6. Mitigation Monitoring Plan

Pacific Gas and Electric (PG&E) proposes to construct and operate the Windsor Substation Project ("proposed project"). An Initial Study was prepared to assess the proposed project's potential environmental effects. The Initial Study was prepared based on information in the Proponent's Environmental Assessment (PEA), project site visits, and supplemental research. The majority of the proposed project's impacts would occur during project construction. Within PG&E's application, Applicant Proposed Measures (APMs) were proposed to reduce potentially significant adverse impacts related to project construction and operation.

The purpose of this Mitigation Monitoring Plan is to ensure effective implementation of each APM, as well as the mitigation measures identified by the Initial Study and imposed by the CPUC as part of project approval. This Mitigation Monitoring Plan includes:

- The Applicant Proposed Measures and mitigation measures that PG&E must implement as part of the Proposed project;
- The actions required to implement these measures;
- The monitoring requirements; and
- The timing of implementation for each measure.

The CPUC will use this MMP as the framework for a Mitigation Monitoring, Compliance, and Reporting Program (MMCRP). The MMCRP will be created by the CPUC to formalize protocols to be followed prior to and during construction by CPUC third-party environmental monitors (CPUC EMs) and PG&E project staff. The MMCRP will include, but will not be limited to, the following topics:

- Agency Jurisdiction
- Roles/ Responsibilities
- Communication
- Compliance Verification and Reporting
- Project Changes
- A CPUC-designated environmental monitor will carry out all construction field monitoring to ensure full implementation of all measures. In all instances where non-compliance occurs, the CPUC's designated environmental monitor will issue a warning to the construction foreman and PG&E's project manager. Continued non-compliance shall be reported to the CPUC's designated project manager. Any decisions to halt work due to non-compliance will be made by the CPUC. The CPUC's designated environmental monitor will keep a record of any incidents of non-compliance with mitigation measures, APM, or other conditions of project approval. Copies of these documents shall be supplied to PG&E and the CPUC.

Final language of the MMCRP will be developed in consultation with PG&E. Drafted language for the project variance and dispute resolution protocols are provided below.

6.1 Minor Project Changes or Variances

The CPUC Project Manager along with the CPUC Monitoring Team will ensure that any process to consider minor project changes that may be necessary due to final engineering or variances or deviations from the procedures identified under the monitoring program are consistent with CEQA requirements.

No minor project changes or variances will be approved by the CPUC if they are located outside of the geographic boundary of the project study area or create new or substantially more severe significant impacts. A variance should be strictly limited to minor project changes that will not trigger other permit requirements unless the appropriate agency has approved the change, that does not increase the severity of an impact or create a new impact without appropriate agency approval, and that clearly and strictly complies with the intent of the mitigation measure or applicable law or policy. PG&E shall seek any other project refinements by a petition to modify.

A proposed project change that has the potential for creating significant environmental effects will be evaluated to determine whether a petition to modify and/or supplemental California Environmental Quality Act (CEQA) review is required. Any proposed deviation from the approved project, adopted mitigation measures, APMs, and correction of such deviation, will be reported immediately to the CPUC Monitoring Project Director and Project Manager for their review. The CPUC Monitoring Project Director and Project Manager will review the variance request to ensure that all of the information required to process the minor project change is included, and then forward the request to the CPUC Project Manager for review and approval. The CPUC Project Manager may request a site visit from the CPUC Environmental Monitor (EM), or may need additional information to process the variance. In some cases, project refinements may also require approval by jurisdictional agencies. In general, a minor project change request must include the information listed below.

- Detailed description of the location, including maps, photos, and/or other supporting documents;
- How the variance request deviates from a project requirement;
- Biological resource surveys or verification that no biological resources would be significantly impacted;
- Cultural resource surveys or verification that no cultural resources would be significantly impacted; and
- Agency approval (if necessary).

6.2 Dispute Resolution

The Mitigation Monitoring Plan is intended to reduce or eliminate many potential disputes. However, even with the best preparation, disputes may occur. Issues should be first addressed at the field level informally between the CPUC EMs and PG&E's EMs at the regular progress meetings. Questions may be raised to the PG&E Project Environmental Manager or PG&E Project Construction Manager. Should the issue persist or not be resolved at these levels, the following procedures will be used:

- **Step 1.** Disputes unresolved in the field and complaints (including those from the public) should be directed to the CPUC Project Manager for resolution. The Project Manager will attempt to resolve the dispute informally. Should this informal process fail, the CPUC Project Manager will inform PG&E prior to initiating Step 2.
- **Step 2.** Should this informal process in the field fail, the CPUC Project Manager may issue a formal letter requiring corrective actions to address the unresolved or persistent deviations from the proposed project or adopted MMP.
- **Step 3.** If a dispute or complaint regarding implementation or evaluation of the Program or mitigation measures cannot be resolved informally or through a letter request, 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 to resolve the dispute. The Executive Director shall issue an Executive Resolution describing his/her decision, and serve it to the filer and other affected participants.

- **Step 4.** If one or more of the affected parties is not satisfied with the decision as described in the Resolution, such party(ies) may appeal it to the Commission via a procedure to be specified by the Commission.

Parties may also seek review by the Commission through existing procedures specified in the CPUC Rules of Practice and Procedure for formal and expedited dispute resolution, although a good faith effort should first be made to use the foregoing procedure.

