Service; and (4) other information available to the Service.

Consultation History

March 28, 2013:	Technical assistance meeting with PG&E, the Service, BLM, and California Department of Fish and Wildlife (CDFW) to discuss the project, its potential impacts on special-status plants, conservation measures and mitigation options, and permitting approaches.
July 8, 2013:	Technical assistance meeting with PG&E, the Service, BLM, and CDFW to discuss same.
April 14, 2014:	The Service received the consultation initiation letter and biological assessment from BLM.
August 27, 2014:	The Service sent an email to BLM and PG&E requesting information and clarification of certain issues, including the details of construction action to take place outside of Pine Hill Preserve.
September 9, 2014:	The Service received an email from PG&E responding to the Service's questions, and providing the necessary information.

BIOLOGICAL OPINION

Description of the Action

The Project involves the replacement of 60 tubular steel poles (TSPs) dispersed along the length of the Project area, the structural reinforcement or upgrade of 13 towers at the Gold Hill substation and in the City of Folsom, the replacement or addition of up to 80 wood poles needed to temporarily transfer existing electric loads to a different line during construction, the minor modification of six existing substations, and the construction of up to 29 pull sites, two helicopter landing sites, and five staging areas.

Tubular Steel Pole Replacement

Sixty existing TSPs will be removed and replaced with new TSPs within approximately 20 feet (ft) of and generally in line with the existing TSP locations. Construction materials will be delivered using line trucks and staged near existing structures. Construction vehicles will access work areas using existing paved, dirt, and/or gravel roads, with some locations requiring overland travel routes. One pole, approximately 170 ft northwest of the intersection of Finders Way and Saratoga Way in El Dorado Hills, will require construction of a new gravel road. Each TSP location will require an approximately 0.30-acre work area to accommodate foundation, new pole assembly and existing pole removal equipment and activities. Each new pole will be staged next to the pole it is replacing and assembled using a crane. A work pad will be prepared by surface blading or minor grading to create a level surface on an as-needed basis. Once TSP work areas are prepared, a line truck or boom truck with a small crane mounted on a flatbed will haul foundation forms, anchor bolts, rebar and pole structures to the locations. A concrete truck will be used to deliver and pour concrete for new TSP foundations.

New TSPs will have micropile foundations for stabilization and to minimize the amount of ground disturbance. Micropile foundations will consist of up to 12 composite piles constructed in an approximately 6-foot-diameter array. Individual composite piles will consist of an approximately 9-inch high-strength steel casing, high-strength all-thread rebar, and grout. Composite piles will be imbedded up to 30 feet belowground. Micropile foundations are generally constructed using the following steps: (1) drill multiple batter shafts approximately 6 to 8 inches in diameter with platform mounted drill rig; (2) install anchor bolts in batter shafts, grout/slurry backfill on shafts; and (3) install steel/concrete cap on micropiles. Excess construction materials will be transported to an area service center or other appropriate facility for disposal in accordance with applicable laws. Following completion of foundation installation, a line or boom truck will be used to remove the concrete forms. A backhoe will be used to place gravel around the TSP foundation after the formwork has been removed and to groom the area surrounding the pole installations.

The new TSPs will be installed by using a crane to place the TSPs on the foundations. Existing conductors will then be transferred to the new TSPs using a line truck or by hand using ropes, and the new conductor will be pulled while the existing conductors are removed. Pole installation is anticipated to occur during daylight hours and will require approximately four to five truck trips to each pole location to install new poles and remove existing poles.

To remove the existing TSPs once the conductor has been replaced, a crane will be rigged to the top of the pole, and the pole will be cut off below the bottom arms and lowered to the ground. The bottom section of the pole will be supported by the same crane and will be cut at ground level and lowered to the ground. Existing TSP foundations may be abandoned in place to minimize ground-disturbing impacts. The abandoned foundation will contain a void where the pole was removed; a cement truck will be mobilized to fill the void with slurry and the foundation will be left in place.

