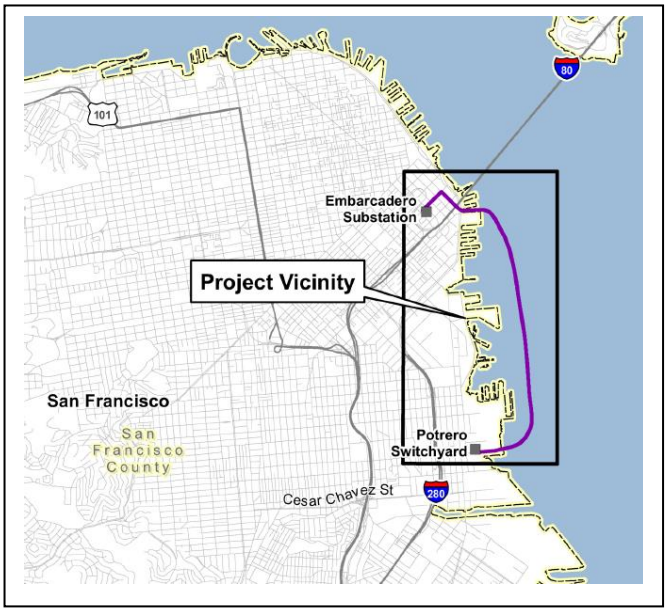
1. Introduction

1.1 Project Overview

The Embarcadero-Potrero 230 kV Transmission Project (Project) involves the construction, operation, and maintenance by Pacific Gas & Electric (PG&E) of a new 230 kV transmission line and associated facilities. The line will be entirely within the City and County of San Francisco, and will extend from the existing Embarcadero Substation at the corner of Fremont and Folsom Streets to the existing Potrero Switchyard on Illinois Street between 22nd and 23rd Streets. (See inset map.)



Construction of a new 230 kV switchyard will occur near the existing Potrero Switchyard. No new substation work will occur at the existing Embarcadero Substation beyond termination of the new cable at the 230 kV bus at that location.

A detailed project description, including figures, is provided in Attachment A.

1.2 Authority

The California Public Utilities Commission (CPUC) has broad regulatory authority under Article XII of the California Constitution, and Section 702 of the Public Utilities Code (PU Code) mandates that every public utility obey and comply with every order, decision, direction or rule made by the Commission. Public utilities are subject to enforcement action and fines pursuant to PU Code Sections 2102-1015, 2017, 2108, and 2114. In 2013, the CPUC established a CEQA Citation Program authorizing Staff to fine public utilities for non-compliance with Permits to Construct (PTCs) and Certificates of Public Convenience and Necessity (CPCNs). MMRCPs are adopted as part of PTCs and CPCNs and are enforced as such.

Monitoring of mitigation measures to be implemented by a project is required by California Environmental Quality Act (CEQA). Section 21081.6 of the California Public Resources Code (PRC) requires a public agency to adopt a mitigation monitoring and reporting program when it approves a project that is subject to preparation of an Environmental Impact Report (EIR) or Mitigated Negative Declaration (MND) and where significant adverse environmental effects have been identified. CEQA Guidelines Section 15097 clarifies requirements for mitigation monitoring or reporting.

Mitigation measures to be implemented as part of the Embarcadero-Potrero 230 kV Transmission Project (Project) (Application No. A.12-12-004) were identified in the Final MND prepared by CPUC for the Project. The MND was adopted by the California Public Utilities Commission (CPUC) on January 16, 2014 in Decision D.14-01-007 and includes procedures for preparing and implementing a Mitigation Monitoring, Compliance, and Reporting Program (MMCRP) to ensure compliance with mitigation measures approved in the MND. In addition, Applicant Proposed Measures (APMs) were adopted as part of the MND. The mitigation measures and APMs identified in the MND provide the framework for this MMCRP.

1.3 Mitigation Monitoring Compliance, and Reporting Plan

Within PG&E's application, APMs were proposed to reduce potentially significant adverse impacts related to project construction and operation. These are in addition to the mitigation measures and permit requirements imposed on the Project.

The MMCRP provides guidelines and procedures for environmental compliance on the Project. The MMCRP was developed by CPUC in coordination with PG&E and CPUC Environmental Monitors (CPUC EMs) and defines the reporting relationships, provides information regarding the roles and responsibilities of the Project's environmental compliance personnel, sets out compliance reporting procedures, and establishes a communication protocol. The communication information as listed in the MMCRP will be updated throughout construction.

The purpose of this MMCRP is to ensure effective implementation of the mitigation measures and APMs identified in the MND and imposed by the CPUC as part of project approval. It describes the logistics of the monitoring process and establishes protocols to be followed by CPUC's third-party Environmental Monitors and PG&E project staff. This MMCRP includes:

- Procedures for approving minor project changes;
- Procedures for dispute resolution;
- APMs and mitigation measures that PG&E must implement as part of the Proposed Project;
- Actions required to implement these measures;
- Monitoring requirements; and
- Timing of implementation for each measure.

Section 6 lists the mitigation measures, the timing for completion, and whether CPUC review or approval is required before construction can commence.

A draft version of the MMCRP was distributed to PG&E and CPUC EMs for review and comment. Final language of the MMCRP was made in consultation with PG&E.

1.4 Agencies with Jurisdiction

The CPUC is the Lead Agency for the Project. However, the project route crosses lands, affects resources, or requires activities that are under the jurisdiction of or regulated by other agencies. These agencies that may require separate permits or approvals are listed in Table 1. Contact information for individual agencies is provided in Table 2.

All required permits are to be secured and their terms and conditions implemented prior to undertaking any work that requires such permits. CPUC's EM will be provided copies of every permit secured and will include permit compliance as part of general environmental monitoring duties. If the CPUC EM observes activities or conditions believed to be in violation of a permit, the CPUC EM has the authority to communicate these observations to the appropriate agency. Under their own authority and discretion, permitting agencies may implement their own monitoring and reporting schemes and undertake whatever enforcement actions they are authorized to pursue.

Important: The status of required permits will be included in any request for a Notice to Proceed. Copies of permits, including any permit requirements and stipulations, shall be provided to CPUC.

Table 1. Permits that May Be Required for the Embarcadero-Potrero 230 kV Transmission Project

Agency	Jurisdiction	Requirements
FEDERAL/STATE AGENCIES		
U.S. Army Corps of Engineers (USACE), San Francisco District	San Francisco Bay	Permit (i.e., a federal action) and Environmental Assessment for marine cable installation in San Francisco Bay under the Clean Water Act Section 404 and the Rivers and Harbors Act Section 10.
USACE, Operations and Readiness Division, Dredged Material Management Office (DMMO)	San Francisco Bay	Consolidated Dredging-Dredge Material Reuse/Disposal authorization, if needed for HDD exit pits
U.S. Coast Guard (USCG)	San Francisco Bay	Establish Vessel Traffic Safety zone; issuance of appropriate Notice to Mariners
National Marine Fisheries Service (NMFS), Southwest Regional Office	San Francisco Bay	Consultation or technical assistance under Section 7 of the Endangered Species Act (ESA) regarding USACE permit; Potential impact to Essential Fish Habitat (EFH); Potential Incidental Harassment Authorization (IHA) permit under Marine Mammal Protection Act (MMPA)
U.S. Fish and Wildlife Service (USFWS), Sacramento Field Office	San Francisco Bay	Consultation under Section 7 of the Endangered Species Act (ESA) regarding USACE permit; Enforcement of the Migratory Bird Treaty Act (MBTA)
California Department of Fish and Wildlife (CDFW)	Endangered species consultation	California Endangered Species Act coordination, Section 20801 Incidental Take Permit or Consistency Determination under California Fish and Game Code Section 2080.1, Native Plant Protection Act, and other provisions of the Fish and Game Code as applicable
San Francisco Bay Conservation and Development Commission (BCDC)	San Francisco Bay	Permit for dredging and disposal activity in the bay, if needed for HDD exit pits; Administrative permit for work within the Bay and/or shoreline band; Determination of consistency of USACE federal action with San Francisco Bay Plan under the federal Coastal Zone Management Act (CZMA)
Regional Water Quality Control Board (RWQCB) – San Francisco Bay Region	San Francisco Bay Hydrologic Region	National Pollution Discharge Elimination System (NPDES); General Construction Storm Water Pollution Prevention Plan (SWPPP); Water Quality Certification
California State Lands Commission (CSLC)	Tidal waterways of the bay and submerged lands below the mean high tide line	Residual and review authority over actions managing lands legislatively granted to City and County of San Francisco.
California Department of Transportation (Caltrans)	Spear Street area under the Bay Bridge	Encroachment permit and design review

Table 1. Permits that May Be Required for the Embarcadero-Potrero 230 kV Transmission Project

Agency	Jurisdiction	Requirements
LOCAL/REGIONAL AGENCIES		
Port of San Francisco	San Francisco Bay and waterfront lands, including portions of Spear Street and the proposed Potrero 230 kV Switchyard	License
City and County of San Francisco	23rd Street, Shoreline to Potrero Switchyard; Spear Street and Folsom Street	ROW Acquisition and/or reestablish utility franchise area
San Francisco Municipal Transportation Agency (SFMTA)	City streets and sidewalks	Special Traffic Permit, with Traffic Management Plan
San Francisco Department of Public Works (SFDPW)	City streets and sidewalks	Excavation Permit
San Francisco Department of Public Works or Department of Building Inspection	City streets and sidewalks	Special permit for nighttime construction work under the Noise Ordinance (Section 2908 of Police Code)
San Francisco Public Utilities Commission (SFPUC)	Dewatering and Water Supply	Water disposal and water supply for construction activity

Table 2. Jurisdictional Agencies Associated with the PG&E Embarcadero-Potrero Transmission Line Project – PGE to Complete

Agency	Address	Contact Person	Phone	E-mail Address
LEAD AGENCY				
California Public Utilities Commission	505 Van Ness Avenue, San Francisco, CA 94102	Billie Blanchard	415-703-2068	BCB@cpuc.ca.gov
FEDERAL AGENCIES				
USACE, San Francisco District Office	1455 Market Street, 16th Floor San Francisco, CA 94103	Christina Cavett-Cox	415-503-6765	christina.a.cavett@usace.army.mil
USACE, Operations and Readiness Division, Dredged Material Management Office (DMMO)	1455 Market Street, 16th Floor San Francisco, CA 94103	Robert Lawrence	415-503-6808	robert.j.lawrence@usace.army.mil
U.S. Coast Guard (USCG)				
National Marine Fisheries Service (NMFS), Southwest Regional Office	777 Sonoma Avenue, Room 325 Santa Rosa, CA, 95404	Korie Schaeffer	707-575-6087	korie.schaeffer@noaa.gov
US Fish and Wildlife Service	2800 Cottage Way #W2605 Sacramento, CA 95825	Ryan Olah	916 414-6625	ryan_olah@fws.gov
STATE AGENCIES				
California State Lands Commission				
San Francisco Bay Conservation and Development Commission (BCDC)	455 Golden Gate Ave, Suite 10600 San Francisco, CA 94102	Jaime Michaels	415-352-3613	
California Department of Fish and Wildlife	5355 Skylane Boulevard, Suite B Santa Rosa, CA 95403	Arn Aarreberg	707-576-2889	arn.aarreberg@wildlife.ca.gov
California Department of Transportation (Caltrans)	155 Grand Avenue Oakland CA 94612			
California Department of Toxic Substances Control				
State Historic Preservation Office				
California Air Resources Board				

Table 2. Jurisdictional Agencies Associated with the PG&E Embarcadero-Potrero Transmission Line Project – PGE to Complete

Agency	Address	Contact Person	Phone	E-mail Address
LOCAL AND REGIONAL				
Regional Water Quality Control Board (RWQCB) – San Francisco Bay Region	1515 Clay Street, Suite 1400 Oakland, CA 94612	Jennifer Gagnon	510-622-2407	jennifer.gagnon@waterboards.ca.gov
Bay Area Air Quality Management District (BAAQMD)	939 Ellis Street San Francisco, CA 94109		415-771-6000	
Port of San Francisco				
City and County of San Francisco				
San Francisco Municipal Transportation Agency (SFMTA)				
San Francisco Department of Public Works (SFDPW)				
San Francisco Department of Public Works or Department of Building Inspection				
San Francisco Public Utilities Commission (SFPUC)				

1.5 Schedule

PG&E expects to energize the new 230 kV line by early 2016. Table 3 shows a preliminary construction schedule based on conceptual engineering and initial resource agency consultation. The actual construction schedule may vary based upon many factors, including the timeline for additional agency approvals and land acquisition, environmental conditions, and any necessary changes to the project design due to unexpected physical conditions.

Project-related construction activities (beyond such pre-construction activities as engineering, design, studies, and permitting) will not begin until the CPUC's Project Manager has issued one or more Notices to Proceed covering the planned activities.

Table 3. Preliminary Construction Schedule

	Feb 2014	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan 2015	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan 2016	Feb
TRANSMISSION LINE CONSTRUCTION																									
Permitting, ROW Acquisition	X	X	X	X	X	X	X	X	X	X															
Onshore to Offshore HDD					X	X	X	X	X	x															
Onshore Underground Installation										X	X	X	X	X	X	X	X								
Offshore Submarine Installation																			X	X	X	X	X	X	
Testing and Commissioning																									X
POTRERO SWITCHYARD DEVELOPMENT																									
Switchyard Site Preparation				X	X	X	X																		
Building Construction							X	X	X	X	X	X	X	X	X										
Substation Interconnection											X	X	X	X	X	X									
Substation Installation													X	X	X	X	X	X	X	X	X	X	X	X	
Testing and Commissioning																									X
In-Service Date																									X

1.5.1 Construction Work Packages

The Project has been divided into four construction work packages, as listed in Table 4. Anticipated start dates for the work packages are shown.

Table 4. Construction Packages

Work Package	Description	Location	Begin Date
1. Potrero Switchyard	Construction of switchyard	Potrero Substation	May 2014
2. Onshore to offshore HDD	Horizontal directional drilling from onshore to offshore segment and installation of conductor, ancillary equipment, and appurtenances. Repair and restoration of disturbed areas.	North and south horizontal drill sites to offshore segment	June 2014
3. Onshore Trenching	Trench excavation and installation of conductor, ancillary equipment, and appurtenances. Repair and restoration of disturbed areas.	Embarcadero Substation to north horizontal drill site and Potrero Switchyard to south horizontal drill site.	August 2014
4. Offshore Segment	Off shore installation of cable	San Francisco Bay	June 2015_

Important: Before work can proceed on a work package, a request for a Notice to Proceed (NTP) must be made by PG&E and approved by CPUC (see Section 4.1.1). The mitigation measures and APMs listed in Section 6 include the locations where these requirements apply and which must be implemented prior to the commencement of construction. PG&E will work closely with its construction contractor to ensure that site-specific mitigation measures and APMs are clearly identified and implemented. CPUC EMs will verify the implementation of mitigation measures and APMs prior to and during construction.