Table 6-1. Mitigation Monitoring Plan

Impact	Applicant Proposed Measure (APM) or Mitigation Measure	Monitoring Requirement	Timing of Action
	Aesthetics		
Existing Visual Character	APM AE-1: Additional landscaping comprised of trees and shrubs will be included along Herb Road and along the east edge of the substation site in the setback area from Old Redwood Highway to provide additional screening and reduce project visibility. Suggested plant material includes a mix of redwood trees and evergreen native oaks with a small number of deciduous accent trees. Landscaping under transmission lines will consist of small trees and/or shrubs to allow for overhead clearance. All planting will be consistent with PG&E operational requirements for landscaping in proximity to electric transmission facilities.	Review landscape plan and ensure establishment of vegetation screening	Prior to construction, during construction, and during operation
	Air Quality		
Particulate Matter Emissions and Dust	APM AQ-1. Water all active construction areas at least twice daily during dry conditions.	Monitor watering of construction areas	During construction
Particulate Matter Emissions and Dust	APM AQ-2. Cover all trucks hauling dirt, sand, or loose materials, or require all trucks to maintain at least two feet of freeboard.	Monitor appropriate handling of dirt, sand, and loose materials by trucks	During construction
Particulate Matter Emissions and Dust	APM AQ-3. Pave, apply water as necessary to prevent fugitive dust, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas and staging areas at construction sites.	Monitor appropriate dust suppression	During construction
Particulate Matter Emissions and Dust	APM AQ-4. Sweep daily (with water sweepers) all paved access roads, parking areas and staging areas at construction sites if visible soil material is present.	Monitor sweeping of paved areas and staging areas	During construction
Particulate Matter Emissions and Dust	APM AQ-5. Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets.	Monitor street sweeping as appropriate	During construction
Construction Phase Air Quality	APM AQ-6. Encourage construction workers to carpool to the job site to the extent feasible. The ability to develop an effective carpool program for the project will depend upon the proximity of carpool facilities to the area, the geographical commute departure points of construction workers, and the extent to which carpooling will not adversely affect worker arrival time and the project's construction schedule.	Review efforts to encourage carpooling	During construction
Construction Phase Air Quality	APM AQ-7. Minimize construction equipment exhaust by using low-emission 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, or shall meet at a minimum USEPA/CARB Tier 1 engine standards.	Review efforts to use low-emission construction equipment	During construction

Table 6-1. Mitigation Monitoring Plan

Impact	Applicant Proposed Measure (APM) or Mitigation Measure	Monitoring Requirement	Timing of Action
Construction Phase Air Quality	**APM AQ-8.** Minimize unnecessary idling time – less than the 5-minute maximum idling required by law – through application of a "common sense" approach to vehicle use. If a vehicle is not required immediately or continuously for construction activities, its engine will be shut off.	Monitor compliance with idling requirements	During construction
Construction Phase Air Quality/ Greenhouse Gas	**APM AQ-9.** Encourage use of natural gas powered vehicles for passenger cars and light duty trucks where feasible and available.	Review any efforts to use natural gas vehicles or light duty trucks	During construction
Construction Phase Air Quality/ Greenhouse Gas	**APM AQ-10.** Minimize welding and cutting by using compression of mechanical applications where practical and within standards.	Ensure emissions from construction equipment exhaust are reduced	During construction
Construction Phase Air Quality/ Greenhouse Gas	**APM AQ-11.** Encourage the recycling of construction waste where feasible.	Review efforts to recycle construction waste	During construction
Construction Phase Air Quality/ Greenhouse Gas	**APM AQ-12.** Comply with California Air Resources Board Early Action Measures as these policies become effective.	Monitor compliance with current and future CARB policies	During construction and operations
Operation and Maintenance Phase Air Quality/Greenhouse Gas	**APM AQ-13.** Maintain substation breakers in accordance with PG&E's maintenance guidelines.	Ensure that operational emissions and greenhouse gas are minimized	During operations
Operation and Maintenance Phase Air Quality/Greenhouse Gas	**APM AQ-14.** Require that the proposed substation's breakers have a manufacturer's guaranteed leakage rate of 0.5 percent per year or less for SF6.	Ensure potential for SF_6 leaks is minimized according to a leak reduction standard that would be consistent with the CARB Climate Change Scoping Plan	Prior to construction and during operation

Table 6-1. Mitigation Monitoring Plan

Impact	Applicant Proposed Measure (APM) or Mitigation Measure	Monitoring Requirement	Timing of Action
Construction-Phase Air Quality	**MM AQ-1.** Implement measures to control dust and equipment exhaust during construction. PG&E shall implement measures to control dust and vehicle exhaust during construction of the proposed substation. These measures shall incorporate Applicant Proposed Measures AQ-1 through AQ-12 and additionally shall include the following: ■ Limit the speeds of construction vehicles on unpaved surfaces to 15 miles per hour. ■ Limit size of area subject to excavation, grading, or other construction disturbance at any one time to avoid excessive dust; paving shall occur as soon as possible after grading. ■ Provide BAAQMD phone number in a visible location. Post a publicly visible sign with the telephone number and person to contact at PG&E regarding dust complaints. This person shall respond and take corrective action within 48 hours. PG&E shall report to the CPUC within 1 week regarding complaints and corrective action taken. ■ Construction equipment will be properly maintained. All offroad construction diesel engines not registered under the CARB Statewide Portable Equipment Registration Program will meet at a minimum the Tier 1 California Emission Standards for Off-Road Compression-Ignition Engines as specified in California Code of Regulations (CCR) Title 13, Chapter 9, Sec. 2423(b)(1).	Ensure implementation so that construction emissions, dust, and greenhouse gas are minimized	During construction
	Biological Resources		
Construction Phase Biological Resource Impacts	**APM BIO-1.** An ongoing special-status species/sensitive habitat education program for construction crews will be conducted by a qualified biologist(s) prior to the commencement of the project and during construction activities. Sessions will include discussion of the Federal Endangered Species Act (FESA) and California Endangered Species Act (CESA), the consequences of noncompliance with these acts, identification and values of habitats, and the importance of keeping all project activities and sediments within the designated work area.	Review environmental training materials, review documentation of environmental training	Prior to and during construction
Soil and Vegetation	**APM BIO-2.** Soil and vegetation disturbance will be minimized to the greatest extent possible.	Ensure implementation to minimize impacts to biological resources	Prior to and during construction
Construction Phase Biological Resource Impacts	**APM BIO-3.** An educational brochure will be produced for construction crews working on the project. Color photos of some of the special-status species will be included, as well as a discussion of protective measures agreed to by PG&E and the resource agencies.	Review environmental training materials	Prior to and during construction
Special Status Species	**APM BIO-4.** A pre-construction wildlife and plant survey will be conducted prior to the start of construction activities to identify any special-status species in the proposed substation site, Fulton No. 1 60 kV power line and distribution line alignment, nesting birds or mammals, and occupied burrows. Should a sensitive wildlife or plant species be found, CDFW and/or USFWS will be contacted immediately.	Ensure implementation to reduce impacts to biological resources (supplemented by MM B-1, MM B-3, MM B-4, and MM B-5)	Prior to and during construction