Once all TSPs have been replaced and existing TSPs have been removed, the existing conductors will be replaced with new conductors. During this process, the existing power line and any distribution lines that cross or are co-located on the line will be taken out of service. The existing conductor will first be detached from its support structure and temporarily lifted. Rollers will then be installed at the conductor's attachment point, and the conductor will be placed onto the rollers. The rollers will allow the individual conductors to be pulled through each structure until the conductors are ready to be pulled up to the final tension position. Installing rollers and detaching the

existing conductor typically will require one bucket truck. Crews will access each pole site by pick-up truck and/or bucket truck, using existing access roads. Crews may also need to access mid-span locations to structurally reinforce splices (joints where conductor is connected) along the existing conductor to avoid conductor breakage during pulling operations. These locations may be accessed by truck or on foot, depending on site conditions at the time of construction. Once the rollers are in place for an entire section of conductor, the existing conductor will be replaced with new conductor. A cable will be attached between the old conductor and new conductor, which will be on a reel attached to a line truck. The line truck, with a drum puller and empty conductor reel, will pull the old conductor onto the reel, where it will be collected for salvage. Reel stands mounted on a line truck at the tension site will feed new conductor along the rollers that were installed at each structure, while also maintaining tension in the line so that it does not sag to the ground. After the conductors are pulled into place, conductor sags will be adjusted to required tensions. The conductors will then be clamped to the end of each insulator as the rollers are removed. The final step in the conductor installation will be to install vibration dampers and other accessories and to replace insulators. Old conductors will be removed from sites on a line truck. Packing crates, spare bolts, and construction debris will be picked up and hauled away for recycling or disposal during and following construction.

Vegetation removal, tree trimming, and matting or plating of drainage crossings will be required for vehicle access to some TSP locations. Up to approximately 8 acres of vegetation trimming, inclusive of removing approximately 225 trees, and tree or shrub removal may be required along proposed access roads and temporary work areas to accommodate construction vehicles and equipment. Most vegetation removal, including tree removal, will be required in two primarily undeveloped sections of the project alignment that are each approximately 1 mile long, and include: (1) one section between Strolling Hills Road and Rodeo Road, where the project traverses oak woodland vegetation; and (2) one section between Palmer Drive and Shingle Springs Substation, where the project traverses multiple parcels comprised of mixed chaparral vegetation, including the Pine Hill Preserve, one parcel west of the preserve, and another parcel south of U.S. Highway 50.

Wood Pole Replacement

Approximately 80 poles will be replaced with 77 new wood or light duty steel (LDS) poles and one TSP. Replacement wood or LDS poles will be within approximately 20 ft of existing pole locations and will be direct-bury poles (not requiring a foundation), placed generally in line with the existing alignment. Site preparation is not expected to be necessary for most of the tower and pole work areas; however, some limited surface blading, grading, and filling to create a stable and level work pad may occur on an as-needed basis. Construction vehicles will access work areas using existing paved, dirt, and/or gravel roads and overland travel routes.

The first step in installing replacement wood and LDS poles will be to excavate a pole hole ranging between approximately 3 to 4 ft in diameter and approximately 7 to 10 ft in depth. Of the 80 poles that will be replaced, only four are located in sensitive habitat: two are located near streams, but will not require any in-water work, just trimming of riparian vegetation; one is located in a seasonal wetland that will be avoided to the greatest extent feasible, but that does not support water for long enough to support any listed species; and one is located in gabbroic chaparral habitat.

Minor Modifications of Six Existing Substations

Minor modifications will be made to substation equipment and facilities at Shingle Springs, Pacific Western Pipe, Limestone, Clarksville, and Gold Hill substations, and Missouri Flat Switching Station to tie the new conductor into the substations and modify existing equipment to accommodate the line upgrades. All work at the substations and the switching station will be completed within existing fence lines, and no facility expansions are proposed. Temporary lines will be installed at Shingle Springs Substation, Pacific Western Pipe Substation, the private CPM tap, and Gold Hill Substation during construction to accommodate required line outages during construction and ensure these facilities remain energized throughout construction. The temporary lines will be supported by wood poles and three-pole wood structures that will be guyed for stability and range in height from approximately 40 to 65 ft.

Construction of Pull Sites, Landing Sites and Staging Areas

Approximately 14 pull sites will be established generally in line with the existing Missouri Flat-Gold Hill Line and approximately 15 pull sites will be established generally in line with the existing Gold Hill No. 1 line. These pull sites will be used during construction to stage conductor-pulling trucks and conductor reel trucks to facilitate installing the new conductors onto the lattice steel towers, TSPs, and wood or LDS poles. Each site will have a footprint of up to approximately 2.4 ac along the Missouri Flat-Gold Hill Line and up to approximately 0.8 ac along the Gold Hill No. 1 Line. Site preparation is not expected to be necessary for the most of pull sites; however, some limited surface blading, grading, and filling to create a stable and level work pad may occur on an as-needed basis. Construction vehicles and equipment needed at the pull sites are expected to be parked or staged in the project ROW or alongside access roads.