2. Roles and Responsibilities

2.1 Implementation

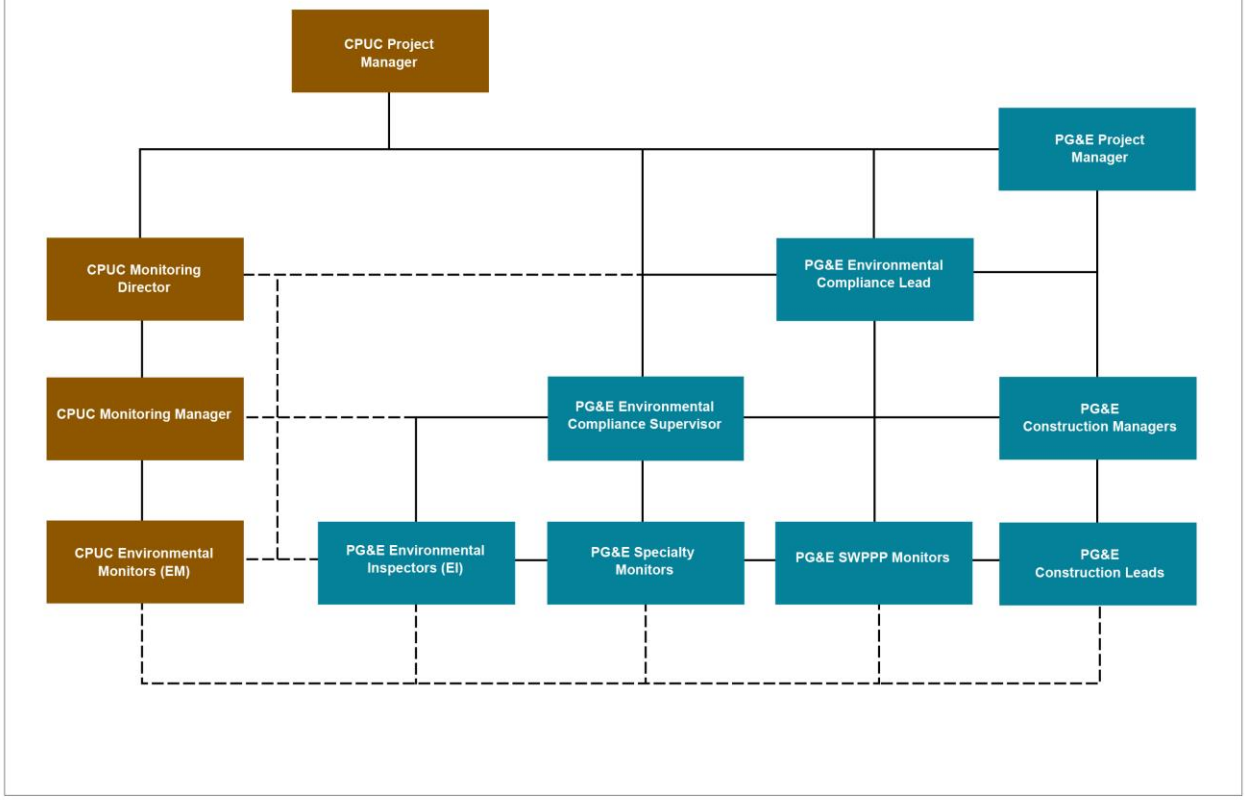
PG&E is responsible for implementing and maintaining all mitigation measures and APMs, and for obtaining and complying with all required permits and their requirements. The utility is responsible for ensuring that its agents and contractors comply with the MMRCP. PG&E also is responsible for satisfying requests from jurisdictional agencies and will notify and copy the CPUC on all correspondences related to final approvals and verifications for the project if not otherwise copied on the correspondence.

Standards for successful mitigation are implicit in some mitigation measures, such as obtaining non-discretionary permits or avoiding a specific impact entirely. Additional resource avoidance or impact minimization conditions may be imposed by applicable agencies with jurisdiction through their discretionary permit processes.

Important: PG&E will inform the CPUC Project Manager in writing of mitigation measures that are not or cannot be successfully implemented. While the CPUC recognizes the need for flexibility post-decision in response to changed circumstances, it believes changes should be the exception to the rule, and it intends to ensure that any proposed change is subject to rigorous standards. Consequently, some requested changes may qualify for the process set forth in the MMRCP for minor project changes (see 4.3.3); others may require the submittal of a Petition for Modification (PFM) pursuant to CPUC Rules of Practice & Procedure, Rule 16.4(a).

Table 5 illustrates the organization and reporting relationships for during project construction. The CPUC, as Lead Agency, is responsible for ensuring that all mitigation measures and APMs are implemented in a timely fashion as specified, and that the CPUC EM verifies PG&E's compliance with mitigation measures, APMs, and conditions of permits issued by other agencies. Other jurisdictional agency representatives may visit construction areas at any reasonable and safe time, and may require information regarding the status of compliance with particular mitigation measures or permits. Additional information on communication protocols is presented in Section 3.

Table 5. Project Organization



SOURCE: Panorama 2013

2.2 PG&E Roles and Responsibilities

PG&E project personnel and PG&E's contractors are responsible for implementing all project mitigation measures, APMs, permit conditions, and the MMCRP. It is PG&E's responsibility to comply with project requirements, plan construction activities in a manner that meets these requirements, document compliance activities and the results of mitigation, and implement the MMCRP. In addition to this MMCRP, PG&E will implement its own Environmental Compliance and Management Program (ECMP) that will be specifically tailored to the project and designed to work concurrently with this MMCRP.

PG&E Legal Counsel

PG&E legal counsel may participate in the compliance effort as determined by PG&E. PG&E legal counsel may review project compliance documents, notifications, or participate in dispute resolution should the need arise.

PG&E Project Manager

The PG&E Project Manager provides overall direction, management, leadership, and corporate coordination for the project. The PG&E Project Manager's responsibilities include:

- Coordinating construction, engineering, and PG&E environmental personnel
- Integrating environmental responsibilities into all levels of the project organization
- Ensuring compliance with project mitigation measures, APMs, permit conditions, and the MMCRP
- Communicating project activities, schedules, and public relation issues to the project team

PG&E Environmental Compliance Lead

The PG&E Environmental Compliance Lead shall be the lead PG&E representative responsible for implementing environmental requirements and the MMCRP. The PG&E Environmental Compliance Lead's responsibilities include:

- Understanding and planning for project requirements and construction needs
- Coordinating and completing preconstruction requirements included in project mitigation measures, APMs, permit conditions, and the MMCRP
- Communicating environmental requirements to the PG&E Compliance Team and Construction Managers
- Communicating with the CPUC Monitoring Team regarding environmental requirements, construction needs, and construction schedule changes
- Ensuring compliance with project mitigation measures, APMs, permit conditions, and the MMCRP
- Reporting the effectiveness of mitigation and regularly submitting required documentation and notifications to CPUC
- Providing leadership to correct any issues with environmental compliance

PG&E Environmental Compliance Supervisor

The PG&E Environmental Compliance Supervisor shall coordinate the activities of the PG&E Environmental Inspector and specialty monitors, and communicate with project management and construction personnel to ensure environmental compliance. The PG&E Environmental Compliance Supervisor's responsibilities consist of those that are delegated by the PG&E Project Manager and the PG&E Environmental Compliance Lead.

PG&E Environmental Inspector

The PG&E Environmental Inspector (EI) shall work closely with construction personnel in the field to implement mitigation and perform, or oversee, required monitoring tasks. The EI shall be the primary field employee responsible for verifying and communicating day-to-day environmental compliance. Multiple EIs may be used by PG&E as needed to effectively monitor compliance during periods of high construction activity or high monitoring demand. The EI's responsibilities include:

- Understanding environmental project requirements and construction needs
- Taking direction from the PG&E Environmental Compliance Lead and PG&E Environmental Compliance Supervisor
- Supporting construction staff to ensure work is conducted in compliance with environmental requirements
- Conducting, or overseeing, monitoring activities specified in project mitigation measures, APMs, and permit conditions
- Implementing the MMCRP
- Determining the effectiveness of mitigation and reporting whether adjustments need to be made to the PG&E Compliance Team

The EI has the authority to redirect any construction activities associated with the project, when it is safe to do so, if the activity poses an imminent safety threat or puts a sensitive resource at risk beyond what is already permitted.

PG&E Specialty Monitors

PG&E Specialty Monitors shall be assigned as needed to perform monitoring tasks when project mitigation measures, APMs and permit conditions require a specifically qualified monitor to protect designated resources. An EI may perform specialty monitoring if he or she has the appropriate qualifications and experience. The PG&E Specialty Monitors have the authority to redirect any construction activities associated with the project, when it is safe to do so, if the activity poses an imminent threat or puts a sensitive resource at undue risk beyond that already permitted

Construction Managers

PG&E Construction Managers provide support to the PG&E Project Manager and oversee the activities of construction personnel. The PG&E Construction Managers shall be based out of PG&E's offices, but may also be available in the field on an occasional basis. PG&E Construction Manager responsibilities include:

- Ensuring compliance with PG&E specifications, project mitigation measures, APMs, permit conditions, MMCRP policies, construction contracts, and applicable codes
- Communicating construction needs and schedule changes to the PG&E Compliance Team
- Regularly facilitating field meetings with construction and environmental staff

Construction Leads

At PG&E's discretion, on-site construction leadership may be delegated to Construction Leads, such as a crew foreman. PG&E Construction Leads provide support to the PG&E Construction Managers, and shall be responsible for communicating with PG&E Construction Managers and EIs to conduct day-to-day project activities in compliance with mitigation measures and APM requirements, permit conditions, and the MMCRP, as directed by the PG&E Compliance Team. Key roles of PG&E Construction Leads are to plan construction activities around environmental requirements, as well as to identify and report potentially infeasible challenges to construction to the PG&E Compliance Team.

Construction Workers

Construction workers who enter the project site are responsible for following all mitigation measures and APM requirements, permit conditions, and the MMCRP. Construction workers are responsible for attending required environmental training(s) applicable to their position, and directing any questions to the PG&E Construction Managers, PG&E Construction Leads, and/or EIs.

Subcontractors

PG&E may elect to use subcontracted construction crews on the project. Under the direction of PG&E, subcontracted construction crews are responsible for complying with mitigation measures and APM requirements, permit conditions, and the MMCRP.

2.3 California Public Utilities Commission

2.3.1 CPUC Project Manager

The CPUC PM has overall responsibility for ensuring that mitigation measures and APMs are implemented as adopted by the CPUC. The CPUC PM will determine the effectiveness of the MMCRP based on the implementation of the measures included in the mitigation monitoring table in Section 6. The CPUC delegates field monitoring and reporting responsibilities to third-party EMs during construction and will oversee their work through telephone calls and review of daily and weekly status reports. The CPUC PM will be notified of all noncompliance situations and may suggest measures to help resolve the issue(s).

Important: The CPUC PM will issue NTPs for construction of each work package identified by PG&E. However, the CPUC's NTP does not authorize construction to start if additional approvals are required from other agencies and such approvals have not been obtained at the time of issuance of an NTP. *No construction may occur on other jurisdictional lands without specific approval by those agencies.*

2.3.2 CPUC Environmental Monitor (Aspen)

PG&E has primary responsibility for ensuring that construction activities are conducted in accordance with approved Project mitigation measures, APMs, compliance plans, and permit conditions. The role of the CPUC third party monitor (Aspen) is to ensure that compliance is being achieved and to document compliance using verbal and written communications.

The overall monitoring program will be administered under the direction and oversight of the CPUC PM. The CPUC will delegate daily monitoring and reporting responsibilities to a third-party monitor (Aspen). The number of third-party monitors (CPUC EMs) and frequency of site inspections will depend on the number of concurrent construction activities and their locations with respect to sensitive resources and land uses, and compliance with Project mitigation measures, APMs, and permit conditions during construction.

- **Aspen Monitoring Manager.** The Monitoring Manager supervises Aspen's CPUC EMs, determines the appropriate inspection frequency, and is responsible for weekly report preparation. The Monitoring Manager also serves as the main point of contact with the CPUC Project Manager (CPUC PM) for major compliance matters.
- **Aspen Project Liaison.** The Project Liaison provides a direct line of contact with CPUC management and legal, as well as PG&E, regarding public complaints and other issues. This person facilitates the development of new procedures to address new issues as they arise.
- **Aspen CPUC Environmental Monitors (CPUC EMs).** CPUC EMs will conduct the day-to-day monitoring and be the primary point of contact with in-field agency and project personnel. CPUC EMs will be an integral part of the project team and will stay apprised of construction activities and schedule changes, and will monitor construction activities for compliance with project mitigation measures, APMs, compliance plans, and permit conditions. The CPUC EMs will document compliance through daily logs and provide input for the weekly reports. The CPUC EMs shall note any issues or problems with implementation of mitigation/APM/permit conditions, notify the appropriate designated project members, and report problems to the CPUC PM. All other issues will be brought to the attention of the PG&E field representative to address appropriately.

Important: The enforcement authority of the CPUC EM in the field is limited to conditions posing imminent safety or resource endangerment concerns at a work location. The CPUC EM is authorized to temporarily stop work under these conditions if it is safe to do so. PG&E will address the identified issues. Only the CPUC PM has authority to shut down the project completely.

3. Communication

Good communication is essential to successful implementation of an environmental mitigation compliance program. To avoid Project delays, CPUC and PG&E environmental and construction representatives will interact regularly and maintain professional, responsive communications at all times. PG&E representatives will coordinate closely with CPUC EMs throughout the monitoring effort to ensure that issues are addressed and resolved in a timely manner. To that end, this section provides a communication protocol for the timely and accurate dissemination of information to all levels of the Project regarding surveys, plans, mitigation measures, construction activities, and planned or upcoming work.

3.1 Communication Protocol

To ensure that the CPUC EMs can get accurate information on ongoing surveys, construction work, and schedules, the following protocols have been established:

- The CPUC EMs' primary point of contact will be the Environmental Inspector. If not available, the Environmental Compliance Supervisor will be the point of contact. If issues arise and cannot be resolved at this level, the issue will be elevated to the CPUC EM Project Manager/Environmental Compliance Lead via e-mail or telephone.
- The Environmental Inspector or Environmental Compliance Supervisor will inform CPUC EMs of all current and planned survey and construction activity, including status of permits and activity locations, in a timely manner. Timely notification must be sufficient to allow response time for CPUC monitors to be present for that activity.
- The CPUC EM and other designated agency representatives or staff may talk to anyone on the construction site to ask questions about their activity, but the construction personnel may opt to refer the CPUC EM to the Environmental Inspector or other designated person. The Environmental Inspectors are the appropriate contacts for obtaining information on construction activity schedules or construction practices.
- PG&E will provide to the CPUC EM a list of all construction monitoring personnel and managers, identified by work package or component, title, and contact information. An updated list will be distributed as needed to keep all parties informed of monitor and staff additions/changes, as well as construction scheduling changes. This list of personnel, subsequent updates, and construction schedule changes will be distributed to all persons on the list throughout the construction process.
- The CPUC EM will continue to report compliance concerns first to Environmental Inspector and give them time to resolve compliance issues. If this includes discussions with resource agencies, documentation of such communication and of any subsequent actions to be undertaken to achieve compliance will be provided to the CPUC EM. If the concern involves a permit, because PG&E is the permit holder with jurisdictional agencies, the Environmental Compliance Lead will consult with the applicable resource agencies. If the CPUC EM has an ongoing unresolved concern about a mitigation measure that could affect a permit condition or could result in resource endangerment, the Environmental Compliance Lead will call the appropriate resource agency to discuss the issue. The Environmental Compliance Supervisor will take the lead in the coordination effort and in resolving the issue.
- The resource agencies will be notified immediately (within 24 hours) by the Environmental Compliance Lead of any substantive issues regarding resources under their jurisdiction and of any actions taken to resolve the issue, consistent with permit requirements. In addition, the CPUC EM will receive immediate notification of these communications if not already aware of the issue and action.
- Prior to or subsequent to agency notification, the Environmental Compliance Lead, assisted by the Environmental Compliance Supervisor, will develop a plan to resolve the issue and will follow up with the respective agencies to explain the strategy and receive agency approval.
- PG&E will expeditiously provide verbal notification and/or submit a preliminary electronic notification of a suspected event, followed by a timely submittal of a final notification that more fully characterizes the event, actions, and outcomes.
- If a "take" of a biological resource is imminent or if there is a danger/hazard to a special status biological resource, the CPUC EM can request that work be stopped in that area immediately (as long as it can be done safely); this request should be made to the Environmental Inspector or senior PG&E person on site. At any time, anyone can order an activity to be halted temporarily if a take or a hazard is imminent.

- Bi-weekly conference calls will include a discussion of construction and compliance activities, with the CPUC EM, Environmental Compliance Supervisor, Environmental Inspector, and agency staff participating.

3.2 Pre-Construction Compliance Coordination

PG&E is required by the terms of the mitigation measures, APMs, and permitting requirements of other agencies to prepare various plans and obtain approval of these plans, in addition to performing surveys and studies prior to construction. PG&E will conduct meetings, conference calls, and site visits with the CPUC, technical representatives of the CPUC third-party monitor, and other agencies. The purpose of the pre-construction compliance coordination process is to:

- Discuss and document the status of all required PG&E's submittals,
- Document the findings of data reviews and jurisdictional agency approvals,
- Review PG&E submittals,
- Document the status of mitigation measures/APMs as they apply to the Project or phased work packages, and
- Discuss refinements or minor changes to the Project.

The goal of the pre-construction process is to complete all required actions so the CPUC and other agencies, as appropriate, can issue NTP authorizations for each Project work package.

A pre-construction meeting was held on March 11, 2014 with the CPUC, PG&E, and CPUC EMs to review the MMCRP and mutually agree upon the Project's communication protocol. Based on discussion at the meeting and ongoing input from each party, this MMCRP was updated. Other pre-construction activities include the following:

- Inclusion of mitigation requirements in contract designs, instructions, and specifications
- Field verification of work locations to confirm any need for siting adjustments based on the presence of sensitive resources
- Field verification of any construction yard sites

3.3 Coordination during Construction

Many mitigation measures were derived from specific permit conditions or agency input. The CPUC EM, along with PG&E, will be responsible for contacting resource agencies and immediately notifying them of issues arising with regard to matters under their jurisdiction. CPUC shall be copied on all correspondence (email or letter) and provided copies of documentation that flow between PG&E and resource agencies. If an unresolved issue regarding compliance with a mitigation measure affects a permit requirement under the jurisdiction of a resource agency, the CPUC EM will contact the Environmental Compliance Lead and they will contact the agency to discuss resolution.