Table 6-1. Mitigation Monitoring Plan

Impact	Applicant Proposed Measure (APM) or Mitigation Measure	Monitoring Requirement	Timing of Action
Construction Phase Biological Resource Impacts	**APM BIO-5.** A biological monitor will be on-site during grading activities and installation of the silt fence around the proposed substation site perimeter and needed areas along the distribution line alignment. After these activities are completed, the biological monitor will visit the site once a week. The biologist will complete a weekly report summarizing activities and environmental compliance.	Ensure implementation of monitoring to reduce impacts to biological resources	During construction (including silt fence installation and grading)
Construction Phase Biological Resource Impacts	**APM BIO-6.** Trash dumping, firearms, and pets will be prohibited in project work areas.	Ensure implementation to reduce impacts to biological resources	During construction
Special Status Plant Species	**APM BIO-7.** ~~If special-status plant species are found during any of the special-status plant surveys, PG&E will modify the project to avoid impacts to special-status plant species. If identified special-status plant species cannot be avoided, PG&E will:~~ ~~▪ acquire suitable habitat for identified species within the project site.~~ ~~▪ develop a long-term habitat enhancement plan for identified species, and/or~~ ~~▪ monitor the implementation of and the compliance with mitigation measures outlined in the habitat enhancement plan.~~ If special-status plant species are found during any of the special-status plant surveys, PG&E will modify the project to avoid impacts to special-status plant species. If identified special-status plant species cannot be avoided, PG&E will consult with the appropriate resource agency and comply with permit conditions to ensure that the project will not have a substantial adverse effect on such species, either directly or through habitat modification. Examples of feasible measures that could be required include the following: ▪ acquire suitable habitat for identified species within the project site. ▪ develop a long-term habitat enhancement plan for identified species, and/or ▪ monitor the implementation of and the compliance with mitigation measures outlined in the habitat enhancement plan.	Ensure implementation to reduce impacts to special-status plants (supplemented by MM B-2)	Prior to and during construction
Sensitive Habitat	**APM BIO-8.** Mobile equipment will not be parked overnight within 100 feet of aquatic habitat. Stationary equipment (e.g., pumps and generators) used or stored within 100 feet of aquatic habitat will be positioned over secondary containment.	Ensure implementation to prevent impacts to aquatic habitat	During construction
Raptors	**APM BIO-9.** Anti-perch devices will be applied to the overhead distribution line improvements to inhibit raptor perching and nesting.	Ensure implementation to inhibit raptor perching and nesting	During construction

Table 6-1. Mitigation Monitoring Plan

Impact	Applicant Proposed Measure (APM) or Mitigation Measure	Monitoring Requirement	Timing of Action
Burrowing Owls	**APM BIO-10:** A qualified wildlife biologist shall conduct pre-construction surveys for burrowing owls according to the Burrowing Owl Survey Protocol and Mitigation Guidelines developed by The California Burrowing Owl Consortium (1993). If any ground disturbing activities are planned during the burrowing owl nesting season (approximately February 1 through August 31), avoidance measures shall be implemented following the recommendations in California Department of Fish and Game's Staff Report on Burrowing Owl Mitigation (CDFW, 2012). Avoidance measures shall include a no construction buffer zone of a minimum distance of 656 feet for designated low/medium disturbance activities and 1,640 feet for high disturbance activities. If occupied burrows are closer than those distances to the nearest work site, the specified buffer size may be reduced on a case-by-case basis if, based on compelling biological or ecological reasoning (e.g. the biology of the bird species, concealment of the nest site by topography, land use type, vegetation, and level of project activity) and as determined by a qualified wildlife biologist, that implementation of a specified smaller buffer distance will still avoid project-related "take" of adults, juveniles, chicks, or eggs. Any variance from the standard buffers must be submitted to CDFW in a written report that includes the location, reason for the buffer reduction, the name and contact information of the qualified wildlife biologist(s) who authorized the buffer reduction and conducted subsequent monitoring, the reduced avoidance buffer size, duration of buffer reduction, and outcome to the nest, egg, young and adults. The report should be submitted to CDFW at the end of each nesting season for the duration of the project. The owls will be monitored on a daily basis by a qualified biologist when construction is within the buffer zone during the entire nesting season unless the qualified wildlife biologist has determined that the young have fledged, are no longer dependent upon parental care, or construction ends (whichever occurs first). If the nesting owls show signs of distress within a reduced buffer zone, and that stress is related to construction activities, the qualified wildlife biologist reinstate will the recommended buffers. The recommended buffers will only be reduced after the qualified biologist has determined that the nesting owls are no longer exhibiting signs of stress. Reporting regarding reduction of buffers will be documented in a written report and will follow the procedure described above.	Ensure implementation of surveys and monitoring (if necessary) for burrowing owls	Prior to and during construction
Badgers	**APM BIO-11.** Badger dens will be clearly demarcated with appropriate flagging and signs and avoided if possible.	Ensure badger dens are demarcated	Prior to and during construction
Badgers	**APM BIO-12.** If a badger den cannot be avoided, CDFW will be consulted to discuss the possible relocation of the badger.	Implement CDFW recommendations if necessary	Prior to and during construction
Native and Invasive Species	**APM BIO-13.** The introduction of noxious weeds carried in with construction equipment will be minimized by ensuring the equipment is clean before it is arrives at the proposed substation site, Fulton No. 1 60 kV power line and distribution line alignment. In addition, only weed-free erosion control materials will be used on the project.	Monitor implementation of this measure to minimize introduction of noxious weeds	During construction
Native and Invasive Species	**APM BIO-14.** Native seed mix will be used when restoring areas of grassland, oak woodland and wetland.	Review use of native seed mix	During construction