To accommodate a helicopter, two helicopter landing zones (only one of which would be used, if necessary), with a temporary footprint of up to approximately 1 acre have been preliminarily identified— one approximately 560 ft southeast of the intersection of Montridge Way and Wilson Boulevard in an undeveloped area of El Dorado County and one on Buljan Court where the paved road terminates in the City of Folsom. Helicopter landing zones will be used to support helicopter operations (e.g., transport materials to and from the tower), as well as facilitate other project activities, including, but not limited to, staging and storing construction materials and equipment, refueling, and assembling construction materials. Ground access to helicopter landing zones will be by overland access routes or existing paved roads. No site preparation or vegetation clearance is expected to be necessary for either of the helicopter landing zones, neither of which is located near any sensitive habitats.

Temporary staging areas will serve a variety of purposes, including construction equipment and materials storage and assembly, personnel and construction trailer parking, and a meeting area for project management and work crews. The staging areas will typically be approximately 5 acres or less in size; however, the footprints will vary depending on the area available for use at the time of construction and project needs. No substantial site preparation is expected to be necessary, as these areas are primed with appropriate site conditions to serve as staging areas (i.e., they are unvegetated, easily accessible, and away from any sensitive habitats).

Conservation Measures

1. At least 15 days prior to the onset of any construction related activities, PG&E shall submit to the Service the name(s) and credentials of biologists it wishes to conduct activities in sensitive habitat specified for this Project for review and approval. Information included in a request for authorization should include, at a minimum: (1) relevant education; (2) relevant training on species identification and survey techniques; (3) a summary of field experience conducting requested activities (to include Project/research information).

2. A Service-approved biologist will develop an environmental awareness training program that is specific for the Project. All on-site construction personnel will attend the training before they begin work on the Project. Training will include a discussion of the conservation measures that are being implemented to protect biological resources as well as the terms and conditions of Project permits. Training will include information about the Act and California Endangered Species Act (CESA), and the consequences of noncompliance with these acts. Under this program, workers will be informed about the presence, life history, and habitat requirements of all special-status species that may be affected in the action area. Training also will include information on state and federal laws protecting nesting birds, wetlands, and other water resources. An educational brochure will be produced for construction crews working on the project. The brochure will include color photos of all special-status species as well as a discussion of relevant conservation measures.

3. Sensitive resource areas identified during pre-construction surveys in the action area will be clearly marked in the field and on Project maps. Sensitive resource areas will include active bird nests in specified buffer zones, special-status plants adjacent to work sites, and special-status vegetation types adjacent to work sites. Such areas will be avoided during construction to the extent practicable.

4. A Service-approved biologist will monitor construction activities in sensitive habitats previously identified by the Service-approved biologist. The Service-approved biologist will ensure implementation of and compliance with all conservation measures, and will have the authority to stop or redirect work if construction activities are likely to affect sensitive biological resources. If a federal or state listed wildlife species is encountered during construction, Project activities will cease in the area where the animal is found until the Service-approved biologist determines the animal has moved out of harm's way, or with prior authorization from the Service, relocates the animal out of harm's way, and/or takes other appropriate steps to protect the animal. Work may resume once the Service-approved biologist has determined that construction activities will not harm any wildlife species. If recommended by the Service-approved biologist, a temporary silt-fence barrier will be installed to prevent wildlife species from entering the work area(s) during Project activities. The Service-approved biologist will be responsible for any necessary reporting to the Service and/or CDFW of any capture and relocation, or inadvertent harm, entrapment or death of a listed species.

5. Trees being felled in the vicinity of a sensitive resource area exclusion zone (e.g., a riparian area) will be directionally felled away from the zone, where possible. Trees and other vegetation that are removed from the action area will be removed using equipment and access routes that avoid sensitive resource areas.

6. If a special-status annual plant species is present, any work that may impact the plant will occur after plant senescence and prior to the first significant rain, to the extent practicable.

7. Prior to the commencement of construction activities within the BLM Pine Hill Preserve, a Noxious Weed Assessment and Control Plan will be developed and implemented. The plan will assess the areas at risk for noxious weed introduction and/or spread and will identify measures to minimize introduction and spread of weeds.

8. Prior to construction on Pine Hill Preserve the location of special-status plants that will be affected by grading and excavation will be surveyed and documented, and seeds and/or rhizomes of special-status plants that may be destroyed during construction will be collected for use in restoration at the Pine Hill Preserve. Following construction, PG&E will implement the Rare Plant Strategy (described below) that specifies propagule salvage, habitat creation and enhancement, and, if necessary, propagation methods for special-status plants, as well as post-Project monitoring methods.

9. Where grading or excavation is required in gabbroic chaparral habitat, the upper 4 inches of topsoil will be stockpiled separately during grading or excavations and replaced following construction.