3.4 Daily Communication

Generally, problems encountered during construction can be resolved in the field through regular communication among the Environmental Inspector, construction contractors, and CPUC EMs. Field staff will be equipped with cell phones and will be available to receive phone calls at all times during construction. The Project contact list will be provided and updated as needed by PG&E.

3.4.1 CPUC EMs

The CPUC EM's primary point of contact in the field is the Environmental Inspector. The CPUC EM will contact the Environmental Inspector if an activity is observed that conflicts with one or more of the mitigation measures, APMs, or permit conditions, so that the situation can be corrected by PG&E. If the CPUC EM cannot immediately reach the Environmental Inspector, the Environmental Compliance Supervisor will be contacted to address the issue. Similarly, the CPUC EM will contact the Environmental Inspector for information on where construction crews are working, the status of mitigation measures, and for schedule forecasts. The CPUC EM may discuss construction procedures directly with the construction contractors; however, PG&E may require its construction contractors to defer questions to an onsite PG&E representative. In all cases, the CPUC EM will contact the designated PG&E representative if a problem is noted that requires action from the construction contractor or PG&E.

Important: The CPUC EM will not direct the construction contractor, but will contact the designated PG&E contact person. In the event an activity imposes an imminent threat to a sensitive resource or an undue risk, the CPUC EM will try to contact the Environmental Inspector, who has the authority to stop work; however, if they are not immediately available, the CPUC EM has the authority to stop work at that location if it is safe to do so.

3.4.2 PG&E

PG&E will provide the CPUC and the CPUC monitoring team with a contact list identifying construction monitoring personnel and construction supervisory staff to contact regarding compliance issues. The contact list will include each person's title and responsibility, including the names of PG&E and CPUC EMs, project managers, supervisory staff, and other members of the team. The list shall include phone numbers and e-mail addresses where team members can be reached during construction. The contact list will be updated and redistributed as necessary by PG&E as new personnel are assigned to the Project. This list is confidential and will not be published or put on the website.

PG&E and/or its contractors will hold daily onsite meetings that the Environmental Inspector will attend. Prior to beginning the day's work at a job site, a tail-board briefing will be held by PG&E and/or its contractor. Possible subjects include reemphasizing safety and identifying any specific safety concerns associated with that day's operation, potential environmental issues that workers should be aware of, etc.

3.5 Scheduled Communications

3.5.1 PG&E Compliance Report

PG&E will prepare and distribute a weekly environmental compliance status report for distribution to key team members, including the CPUC. The CPUC EM will review the weekly report to ensure that the status of mitigation measures, APMs, and permit conditions is consistent with observations in the field. Questions regarding the status of mitigation measures will be directed to the Environmental Compliance Supervisor**.** The weekly environmental compliance status report also will be a tool to keep all parties informed of construction progress and schedule changes.

3.5.2 Scheduled Progress Meetings

PG&E will conduct weekly field meetings with construction managers, supervisors, PG&E's environmental representatives, and other appropriate staff to discuss work completed, work anticipated for the following period, and the status of mitigation measures. The weekly field meetings also will provide a forum for discussing environmental compliance issues or concerns.

PG&E may request that CPUC's and other agency's EMs participate in the field meetings to help resolve issues, if any, that may have arisen during the previous period and to anticipate potential issues that may arise in the upcoming activities. Alternatively, the Environmental Compliance Lead or the CPUC's EMs may recommend a separate meeting to discuss mitigation, project change requests, or other Project-related issues. These meetings may be held at a designated office location or on the Project site.

3.5.3 Scheduled Conference Call

The Environmental Compliance Lead, Environmental Compliance Supervisor, CPUC PM, the CPUC EM, and other parties may participate in a bi-weekly teleconference call. The teleconference calls will be scheduled for an agreed date and time and will be used to identify actual or potential issues and discuss solutions. The conference calls will focus on the Mitigation Monitoring Program and project progress generally.

3.6 As-needed Interagency Conference Calls

From time to time during the pre-construction process or during construction, the CPUC, resource agencies, and/or PG&E may determine that conference calls may be necessary or appropriate to discuss the status of specific mitigation compliance as they relate to permit requirements. These calls will be scheduled in advance, to the extent feasible, by e-mail, and will include the Environmental Compliance Lead. An agenda will be provided before the call.

4. Environmental Compliance and Field Procedures

4.1 Pre-Construction Compliance Verification

Prior to beginning construction, PG&E is required by the terms of the mitigation measures, APMs, and various permits and approvals for other regulatory agencies, to prepare and obtain approval of various plans and to perform various surveys and studies. Copies of plans, surveys, and studies will be retained by Aspen and will be provided to the CPUC with all files at the completion of the Project. The plans, surveys, studies, and other documentation required to be completed by PG&E before construction are identified in Section 6.

While these documents are being reviewed by the approving agencies, they also are reviewed by the CPUC and its representatives. Resource agencies will also be involved in the review of applicable plans and reports.

The CPUC third-party EMs, including project management staff and technical experts, will review and provide comments on all mitigation plans and reports. As appropriate, resource agencies also will be involved in the review of applicable plans and reports, and will provide comments. Comments on these documents will be provided to PG&E to ensure that they adequately accomplish the intended reduction in impacts. For required local and State agency permitting/consultations, the CPUC EM will track PG&E's progress as it relates to PG&E's construction plans and project mitigation, APMs, and permitting requirements. Based on PG&E's construction plans, CPUC may authorize construction to begin on a phased basis, and the CPUC EM will handle pre-construction compliance review accordingly. CPUC may issue NTPs for construction of each phase separately, as soon as pre-construction compliance is satisfactorily accomplished for that phase.

Important: Compliance with all pre-construction mitigation measures and APMs will be verified prior to construction, and construction may not start on any work package before PG&E receives a written NTP

from the CPUC PM and other necessary approvals, if any. In general, the CPUC will not issue an NTP until all pre-construction requirements have been fulfilled for a given phase. To save time, PG&E should identify all required workspace needs for each phase of construction prior to the start of active construction, so that the locations and their use can be included in the NTP.

4.1.1 Notice to Proceed Procedures

CPUC must issue a Notice-to-Proceed (NTP) before construction can start.

PG&E will submit a formal request for an NTP. If needed, minor project change requests can be submitted by PG&E along with the NTP request for incorporation into the NTP (see Section 4.3.3 for minor project change submittal requirements). On projects where there may be multiple spreads or work sites, PG&E may elect to request separate NTPs. Each separate NTP request will be applicable to a defined segment or aspect of the Project.

CPUC will review the NTP request and the applicable pre-construction requirements to ensure that all of the information required to process and approve the NTP is included. CPUC may request additional information or clarification as needed. Based on information provided in the request for an NTP and its review, CPUC will issue the NTP.

In general, an NTP request must include the following:

- A description of the work
- Detailed description of the location, including maps, photos, and/or other supporting documents
- Verification that all mitigation measures, permit conditions or requirements, APMs, project parameters, or other project stipulations have been met, apply, or do not apply to the work covered by the NTP request
- In a case where some outstanding requirements cannot be met prior to issuance of the NTP, an outline of outstanding submittals and how they will be met prior to construction
- Up-to-date resource surveys or a commitment to conduct surveys and submit results prior to construction
- Cultural resource surveys or verification that no cultural resources will be significantly impacted
- Copies of permits issued by other agencies, including requirements
- Date when construction is anticipated to begin and duration of work

Section 6 lists the mitigation measures and APMs, the timing for implementation, and whether CPUC review or approval is required before construction can begin. For reference, the NTP issued by CPUC will reiterate CPUC and other agency conditions or requirements that must be satisfied, either before work begins or during construction. The NTP will state whether pre-construction requirements in mitigation measures, APMs, and permits have been met, including the completion of any applicable surveys and studies to be undertaken. If compliance with some requirements cannot be met prior to NTP issuance, the reasons will be identified by PG&E and noted in the NTP. At its discretion, CPUC may issue the NTP with conditions. In such an event, the NTP will clearly define any limitations that apply and the actions to be taken and documented by PG&E prior to construction.

4.1.2 Compliance Reporting

The CPUC EM will perform compliance inspections throughout construction to ensure compliance with all applicable mitigation measures, APMs, plans, permits, and conditions of approval from CPUC and other agencies. The CPUC EM will document observations in the project area through field notes and digital photography. The photographs will be incorporated in weekly reports and related to a discussion of spe-

cific construction or compliance activity. In addition, daily field logs documenting compliance of specific crews, construction activities, or resource protection measures will be maintained. Field logs will be used to prepare weekly reports and to track and update the status of mitigation measures listed in Section 6.

Site visits by CPUC may be coordinated with PG&E or be unannounced. Supplemental information provided by PG&E, including pre-construction submittals, survey reports, weekly reports, meeting notes, and agency correspondence also will be used to verify compliance.

Compliance documents and reports will be posted on the CPUC public website, accessible at:

http://www.cpuc.ca.gov/Environment/info/aspen/embarc-potrero/embarc-potrero.htm

4.1.3 Compliance and Non-Compliance Levels

Project compliance and non-compliance violation levels that will be used and the specific actions by the CPUC monitoring team are as follows:

- ***Level A Compliance.*** All mitigation measures and permit conditions are being complied with and there are no violations. No corrective action is necessary.
- ***Level B Non-Compliance.*** One aspect of a mitigation measure is not in compliance, resulting in only partial implementation of a measure or permit condition, but there has been no significant impact as a result.

  Action: A verbal notice shall be given to the Environmental Compliance Lead (or assigned designee) and corrective action shall be required of PG&E within 1 day or other maximum period, as determined by the CPUC EM.

  Follow up: If corrective action is not taken within the stated period, a Project Memorandum (written warning) will be issued. If Level B Non-Compliances are allowed to continue, the non-compliant activity could result in a significant impact over time. Therefore, the frequency of Level B Non-Compliances will be tracked by the CPUC EM.

  If corrective action is not taken or does not address Level B Non-Compliance trends, a Non-Compliance Report (NCR) will be issued. The NCR will note that failure to resolve the identified condition or situation may lead to a project stop work order and/or action under the CPUC's CEQA Citation Program.
- ***Level C Non-Compliance.*** One or more of the aspects of a mitigation measure or permit condition are not in compliance, and the implementation of a mitigation measure is deficient or non-existent, resulting in potentially significant impact(s) or an immediate threat of major, irreversible environmental damage or property loss.

  Action: A verbal notice shall be given to the Environmental Compliance Lead (or assigned designee), followed immediately by an NCR sent to PG&E's EC (or assigned designee). Corrective action shall begin immediately.

  Follow up: If corrective action is not taken immediately or the corrective action is insufficient, the CPUC EM shall notify the CPUC PM, Aspen Monitoring Manager, and Aspen Liaison, who will review courses of action available.
- ***Level D Stop Work Order.*** The CPUC has the authority to shut down project construction. Stop Work Orders halt construction and are issued when a compliance violation continues over an extended period of time, is repeated several times, or when a violation could cause harm to a resource.

Action: Based on the severity of a given infraction or pattern of non-compliant activity, the CPUC Energy Division Director may direct that all or some portion of the work be stopped. This order will be conveyed directly from the Director or through the CPUC PM.

Follow up: If a shutdown of construction or an activity is ordered, the construction or activity shall not resume until authorized by the Energy Division Director or CPUC PM in writing.

Important: CPUC also may exercise the CEQA Citation Program adopted by the Commission in Resolution E-4550. The program delegates authority to Commission staff to draft and issue citations and levy fines for non-compliance with a PTC or CPCN. The Resolution allows Commission staff to efficiently issue fines when needed to quickly address non-compliance issues that are occurring in the field.

A non-compliant event regarding environmental resources may involve other agencies, in which case:

- The CPUC EM will confirm that PG&E has informed the applicable resource agency when non-compliant actions have the potential to harm an environmental resource or species (outside the reporting process associated with incidental takes as permitted by the resource agency).
- If timely notification is not made by PG&E, the CPUC EM will contact the applicable resource agency.

If permit or resources issues are involved, the CPUC and/or resource agencies may order work stoppages and the development of strategies for successful resource/species protection, consistent with the applicable permit or mitigation measure.

Important: The CPUC EM does not have the authority to shut down or restart construction, nor shall the CPUC EM direct the work of a construction contractor or subcontractor. However, if an imminent threat to safety or an unpermitted risk to a sensitive resource is observed, the CPUC EM has the responsibility to advise the PG&E or contractor site manager to immediately cease the threatening activity until the situation is rectified, as long the activity can be stopped safely. The CPUC EM shall immediately notify the CPUC PM and Aspen Monitoring Manager and report the status. If not action is taken by PG&E in response to the situation, CPUC will determine next steps.

4.1.4 Compliance Reporting and Documentation

All non-compliant activity will be recorded and reported. Based on the severity of the non-compliant event, notice to CPUC will be immediate or in the weekly report.

The CPUC EM will determine whether the observed construction activities are consistent with mitigation measures, APMs, and project parameters as identified in the Final MND and adopted by the CPUC, as well as any applicable permit conditions. All observations and communications will be noted in a logbook. Deviations from mitigation measures, APMs, or permit conditions will be considered non-compliant events and will be documented.

4.1.5 PG&E Reportable Events

Unanticipated events may occur that impact project personnel, public safety, or resources and may not be observed by the CPUC EM. While these events may not result in a deviation from or violation of a mitigation measure or permit condition, it is important that these events be reported to the appropriate agencies and the CPUC so they are in a position to respond to questions or concerns from the public or managers. Accordingly, PG&E will immediately report these events to the CPUC and other regulatory agencies as appropriate. PG&E will submit to the appropriate agency, if any, and to CPUC a final verbal or electronic notification characterizing the event, actions taken, and outcomes.

Examples of reportable events are:

- any event a mitigation measure failed to address
- a violation of a permit condition
- an occurrence that posed or could have posed a risk to public health and safety
- any event requiring emergency response
- a "near miss" event involving construction equipment and, in PG&E's reasonable judgment, had the potential to result in serious bodily harm or death.

4.2 Dispute Resolution

The MMCRP will likely reduce or eliminate many potential disputes. However, even with the best preparation, differences in mitigation implementation approaches may occur. Issues should first be addressed informally at the field level, between the CPUC EM and PG&E's Environmental Inspectors or Environmental Monitors, or at the regular progress meetings. Questions may be raised to the PG&E Environmental Compliance Lead and the PG&E Project Manager. Should the issue persist or not be resolved at these levels, the following procedures will be used.

Step 1. Differences in mitigation implementation approaches, disputes, and complaints (including those of the public) are directed to the CPUC PM for resolution. The PM will attempt to resolve the dispute with PG&E's Environmental Project Manager.

Step 2. If Step 1 fails to resolve the issue, the CPUC PM may initiate enforcement or compliance action to address deviations from the Project or adopted MMCRP, if they have occurred without prior authorization. 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 Mitigation Monitoring Program.

Step 3. If the differences, dispute, or complaint cannot be resolved informally or through enforcement or compliance action by the CPUC, the 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) will meet or confer with the filer and other affected participants to resolve the dispute. The Executive Director will issue an Executive Resolution describing the decision, and serve 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.

Involved parties may also seek review by the Commission through procedures specified in the Commission's 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.

Separate enforcement steps by the regulatory agencies may follow different steps or procedures. The CPUC PM and the Environmental Compliance Lead will coordinate with other permitting agencies for issues outside the CPUC jurisdiction.

The dispute resolution process could occur concurrently with the communication protocol during construction for non-compliant events.

Separate dispute resolution or enforcement steps involving other regulatory agencies would follow that agency's procedures.

4.3 Project Refinements

4.3.1 Transition from Preliminary Design to Final Engineering

The MND for the Project is based on preliminary design. Because the Project has now been approved by CPUC and other jurisdictional agencies, PG&E has been in the process of completing final project design and engineering. Some project component locations may have been refined as engineering progresses in order to comply with mitigation measures, avoid or minimize environmental impacts, and reduce or eliminate feasibility constraints.

Mitigation measure requirements were finalized at the time of project approval, and pre-construction compliance submittals will be reviewed based on the requirements in these measures. The process outlined below allows for changes in the case of unforeseen circumstances, as long as the intent of the mitigation measure is satisfied (i.e., the impact is mitigated as intended, consistent with residual impact determinations in the MND).