Table 6-1. Mitigation Monitoring Plan

Impact	Applicant Proposed Measure (APM) or Mitigation Measure	Monitoring Requirement	Timing of Action
Special Status Plant Species	**APM BIO-15:** The valley oaks and oak woodlands will be denoted as environmentally sensitive and will be avoided to the extent practical. If any protected oak trees are removed, they will be replaced or compensated for in a manner that is consistent with the provisions in the Town of Windsor's Ordinance for Tree Mitigation.	Ensure implementation to reduce impacts on oaks	During construction
Construction Phase Biological Resources Impacts	**MM B-1. Conduct environmental training, pre-construction surveys, and biological resources monitoring.** As described in APM BIO-1, ongoing special-status species/sensitive habitat education program for construction crews will be conducted by a qualified biologist (approved by CPUC) prior to the commencement of the project and during construction activities. Sessions will include discussion of the Federal Endangered Species Act (FESA) and California Endangered Species Act (CESA), the consequences of noncompliance with these acts, identification and values of habitats, and the importance of keeping all project activities and sediments within the designated work area. These requirements are supplemented by the following: training shall also address California Species of Special Concern and brochures addressing all potentially affected special-status species shall be provided to all crew members (in multiple languages if appropriate). As described in APM BIO-4, pre-construction surveys for special-status species shall be conducted prior to the start of construction. These requirements are supplemented by the following: pre-construction surveys shall be conducted by a qualified biologist (approved by CPUC) within 7 days of construction activities. If special-status species are found, CDFW, USFWS, and the CPUC shall be notified within 24 hours and consulted, as appropriate, to confirm appropriate avoidance measures . Project construction (in area where a special-status species is found) shall not begin until the qualified biologist determines that the required or appropriate avoidance, minimization, and mitigation measures have been implemented. As described in APM BIO-5, a biological monitor shall be present during grading activities and installation of the silt fence around the proposed substation site perimeter and needed areas along the distribution line alignment. The monitor will complete daily reports summarizing construction activities and environmental compliance. These requirements are supplemented by the following: monitoring shall be conducted by a qualified biologist (approved by CPUC). Daily biological monitoring shall be required during all construction activities near sensitive resources, including special-status species, wetlands, vernal pools, and oak woodlands. If appropriate (based on the phase and location of construction activities), PG&E may request that the CPUC allow less frequent monitoring.	Review training materials, ensure all workers are trained	Prior to and during construction
Special Status Plants, Wetlands, and Vernal Pools	**MM B-2. Preserve special-status plants, wetlands and vernal pools.** Special-status plants identified in the survey area were all located within vernal pools. The following avoidance and minimization measures will be used to protect both listed special-status plants and to avoid impacts to wetlands and vernal pools: ■ Design project and construction activities to avoid impacts to wetlands and water features to the extent feasible.	Ensure implementation to minimize impacts on special status plants, vernal pools, and wetlands. Review compensatory mitigation if necessary.	Prior to construction and during construction

Table 6-1. Mitigation Monitoring Plan

Impact	Applicant Proposed Measure (APM) or Mitigation Measure	Monitoring Requirement	Timing of Action

- Prior to the onset of construction activities, a qualified biologist (approved by the CPUC) shall delineate any wetland or water features within the right of way as environmentally sensitive areas using clear markers. Construction crews shall be provided with maps of environmentally sensitive areas.
- PG&E shall employ best management practices to avoid wetland impacts. These BMPs may include using padding or vehicles with balloon tires or other protective measures if temporary access roads or other construction activities occur in wetland areas.
- There are three pole replacement locations that are located near vernal pool habitat (*see Biological Resources Figure, map set – poles a7, a8 and a10)*. The following additional avoidance measures will be used in these particular locations and in any additional areas where work is required in or adjacent to a vernal pool:
  - Any project activities at these locations shall only take place between June 15 and September 30, after a qualified biologist (approved by CPUC) determines that vernal pools are dry and special-status plant species have completed their entire lifecycle for the year (i.e., seeds have set).
  - A qualified biologist (approved by the CPUC) shall be present during construction activities within the vicinity of these three locations. The biologist shall ensure that fencing remains intact and that construction activities do not affect the delineated vernal pool areas.
  - In the event that it is infeasible to completely avoid a vernal pool, and any associated listed plant species, PG&E will use the following additional avoidance measures: (1) No construction equipment will enter the vernal pool; and (2) Tarps will be placed over the vernal pool to ensure that no excavated soil mixes with the vernal pool vegetation and soils when the pole is removed.
  - The following additional avoidance measures will be used at one pole replacement (*see Biological Resources Figure, map set – pole a10*), which is located adjacent to a vernal pool: (1) The exposed hole from the removed pole will be filled with a clay material that supports vernal pool re-establishment; and (2) The new pole will be installed as far outside of the vernal pool as feasible.

Compensatory mitigation for special-status plants. If impacts to listed plants cannot be avoided, PG&E shall work with CFDW and USFWS to ensure that the impact is fully mitigated with compensation measures that are consistent with the Santa Rosa Plain Conservation Strategy, as applicable; these measures may include: habitat acquisition and long-term habitat enhancement, purchase of mitigation credits at mitigation banks approved by CDFW and USFWS to mitigate for the plant species impacted. Any necessary mitigation strategy will include adequate funding to ensure long-term management and monitoring.