10. Following Project completion, locking gates will be installed at the two main roads leading into the BLM Pine Hill Preserve to limit unauthorized vehicle access that currently threatens special-status plant populations at the site.

11. To compensate for impacts to federally listed plants, PG&E will, in coordination with the Service and BLM, restore any worksite within the Pine Hill Preserve, and enhance and create habitat that is currently unsuitable due to overstory and overgrowth of senescent chaparral vegetation. It is anticipated that removing the existing overstory vegetation will enhance conditions for the early successional species that are endangered and sensitive in the area. The area of habitat enhanced or created will equal twice the area of habitat that is permanently lost as a result of the Project. Habitat will be created within the work areas and in an unoccupied, but suitable, portion of the BLM Pine Hill Preserve, and monitored and maintained as described in the Rare Plant Strategy below.

Rare Plant Strategy

Because the action area overlaps sensitive gabbroic chaparral habitat in which Stebbins' morning glory, Pine Hill ceanothus and Layne's butterweed may be found, including in the Pine Hill Reserve, PG&E will implement the Rare Plant Strategy, as described here and submitted to the Service with the consultation initiation package. The Strategy includes the following measures:

1. Prior to construction, a Service-approved biologist will conduct a survey of work areas within gabbroic chaparral habitat during the appropriate flowering season to identify, count and map the number of individuals of Stebbins' morning glory, Pine Hill ceanothus and Layne's butterweed.

2. Prior to construction, seeds and appropriate propagules will be collected from the above-ground parts of any of listed plant species within the Project area and stored in a

temperature and humidity-controlled environment until planted in areas of the Pine Hill preserve selected by BLM, in consultation with the Service if necessary.

3. Thirty percent of the collected seed will be scarified in the laboratory by boiling water, sanding or fire method and planted in appropriate media for propagation. It is expected that seeds will be grown for approximately 8-10 months until they reach the d-pot (5-inch pot) size.

4. Prior to construction, work areas in gabbroic chaparral habitat will be cleared of standing manzanita, gray pine and other shrub cover. The listed species are all considered low-growing or prostrate and would not be pruned. To avoid any unnecessary impacts to listed plants, clearing will be completed using hand tools such as chainsaws, loppers, handsaws and hand pruners. All vegetation cleared will be stockpiled. If and when BLM permits such activity, stockpiled vegetation will be burned on site to reduce fuel to ash and spread across the site. Otherwise stockpiled vegetation will be chipped and left on site.

5. Following Project completion, work areas in gabbroic chaparral habitat with disturbed earth and soil will be scarified with disk, tine harrow or similar equipment to decrease compaction and to initiate scarification of seed.

6. Following Project completion, PG&E will demarcate previously disturbed areas within 20 feet of the new poles in gabbroic chaparral habitat within the Pine Hill Preserve as likely maintenance areas not suitable for a high degree of habitat creation effort.

In the summer following Project completion, a Service-approved biologist will resurvey all work areas in gabbroic chaparral habitat during the appropriate flowering season to determine the number of previously identified, counted and mapped individuals of listed species, as well as the acreage affected by the Project. Along with creating habitat based on the acreage of habitat impacted by the Project, PG&E will compensate for the number and species of removed plants through habitat creation or propagation and planting within the Pine Hill Preserve.

1. In consultation with qualified native plant experts, the Service, and BLM, PG&E will design and implement several experimental treatments to restore rare plants within the Pine Hill Preserve. These treatments may include:

    a. Planting salvaged and propagated materials in areas within the Pine Hill Preserve identified by BLM and PG&E. The planting palette will include a design that mixes different species in a naturalistic pattern across the selected planting area.

    b. At least one experimental plot will be used to mimic the effects of fire-scarification with propane-fired hand torching. While not proven, laboratory reports have established that fire scarification of less than 79 degrees has resulted in enhanced germination for several of the rare plants. This experimental treatment would provide a temperature similar to a natural wildfire, which would serve to promote the germination of seeds in the soil. To assess the results of the experimental plot, a similarly-situated control plot, with no planting and/or artificial fire, will be monitored as well.

2. PG&E will photograph and record the habitat creation at the identified locations, documenting the number and location of plants planted, as well as the limits of various experimental treatments. The corners of treatment plots will be marked with metal stakes and washers so they can be relocated with metal detectors if necessary. GPS coordinates will be recorded at sub-meter accuracy for the record.

3. PG&E will monitor the habitat creation annually, during the appropriate flowering period, for a period of three years or until pre-Project numbers of plants are evident, up to a period of five years.