4.3.2 Project Changes

At various times throughout project construction (following approval of final design plans), changes to the Project requirements may be needed to facilitate construction or provide more effective protection of resources. When changes are necessary for specific field situations, PG&E and CPUC, in consultation with the applicable resource agencies, will work together to find solutions that avoid conflicts with adopted mitigation measures.

4.3.3 Minor Project Changes

The CPUC PM, 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 is consistent with CEQA requirements.

- No project changes will be approved by the CPUC PM if they
  - would be located outside of the geographic boundary of the project study area,
  - create new or substantially more severe significant impacts, or
  - conflict with any mitigation measure or applicable law or policy.
- Minor project changes are strictly limited to changes that
  - will not trigger other permit requirements unless the appropriate agency has approved the change, and
  - clearly and strictly comply with the intent of the mitigation measure or applicable law or policy.

This determination is ministerial, and shall be made by the CPUC Project Manager. PG&E must seek any other project changes by a Petition for Modification (PFM). Should a project change require a PFM, supplemental environmental review under CEQA would be required.

Requests for staff approval of a minor project change must be made in writing and should include the following:

- A detailed description of the proposed minor changes, including an explanation of why the refinements are necessary, and a reference to the approved documents.

- Photos, maps, and other supporting documentation illustrating the difference between: the existing conditions in the area, the approved project, and the proposed minor changes.
- The potential impacts of the proposed minor changes, including a discussion of each environmental issue area that could be affected by the minor changes with accompanying verification that there will be no substantial increase in the severity of any previously identified significant impacts to resources affected by the project and no new significant impacts, after application of previously adopted mitigation.
- Whether the minor changes conflict with any applicant proposed measures or mitigation measures.
- Whether the minor changes conflict with any applicable guideline, ordinance, code, rule, regulation, order, decision, statute or policy.
- Water/wetland/storm water related resource information if the minor changes would result in any additional land disturbance, road distance or width, changes to jurisdictional delineation of waters, or changes to water protection best management practices.
- Date of expected construction at the minor changes site area.

The CPUC PM may request additional information or a site visit in order to process the request. Possible examples of changes that may be approved by staff after final engineering include, but are not limited to:

- Adjusting the alignment of a project within the study area that was used in the original environmental analysis to avoid unanticipated impacts related to cultural artifacts, buried utility infrastructure, hazardous and toxic substances, and other land use impacts including effects on homeowners, so long as the adjustment does not create a new significant impact or a substantial increase in the severity of a previously identified significant impact.
- Adjusting the alignment of a project within the study area that was used in the original environmental analysis to avoid or adapt to conditions on the ground that vary from the conditions that existed at the time of the original environmental analysis, so long as the adjustment does not create a new significant impact or a substantial increase in the severity of a previously identified significant impact.

Important: To initiate a project minor changes request, PG&E will fill out a Project Minor Change Request Form (see Attachment B), prepare the appropriate supporting documentation, and obtain the required signatures. PG&E will complete and submit the Project Minor Change Request Form and supporting documentation by email (scanned copy) to the CPUC Project Manager with a copy to Aspen.

The CPUC Monitoring Team will review the 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 EM, or may request additional information to process the request. In some cases, project minor changes may require approval by jurisdictional agencies as well.

All approved minor change requests will be tracked in tabular format in the weekly reports.

4.3.4 Temporary Extra Work Space Procedures

For the purposes of this MMCRP, Temporary Extra Work Space (TEWS) is defined as a preexisting workspace (i.e., no site preparation is required) that would be used by PG&E during construction for a period of up to 60 days, and that was not specifically identified and evaluated during the CEQA process. Anything required to be utilized for a period longer than 60 days will require a minor project change approval (see Section 4.3.3).

In the event that PG&E determines a need for a construction TEWS, it must submit such a request to the CPUC, consistent with the communication protocol. PG&E will not be permitted to use a TEWS prior to

receiving written authorization from the CPUC. If appropriate, PG&E will also send a copy of the TEWS to affected jurisdictional agencies.

PG&E must demonstrate that:

(1) the TEWS is located in a disturbed area with no sensitive resources or land uses onsite or within proximity of the proposed workspace such that they may be significantly impacted by the work,

(2) PG&E has permission of the applicable landowner (e.g., municipality or private) to use the workspace, and

(3) use of the TEWS will not result in any significant environmental impacts.

Following is a list of the specific information that PG&E would be required to submit with its TEWS request:

- Date of request
- Location of the TEWS (detailed description, including maps if required)
- Property owner of TEWS
- An explanation of the need for the TEWS
- An analysis that demonstrates no new significant impacts will result from use of the TEWS including: compaction contributing to runoff rates or other stormwater/watershed effects; observed existing impacts to the site, such as old oil spills or other potentially hazardous or polluting substances; abandoned vehicles, equipment, or other materials; or other sensitive resources
- Biological and botanical surveys if appropriate
- Cultural resource survey
- Duration and dates of expected use of the TEWS
- Details of the expected condition of the site after use

A sample TEWS form is included as Attachment C.

5. Records Management

Weekly status reports will be filed and used by the CPUC third-party EM to prepare a final environmental compliance report following the completion of construction. The final report will provide an overview of construction and a discussion of environmental compliance and lessons learned.

5.1 Public Access to Records

A publicly accessible website for the Project is maintained by the CPUC to make available current versions of reports and other documents prepared for mitigation compliance.

The public is allowed access to records and reports used to track the monitoring program. Monitoring records and reports will be made available by the CPUC for public inspection on request, consistent with critical infrastructure requirements, requirements to protect cultural resources, and General Order (G.O.) 66-C. In order to facilitate the public's awareness, the CPUC will post this MMCRP document, weekly reports, and other pertinent Project documents on the CPUC public website. Other monitoring compliance reports, copies of permits, and documents will be available in their final form on the Project website once they are approved by the CPUC or other permitting agencies. Access to Critical Energy Infrastructure Information (CEII) documentation, the location of protected cultural resources, and other information meeting the standards for non-disclosure set forth in G.O. 66-C will not be available on the public website.

The CPUC public website is accessible at:

http://www.cpuc.ca.gov/Environment/info/aspen/embarc-potrero/embarc-potrero.htm

6. Mitigation Measures and APMs

The following tables include the mitigation measures and APMs from the MND. The tables indicate the resource of concern, the measure to be implemented, the monitoring requirement, and when the measure is to be implemented.

Table 6A. Mitigation Monitoring Plan – Pre-Construction Measures			1	2	3	4
Impact	**Applicant Proposed Measure (APM) or Mitigation Measure**	**Monitoring Requirement**	**Potrero**	**UG/ Land**	**HDD**	**Sub-marine Cable**
	Aesthetics					
APM AE-1	**Nighttime Lighting to Minimize Potential Visual Impacts.** The new switchyard may include outdoor lighting for safety and security purposes. Design and layout for new outdoor lighting at the switchyard will incorporate measures, such as use of non-glare or hooded fixtures and directional lighting, to reduce spillover into areas outside the switchyard site and minimize the visibility of lighting from offsite locations.	Review design and layout to ensure that lighting spillover is minimized to off-site locations	X	—	—	—
	Air Quality					
APM AQ-2	**Minimize Construction Exhaust Emissions.** Develop a plan demonstrating that the off-road equipment (more than 50 horsepower) to be used would achieve a project-wide fleet-average 20 percent NO_x reduction and 45 percent PM reduction compared to the most recent CARB fleet average. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such become available.	Ensure plan in place to reduce emissions from construction equipment	X	X	X	X
APM AQ-3	**Minimize Potential Naturally Occurring Asbestos (NOA) Emissions.** The following measures will be implemented prior to construction: ▪ Prior to commencement of construction, samples of the Potrero Switchyard construction area will be analyzed for presence of asbestos, serpentinite or ultramafic rock ▪ For disturbed areas of greater than 1.0 acre, submit an Asbestos Dust Mitigation Plan to the BAAQMD and obtain approval prior to commencement of construction	Ensure soil sample analysis and that an Asbestos Dust Mitigation Plan has been approved by BAAQMD if needed	X	—	—	—

Table 6A. Mitigation Monitoring Plan – Pre-Construction Measures			1	2	3	4
Impact	**Applicant Proposed Measure (APM) or Mitigation Measure**	**Monitoring Requirement**	**Potrero**	**UG/ Land**	**HDD**	**Sub-marine Cable**
	Biological Resources					
APM BIO-1	**General Measures.** Environmental awareness training will be conducted for onsite construction personnel prior to the start of construction activities. The training will explain the APMs and any other measures developed to prevent impacts on special-status species, including nesting birds. The training will also include a description of special-status species and their habitat needs, as well as an explanation of the status of these species and their protection under the ESA, CESA, and other statutes. A brochure will be provided with color photos of sensitive species, as well as a discussion of any permit measures. A copy of the training and brochure will be provided to CPUC at least 30 days prior to the start of construction for project files. This WEAP also needs to include the following measures: ▪ Biological monitor: A qualified biological monitor will verify implementation and compliance with all applicant proposed measures. The monitor will have the authority to stop work or determine alternative work practices where safe to do so, as appropriate, if construction activities are likely to impact sensitive biological resources. ▪ 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. Trash containers will be removed from the project area at the end of each working day. ▪ Parking: Vehicles and equipment will be parked on pavement, existing roads, and previously disturbed or developed areas or work areas as identified in this document. ▪ Pets and firearms: No pets or firearms will be permitted at the project site.	review training and brochure; ensure construction personnel sign an environmental training attendance sheet.	X	X	X	X
APM BIO-5	**Aquatic Habitat Protection.** PG&E will acquire the necessary permits to conduct cable installation activities in the San Francisco Bay. PG&E will comply with all conditions and requirements of these permits and certification.	Ensure appropriate permits have been obtained and compliance with any pre-construction conditions and requirements of permits	—	—	X	X
APM BIO-6	**Fish Screen.** All hydroplow water jet intakes will be covered with a mesh screen to minimize the potential for impingement or entrainment of fish species.	Ensure mesh screens are installed on water jet intakes [Supplemented by MM B-3]	—	—	—	X

Table 6A. Mitigation Monitoring Plan – Pre-Construction Measures			1	2	3	4
Impact	**Applicant Proposed Measure (APM) or Mitigation Measure**	**Monitoring Requirement**	**Potrero**	**UG/ Land**	**HDD**	**Sub-marine Cable**
Special-Status Species	**MM B-1: Implement an Invasive Marine Species Control Plan**. PG&E shall develop and implement an Invasive Marine Species Control Plan prior to any in-water work. The plan shall include measures designed to effectively limit the introduction and spread of invasive marine species. PG&E shall submit this plan to the CPUC for approval at least 60 days before the start of marine activities. Vessels originating outside San Francisco Bay shall follow existing compliance measures established by the California State Lands Commission as part of the Marine Invasive Species Program, relating to hull fouling and ballast water control. In addition, if used outside the San Francisco Bay area prior to use on this project, the hydroplow and associated equipment shall be examined and any invasive species handled and disposed of according to the developed plan. Similarly, if the equipment is to be used outside the San Francisco Bay after this use, the equipment shall be examined and cleaned prior to leaving the area. PG&E shall coordinate plan preparation with the CPUC, U.S. Coast Guard, U.S. Army Corps of Engineers, National Marine Fisheries Service [NMFS], Regional Water Quality Control Board, and California Department of Fish and Wildlife [CDFW] as appropriate. The plan shall include: environmental training for all crew members working in marine areas addressing invasive marine species and actions to be taken to prevent release and spread of invasive marine species. Training shall include procedures for safe removal and disposal of any invasive species found on project equipment. Before and after boats and equipment leave the water, a qualified biologist (approved by the CPUC) shall assist crew members in removing plants, plant debris, and any other potentially invasive species.	Verify contents of Invasive Marine Species Control Plan and review training	—	—	X	X

Table 6A. Mitigation Monitoring Plan – Pre-Construction Measures			1	2	3	4
Impact	**Applicant Proposed Measure (APM) or Mitigation Measure**	**Monitoring Requirement**	**Potrero**	**UG/ Land**	**HDD**	**Sub-marine Cable**
Special-Status Species	**MM B-2: Protect marine mammals from high noise levels.** PG&E shall consult with the National Marine Fisheries Service (NMFS) to determine whether Incidental Harassment Authorization (IHA) or Letter of Authorization (LOA) for marine mammals is necessary. If NMFS determines that an IHA or LOA is not necessary, PG&E shall submit evidence of this determination to the CPUC prior to the start of marine construction activities. ***Monitoring.*** PG&E shall prepare a Marine Mammal Monitoring Plan. PG&E shall submit this plan to the CPUC for approval before the start of marine activities. The Marine Mammal Monitoring Plan shall include the following elements: ▪ Establishment of an appropriate buffer zone around the work area, generally 400 feet or as defined in consultation with NMFS, that would require work be slowed or otherwise modified if the work approaches a marine mammal within the established buffer zone. ▪ A qualified biologist (approved by the CPUC) shall be on board the hydroplowing ship during construction. ▪ The qualified biologist shall monitor marine mammal presence and behavior in the vicinity of the ship and the surface above hydroplow operations. ▪ The qualified biologist shall have the authority to slow or stop work, if safe to do so, and shall consult with the CPUC and NMFS about the implementation of additional minimization measures if, based on observations, project construction appears to be disrupting marine mammal behavior in ways that indicate harassment or injury. ▪ Any disruption of marine mammal behavioral patterns shall be reported to the CPUC and NMFS within two working days with a description of actions taken to curtail work and reduce noise source levels and a demonstration that the disruption caused no potential for injury or mortality. ▪ PG&E shall submit weekly reports of marine mammal observations to the CPUC during marine construction activities. As an alternative to preparing and implementing the Marine Mammal Monitoring Plan specified in this mitigation measure, PG&E may provide adequate evidence, to the CPUC for approval at least 30 days before the start of marine activities, based upon actual data collected for this project or other projects using similar equipment in a similar submarine environment, that demonstrates to the satisfaction of the CPUC that underwater noise source levels generated by the project hydroplow and marine activities cannot be reasonably expected to exceed the 180 dB threshold recently used by NMFS for marine mammal protection.	Review information on noise source levels; verify contents of Marine Mammal Monitoring Plan; observe buffer zones and modifications to work practices As an alternative, review data to be provided indicating underwater noise is not expected to reach 180 dB.	—	—	—	X

Table 6A. Mitigation Monitoring Plan – Pre-Construction Measures			1	2	3	4
Impact	**Applicant Proposed Measure (APM) or Mitigation Measure**	**Monitoring Requirement**	**Potrero**	**UG/ Land**	**HDD**	**Sub-marine Cable**
Special-Status Species	**MM B-3: Protect marine species**. PG&E shall consult with CDFW to obtain an Incidental Take Permit for longfin smelt or a determination from the agency that the project will not result in take to longfin smelt. ***Fish screens.*** As stated in APM BIO-6, all hydroplow water jet intakes shall be covered with a mesh screen or screening device to minimize potential for impingement or entrainment of fish species, especially longfin smelt. Additional requirements to minimize or prevent entrainment and impingement are also required to supplement APM BIO-6: ▪ The mesh screen or screening device shall comply with applicable state (CDFW) and federal (NMFS) criteria for screening intakes such as those found in NMFS's 1996 *Juvenile Fish Screen Criteria for Pump Intakes* and CDFW's Fish Screening Criteria (http://www.dfg.ca.gov/fish/Resources/Projects/Engin/Engin_ScreenCriteria.asp) or as required in coordination with NMFS and CDFW.	Verify use and condition of specified screens before and after each work period; review report of injury or mortality, or as required by NMFS and CDFW	—	—	—	X
Special-Status Species	**MM B-4: Avoid impacts to nesting birds.** This measure supersedes APM BIO-2. If onshore construction activities occur during the avian nesting season, a preconstruction survey for nesting birds shall be conducted by a qualified wildlife biologist (PG&E employees or contractors, approved by the CPUC) within 7 days prior to the start of noise-generating construction or vegetation trimming or removal activities in any new work area. Surveys shall cover all public areas within 50 feet of work sites. For San Francisco County, the avian nesting season regularly occurs between February 15 and August 31, but a survey may be appropriate earlier or later depending on species, location, and weather conditions as determined by the qualified wildlife biologist. Work areas that cause no appreciable increase in ambient noise, such as where work is performed manually, by hand, or on foot and activities that cause no observable disturbances to nesting birds (e.g., operating switches, driving on access roads, normally occurring activities at substations, staging or laydown areas) would not warrant a preconstruction survey. ***Protective measures for birds.*** If an active bird nest for a species covered by the Migratory Bird Treaty Act or California Fish and Game Code is found within 50 feet of project work areas, the qualified biologist shall determine appropriate protective measures to reduce the likelihood of nest failure. Protective measures for active nests shall include one or more of the following: avoiding or limiting certain project-related activities within a designated buffer zone surrounding the nest, shielding of the nest from project disturbance using a temporary soundwall or visual screen, or other shielding method as appropriate. The width of the buffer zone (in which work may not occur) shall be based on the disturbance tolerance and conservation status of the species, and the nature of planned construction activities and other human activities in the immediate area. Buffer zones of less than 50 feet shall be allowed only when planned construction activities involve relatively low disturbance or birds have demonstrated tolerance of noise and disturbance. Buffers shall not apply to construction-related vehicle or pedestrian traffic using city streets and sidewalks. 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. An example exclusion technique is covering equipment with tarps.	Verify survey results and established buffers for nesting birds; review proposed buffers of less than 50 feet for special-status birds	X	X	X	—

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	Protective measures for special-status birds. If an active nest for a special-status bird is found, PG&E shall record the position of the nest in the monitoring report and notify the CPUC through the reporting process outlined below. The qualified biologist shall implement buffers and set other protective measures (described above), as appropriate, to protect special-status nesting birds from construction activities in consultation with CPUC, and as appropriate the California Department of Fish and Wildlife (CDFW) and/or United States Fish and Wildlife Service (USFWS). Buffer zones of less than 50 feet shall be allowed only when planned construction activities involve relatively low disturbance or birds have demonstrated tolerance of noise and disturbance. Requests for buffers of less than 50 feet for special-status nesting birds must be submitted to the CPUC's independent biologist(s) for review. The CPUC's independent biologist shall respond to PG&E's request for a buffer reduction (and buffer reduction terms) within one business day; if a response is not received, PG&E can proceed with the buffer reduction. If nesting birds in the presence of the CPUC-approved qualified biologist show signs of intolerance to construction activities within a reduced buffer zone, the qualified biologist shall reinstate the recommended buffer. The recommended buffer may only be reduced again following the same process, as identified above, and after the CPUC-approved, qualified biologist has determined that the nesting birds are no longer exhibiting signs of intolerance to construction activities. Nests shall be monitored daily by the qualified biologist when construction is active at that location. Any potentially significant construction-related disturbance shall be reported to CPUC, CDFW, and USFWS. ***Permits.*** Prior to the start of construction, PG&E may obtain a permit 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 PG&E obtains such a permit under the above authorities, where that permit conflicts with the measures outlined above, the conditions of the permit shall govern.					