Compensatory mitigation for vernal pools. If impacts to wetlands and vernal pools cannot be completely avoided, PG&E will consult with the appropriate agencies to ensure that there is no net loss of wetlands or vernal pools. In consultation with the appropriate resource agencies, PG&E may take the following actions to ensure the no net loss of wetlands or

Table 6-1. Mitigation Monitoring Plan

Impact	Applicant Proposed Measure (APM) or Mitigation Measure	Monitoring Requirement	Timing of Action
	vernal pools, including (1) purchase of mitigation credits in an agency-approved wetlands mitigation bank with a service area that includes the project site, or (2) creation of wetlands according to an agency-approved plan. Any created wetlands shall emulate wetlands affected by the project. Any wetland preserve established on or offsite shall be permanently protected through fee title transfer to a qualified agency or conservation organization, through recordation of a conservation easement deed over the protected property, or some similar deed restriction. Prior to any ground disturbance, a wetland creation and preservation plan shall be approved by the applicable resource agencies.		
Nesting Birds	**MM B-3. Identify and relocate northwestern pond turtles.** If northwestern pond turtles are found near any proposed construction areas, impacts to individuals and their habitat shall be avoided to the extent feasible. To avoid impacts to occupied habitat, an exclusion zone shall be established around the habitat and temporary plastic fencing shall be installed around the buffer area with "Sensitive Habitat Area" signs posted and clearly visible on the outside of the fence. If avoidance is not possible and the species is determined to be present in work areas, the biologist (approved by the CPUC) shall capture turtles prior to construction activities and relocate them to nearby, suitable habitat (the closest water body) out of harm's way (e.g., upstream or downstream from the work area). PG&E shall consult with CDFW regarding any required relocation of western pond turtles. If deemed necessary by the on-site biological monitor, exclusion fencing shall be installed to prevent turtles from re-entering the work area. For the duration of work in these areas the biologist should conduct regular follow-up visits (at least once per week) to monitor effectiveness and take appropriate corrective action if protection measures are not adequate. Milestones and Monitoring. Preconstruction surveys shall be conducted by qualified biologist (approved by CPUC) before ground disturbance. Any exclusion fencing that is installed to prevent western pond turtles from entering the work areas will be inspected by the on-site biological monitor to maintain the integrity of the fence. Monitoring of habitat and exclusion fencing shall be conducted by a qualified biological monitor during construction activities as necessary.	Ensure implementation to protect northwestern pond turtles	Prior to construction and during construction
Wetlands	**MM B-4. Protect nesting birds.** If construction activities occur during the avian nesting season (February 1 through September 15), a preconstruction survey for nesting birds (including raptors) shall be conducted by a qualified wildlife biologist (approved by the CPUC) 7 days or less before the start of vegetation removal or trimming and ground-disturbing construction activities, and prior to the start or re-start of construction in any new work area. If there is no work in an area for 7 days, it will be considered a new work area if construction or vegetation trimming or removal begins again. At least 10 days before construction activities begin during nesting season, PG&E shall confer with CPUC and CDFW on nesting bird survey methodology. Survey will be submitted to CPUC for record keeping. No additional measures will be implemented if active nests are more than the following distances from the nearest work site: (a) 500 feet for raptors, or (b) 250 feet for passerine	Ensure implementation of surveys and buffers to protect nesting birds	Prior to and during construction

Table 6-1. Mitigation Monitoring Plan

Impact	Applicant Proposed Measure (APM) or Mitigation Measure	Monitoring Requirement	Timing of Action
	birds. Buffers shall not apply to construction-related traffic using existing roads that is not limited to project-specific use (i.e., county roads, highways, farm roads, etc.). All references in this mitigation measure to wildlife biologists refer to qualified biologists approved by the CPUC; these biologists may be PG&E employees or subcontractors. References to independent avian biologists refer to qualified avian biologists approved by the CPUC who report directly to CPUC. ***Buffer reduction.*** The specified buffer sizes for birds may be reduced on a case-by-case basis if, based on compelling biological or ecological reasoning (e.g. the biology of the bird species, concealment of the nest site by topography, land use type, vegetation, and level of project activity) and as determined by a qualified wildlife biologist that implementation of a specified smaller buffer distance will still avoid project-related "take" (as defined by Fish and Game Code Section 86). Requests to reduce standard buffers must be submitted to the independent avian biologist(s) to be reviewed in coordination with the California Department of Fish and Wildlife (CDFW). Requests to reduce buffers must include: the species, location, size and expected duration of proposed buffer reduction, reason for the buffer reduction, the name and contact information of the qualified wildlife biologist(s) who request the buffer reduction and will conduct subsequent monitoring. The independent avian biologist shall respond to PG&E's request for a buffer reduction within 24 hours. Non-special status species found building nests within the standard buffer zone *after specific project activities begin*, shall be assumed tolerant of that specific project activity and such nests will be protected by the maximum buffer practicable (as determined by the qualified biologist). However, these nests shall be monitored on a daily basis by a qualified biologist until the qualified biologist has determined that the young have fledged, are no longer dependent upon parental care, or construction ends within the buffer zone (whichever occurs first). If the qualified biologist determines that the nesting bird(s) are not tolerant of project activity, the standard buffer shall be implemented. As appropriate, exclusion techniques may be used for any construction equipment that is left unattended for more than 24 hours to reduce the possibility of birds nesting in the construction equipment. If nesting birds show signs of distress within a reduced buffer zone and that stress appears to be related to construction activities, the qualified wildlife biologist shall reinstate the recommended buffers. The recommended buffers may only be reduced again following the same process as identified above after the qualified biologist has determined that the nesting birds are no longer exhibiting signs of stress. Reporting regarding reduction of buffers will be documented in the monthly report. ***Listed and Fully Protected Species.*** If the qualified wildlife biologist determines that there are nests of listed or fully protected bird species within 500 feet of project activities, consultation with CPUC and CDFW (and USFWS as appropriate) shall be required to discuss how to implement the project and avoid "take." If avoidance of state or federally listed species is not feasible, the applicant shall work with CDFW and and/or USFWS (as appropriate) to determine the necessary avoidance measures and possibly to obtain take authorization, as appropriate and necessary.		