4. PG&E will work with BLM to revise treatment measures, as necessary, during the monitoring period to improve plant survival. Any treatment plot that fails to show at least 20 percent recovery or survival after one year will be considered as a location for application of one of the successful experimental treatments, which may include planting.

5. In collaboration with BLM, PG&E will prepare a final report that will document the methods and results of the habitat creation effort, and which will be submitted to the Service.

6. In the event the preserve is burned, otherwise catastrophically altered by natural events, or if an artificial alteration occurs to the Project area within the Preserve (such as large-scale grading or disturbance for another project) during the monitoring period, PG&E will be released from further monitoring.

7. It is anticipated that certain changed circumstances may arise (other than catastrophic events), which may require adaptive management measures during the initial three year period. Such changed circumstances may include low level drought, fire, or other stochastic events. If any such event occurs during the three-year monitoring period, PG&E will convene a committee representing PG&E, BLM, the Service and CDFW to identify potential alternative that may be implemented during the monitoring period, subject to Service review and approval, to improve plant survival.

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 assessment, the action area encompasses approximately 634 acres. This area is located between the community of Shingle Springs in western El Dorado County and the City of Folsom in northeastern Sacramento County, and is comprised largely of a work area 12.5 miles long and 300 feet wide, inclusive of necessary staging areas and helicopter landing areas.

Analytical Framework for the Jeopardy Analysis

In accordance with policy and regulation, the jeopardy analyses in this biological opinion rely on four components: (1) the Status of the Species, which evaluates the range-wide conditions of Stebbins' morning glory, Pine Hill ceanothus, and Layne's butterweed, the factors responsible for those conditions, and their survival and recovery needs; (2) the Environmental Baseline, which evaluates the condition of each species in the action area, the factors responsible for those conditions, and the relationship of the action area to the survival and recovery of each listed species;

(3) the Effects of the Action, which determines the direct and indirect impacts of the proposed Federal action and the effects of any interrelated or interdependent activities on Stebbins' morning glory, Pine Hill ceanothus, and Layne's butterweed; and (4) Cumulative Effects, which evaluates the effects of future, non-Federal activities in the action area on these species.

In accordance with policy and regulation, the jeopardy determinations are made by evaluating the effects of the proposed Federal action in the context of the Stebbins' morning glory's, Pine Hill ceanothus's, and Layne's butterweed's current statuses, taking into account any cumulative effects, to determine if implementation of the proposed action is likely to cause an appreciable reduction in the likelihood of both the survival and recovery of these species in the wild.

The jeopardy analyses in this biological opinion place an emphasis on consideration of the range-wide survival and recovery needs of Stebbins' morning glory, Pine Hill ceanothus, and Layne's butterweed and the role of the action area in the survival and recovery of Stebbins' morning glory, Pine Hill ceanothus, and Layne's butterweed as the context for evaluating the significance of the effects of the proposed Federal action, taken together with cumulative effects, for purposes of making the jeopardy determination.

Status of the Species

The Service listed Stebbins' morning glory and Pine Hill ceanothus as endangered, and Layne's butterweed (listed using its former name *Senecio layneae*) as threatened on October 18, 1996 (Service 1996). These three species are among a group of plants largely restricted to gabbro- or sometimes serpentine-derived soils in the foothills of the central Sierra Nevada. These soils originate from mafic (gabbro-derived) or ultramafic (serpentine-derived) rock, and often exert heavy influence over the plant communities that can live on them. Stebbins' morning glory, Pine Hill ceanothus and Layne's butterweed are primarily found in chaparral habitat within the Pine Hill intrusion, a complex of gabbroic soil that covers approximately 10,400 acres and is located in western El Dorado County, California.

Stebbins' morning glory, Pine Hill ceanothus and Layne's butterweed are threatened by a variety of factors, including loss and degradation of habitat and habitat fragmentation as a result of residential and commercial development, off-road vehicle use, road maintenance and grading, and other human activity (Service 1996). These species are also threatened by herbicide use, overgrazing practices, and competition from invasive, non-native species. In addition, these species are fire-adapted, with the chaparral habitat in which they are found experiencing 3 to 5 fires every 100 years historically (Boyd 1985 as cited in Service 1996). Such fires are important for maintaining an open canopy, promoting germination, and replenishing soil nutrients, each of which are essential for the survival and recruitment of these species. Increased human activity in the surrounding region has disrupted the natural fire regime, thereby reducing the ability of the habitat present to support populations of Stebbins' morning glory, Pine Hill ceanothus and Layne's butterweed.