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	Cultural Resources					
APM CUL-1	**Pre-Construction Worker Cultural Resources Training.** Prior to construction, PG&E will design and implement a Worker Cultural Resources Training Program for all project personnel who may encounter and/or alter historical resources or unique archaeological properties. Construction supervisors, workers, and other field personnel will be required to attend the training program prior to their involvement in field operations. The program will be conducted in conjunction with other environmental awareness training and education for the project. The cultural resources training session will be led by a qualified instructor meeting the Secretary of Interior's Professional Qualification Standards as listed beginning on page 44716 of Volume 48 of the Federal Register and as may be updated by the National Park Service. This Program will minimally include: ▪ A review of the environmental setting (prehistory, ethnography, history) associated with the project; ▪ A review of Native American cultural concerns and recommendations during project implementation; ▪ A review of applicable federal, state, and local laws and ordinances governing cultural resources and historic preservation; ▪ A review of what constitutes prehistoric or historical archaeological deposits and what the workers should look out for; ▪ A discussion of site avoidance requirements and procedures to be followed in the event unanticipated cultural resources are discovered during construction; ▪ A discussion of procedures to follow in the event human remains are discovered during construction; ▪ A discussion of disciplinary and other actions that could be taken against persons violating historic preservation laws and PG&E policies; ▪ A discussion of eligible and potentially eligible built environment resources and procedures to follow regarding minimizing vibration from equipment in designated areas; and ▪ A statement by the construction company or applicable employer agreeing to abide by the program conditions, PG&E policies, and applicable laws and regulations.	Review training program materials and ensure construction personnel sign an environmental training attendance sheet.	X	X	X	X
APM CUL-7	**Record to Historic American Building Survey/Historic American Engineering Record Standards.** Station A's setting will be affected by construction of the GIS building. The currently visible exterior façade on the west side of the main turbine building may be blocked from view, and the brick wall that fronts Station A and that serves as a visual barrier will be partially or completely removed. Prior to construction, the setting and exterior of the Station and brick wall will be documented using HAER standards. These standards include large format photography of the structures, photo reproduction of historical plans, mapping, and a descriptive and historical narrative. The resulting documentation will be archived with PG&E, the SHPO, the Bancroft Library at the University of California Berkeley, the San Francisco Landmarks Preservation Advisory Board files at the San Francisco Planning Department, the Foundation for San Francisco's Architectural Heritage, and the San Francisco Public Library.	Review Station A setting and exterior documentation	X	—	—	—

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APM CUL-8	**Apply Secretary of the Interior Standards for the Treatment of Historic Properties to Brick Wall Modifications.** The gate in the brick wall that fronts Station A may be widened and the wall removed or modified to allow access for large transformer equipment and future maintenance activities. Modifications to or removal of the wall will follow the Secretary of the Interior Standards for the Treatment of Historic Properties (available at http://www.nps.gov/hps/tps/standguide/) and will be designed to be compatible with the historic character of Station A. PG&E will submit a draft of its design for the brick wall modifications to the Commission no less than 30 days prior to any alteration of the wall.	Review design of brick wall modification and ensure it follows the Secretary of the Interior Standards	X	—	—	—
Known and Potential Cultural Resources	**MM C-2**: **Avoid known and potential shipwreck locations.** This measure incorporates and supplements portions of APM CUL-2, Resource Avoidance (see during-construction measures table). During installation of the submarine cable, PG&E and its contractors shall map the as-built alignment of the cable in relation to known cultural resources, and the contractors shall ensure that the cable passes at least 100 feet to the west of the known shipwreck located in the northeastern portion of the marine geophysical survey area and mapped on NOAA Chart no.18650. In addition, prior to the installation of the cable, PG&E and its contractors shall map a 50 foot buffer around the magnetic anomaly identified by OSI as anomaly no. M63 in the southern half of the marine geophysical survey area and located at 6019099E, 2106491N, as the anomaly may result from the remains of a shipwreck buried beneath the bay floor in that location. PG&E and its contractors shall ensure that no sediment disturbing excavation or hydroplowing is conducted within the 50 foot buffer zone. If the project cannot be routed around the anomaly, additional evaluation and mitigation as detailed in Mitigation Measure C-1, for unanticipated discoveries, and detailed in the Unanticipated Discoveries Plan may be necessary prior to excavation.	Avoid known shipwreck and magnetic anomaly, review maps of buffer areas and as-built alignment	—	—	X	X
	Paleontological Resources					
APM PR-1	**Worker Environmental Awareness Program Paleontological Resources Module.** The project's worker environmental awareness program, which all workers will complete prior to beginning work on the project site, will include a module on paleontological resources (fossils). The module will discuss the laws protecting paleontological resources, recognition in the field and types of paleontological resources that could be encountered on the project, and the procedures to be followed if a paleontological resource is discovered. A copy of the project's worker environmental awareness training will be provided to the CPUC for recordkeeping prior to the start of construction.	Review training program materials and ensure construction personnel sign an environmental training attendance sheet.	X	X	X	X
	Geology and Soils					
APM GS-1	**Appropriate soil stability design measures implementation.** Based on available references, artificial fills, fine sands, silts, and bay mud are the primary soil types expected to be encountered in the excavated areas as project construction proceeds. Potentially problematic subsurface conditions may include soft or loose soils. Where soft, loose, or liquefiable soils are encountered during design studies, ensure design of the project is appropriate for those conditions.	Ensure design of the project is appropriate for the conditions; review project design	X	X	X	—

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APM GS-2	**Appropriate seismic safety design measures implementation.** As part of conceptual design investigation, site-specific seismic analyses were performed to evaluate PGAs for design of project components. Because the proposed transmission cables will be lifeline utilities, the 84th percentile motions (i.e., one standard deviation above the median; see Table 3.6-2), were used (B&V 2012). The project will be designed based on current seismic design practices and guidelines. Potential seismic safety design practices for onshore segments may include geotextile wrap, an oversized trench with a compressible zone, flexible joints, duct banks with heavier/ high strength reinforcement, flexible conduits in place of concrete duct banks, soil improvement, or use of deep foundations; offshore segments may include flexible joints at the transition to land cables, sinusoidal installation or other methods to provide slack in the submarine cable.	Ensure design of the project is based on current seismic design practices and guidelines; review project design	X	X	X	X
APM GS-3	**Appropriate erosion-control measures implementation.** Best Management Practices (BMPs) will be implemented to minimize and avoid surface runoff, erosion, and pollution (see APM WQ-1 and WQ-2).	Ensure BMPs are implemented to minimize and avoid surface runoff, erosion, and pollution	X	X	X	—
	Greenhouse Gas Emissions					
APM GHG-2	**Avoid and Minimize Potential SF6 Emissions.** PG&E will include Potrero Switchyard in PG&E's system-wide SF6 emission reduction program, which includes inventorying and monitoring system-wide SF6 leakage rates and employing X-ray technology to inspect internal circuit breaker components to eliminate dismantling of breakers and reduce accidental releases. New circuit breakers installed at Potrero Switchyard and Embarcadero Substation will have a manufacturer's guaranteed SF6 leakage rate of 0.5 percent per year or less and will be maintained in accordance with PG&E's maintenance guidelines.	Potential for SF_6 leaks is minimized according to a leakage rate standard	X	—	—	—
	Hazards and Hazardous Materials					
APM HM-1	**Implementation of Hazardous Material and Emergency Response Procedures.** PG&E will implement construction controls, training and communication to minimize the potential exposure of the public and site workers to potential hazardous materials during all phases of project construction. These construction practices include construction worker training appropriate to the site worker's role (see APM HM-3) (see During-construction table), and containment and spill control practices in accordance with the Stormwater Pollution Prevention Plan (see APM WQ-1). *(Also see APM WQ-1 and APM WQ-3 in PEA Section 3.9.4.2)*	Review training program materials and ensure construction personnel sign an environmental training attendance sheet	X	X	X	X

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APM HM-2	**Development and Implementation of a Health and Safety Plan.** PG&E will prepare a project-specific health and safety (H&S) plan prior to project construction. The purpose of the plan is to minimize potential safety hazards to site construction workers. The H&S plan will outline the project team H&S responsi-bilities; present job safety analyses, H&S procedures, and personal protective equipment requirements; establish worker training and monitoring requirements; and describe emergency response procedures relevant to project activities. Each contractor will be responsible for preparing and submitting to PG&E their own H&S Plan specific to their activities using the PG&E Plan for project-specific information.	Review project-specific health and safety plan. Observe availability of material safety data sheets	X	X	X	X
APM HM-5	**Soil, Groundwater, and Underground Tank Characterization.** In areas where existing data are not available, soil and groundwater sampling and potholing will be conducted in onshore project areas before construction begins. Appropriate handling, transportation, and disposal locations will be determined based on results of the analyses performed on soil and groundwater. In addition, results will be provided to contractor and construction crews to inform them about soil and groundwater conditions and potential hazards. The location, distribution, and/or frequency of the borings will give adequate representation of the conditions in the construction area. *(Also see APM WQ-5.)*	Ensure groundwater and soil pre-characterization occurs, review results of sampling.	X	X	X	—
APM HM-6	**Horizontal Directional Drilling (HDD) Drilling Fluid and Cuttings Monitoring and Management.** A Frac-out Plan will be developed and prepared based on site specific conditions and specific contractor methods and equipment. *(Also see APM WQ-6 and APM WQ-7.)*	Ensure HDD monitoring for loss of drilling fluids and development of a Frac-out Plan	—	—	X	—
APM HM-7	**Sediment Testing Program for Submarine Cable Installation.** As discussed above, sediments along the submarine cable route are located near known contaminated sediment areas (SFEI, 2012), and a Sampling and Analysis Plan will be prepared in coordination with the Dredged Material Management Office (DMMO) of the U.S. Army Corps of Engineers. Sediment sampling shall be performed at the locations where the HDD emerges into the Bay, and the results would be considered and addressed prior to commencement of construction near these locations. Potential contaminants such as PAHs and heavy metals are generally insoluble or have low solubility in water. Conducting sediment analysis of samples before the installation of the submarine cable will establish baseline conditions along the project route. The sediment testing program will be used to develop appropriate construction control measures that may include controlling turbidity during construction through adjustment of hydroplow jet controls and flows, turbidity monitoring during construction in certain areas, and appropriate handling and disposal of any sediment that may be removed as part of the submarine transitions to HDD installation. *(Also see APM WQ-8.)*	Review Sampling and Analysis Plan and results of sampling	—	—	—	X

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	Hydrology and Water Quality					
APM WQ-1	**Development and Implementation of a Stormwater Pollution Prevention Plan (SWPPP).** Stormwater discharges associated with project construction activities are regulated under the General Construction Permit. Cases in which construction will disturb more than one acre of soil require submittal of a Notice of Intent, development of a SWPPP (both certified by the Legally Responsible Person (LRP)), periodic monitoring and inspections, retention of monitoring records, reporting of incidences of noncompliance, and submittal of annual compliance reports. PG&E will comply with all General Construction Permit requirements. Following project approval, PG&E will prepare and implement a SWPPP, which will address erosion and sediment control to minimize construction impacts on surface water quality. The SWPPP will be designed specifically for the hydrologic setting of the Proposed Project in proximity to the San Francisco Bay. Implementation of the SWPPP will help stabilize graded areas and reduce erosion and sedimen-tation. The SWPPP will designate BMPs that will be adhered to during construction activities. Erosion and sediment control BMPs, such as straw wattles, erosion control blankets, and/or silt fences, will be installed in compliance with the SWPPP and the General Construction Permit. Suitable soil stabilization BMPs will be used to protect exposed areas during construction activities, as specified in the SWPPP. During construction activities, BMPs will be in place to address construction materials and wastes. BMPs, where applicable, will be designed by using specific criteria from recognized BMP design guidance manuals. Erosion and sediment-minimizing efforts will include measures such as the following: ▪ Defining ingress and egress within the project site to control track-out ▪ Implementing a dust control program during construction ▪ Properly containing stockpiled soil Identified erosion and sediment control measures will be installed in an area before construction begins and inspected and improved as needed before any anticipated storm events. A copy of the SWPPP will be provided to the CPUC for recordkeeping. The plan will be maintained and updated during construction as required by the SWRCB.	Ensure a SWPPP is prepared and implemented to minimize construction impacts on surface water and ground-water quality	X	X	X	—

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APM WQ-2	**Implementation of a Worker Environmental Awareness Program.** The project's worker environmental awareness program will communicate environmental issues and appropriate work practices specific to this project to all field personnel. These will include spill prevention and response measures and proper BMP implementation. The training program will emphasize site-specific physical conditions to improve hazard prevention (such as identification of flow paths to nearest water bodies) and will include a review of all site-specific water quality requirements, applicable portions of erosion control and sediment transport BMPs contained in the SWPPP (APM WQ-1) and the health and safety plan (see APM HM-2 in PEA Section 3.8.4.2). A copy of the project's worker environmental awareness training record will be provided to the CPUC for recordkeeping. An environmental monitoring program will also be implemented to ensure that the plans are followed throughout the construction period.	Review training program materials and ensure construction personnel sign an environmental training attendance sheet.	X	X	X	X
APM WQ-3	**Implementation of Hazardous Material and Emergency Response Procedures.** Ensure that PG&E implements construction worker training appropriate to the site worker's role (see APM HM-3). *(Also see APM HM-1.)*	Ensure construction personnel sign an environmental training attendance sheet; observe storage of chemicals and availability of material safety data sheets	X	X	X	X
APM WQ-5	**Soil Sampling/Wastewater and Groundwater Characterization.** Soil sampling and potholing will be conducted in onshore project areas before construction begins, and soil information will be provided to construction crews to inform them about soil conditions and potential hazards. Prior to initiating excavation activities along the underground transmission cable routes, soil borings will be advanced to identify areas where contaminated groundwater may be contacted. The location, distribution, and/or frequency of the borings will give adequate representation of the conditions in the construction area. If suspected contaminated groundwater is encountered at the depths of the proposed construction, samples will be collected and submitted for laboratory analysis of petroleum hydrocarbons, metals, volatile organic compounds, and semi-volatile organic compounds. *(Also see APM HM-5.)*	Ensure soil information is provided to construction crews	X	X	X	—