Table 6-1. Mitigation Monitoring Plan

Impact	Applicant Proposed Measure (APM) or Mitigation Measure	Monitoring Requirement	Timing of Action
	Monitoring and reporting. All nests with a reduced buffer shall be monitored on a daily basis by a qualified wildlife biologist until the biologist has determined that the young have fledged, are no longer dependent upon parental care, or construction ends within the reduced buffer (whichever occurs first). A monthly written report shall be submitted to CDFW and CPUC. Monthly reports shall include: all of the information included in buffer reduction requests in addition to duration of buffer reduction, and outcomes for nests, eggs, young and adults during construction within a reduced buffer. No reporting will be required if construction activities do not occur within a reduced buffer during any calendar month. A final report shall be submitted to CDFW and CPUC at the end of each nesting season summarizing all monitoring results and outcomes for the duration of project construction.		
Special-status bats	**MM B-5. Protect special-status bats.** Before the spring breeding season and prior to construction, a qualified biologist (approved by the CPUC) shall conduct a survey for roosting bat habitat. The survey shall include work areas adjacent to appropriate roosting habitat and are accessible from public or project areas within 200 feet of a work area. For trees considered to have a high or moderate probability for bat roosting, acoustic monitoring shall be conducted before any construction activities begin during the breeding season to determine if there are any roosting sites present. Surveys shall be conducted at the appropriate times to maximize detectability. At least ten days before surveys begin, PG&E shall confer with CPUC and CDFW on bat survey methodology. Survey will be submitted to CPUC for record keeping. Note: All references in this mitigation measure to biologists or biological monitors refer to qualified biologists approved by the CPUC; these biologists may be PG&E employees or contractors. References to independent biologists refer to qualified biologists approved by the CPUC who report directly to the CPUC. If an active roost or maternity roost is found within 100 feet of a work area, the limits of the work area will be clearly marked and a qualified biological monitor shall remain on-site during construction activities within the vicinity of the roost or maternity roost. The biologist shall ensure that construction activities to do not encroach upon the 100 foot buffer around an active roost or maternity colony site. Buffers shall remain in place until the qualified biologist has determined that bats have vacated the occupied roost sites. Trees containing maternity roosts shall not be removed during the breeding season (March 1 through August 31) to avoid disturbing females with young that cannot fly. No trees containing maternity roosts may be removed until the qualified biologist determines that breeding is complete and young are able to fly. Requests to reduce buffers or exclude bats shall be submitted to CPUC for review by the CPUC's independent biologist in consultation with CDFW. The CPUC's independent biologist shall respond to requests to reduce buffers within 24 hours and shall respond to requests to exclude bats within 5 days. Exclusion plans may include the following: ■ If fall/winter hibernacula cannot be avoided, humane techniques may be implemented to passively vacate bats from roosts. Methods to passively evict bats from tree roosts may	Ensure implementation of surveys and buffers to protect roosting bats	Prior to and during construction

Table 6-1. Mitigation Monitoring Plan

Impact	Applicant Proposed Measure (APM) or Mitigation Measure	Monitoring Requirement	Timing of Action
	include incrementally trimming limbs to alter the air flow and temperature around the roost feature where slight changes to the surrounding environment of roost features encourage bats to vacate roost features on their own. ■ If acoustic monitoring detects that bats are using trees that need to be cut down, exclusionary one-way doors shall be installed in late August, after completion of the maternity season. Roost trees shall be removed after it has been confirmed that roosting bats have departed. ■ If a roost is lost, PG&E shall consult with the CDFW to see to see if additional compensation for loss of habitat is required. Required compensation may include bat boxes be installed in the vicinity of the cut tree. If an exclusion plan is approved by the independent biologist (in consultation with CDFW), PG&E shall submit a report to CPUC and CDFW after exclusion activities are completed describing the exclusion process and bat behavior after the implementation of the exclusion plan. All exclusion activities shall be closely monitored by the qualified biologist. If buffer reductions are requested and approved, a monthly report shall be submitted to CPUC and CDFW with all of the information in the buffer reduction requests, monitoring results, and effects on bats. Reports shall be submitted for the duration of construction activities within buffer areas.		
	Cultural Resources		
Construction Phase Cultural Resource Impacts	**APM CU-1.** Prior to the initiation of construction or ground-disturbing activities, PG&E will train all construction personnel to understand the potential for exposing subsurface cultural resources and to recognize possible buried cultural resources. Training will inform all construction personnel of the anticipated procedures that will be followed upon the discovery or suspected discovery of archaeological materials, including Native American remains and their treatment.	Avoid unanticipated cultural resources, train project workers	Prior to and during construction
Construction Phase Cultural Resource Impacts	**APM CU-2.** Upon discovery of possible buried cultural materials (including potential Native American skeletal remains), work in the immediate area of the find will be halted and PG&E's archaeologist notified. Once the find has been identified and evaluated, PG&E's archaeologist will make the necessary plans for treatment of the find(s) and mitigation of impacts if the finds are found to be significant according to CEQA. State law will be followed in the event of the exposure of Native American skeletal remains.	Construction personnel sign an environmental training attendance sheet. No damage to archaeological resources results from project construction.	During construction
Construction Phase Cultural Resource Impacts	**APM CU-3.** In the event human remains are encountered during the project, work in the immediate area of the find will be halted and the County Coroner will be notified immediately. Work will remain suspended until the Coroner can assess the remains. In the event the remains are determined to be prehistoric in origin, the Coroner will notify the Native American Heritage Commission, who will then identify a Most Likely Descendent. The Most Likely Descendent will consult with PG&E's archaeologist to determine further treatment of the remains.	No damage to human remains results from the project. Any discovered cultural resources are treated according to agency-approved mitigation and in compliance with State and federal regulations.	Prior to and during construction