In 2002, the Service published the *Recovery Plan for Gabbro Soil Plants of the Central Sierra Nevada Foothills*, which addresses Stebbins' morning glory, Pine Hill ceanothus, and Layne's butterweed, along with several other species (Service 2002). The Recovery Plan called for the protection of at least 5,000 acres of gabbro habitat that could be used for recovery. Currently, the Pine Hill Preserve serves to protect 4,746 acres of gabbro habitat, of which 3,276 acres overlap areas designated for recovery by the Recovery Plan. The Pine Hill Preserve is operated as a partnership between nine different organizations, including the BLM and the Service, and consists of five geographically separate units. These units are the Cameron Park Unit, the Pine Hill Unit, the Penny Lane Unit, the

Martel Creek Unit, and the Salmon Falls Unit. Together these areas represent the vast majority of the protected gabbro habitat in the range of the three listed species considered here.

The Service is also currently working on the Gabbro Soils Rare Plant Conservation Strategy. The Strategy, being developed in partnership with the California Department of Fish and Wildlife (CDFW), California Native Plant Society, El Dorado County, El Dorado Irrigation District, Science Applications International Corporation, BLM, U.S. Bureau of Reclamation, and the American River Conservancy, is designed to serve as guidance for the conservation and recovery of rare plants associated with gabbro soils, including Stebbins' morning glory, Pine Hill ceanothus, and Layne's butterweed.

Stebbins' Morning Glory

Stebbins' morning glory is an herbaceous perennial (persisting or living for several years with a period of growth each year) in the morning-glory family (Convolvulaceae). Its stems, which range up to 1 meter (3.3 feet) in length, generally lie flat on the ground. The leaves are palmately lobed (lobing radiating from a common point) with the two outermost lobes (major expansion or bulge) being divided again. Each plant has 7 to 9 leaf lobes that are narrow and lance-shaped, a feature that allows the species to be distinguished from other California morning-glories. White flowers are on stalks 3 to 13 centimeters (1 to 5 inches) long, bear two leaf-like bracts, and appear from May through June. The fruit is a slender capsule.

Stebbins' morning glory can sprout from a dormant seed bank or from rootstock following disturbance, and begin to flower in the year following germination or re-emergence. Prior to disappearing, the plant reestablishes a seed bank (Nosal 1997). In general, Stebbins' morning glory is shade intolerant, and will not grow beneath a closed canopy of vegetation (Baad and Hanna 1987). In a study testing several seed treatments, Nosal (1997) found that scarification or heat treatment was required for germination of Stebbins' morning glory, and that animal vectors, primarily insects in the order Hymenoptera (bees and wasps), were needed for successful seed set.

Stebbins' morning glory occurs primarily in two clusters within the Pine Hill intrusion in western El Dorado County, within which individual plants are discontinuously scattered. The species also exists within a relatively small area of Nevada County. The CNDDB lists 13 occurrences of Stebbins' morning glory, including one extirpated occurrence and three occurrences that are possibly extirpated (CNDDB 2014). Of the occurrences that are presumed extant, three are in Nevada County, while the remaining six are in El Dorado County.

Pine Hill Ceanothus

Pine Hill ceanothus is a prostrate evergreen shrub of the buckthorn family (Rhamnaceae) that generally grows to 3 meters (9.8 feet) in diameter. The smooth gray-brown branches radiate from a central axis and root when they come into contact with the ground. Its leaves are semi-erect with entire (smooth-edged) margins. Small whitish flowers tinged with blue appear from May through June. Its fruit is an inconspicuously horned, globe-shaped capsule. Pine Hill ceanothus can be differentiated from its congeners by a combination of its blue-tinged flowers, prostrate habit, and inconspicuously horned fruit.

Pine Hill ceanothus has been found to require fire to stimulate reproduction, and survival of root root sprouts has been shown to be significantly higher in burned areas compared to unburned areas (Boyd 1987). Unlike most chaparral shrub species, however, Pine Hill ceanothus does not resprout from its crown following a fire, instead depending on re-establishment from the seed bank. Once an

area is affected by fire, Pine Hill ceanothus sprouts and proliferates before the formation of overgrowth from other chaparral shrub species, as canopy shading has been shown to affect flower and fruit production (James 1996). In a study on germination, James (1996) found that seeds treated with a combination of heat and cold had a much high germination rate that those treated with either heat or cold separately, or not treated. Animal pollinators, primarily insects in the orders Hymenoptera and Diptera (flies and gnats), are required for reproductive success (James 1996).

Pine Hill ceanothus is restricted to gabbro soils and is only known to occur on the Pine Hill intrusion in western El Dorado County. The CNDDB currently lists eight occurrences of Pine Hill ceanothus (CNDDB 2014), scattered discontinuously within a localized area.