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APM WQ-6	**Horizontal Directional Drilling (HDD) Monitoring and Management.** Monitoring and response measures specific to the site subsurface conditions and construction equipment will be included in a Frac-out Plan. The objectives of this monitoring program are to quickly identify any unplanned release of drilling fluids during drilling; determine the size, extent, and location of the release; and evaluate and implement appropriate containment and cleanup measures after a release has occurred. Monitoring measures that will be included in the Frac-out Plan include use of dyes in the fluid, use of a fluorometer to determine dye concentrations in the water column, and monitoring by divers or side scan sonar in the event of loss of circulation of the fluid; potential responses to a release include measures such as reductions in drilling pressure, thickening of the fluid mixture, and in the event of an emergency, cessation or substantial reduction of drilling and fluid circulation. On land, measures would include installation of spill control berms and pits. For a release in the water column, divers and side scan sonar will be used to track the extent and location of the release. Appropriate containment and clean-up measures will be employed depending on the amount and location of the release, including disposal of material. Waste drilling fluids will be collected in a manner that is in accordance with all local, state and federal regulations. *(Also see APM HM-6 and APM WQ-7.)*	Review development of a Frac-out Plan; observe installation of berms and pits on land and use of dyes, among other monitoring measures; ensure appropriate containment and clean-up, if necessary	—	—	X	—
APM WQ-7	**Prevention of Contaminant Migration along HDD Route.** The project will be designed, as determined by soil and sediment sampling, to prevent contaminants along the HDD route from leaching to the shoreline or bay via the boreholes of the HDD..	Observe voids filled with grout or similar material if needed based on results of soil sampling	—	—	X	—
APM WQ-8	**Sediment Testing Program and Sediment Controls for Submarine Cable and Offshore HDD Intercept.** Sediments along the submarine cable route are located near known contaminated sediment areas (SFEI, 2012), and may be contaminated with PAHs, metals, and/or pesticides. These compounds are generally insoluble or have low solubility in water. Sediments will be temporarily disturbed during hydroplow operations and during excavation of the HDD exit pits. In coordination with the DMMO, PG&E will prepare a Sampling and Analysis Plan for the sampling and analysis of sediment along the submarine cable route and where the HDD exits into the Bay. As part of preparation and implementation of the Sampling and Analysis Plan, surveys will be conducted to examine water depths, slopes, sediment types, potential contaminants, and any other activities or obstacles. Sensitive habitats, cultural resources, existing and abandoned pipelines, old cables, and material discarded on the bottom of the Bay will be located to ensure the new cable will be installed so as to avoid these conflicts or obstacles. In cases where a cable must cross a pipeline or existing cable, arrangements will be made with the owner of the existing installation to establish necessary separations between each installation (ICPC, 2009). *(Also see APM HM-7.)*	Review Sampling and Analysis Plan and results of sampling	—	—	X	X

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APM WQ-10	**Sediment Monitoring and Response Plan.** Estimates of the amounts of material that may be suspended will vary depending on the specific type of equipment to be used. During final design, the expected equipment type will be identified and an evaluation can be made of the amount of sediment expected to be suspended. Along with the sediment quality information being gathered as described in APM WQ-8 and APM HM-7, this information will be used to determine, in coordination with the RWQCB, allowable thresholds of turbidity in the area of operations. A Sediment Monitoring and Response Plan will be developed in coordination with the RWQCB, taking into account equipment and the results of sediment sampling, that will set monitoring distance and methodology, acceptable thresholds of turbidity compared to background, and adaptive operational controls that will be used to reduce sediment suspension. These controls may include, but are not limited to, increasing or decreasing the speed of cable installation operation, increasing or decreasing the operational jet nozzle pressure, adjusting the operational angle of the jet nozzles on the burial blade, and other operational parameters that may reduce sediment suspension.	Review and ensure appropriate controls are implemented based on the Sediment Monitoring and Response Plan, ensure RWQCB review of the plan	—	—	X	X
	Land Use					
APM LU-1	**Provide Construction Notification and Minimize Construction Disturbance.** A public liaison representative will provide the public with advance notification of construction activities, between two and four weeks prior to construction. The announcement shall state specifically where and when construction will occur in the area. Notices shall provide tips on reducing noise intrusion, for example, by closing windows facing the planned construction. PG&E shall also publish a notice of impending construction in local newspapers, stating when and where construction will occur. All construction activities will be coordinated with the City and Port of San Francisco at least 30 days before construction begins in these areas. Work will be coordinated to minimize any potential conflicts with other construction or recreational projects.	Review notices and ensure coordination with City and Port has occurred	X	X	X	X
APM LU-2	**Provide Public Liaison Person and Toll-Free Information Hotline.** PG&E shall identify and provide a public liaison person before and during construction to respond to concerns of neighboring residents about noise, dust, and other construction disturbance. Procedures for reaching the public liaison officer via telephone or in person shall be included in notices distributed to the public as described above. PG&E shall also establish a toll-free telephone number for receiving questions or complaints during construction.	Review notices and ensure public liaison person and hotline are established	X	X	X	X
	Noise					
APM NO-7	**Noise Minimization Equipment Specification.** PG&E will specify general construction noise reduction measures that require the contractor to ensure all equipment is in good working order, adequately muffled and maintained in accordance with the manufacturers' recommendations.	Review reduction measures to ensure implementation of general measures	X	X	X	X

Table 6A. Mitigation Monitoring Plan – Pre-Construction Measures			1	2	3	4
Impact	**Applicant Proposed Measure (APM) or Mitigation Measure**	**Monitoring Requirement**	**Potrero**	**UG/ Land**	**HDD**	**Sub-marine Cable**
24-Hour HDD Construction Noise	**MM N-2: Obtain Special Permit for Nighttime HDD Noise.** This mitigation measure is to supplement and ensure enforceability of APM NO-6 for noise sources at the Embarcadero HDD Transition Area. ▪ PG&E shall apply to the San Francisco Director of Public Works and obtain a special permit for nighttime or 24-hour activity at the Embarcadero HDD Transition Area, consistent with Section 2908 of the Police Code. Prior to commencing construction of the HDD, PG&E shall provide to the CPUC a copy of the special permit or evidence that no permit is required by San Francisco. ▪ PG&E shall provide to the CPUC at least 7 days prior to commencing construction of the Embarcadero HDD Transition Area the results of actual ambient hourly (Leq) noise measurements for each hour between 8:00 p.m. to 7:00 a.m. at the edge of the nearest private property containing residential use obtained from monitored noise levels as specified in APM NO-6. ▪ PG&E and contractors conducting nighttime work at the Embarcadero HDD Transition Area, between 8:00 p.m. to 7:00 a.m., shall implement noise attenuation features, including acoustical barriers, blankets and enclosures as identified in APM NO-6, to achieve no more than 5 dBA above existing local ambient noise levels at the edge of the nearest private property containing residential use, based on 1-hour Leq. ▪ PG&E shall provide a report to the CPUC regarding actions taken to reduce the duration or level of noise within 48 hours of monitoring noise levels found to be in excess of the ambient noise level by 5 dBA, at the edge of the nearest private property containing residential use, based on 1-hour Leq.	Review correspondence related to special permit if required, and review results of noise measurements to establish hour-by-hour baseline and measurements taken under APM NO-6. Review results of monitoring nighttime work noise levels and review report regarding actions to be taken should noise levels be exceeded as indicated	—	—	X	—

Table 6A. Mitigation Monitoring Plan – Pre-Construction Measures			1	2	3	4
Impact	**Applicant Proposed Measure (APM) or Mitigation Measure**	**Monitoring Requirement**	**Potrero**	**UG/ Land**	**HDD**	**Sub-marine Cable**
	Traffic/Transportation					
APM TR-1	**Traffic Management Implementation.** PG&E will apply for an Excavation Permit and a Special Traffic Permit from the City of San Francisco, and will also submit a Traffic Management Plan to the City as part of his application. The Traffic Management Plan will include the following elements and activities: ▪ Consult with SF Muni at least one month prior to construction to coordinate bus stop relocation (as necessary) and to reduce potential interruption of transit service, especially to the Transbay Temporary Terminal. ▪ Include a discussion of work hours, haul routes, limits on lengths of open trench, work area delineation, traffic control and flagging. ▪ Identify all access and parking restrictions and signage requirements, including any bicycle route or pedestrian detours, should the need for these arise during final design. ▪ Lay out a plan for notifications and a process for communicating with affected residents and businesses prior to the start of construction. Advance public notification would include postings of notices and appropriate signage of construction activities. The written notification shall include the construction schedule, the exact location and duration of activities within each street (i.e., which lanes and access points/driveways would be blocked on which days and for how long), and a toll-free telephone number for receiving questions or complaints. ▪ Include a plan to coordinate all construction activities with emergency service providers in the area at least one month in advance. Emergency service providers shall be notified of the timing, location, and duration of construction activities. All roads shall remain passable to emergency service vehicles at all times. ▪ Include the requirement that all open trenches be covered with metal plates at the end of each workday to accommodate traffic and access. ▪ Specify the street restoration requirements pursuant to PG&E's franchise agreements with the City and County of San Francisco. ▪ Identify all roadway locations where special construction techniques (e.g., horizontal boring, directional drilling, or night construction) would be used to minimize impacts to traffic flow. ▪ Develop circulation and detour plans to minimize impacts to local street circulation. This may include the use of signing and flagging to guide vehicles through and/or around the construction zone. These plans will also address loading zones.	Review Traffic Management Plan; ensure traffic safety practices and coordination are implemented	X	X	X	—
APM TR-2	**Marine Traffic Management Implementation.** PG&E and its contractors will coordinate with the USCG VTS to establish a Vessel Safety Zone, and will provide information for the appropriate notices to mariners for cable laying work. The USCG requires 90-day notification for establishment of the Vessel Safety Zone. This information is then disseminated by the USCG to mariners and other parties.	Review notice and observe Vessel Safety Zone	—	—	X	X

Table 6A. Mitigation Monitoring Plan – Pre-Construction Measures			1	2	3	4
Impact	**Applicant Proposed Measure (APM) or Mitigation Measure**	**Monitoring Requirement**	**Potrero**	**UG/ Land**	**HDD**	**Sub-marine Cable**
	Utilities and Service Systems					
APM UTIL-1	**Coordination with SFPUC Regarding Stormwater System Facilities.** One of the extremely large SFPUC stormwater transport/storage boxes underlies The Embarcadero, where the northern HDD is planned. In this area, the HDD depth will be coordinated with SFPUC, in order to prevent damaging the storage box.	Ensure knowledge of outcome of coordination with SFPUC in order to prevent damaging the storage box	—	—	X	—
Accidental Utility Service Disruptions	**MM UT-1: Protect underground utilities.** Prior to commencing construction of the underground transmission line, PG&E shall submit to the CPUC written documentation of the following: ▪ Construction plans designed to protect existing utilities, showing the dimensions and location of the finalized alignment as well as the corrosion and induced currents study; ▪ Records that the Applicant provided the plans to the City and County of San Francisco for review, revision and final approval; ▪ Construction plans approved by the City and County of San Francisco detailing the steps taken to prevent damage to two large SFPUC storm sewers, including but not limited to an appropriate shoring plan, work zone restrictions, and setbacks for the adjacent structures, at the following locations: (1) in the intersection of Spear and Folsom; and (2) at the end of the route as it turns to enter Embarcadero Substation; ▪ Evidence of coordination with all utility owners within the approved right-of-way, including their review of construction plans, results of the induced current and corrosion potential analysis, and a description of any protection measures or compensation to be implemented to protect affected facilities; ▪ Copy of the Applicant's database of emergency contacts for utilities that may be in close proximity or require monitoring during construction of the project; ▪ Evidence that the project meets all applicable local requirements; ▪ Evidence of compliance with design standards; and ▪ Copies of any necessary permits, agreements, or conditions of approval.	Review documentation of construction plans and evidence of coordination and compliance with requirements, permits or agreements to minimize accidental disruptions	X	X	X	X

Table 6B. Mitigation Monitoring Plan – During-Construction Measures			1	2	3	4
Impact	**Applicant Proposed Measure (APM) or Mitigation Measure**	**Monitoring Requirement**	**Potrero**	**UG/ Land**	**HDD**	**Sub-marine Cable**
	Aesthetics					
	Air Quality					
APM AQ-1	**Minimize Fugitive Dust.** Consistent with Table 2 of the [1999] BAAQMD CEQA Guidelines, PG&E will minimize dust emissions during construction by implementing the following measures: ▪ Water all active construction areas at least twice daily. ▪ Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard. ▪ Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites. ▪ Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas at construction sites. ▪ Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets. ▪ Post a publicly visible sign with the telephone number and person to contact regarding dust complaints. This person will respond and take corrective action within 48 hours. The BAAQMD's phone number will also be visible to ensure compliance with applicable regulations. Since these measures are consistent with the BAAQMD CEQA Guidelines, construction emissions are considered to be less than significant (BAAQMD, 1999; BAAQMD, 2012c). Note that implementation of the first measure listed above would not apply to paved areas with no exposed soil or when rains are occurring.	Ensure implementation of measures to minimize particulate matter emissions during construction	X	X	X	—

Table 6B. Mitigation Monitoring Plan – During-Construction Measures			1	2	3	4
Impact	**Applicant Proposed Measure (APM) or Mitigation Measure**	**Monitoring Requirement**	**Potrero**	**UG/ Land**	**HDD**	**Sub-marine Cable**
APM AQ-2	**Minimize Construction Exhaust Emissions.** The following measures will be implemented during construction to further minimize the less-than-significant construction exhaust emissions: ▪ Encourage construction workers to take public transportation to the project site where feasible. ▪ Minimize construction equipment exhaust by using low-emissions or electric construction equipment where feasible. Develop a plan demonstrating that the off-road equipment (more than 50 horsepower) to be used would achieve a project-wide fleet-average 20 percent NO_x reduction and 45 percent PM reduction compared to the most recent CARB fleet average. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such become available. ▪ Minimize unnecessary construction vehicle idling time. The ability to limit construction vehicle idling time is dependent upon the sequence of construction activities and when and where vehicles are needed or staged. Certain vehicles, such as large diesel-powered vehicles, have extended warm-up times following start-up that limit their availability for use following start-up. Where such diesel-powered vehicles are required for repetitive construction tasks, these vehicles may require more idling time. The project will apply a "common sense" approach to vehicle use, such that idling is reduced as far as possible below the maximum of five consecutive minutes required by regulation (13 CCR 2485). If a vehicle is not required for use immediately or continuously for construction activities or other safety-related reasons, its engine will be shut off. ▪ Minimize welding and cutting by using compression or mechanical applications where practical and within standards. ▪ Encourage use of natural gas or electric powered vehicles for passenger cars and light-duty trucks where feasible and available.	Ensure emissions from construction equipment exhaust are reduced per plan	X	X	X	—

Table 6B. Mitigation Monitoring Plan – During-Construction Measures			1	2	3	4
Impact	**Applicant Proposed Measure (APM) or Mitigation Measure**	**Monitoring Requirement**	**Potrero**	**UG/ Land**	**HDD**	**Sub-marine Cable**
APM AQ-3	**Minimize Potential Naturally Occurring Asbestos (NOA) Emissions.** The following measures will be implemented during construction to minimize the potential for NOA emissions: ▪ If asbestos, serpentinite or ultramafic rock is determined to be present, implement all applicable provisions of the Airborne Toxic Control Measure (ATCM) for Construction, Grading, Quarrying and Surface Mining Operations (17 CCR 93105), including: *For disturbed areas of 1.0 acre or less:* – Construction vehicle speed at the work site will be limited to 15 miles per hour or less – Prior to any ground disturbance, sufficient water will be applied to the area to be disturbed to prevent visible emissions from crossing the property line – Areas to be graded or excavated will be kept adequately wetted to prevent visible emissions from crossing the property line – Storage piles will be kept adequately wetted, treated with a chemical dust suppressant, or covered when material is not being added to or removed from the pile – Equipment will be washed down before moving from the property onto a paved public road – Visible track-out on the paved public road will be cleaned using wet sweeping or a High Efficiency Particular Air filter equipped vacuum device within 24 hours *For disturbed areas of greater than 1.0 acre:* – Implement and maintain the provisions of the approved Asbestos Dust Mitigation Plan from the beginning of construction through the duration of the construction activity	Ensure soil sample analysis and implementation of measures, if necessary, to minimize the potential for emissions from naturally occurring asbestos	X	—	—	—
Construction-Phase Air Quality	**MM A-1: Achieve minimum emission standards.** This measure incorporates and supplements portions of APM AQ-2, Minimize Construction Exhaust Emissions. PG&E shall maintain all construction equipment properly in accordance with manufacturer's specifications, and ensure that equipment is checked by a certified visible emissions evaluator. All off-road construction diesel engines not registered under the CARB Statewide Portable Equipment Registration Program shall meet at a minimum the Tier 2 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). All marine commercial harbor craft, except gasoline-powered small craft, shall meet at a minimum the Tier 2 Marine Engine Emission Standards (CCR Title 17, Sec. 93118.5).	Ensure proper maintenance and certification of equipment to minimize exhaust emissions	X	X	X	X