Table 6-1. Mitigation Monitoring Plan

Impact	Applicant Proposed Measure (APM) or Mitigation Measure	Monitoring Requirement	Timing of Action
Previously Identified Cultural Resources	**MM C-1. Mark limits of project area near known cultural resources.** In areas near identified cultural resources, a qualified cultural resources specialist (approved by the CPUC) shall mark the limits of the project area with visible flagging tape. The construction crews shall be instructed that no vehicle access, travel, equipment staging, storage, or other construction-related work shall occur outside the flagged areas to ensure that known historic resources are not inadvertently damaged during implementation of the project.	Flag and avoid known cultural resources	Prior to and during construction
Previously-Unidentified Archaeological Resources	**MM PAL-1. Avoid previously unidentified paleontological resources.** If paleontological remains are discovered during construction, construction will cease or be directed away from the discovery, and the potential resource will be evaluated by a qualified paleontologist. The paleontologist will recommend appropriate measures to avoid, record, preserve, or recover the resource/s.	Any discovered paleontological resources are assessed and treated appropriately	During construction
	Hazards and Hazardous Materials		
Construction Phase Hazardous Material Impacts	**APM HM-1.** Hazardous Substance Control and Emergency Response Plan will be prepared for the project. It will prescribe hazardous material handling procedures to reduce the potential for a spill during construction or exposure of the workers or public to a hazardous material. The plan will provide a discussion of appropriate response actions in the event that hazardous materials are released or encountered during field activities.	Review the Hazardous Substance and Emergency Response Plan and ensure adequacy	Prior to construction
Construction Phase Hazardous Material Impacts	**APM HM-2.** Emergency-spill supplies and equipment will be clearly marked and immediately available at all work areas. Oil-absorbent materials, tarps, and storage drums will be used to contain and control any minor releases. Detailed information for responding to accidental spills, and for handling any resulting hazardous materials, will be provided in the project's Hazardous Substances Control and Emergency Response Plan.	Ensure control of project-related spills and provide spill response information to the regulatory agencies	During construction and operations
Construction Phase Hazardous Material Impacts	**APM HM-3.** An environmental training program will be established to communicate environmental concerns and appropriate work practices to all construction field personnel. The training program will emphasize site-specific physical conditions to improve hazard prevention, and will include a review of the Hazardous Substances Control and Emergency Response Plan and the Stormwater Pollution Prevention Plan (SWPPP).	Review worker environmental awareness training program	Prior to construction
Construction Phase Hazardous Material Impacts	**APM HM-4.** If contaminated soils or groundwater due to VOCs, xylene, or other contaminates are encountered, appropriate abatement actions would be implemented in accordance with applicable regulatory requirements.	Prevent contamination of soil or groundwater. Review abatement actions	During construction

Table 6-1. Mitigation Monitoring Plan

Impact	Applicant Proposed Measure (APM) or Mitigation Measure	Monitoring Requirement	Timing of Action
Construction Phase Hazardous Material Impacts	**MM HAZ-1. If contaminated soil is encountered, ensure proper sampling, data review, regulatory coordination, and documentation of compliance.** If construction crews uncover unanticipated buried contaminated soils, rock, or groundwater during substation construction or excavation activities associated with distribution work, samples shall be collected by an OSHA-trained technician with a minimum of 40-hours hazardous material site worker training. Laboratory data from suspected contaminated material shall be reviewed by the contractor's Health and Safety Officer and/or PG&E's representative and they shall coordinate with the appropriate regulatory agency if contamination is confirmed, to determine the suitable level of worker protection and the necessary handling and/or disposal requirements. If during grading or excavation work, the contractor observes visual or olfactory evidence of contamination in the exposed soil, a report of the location and the potential contamination, results of laboratory testing, recommended mitigation (if contamination is verified), and actions taken shall be submitted to the CPUC for each event. This report shall be submitted within 30 days of receipt of laboratory data.	Collect and analyze soil samples and, if contamination is discovered, ensure that construction activities are conducted according to a health and safety plan approved by regulatory agencies.	Prior to construction and during construction
	Hydrology and Water Quality		
Construction phase water quality impacts	**APM WQ-1.** All BMPs will be on-site and ready for installation before the start of construction activities.	Review and approve BMPs and ensure installation	Prior to construction
Stormwater Pollution	**APM WQ-2.** PG&E will develop a Stormwater Pollution Prevention Plan (SWPPP), as outlined in General Permit 2009-0009-DWQ, which will describe BMPs to prevent the acceleration of natural erosion and sedimentation rates. The SWPPP will include a written site-specific Construction Site Monitoring Program (CSMP). A monitoring program will be established to ensure that the prescribed BMPs are followed during project construction. BMPs will include: ■ silt fences or other sediment containment methods placed around and/or down slope of disturbed areas prior to construction; ■ protection of drain inlets from receiving polluted stormwater through the use of filters, such as fabrics, gravel bags, or straw wattles; ■ installation of additional silt fencing prior to construction along the northwest and south edges of the proposed substation site to address unforeseen runoff from the property into the nearby existing mitigation bank/preserve and mitigation area; ■ construction of a stabilized construction entrance/exit to prevent tracking onto roadway; ■ establishment of a vehicle storage, maintenance, and refueling area, if needed, to minimize the spread of oil, gas, and engine fluids. Use of oil pans under stationary vehicles is strongly recommended; and ■ no overnight parking of mobile equipment within 100 feet of wetlands, culverts, or creeks. Stationary equipment (e.g., pumps, generators) used or stored within 100 feet of wetlands, culverts, or creeks will be positioned over secondary containment.	Review and approve SWPPP and CSMP. Prevent pollution of stormwater related to the project.	Prior to and during construction.