Layne's Butterweed

Layne's butterweed is a perennial herb of the aster family (Asteraceae) that sprouts from a rootstock. Its mostly basal lance-shaped leaves are 8 to 24 centimeters (3 to 10 inches) long. The several flower heads are 4 to 6 centimeters (2 to 3 inches) wide. Each flower head has 5 to 8 orange-yellow ray flowers (the flowers usually located on the edge of the inflorescence) and numerous yellow disk flowers (flowers in the center portion of an inflorescence). Layne's butterweed flowers from April to August (CNPS 2014). Observations suggest that Layne's butterweed is an early succession species that occupies temporary openings on gabbro or serpentine soils and is eliminated as vegetation grows up around it (Baad and Hanna 1987). Like many species in the sunflower family, Layne's butterweed is adapted to disturbance, but the role of fire on the species' viability is unknown (Baad and Hanna 1987; Service 2002).

Marsh (2000) studied the genetic structure of Layne's butterweed at four populations representing the species range and conducted a preliminary investigation of the breeding system. Results suggested that although most of the genetic variation was found within the populations, almost one-third of the genetic variation was found between populations (Marsh 2000). Additionally, in a pollination study, Marsh (2000) found that open pollinated flower heads had an 8-fold increase in potentially viable seeds over flower heads where the pollinators had been excluded, indicating that the predominant breeding system for Layne's butterweed is outcrossing (Marsh 2000).

Layne's butterweed is predominantly found on in chaparral plant communities on gabbro and serpentine soils in western El Dorado County, California. Layne's butterweed is also known to occur in scattered locations in Butte, Placer, Yuba, and Tuolumne Counties. The CNDDB lists 48 occurrences of Layne's butterweed, two of which are possibly extirpated. Of the presumed extant occurrences, there are one each in Placer and Butte Counties, six each in Yuba and Tuolumne Counties, with the remaining 32 in El Dorado County (CNDDB 2014).

Environmental Baseline

The action area lies in the foothills of the Sierra Nevada and ranges from approximately 350 feet to approximately 1,500 feet in elevation. Almost half the action area is currently developed for residential or commercial uses, while 30 percent is annual non-native grassland and the remaining 25 percent is comprised of blue oak woodland, chaparral, seasonal wetlands, and riparian vegetation. The section of the Project that will be specifically authorized by the BLM permit lies towards the eastern end of the Project area, within the Cameron Park Unit of the Pine Hill Preserve in an area approximately 2,076 feet long and 220 feet wide (11 acres). This area is undeveloped, with vegetation classified as gabbroic chaparral and dominated by sticky white manzanita, western redbud, chamise and Pine Hill ceanothus.

As a result of residential and commercial development in the surrounding area, fire is not often used as a management tool in the action area. As such, the benefits of a natural fire regime for germination and in creating an open canopy are not present, which represents a direct threat to the survival and reproduction of Stebbins' morning glory, Pine Hill ceanothus and Layne's butterweed in the action area. In addition, residential and commercial development continues to threaten these species where they occur in the action area outside of the Pine Hill Preserve. Within the Preserve, unauthorized vehicle traffic and competition from invasive, non-native species currently threaten all three species within the action area.

Surveys for Stebbins' morning glory, Pine Hill ceanothus, and Layne's butterweed were performed in the action area in both 2012 and 2013. All three species are found in an area that is approximately 0.75-mile long near the eastern end of the Project, and includes the Pine Hill Preserve and habitat immediately adjacent to the west and south. The approximate numbers of individuals of each species detected are presented in Table 1 below. In addition to above-ground individuals, all three species are likely to be represented in below-ground rootstock or seed bank in areas with suitable habitat, although this presence has not been quantified.

Table 1. Approximate numbers of individual plants detected during surveys conducted in 2012 and 2013. All such occurrences are either inside the Cameron Park Unit of the Pine Hill Preserve or on lands immediately adjacent to the west and south.

	Approximate number of individuals			
Species	Within Preserve	Outside Preserve	Total	Within work site[1]
Stebbins' morning glory	35	18	53	23
Pine Hill ceanothus	16	38	54	11
Layne's butterweed	56	13	69	34

[1] The term "work site" here includes work and staging areas for all construction as well as any access roads. These work sites are located both inside and outside the Preserve.