Table 6B. Mitigation Monitoring Plan – During-Construction Measures			1	2	3	4
Impact	**Applicant Proposed Measure (APM) or Mitigation Measure**	**Monitoring Requirement**	**Potrero**	**UG/ Land**	**HDD**	**Sub-marine Cable**
	Biological Resources					
APM BIO-1	**General Measures.** Implement WEAP during construction including but not limited to the following measures: ▪ Biological monitor: A qualified biological monitor will verify implementation and compliance with all applicant proposed measures. The monitor will have the authority to stop work or determine alternative work practices where safe to do so, as appropriate, if construction activities are likely to impact sensitive biological resources. ▪ 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. Trash containers will be removed from the project area at the end of each working day. ▪ Parking: Vehicles and equipment will be parked on pavement, existing roads, and previously disturbed or developed areas or work areas as identified in this document. ▪ Pets and firearms: No pets or firearms will be permitted at the project site. ▪ As additional crew members are added conduct WEAP training, Ensure construction personnel sign an environmental training attendance sheet.	Review training and brochure; ensure construction personnel sign an environmental training attendance sheet. Review implementation of measures..	X	X	X	X
APM BIO-3	**Seasonal Work Windows.** Where feasible, hydroplow cable installation will be conducted between June 1 and November 30, based on the seasonal work windows for steelhead, Chinook salmon, and Pacific herring (USEPA et al., 1996). If work is planned to occur outside of this work window, PG&E will coordinate any additional measures, such as buffer zones and monitoring for herring spawn, with NMFS, USFWS, and CDFW. PG&E will notify CDFW 30 days in advance of its intent to apply for an extension of the work window.	Conduct hydroplow cable installation between March 1 and November 30, if feasible, or ensure coordination of additional measures with NMFS, USFWS, and CDFW	—	—	—	X
APM BIO-4	**Herring Spawning Protection.** If work occurs within the Bay in December, January, or February, a qualified observer shall monitor hydroplow and HDD connection activities when in proximity (about 660 to 980 feet, or 200 to 300 meters) to potential Pacific herring spawning sites. Herring spawning sites are generally located in shallow water near the surface, and are visible as a large mass of herring eggs, which are adhesive, and attach most commonly to eelgrass or other algae, and can also attach to piers and other features; no eelgrass beds occur in the work areas. If herring spawning sites are observed within 660 feet (200 meters) of the work site by a qualified monitor stationed on a nearby boat, pier, or beach, all in-water activities such as hydroplowing shall be stopped within that distance or as otherwise specified by the resource agencies for 2 weeks.	Monitor hydroplow and HDD connection activities and stop work for 2 weeks if herring spawning sites are observed within 660 feet of the work site	—	—	X	X
APM BIO-6	**Fish Screen.** All hydroplow water jet intakes will be covered with a mesh screen to minimize the potential for impingement or entrainment of fish species.	Ensure mesh screens are installed on water jet intakes [Supplemented by MM B-3]	—	—	—	X

Table 6B. Mitigation Monitoring Plan – During-Construction Measures			1	2	3	4
Impact	**Applicant Proposed Measure (APM) or Mitigation Measure**	**Monitoring Requirement**	**Potrero**	**UG/ Land**	**HDD**	**Sub-marine Cable**
Special-Status Species	**MM B-1: Implement an Invasive Marine Species Control Plan**. During construction, implement Marine Species Control Plan requirements, including training, preventative measures, and reporting.	Verify contents of Invasive Marine Species Control Plan; observe use and condition of equipment according to the plan	—	—	X	X
Special-Status Species	**MM B-2: Protect marine mammals from high noise levels.** ***Monitoring.*** PG&E shall implement a Marine Mammal Monitoring Plan. The Marine Mammal Monitoring Plan shall include the following elements: ▪ Establishment of an appropriate buffer zone around the work area, generally 400 feet or as defined in consultation with NMFS, that would require work be slowed or otherwise modified if the work approaches a marine mammal within the established buffer zone. ▪ A qualified biologist (approved by the CPUC) shall be on board the hydroplowing ship during construction. ▪ The qualified biologist shall monitor marine mammal presence and behavior in the vicinity of the ship and the surface above hydroplow operations. ▪ The qualified biologist shall have the authority to slow or stop work, if safe to do so, and shall consult with the CPUC and NMFS about the implementation of additional minimization measures if, based on observations, project construction appears to be disrupting marine mammal behavior in ways that indicate harassment or injury. ▪ Any disruption of marine mammal behavioral patterns shall be reported to the CPUC and NMFS within two working days with a description of actions taken to curtail work and reduce noise source levels and a demonstration that the disruption caused no potential for injury or mortality. ▪ PG&E shall submit weekly reports of marine mammal observations to the CPUC during marine construction activities. **As an alternative to preparing and implementing the Marine Mammal Monitoring Plan specified in this mitigation measure, PG&E may provide adequate evidence, to the CPUC for approval at least 30 days before the start of marine activities, based upon actual data collected for this project or other projects using similar equipment in a similar submarine environment, that demonstrates to the satisfaction of the CPUC that underwater noise source levels generated by the project hydroplow and marine activities cannot be reasonably expected to exceed the 180 dB threshold recently used by NMFS for marine mammal protection.*	Review information on noise source levels; verify contents of Marine Mammal Monitor-ing Plan; observe buffer zones and modifications to work practices; review report of behavioral patterns. Alter-natively, review and approve evidence, if provided, that noise levels will not be expected to exceed 180 dB	—	—	—	X

Table 6B. Mitigation Monitoring Plan – During-Construction Measures			1	2	3	4
Impact	**Applicant Proposed Measure (APM) or Mitigation Measure**	**Monitoring Requirement**	**Potrero**	**UG/ Land**	**HDD**	**Sub-marine Cable**
Special-Status Species	**MM B-3: Protect marine species**. ***Fish screens.*** As stated in APM BIO-6, all hydroplow water jet intakes shall be covered with a mesh screen or screening device to minimize potential for impingement or entrainment of fish species, especially longfin smelt. Additional requirements to minimize or prevent entrainment and impingement are also required to supplement APM BIO-6: ▪ The mesh screen or screening device shall comply with applicable state (CDFW) and federal (NMFS) criteria for screening intakes such as those found in NMFS's 1996 *Juvenile Fish Screen Criteria for Pump Intakes* and CDFW's Fish Screening Criteria (http://www.dfg.ca.gov/fish/Resources/Projects/Engin/Engin_ScreenCriteria.asp) or as required in coordination with NMFS and CDFW. ***Monitoring.*** A qualified biologist (approved by CPUC) shall verify that the screens are in place at the beginning of each hydroplow work period and examine them for impinged longfin smelt or other fish species at the end of each work period, or whenever the screens are cleaned or the hydroplow is raised out of the water during the cable laying. Injury or mortality shall be reported to CPUC within two working days, with a discussion of actions taken to prevent or minimize any additional longfin smelt injury or mortality or as otherwise determined with CDFW and NMFS. Any injury or mortality of longfin smelt shall also be reported as determined in permitting discussions with CDFW and NMFS.	Review monitoring of use and condition of specified screens before and after each work period; review report of injury or mortality and any additional measures if determined with CDFW and NMFS	—	—	—	X
Special-Status Species	**MM B-4: Avoid impacts to nesting birds.** This measure supersedes APM BIO-2. If onshore construction activities occur during the avian nesting season, a preconstruction survey for nesting birds shall be conducted by a qualified wildlife biologist (PG&E employees or contractors, approved by the CPUC) within 7 days prior to the start of noise-generating construction or vegetation trimming or removal activities in any new work area. Surveys shall cover all public areas within 50 feet of work sites. For San Francisco County, the avian nesting season regularly occurs between February 15 and August 31, but a survey may be appropriate earlier or later depending on species, location, and weather conditions as determined by the qualified wildlife biologist. Work areas that cause no appreciable increase in ambient noise, such as where work is performed manually, by hand, or on foot and activities that cause no observable disturbances to nesting birds (e.g., operating switches, driving on access roads, normally occurring activities at substations, staging or laydown areas) would not warrant a preconstruction survey. ***Protective measures for birds.*** If an active bird nest for a species covered by the Migratory Bird Treaty Act or California Fish and Game Code is found within 50 feet of project work areas, the qualified biologist shall determine appropriate protective measures to reduce the likelihood of nest failure. Protective measures for active nests shall include one or more of the following: avoiding or limiting certain project-related activities within a designated buffer zone surrounding the nest, shielding of the nest from project disturbance using a temporary soundwall or visual screen, or other shielding method as appropriate. The width of the buffer zone (in which work may not occur) shall be based on the disturbance tolerance and conservation status of the species, and the nature of planned construction	Review nesting bird survey and monitoring results; ; review proposed buffers of less than 50 feet if proposed for special-status birds within one business day; in the event nesting birds show signs of intolerance, deter-mine when they are no longer exhibiting signs of intolerance. If PG&E obtains a permit from CDFW, review and monitor implementation of those measures	X	X	X	—

Table 6B. Mitigation Monitoring Plan – During-Construction Measures			1	2	3	4
Impact	Applicant Proposed Measure (APM) or Mitigation Measure	Monitoring Requirement	Potrero	UG/ Land	HDD	Sub-marine Cable
	activities and other human activities in the immediate area. Buffer zones of less than 50 feet shall be allowed only when planned construction activities involve relatively low disturbance or birds have demonstrated tolerance of noise and disturbance. Buffers shall not apply to construction-related vehicle or pedestrian traffic using city streets and sidewalks. 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. An example exclusion technique is covering equipment with tarps. Bird species found building nests within the work areas after specific project activities begin may be assumed tolerant of that specific project activity; the CPUC approved, qualified biologist shall implement an appropriate buffer or other appropriate measures to protect such nests, after taking into consideration the position of the nest, the bird species nesting on site, the type of work to be conducted, and duration of the construction disturbance. ***Protective measures for special-status birds.*** If an active nest for a special-status bird is found, PG&E shall record the position of the nest in the monitoring report and notify the CPUC through the reporting process outlined below. The qualified biologist shall implement buffers and set other protective measures (described above), as appropriate, to protect special-status nesting birds from construction activities in consultation with CPUC, and as appropriate the California Department of Fish and Wildlife (CDFW) and/or United States Fish and Wildlife Service (USFWS). Buffer zones of less than 50 feet shall be allowed only when planned construction activities involve relatively low disturbance or birds have demonstrated tolerance of noise and disturbance. Requests for buffers of less than 50 feet for special-status nesting birds must be submitted to the CPUC's independent biologist(s) for review. The CPUC's independent biologist shall respond to PG&E's request for a buffer reduction (and buffer reduction terms) within one business day; if a response is not received, PG&E can proceed with the buffer reduction. If nesting birds in the presence of the CPUC-approved qualified biologist show signs of intolerance to construction activities within a reduced buffer zone, the qualified biologist shall reinstate the recommended buffer. The recommended buffer may only be reduced again following the same process, as identified above, and after the CPUC-approved, qualified biologist has determined that the nesting birds are no longer exhibiting signs of intolerance to construction activities. Nests shall be monitored daily by the qualified biologist when construction is active at that location. Any potentially significant construction-related disturbance shall be reported to CPUC, CDFW, and USFWS. ***Monitoring.*** Active nests shall be monitored at least once daily during construction until nestlings have fledged and dispersed or until nest failure has been documented. Daily nest checks shall be at least 30 minutes or more as determined by the qualified biologist based on the type of construction activity (duration, equipment being used, potential for construction-related disturbance) and other factors related to assessment of nest disturbance (weather variations, pair behavior, nest stage, nest type, species, etc.). The qualified biologist shall record the construction activity occurring at the time of the nest check and note any work exclusion buffer in effect at the time of the nest check. The qualified biologist shall record any sign of disturbance to the active nest, including but not limited to parental alarm calls, agitated					

Table 6B. Mitigation Monitoring Plan – During-Construction Measures			1	2	3	4
Impact	**Applicant Proposed Measure (APM) or Mitigation Measure**	**Monitoring Requirement**	**Potrero**	**UG/ Land**	**HDD**	**Sub-marine Cable**
	behavior, distraction displays, nest fleeing and returning, chicks falling out of the nest or chicks or eggs being predated as a result of parental abandonment of the nest. If the qualified biologist determines that project activities are contributing to nest disturbance, they shall notify CPUC (and CDFW/USFWS as appropriate in the case of special-status bird nests) and coordinate with the Construction Manager to limit the duration or location of work, and/or increase appropriate protective measures (as described above). ***Reporting.*** If there are active nests present within 50 feet of the project area during construction, a weekly written report shall be submitted to CPUC. A final report shall be submitted to CPUC at the end of each nesting season summarizing all nest monitoring results and nest outcomes for the duration of project construction. No avian reporting shall be required for construction occurring outside of the nesting season and if construction activities do not occur within a reduced buffer during any calendar month. Nests located in areas of existing human presence and disturbance, such as in yards of private residences, or within commercial and or industrial properties are likely acclimated to disturbance and may not need to be monitored, as determined by the CPUC-approved, qualified biologist and approved by the CPUC's independent biologist. ***Permits.*** Prior to the start of construction, PG&E may obtain a permit 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 PG&E obtains such a permit under the above authorities, where that permit conflicts with the measures outlined above, the conditions of the permit shall govern.					
	Cultural Resources					
APM CUL-1	**Pre-Construction Worker Cultural Resources Training.** Ensure implementation of Worker Cultural Resource Training measures. As additional crew members are added, ensure construction personnel sign an environmental training attendance sheet.	Ensure construction personnel sign an environmental training attendance sheet.	X	X	X	X
APM CUL-2	**Resource Avoidance.** There are no known archaeological or historical resources within the direct impact areas defined for the proposed route. In keeping with the intent of the NHPA and CEQA, PG&E's preferred approach for archaeological resources and historical resources is avoidance of impacts to significant (or unevaluated) resources. Where avoidance is not feasible, potential impacts to significant cultural resources must be treated in a way that is acceptable to PG&E, the State Historic Preservation Officer (SHPO), and if applicable, the local Native American community. Treatment might include data recovery excavations, public interpretation/education, Historic American Buildings Survey (HABS)/Historic American Engineering Record (HAER) recordation, or other measures. If there is an unanticipated discovery of a buried archaeological deposit or human remains, or unanticipated impacts to a historical building cannot be avoided, PG&E will implement APM CUL-4, -5, and -7.	Avoid cultural resources or ensure that any discovered cultural resources are assessed and treated appropriately	X	X	X	X

Table 6B. Mitigation Monitoring Plan – During-Construction Measures			1	2	3	4
Impact	**Applicant Proposed Measure (APM) or Mitigation Measure**	**Monitoring Requirement**	**Potrero**	**UG/ Land**	**HDD**	**Sub-marine Cable**
APM CUL-3	**Construction Monitoring.** A professional archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards will monitor all project-related on-shore excavation that is within an area of moderate to high sensitivity for prehistoric or historical buried resources, as such areas are presented in PEA Appendix D (Nolte et al. 2012). This shall include monitoring areas within 167 feet (50 meters) of recorded or previously identified prehistoric and historical-era sites or features, APM CUL-3 will be guided by an Archaeological Monitoring and Inadvertent Discovery Plan, which will include the framework for evaluation and treatment of any unanticipated discoveries described in MM C-1. In addition to the monitoring archaeologist, a qualified maritime archaeologist will be on call during construction to assist with implementation of the Archaeological Monitoring and Inadvertent Discovery Plan should maritime resources be identified during excavation. If appropriately qualified, the same person may act as both the monitoring archaeologist and maritime archaeologist. This APM CUL-3 in combination with APM CUL-4 will ensure that archaeological resources will not be impacted during construction without adequate evaluation and any necessary actions (as further detailed in APM CUL-4 and the Archaeological Monitoring and Inadvertent Discovery Plan) to preserve information regarding impacted resources. Site assessment procedures and data recovery or other measures will be developed as part of the Archaeological Monitoring Plan and applied during the monitoring process.	Ensure monitoring occurs for cultural resources within areas of moderate to high sensitivity for prehistoric or historical buried resources; monitor implementation of the Archaeological Monitor-ing and Inadvertent Discovery Plan	X	X	X	X
APM CUL-5	**Unanticipated Discovery of Human Remains.** If human remains or suspected human remains are discovered during construction, work within 100 feet of the find will stop immediately and the construction foreman shall contact the PG&E cultural resources specialist, who will then call the City and County of San Francisco Medical Examiner. There shall be no further excavation or disturbance of the site, or any nearby area reasonably suspected to overlie adjacent remains, until medical examiner has determined that the remains are not subject to provisions of Section 27491 of the Government Code. If the medical examiner determines the remains to be Native American, he/she shall contact the NAHC within 24 hours. The NAHC will appoint a Most Likely Descendent for recommendations on the treatment and disposition of the remains (Health and Safety Code Sect. 7050.5, Public Resources Code Sect. 5097.24).	Ensure work within 100 feet of the find stops and that provisions in Health and Safety Code Sect. 7050.5 and Public Resources Code Sect. 5097.24 are followed appropriately.	X	X	—	—