Table 6-1. Mitigation Monitoring Plan

Impact	Applicant Proposed Measure (APM) or Mitigation Measure	Monitoring Requirement	Timing of Action
Construction phase water quality impacts	**APM WQ-3.** A worker education program will be established for all field personnel prior to initiating fieldwork to provide training in the appropriate application and construction of erosion and sediment control measures. This education program will also discuss appropriate hazardous materials management and spill response.	Review worker environmental awareness training program	Prior to construction
Stormwater pollution	**APM WQ-4.** All BMPs will be inspected on a weekly basis, and at least once every 24-hour period during extended storm events. BMPs will be inspected as described in the SWPPP, maintained on a regular basis, and replaced as necessary through the course of construction. For each inspection required, an inspection checklist will be completed using a form as described in Attachment C of General Permit 2009-0009-DWQ. This checklist will remain onsite with the SWPPP.	Weekly BMP inspection, and once-per-24 hour inspection during storm events. Regular maintenance and replacement. Complete required onsite inspection checklists.	During construction and operations
Stormwater pollution	**APM WQ-5.** The SPCC plan will include engineered methods for containing and controlling an oil release, including a water-collection system and retention pond equipped with an oil/water separator. Oil-absorbent material, tarps, and storage drums will be present on-site to contain and control any minor releases.	Review SPCC plan and ensure implementation	Prior to and during construction and operations
Jurisdictional Waters	**APM WQ-6.** Permits may need to be obtained prior to construction from the Army Corps of Engineers (404), Regional Water Quality Control Board 401 Certification, and California Department of Fish and Game Streambed Alteration agreement (1600) if any identified jurisdictional waters are found within proposed substation site.	Ensure acquisition of required permits	Prior to construction
Construction phase water quality impacts	**APM WQ-7.** Construction work would avoid all wetlands, swales and drainages during construction. If waters areas could not be avoided, work would be performed outside of the wet season.	Monitor construction to ensure avoidance of water features	During construction
Construction phase water quality impacts	**APM WQ-8.** Vehicle maintenance wastes, including used oils and other fluids would be handled and disposed of properly. Fuels and lubricating oils for vehicles heavy equipment would not be stored or transferred within 100 feet of any water bodies.	Monitor construction to ensure appropriate waste disposal and/or storage	During construction
Water Quality	**MM H-1. Construction Site Dewatering.** If groundwater is encountered during construction activities, dewatering shall be performed in accordance with the 2011 or most recent version of the *Construction BMP Handbook/Portal* prepared by the California Stormwater Quality Association (CASQA), and shall include, as applicable, the use of sediment traps and sediment basins.	Monitor dewatering to ensure appropriate implementation	During construction

Table 6-1. Mitigation Monitoring Plan

Impact	Applicant Proposed Measure (APM) or Mitigation Measure	Monitoring Requirement	Timing of Action
	Land Use		
Construction Land Use Impacts	**MM LU-1. Provide advance notice of construction.** *Advance Notice.* Prior to construction, the Applicant shall give at least 10 30 days advance notice of the start of any construction-related activities. Notification shall be provided by posting signs along affected roadsides to tell the public about the work. The posted signs shall: ■ Describe where and when construction is planned; ■ Provide contact information for a point of contact for complaints related to construction activities. Prior to commencing ground disturbing activities, the Applicant shall submit a copy of the template used for the posted sign. *Reporting of Complaints.* The Applicant shall document all complaints and strategies for resolving complaints in regular reporting to the CPUC .	Review and approve notification template prior to posting. Review reported complaints as necessary.	Prior to and during construction.
	Noise		
Construction Phase Noise Impacts	**APM NO-1.** All construction equipment will use noise-reduction features (such as mufflers) that are no less effective than those originally installed by the manufacturer.	Review proposed noise-reduction features	Prior to construction.
Construction Phase Noise Impacts	**APM NO-2.** Construction will be limited to the hours between 7 a.m. and 7 p.m., Monday through Saturday, to the extent feasible. If nighttime work is needed because of clearance restrictions on the power line, PG&E take appropriate measures to minimize disturbance to local residents, including contacting nearby residences to inform them of the work schedule and probable inconveniences.	Monitor construction to ensure time limits are maintained.	During construction
Construction Phase Noise Impacts	**APM NO-3.** Construction crews will limit unnecessary engine idling. (See Air Quality measures.)	Monitor to ensure idling is limited	During construction
Construction Phase Noise Impacts	**APM NO-4.** Construction crews will use equipment that is specifically designed for low noise emissions.	Review and approve construction equipment	Prior to construction
Construction Phase Noise Impacts	**APM NO-5.** Locate all stationary construction equipment as far as practical from noise sensitive receptors.	Review stationary equipment locations to ensure minimization of noise impacts	Prior to construction
Construction Phase Noise Impacts	**MM N-1: Avoid unnecessary construction traffic noise.** Where feasible, construction traffic shall be routed to avoid noise-sensitive areas, such as residences, schools, religious facilities, hospitals, and parks.	Ensure that routing effectively minimizes impacts to sensitive areas	During construction

Table 6-1. Mitigation Monitoring Plan

Impact	Applicant Proposed Measure (APM) or Mitigation Measure	Monitoring Requirement	Timing of Action
	Traffic/Transportation		
Construction Traffic	**MM T-1. Restrict lane closures.** PG&E shall restrict all necessary lane closures or obstructions on major roadways associated with overhead or underground construction activities to off-peak periods in congested areas to reduce traffic delays. Lane closures must not occur between 6:00 and 9:30 a.m. or between 3:30 and 6:30 p.m., unless otherwise authorized in writing by the responsible public agency issuing an encroachment permit.	Ensure that lane closures and obstructions are appropriately implemented.	During construction
Construction Traffic	**MM T-2. Ensure emergency response access.** PG&E shall coordinate in advance with emergency service providers to avoid restricting movements of emergency vehicles. Police departments, fire departments, ambulance services, and paramedic services serving the project area shall be notified 30 days in advance by PG&E of the proposed locations, nature, timing, and duration of any construction activities and advised of any access restrictions that could impact their effectiveness. At locations where roads will be temporarily blocked, work crews shall be ready at all times to accommodate emergency vehicles through immediately stopping work for emergency vehicle passage and/or facilitating the use of short detours and alternate routes in conjunction with local agencies.	Review notification of and coordination with emergency service providers	Prior to and during construction.
Public Transportation	**MM T-3. Consult with SCT and SMART.** PG&E shall consult with Sonoma County Transit District at least one month prior to construction to reduce potential interruption of bus transit services. If necessary, PG&E shall arrange for transit bus routes to be temporarily rerouted until construction in the vicinity is complete. PG&E shall obtain approval from SMART to encroach on the railroad right-of-way.	Review SCTD consultation, SMART approval, and, if necessary, bus reroutes to ensure minimization of impacts	Prior to and during construction.

Source: PG&E 2010; PG&E 2011.

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