Effects of the Action

Stebbins' Morning Glory, Pine Hill Ceanothus and Layne's Butterweed

Most individuals of the three listed plant species that occur in the action area will be avoided by Project activities. Complete avoidance of listed plants is not possible, however, so the Project will result in direct impacts to individuals of all three species. All individual plants within the approximately 0.02 acre that will be used for new TSP foundations will be removed and may be damaged or destroyed. The area used for new foundations will also be permanently lost as habitat. Additional plants may be damaged or destroyed by vegetation trimming, vehicle or foot traffic, and staging and operation of construction equipment in sensitive habitat. Equipment traffic and staging may also result in soil compaction in certain areas that may reduce habitat quality for the listed plants. The total area of these temporary impacts in listed species habitat is expected to be approximately 2 acres. Exact locations and areas of each of these impacts, both permanent and temporary, and the number and species of individual plants that will be affected, will be determined prior to construction initiation.

Although the Project will result in adverse effects to individuals of the listed species, there are also likely to be beneficial effects. The Project will result in the removal of non-native vegetation, and reduction in overstory and shrub cover, both of which will create more favorable conditions for the

growth of the listed plants. In addition, construction activities in those areas that are temporarily impacted may result in some degree of scarification that, while not replicating the effects of fire, may promote germination and growth in the listed plants to some degree. Lastly, the Project will result in the installation of locking gates at the two main roads into the Pine Hill Preserve. These gates will prevent unauthorized vehicle access that occurs currently and results in trash dumping, soil compaction, the introduction and spread of non-native species, and the damage and destruction of listed plants.

Through the implementation of the Rare Plant Strategy, the Project will include habitat creation of an area twice as large as that which is permanently lost as a result of the Project. The Project will also ensure that the number of individuals plants of Stebbins' morning glory, Pine Hill ceanothus and Layne's butterweed be restored to pre-Project levels. As a result, there will be the same number of above-ground plants of each of the listed species upon Project completion as were present prior to the Project, and there will be an increase in the area of suitable, open habitat within the Pine Hill Preserve. This habitat, managed by BLM as part of the larger Pine Hill Preserve, will receive increased protection relative to current conditions due to the installation of locking gates on the two main roads.

Cumulative Effects

Cumulative effects include the effects of future State, Tribal, local, or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed Missouri Flat-Gold Hill Reconductoring Project are not considered in this section; they require separate consultation pursuant to Section 7 of the Act. Although there are a number of projects, including residential development and utility work, in areas adjacent to the Project's action area, the Service is not aware of specific projects that might affect Stebbins' morning glory, Pine Hill ceanothus or Layne's butterweed in the action area that are currently under review by State, county, or local authorities.

Conclusion

After reviewing the current status of Stebbins' morning glory, Pine Hill ceanothus, and Layne's butterweed, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects on these species, it is the Service's biological opinion that the proposed Missouri Flat-Gold Hill Reconductoring Project, as described herein, is not likely to jeopardize the continued existence of these species. We base this conclusion on the following: (1) a pre-construction survey by a Service-approved biologist will provide information about the location and number of individuals of these species likely to be impacted by the Project; (2) individual plants will be avoided to the extent feasible; (3) environmental awareness training of all Project personnel will help minimize negative effects to these species; (4) only a small area (approximately 0.02 acre) of suitable habitat will be permanently lost, for which the Project will compensate by creating habitat at a ratio of 2:1; (5) implementation of the Rare Plant Strategy will ensure that the Project does not result in a loss of individual above-ground plants relative to pre-Project conditions; (6) the installation of locking gates on the two main roads into the Pine Hill Preserve will limit unauthorized vehicle traffic which currently damages and destroys listed plants and habitat; (7) the Service does not anticipate population-level impacts to any of the three listed species as a result of the Project.

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)).

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information. The Service recommends the following actions:

1. Conduct or fund research of reproduction and population characteristics of Stebbins' morning glory, Pine Hill ceanothus, and Layne's butterweed. Important issues include genetic diversity and divergence of populations, and appropriate levels and types of disturbance needed to facilitate survival and recruitment.

2. Conduct or fund research into effective restoration and management of gabbro habitat and gabbro-restricted species.

3. Complete the Gabbro Soils Rare Plants Conservation Strategy

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

REINITIATION—CLOSING STATEMENT

This concludes formal consultation on the Missouri Flat-Gold Hill Reconductoring Project. As provided in 50 CFR §402.16, reinitiation 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 not considered in this 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 biological opinion on the proposed Missouri Flat-Gold Hill Reconductoring Project please do not hesitate to contact Bjorn Erickson, Biologist, or Ryan Olah, Coast Bay Division Chief, at the letterhead address, electronic mail (Peter_Erickson@fws.gov; Ryan_Olah@fws.gov), or at telephone (916) 414-6600.

cc: Jennifer D. Nguyen, Senior Environmental Scientist Supervisor, CDFW

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