Table 6B. Mitigation Monitoring Plan – During-Construction Measures			1	2	3	4
Impact	**Applicant Proposed Measure (APM) or Mitigation Measure**	**Monitoring Requirement**	**Potrero**	**UG/ Land**	**HDD**	**Sub-marine Cable**
APM CUL-6	**Vibrations to Historical Structures.** Historical buildings are present near the project route and may be vulnerable to damage from heavy equipment vibrations. To ensure that resources are not inadvertently damaged or impacted during construction implementation, the crews will be informed of historical structure locations and instructed to confine all excavation and backfill work to the existing city streets right-of-way (historical structure locations are depicted in PEA Appendix D (Nolte et al. 2012) as part of APM-CUL-1). Project construction in proximity to Station A will include the use of Tubex and the smallest possible machinery to minimize vibration effects. A structural engineer will check the condition of the building prior to construction. Once activities that result in vibration have begun, the engineer will check the condition of the building to monitor Station A during construction (at 25 percent, 50 percent, 75 percent, and 100 percent completion of excavation using heavy equipment) and assess the effects on the building. If the structural engineer determines that structural integrity is compromised, the interior of the building will be documented following the procedures outlined in APM-CUL-7.	Review training materials and ensure construction personnel sign an environmental training attendance sheet; review structural engineering results for Station A	X	X	X	—
APM CUL-8	**Apply Secretary of the Interior Standards for the Treatment of Historic Properties to Brick Wall Modifications.** Ensure that modifications to or removal of the wall will follow the Secretary of the Interior Standards for the Treatment of Historic Properties (available at http://www.nps.gov/hps/tps/standguide/) and will be designed to be compatible with the historic character of Station A. Ensure that PG&E submits a draft of its design for the brick wall modifications to the Commission no less than 30 days prior to any alteration of the wall.	Review design of brick wall modification and ensure any modifications or removal follow the Secretary of the Interior Standards	X	—	—	—

Table 6B. Mitigation Monitoring Plan – During-Construction Measures			1	2	3	4
Impact	**Applicant Proposed Measure (APM) or Mitigation Measure**	**Monitoring Requirement**	**Potrero**	**UG/ Land**	**HDD**	**Sub-marine Cable**
Preservation of Unanticipated Discoveries	**MM C-1: Unanticipated Discoveries of Cultural Deposits.** In the event that previously unidentified archaeological, cultural, or historical sites, artifacts, or features are uncovered during implementation of the project, work will be suspended within 100 feet (30 meters) of the find and redirected to another location. The CPUC-approved cultural resources specialist shall be contacted immediately to examine the discovery and determine if further investigation is needed. If the discovery can be avoided or protected and no further impacts will occur, the resource will be documented on California Department of Parks and Recreation 523 forms and no further effort will be required. If the resource cannot be avoided and may be subject to further impact, the CPUC-approved cultural resource specialist/archaeologist shall evaluate the resource 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 historical or unique archaeological resources. Alternative methods of treatment that may be demonstrated to the CPUC to be effective 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 shall be documented in a professional level technical report to be filed with CHRIS. Work may commence upon completion of treatment, as approved by the CPUC.	Monitor avoidance of unanticipated cultural resources or ensure implementation of data recovery or other appropriate treatment measures, if warranted	X	X	X	X
Known and Potential Cultural Resources	**MM C-2**: **Avoid known and potential shipwreck locations.** This measure incorporates and supplements portions of APM CUL-2, Resource Avoidance. During installation of the submarine cable, PG&E and its contractors shall map the as-built alignment of the cable in relation to known cultural resources, and the contractors shall ensure that the cable passes at least 100 feet to the west of the known shipwreck located in the northeastern portion of the marine geophysical survey area and mapped on NOAA Chart no.18650. In addition, prior to the installation of the cable, PG&E and its contractors shall map a 50 foot buffer around the magnetic anomaly identified by OSI as anomaly no. M63 in the southern half of the marine geophysical survey area and located at 6019099E, 2106491N, as the anomaly may result from the remains of a shipwreck buried beneath the bay floor in that location. PG&E and its contractors shall ensure that no sediment disturbing excavation or hydroplowing is conducted within the 50 foot buffer zone. If the project cannot be routed around the anomaly, additional evaluation and mitigation as detailed in Mitigation Measure C-1, for unanticipated discoveries, and detailed in the Unanticipated Discoveries Plan may be necessary prior to excavation.	Avoid known shipwreck and magnetic anomaly, review maps of buffer areas and as-built alignment	—	—	X	X

Table 6B. Mitigation Monitoring Plan – During-Construction Measures			1	2	3	4
Impact	**Applicant Proposed Measure (APM) or Mitigation Measure**	**Monitoring Requirement**	**Potrero**	**UG/ Land**	**HDD**	**Sub-marine Cable**
	Paleontological Resources					
APM PR-1	**Worker Environmental Awareness Program Paleontological Resources Module.** Ensure implementation of the Paleontological Resources Module as is included in the WEAP. As additional crew members are added, ensure construction personnel sign an environmental training attendance sheet.	Review training program materials and ensure construction personnel sign an environmental training attendance sheet.	X	X	—	—
APM PR-2	**Unanticipated Paleontological Resource Discovery.** If fossils are observed during excavation, work in the immediate vicinity of a paleontological find will be halted or redirected to avoid additional impact to the specimen(s), and to allow a professional paleontologist to assess the scientific importance of the find and determine appropriate treatment. If the discovery is significant, the qualified paleontologist will implement data recovery excavation to scientifically recover and curate the specimen.	Stop or redirect work to avoid unanticipated paleontological resources if observed, prior to assessment	X	X	X	—
	Geology and Soils					
APM GS-1	**Appropriate soil stability design measures implementation.** Based on available references, artificial fills, fine sands, silts, and bay mud are the primary soil types expected to be encountered in the excavated areas as project construction proceeds. Potentially problematic subsurface conditions may include soft or loose soils. Where soft, loose, or liquefiable soils are encountered during construction of the onshore portion of the route, appropriate measures will be implemented to avoid, accommodate, replace, or improve soft or loose soils and liquefaction hazards encountered during construction. Such measures may include the following: ▪ Locating construction staging and operations away from areas of soft and loose soil. ▪ Over-excavating soft or loose soils and replacing them with suitable non-expansive engineered fill. ▪ Increasing the density and strength of soft or loose soils through mechanical vibration and/or compaction. ▪ Treating soft or loose soils in place with binding or cementing agents. ▪ Construction activities in areas where soft or loose soils are encountered may be scheduled for the dry season, as necessary, to allow safe and reliable equipment access. ▪ Physical ground improvement such as in-situ soil mixing, drain piles, or sheet piles. ▪ Deepening of trench and/or the HDD to place the transmission line beneath liquefiable fills and/or potential for lateral spreading, where feasible.	Ensure design of the project is appropriate for the conditions; review project design	X	X	X	—

Table 6B. Mitigation Monitoring Plan – During-Construction Measures			1	2	3	4
Impact	**Applicant Proposed Measure (APM) or Mitigation Measure**	**Monitoring Requirement**	**Potrero**	**UG/ Land**	**HDD**	**Sub-marine Cable**
APM GS-2	**Appropriate seismic safety design measures implementation.** Ensure implementation of seismic safety designs and practices. For onshore segments this may include geotextile wrap, an oversized trench with a compressible zone, flexible joints, duct banks with heavier/ high strength reinforcement, flexible conduits in place of concrete duct banks, soil improvement, or use of deep foundations; offshore segments may include flexible joints at the transition to land cables, sinusoidal installation or other methods to provide slack in the submarine cable.	Ensure design of the project is based on current seismic design practices and guidelines; review project design	X	X	X	X
APM GS-3	**Appropriate erosion-control measures implementation.** Best Management Practices (BMPs) will be implemented to minimize and avoid surface runoff, erosion, and pollution (see APM WQ-1 and WQ-2).	Ensure BMPs are implemented to minimize and avoid surface runoff, erosion, and pollution	X	X	X	—
	Greenhouse Gas Emissions					
APM GHG-1	**Minimize Construction Exhaust Emissions.** The following measures will be implemented during construction to further minimize the less-than-significant construction GHG emissions: ▪ Encourage construction workers to take public transportation to the project site where feasible. ▪ Minimize construction equipment exhaust by using low-emissions or electric construction equipment where feasible. ▪ Minimize unnecessary construction vehicle idling time. The ability to limit construction vehicle idling time is dependent upon the sequence of construction activities and when and where vehicles are needed or staged. Certain vehicles, such as large diesel-powered vehicles, have extended warm-up times following start-up that limit their availability for use following start-up. Where such diesel-powered vehicles are required for repetitive construction tasks, these vehicles may require more idling time. The project will apply a "common sense" approach to vehicle use, such that idling is reduced as far as possible below the maximum of five consecutive minutes required by California regulation (13 CCR 2485). If a vehicle is not required for use immediately or continuously for construction activities, its engine will be shut off. ▪ Minimize welding and cutting by using compression or mechanical applications where practical and within standards. ▪ Encourage use of natural gas or electric powered vehicles for passenger cars and light-duty trucks where feasible and available. ▪ Encourage the recycling of construction waste where feasible.	Ensure low emitting engines are used and idling time is minimized	X	X	X	X

Table 6B. Mitigation Monitoring Plan – During-Construction Measures			1	2	3	4
Impact	**Applicant Proposed Measure (APM) or Mitigation Measure**	**Monitoring Requirement**	**Potrero**	**UG/ Land**	**HDD**	**Sub-marine Cable**
	Hazards and Hazardous Materials					
APM HM-1	**Implementation of Hazardous Material and Emergency Response Procedures.** PG&E will implement construction controls, training and communication to minimize the potential exposure of the public and site workers to potential hazardous materials during all phases of project construction. These construction practices include construction worker training appropriate to the site worker's role (see APM HM-3), and containment and spill control practices in accordance with the Stormwater Pollution Prevention Plan (see APM WQ-1). If it is necessary to store chemicals, they will be managed in accordance with all applicable regulations. Material safety data sheets will be maintained and kept available on site, as applicable. Soil that is suspected of being contaminated (on the basis of existing analytical data or visual, olfactory, or other evidence) and is removed during trenching or excavation activities will be segregated, tested, and if contaminated above hazardous levels, will be contained and disposed of offsite at a licensed waste facility. The presence of known or suspected contaminated soil will require testing and investigation procedures to be supervised by a qualified person, as appropriate, to meet state and federal regulations. All hazardous materials and hazardous wastes will be handled, stored, and disposed of in accordance with all applicable regulations, by personnel qualified to handle hazardous materials. Practices during construction will include, but not be limited to, the following: ▪ Proper disposal of potentially contaminated materials. ▪ Site-specific buffers for construction vehicles and equipment located near sensitive resources/receptors. ▪ Emergency response and reporting procedures to address any potential hazardous material spills as described in PEA Section 3.9, Hydrology and Water Quality. ▪ Stopping work at that location and contacting the CUPA (SFDPH Environmental Health Section; see PEA Section 3.8.2.1 above) immediately if unanticipated visual evidence of potential contamination or chemical odors are detected. Work will be resumed at this location after any necessary consultation and approval by the CUPA or other entities as specified by the CUPA. *(Also see APM WQ-1 and APM WQ-3 in PEA Section 3.9.4.2)*	Review training program materials and ensure construction personnel sign an environmental training attendance sheet; ensure that contaminated soil and hazardous materials and wastes are handled, stored, and disposed of in accordance with all applicable regulations; observe availability of material safety data sheets	X	X	X	X
APM HM-2	**Development and Implementation of a Health and Safety Plan.** During construction, ensure implementation of project-specific health and safety plan.	Review implementation of project-specific health and safety plan	X	X	X	X
APM HM-3	**Adherence to Applicable Site-specific RMPs and SMPs.** In addition to following its own project-specific procedures during the construction phase, PG&E will adhere to any applicable site-specific plans such as the SMP for the former Potrero Power Plant (see PEA Section 3.8.3.1), as well as the Maher Ordinance (see PEA Section 3.8.2.1).	Ensure adherence to Applicable Site-specific RMPs and SMPs	X	X	X	—

Table 6B. Mitigation Monitoring Plan – During-Construction Measures			1	2	3	4
Impact	**Applicant Proposed Measure (APM) or Mitigation Measure**	**Monitoring Requirement**	**Potrero**	**UG/ Land**	**HDD**	**Sub-marine Cable**
APM HM-4	**Emergency Spill Supplies and Equipment.** Oil-absorbent material, tarps, and storage drums will be available on the project site during construction and used to contain and control any minor releases of oil. In the event that excess water and liquid concrete escapes during pouring, it will be directed to lined and bermed areas adjacent to the borings, where the water will evaporate and the concrete will begin to set. Once the excess concrete has been allowed to set up, it will be removed and transported for disposal, according to applicable regulations. *(Also see APM WQ-4.)*	Ensure emergency spill supplies and equipment are on the project site and appropriate areas are lined and bermed	X	X	X	X
APM HM-5	**Soil, Groundwater, and Underground Tank Characterization.** If suspected hazardous substances are unexpectedly encountered during trenching or other construction activities (using indicators such as sheen, odor, soil discoloration), work will be stopped until the material or tank is properly characterized and appropriate measures are taken to protect human health and the environment. Appropriate personal protective equipment will be used and waste management will be performed in accordance with applicable regulations. If excavation of hazardous materials is required, the materials will be disposed of in accordance with applicable regulations. If necessary, groundwater will be collected during construction, contained, and disposed of in accordance with all applicable regulations. If underground or aboveground storage tanks are found to be located along the project route and the route cannot be adjusted to avoid disturbance, the tanks will be removed prior to project construction. If it is determined that removal and disposal of tanks is necessary, a separate workplan describing the proper decommissioning and removal of the tanks and removal of any associated impacted soil will be prepared prior to removal. *(Also see APM WQ-5.)*	Ensure work stoppage if suspected hazardous materials are encountered; ensure development of a storage tank decommission-ing work plan, if required	X	X	X	—
APM HM-6	**Horizontal Directional Drilling (HDD) Drilling Fluid and Cuttings Monitoring and Management.** HDD operations will include provisions for monitoring for loss of drilling fluids. Spill response measures shall include reducing fluid pressures and thickening the fluid mixture. Both the drilling technique and early detection and response shall be used to minimize release of fluids to the environment. Ensure implementation of Frac-out Plan as necessary. *(Also see APM WQ-6 and APM WQ-7.)*	Ensure HDD monitoring for loss of drilling fluids and development of a Frac-out Plan	—	—	X	—
APM HM-7	**Sediment Testing Program for Submarine Cable Installation.** Ensure implementation of appropriate construction control measures based on the Sediment Testing Program. Measures may include controlling turbidity during construction through adjustment of hydroplow jet controls and flows, turbidity monitoring during construction in certain areas, and appropriate handling and disposal of any sediment that may be removed as part of the submarine transitions to HDD installation. *(Also see APM WQ-8.)*	Review Sampling and Analysis Plan and results of sampling	—	—	X	X

Table 6B. Mitigation Monitoring Plan – During-Construction Measures			1	2	3	4
Impact	**Applicant Proposed Measure (APM) or Mitigation Measure**	**Monitoring Requirement**	**Potrero**	**UG/ Land**	**HDD**	**Sub-marine Cable**
	Hydrology and Water Quality					
APM WQ-1	**Development and Implementation of a Stormwater Pollution Prevention Plan (SWPPP).** Ensure implementation of the SWPPP. Identified erosion and sediment control measures will be installed in an area before construction begins and inspected and improved as needed before any anticipated storm events. Temporary sediment control measures intended to minimize sediment transport from temporarily disturbed areas, such as silt fences or wattles, will remain in place until disturbed areas are stabilized. In areas where soil is to be temporarily stockpiled, soil will be placed in a controlled area and managed with similar erosion-control techniques. Where construction activities occur near a surface water body or drainage channel, the staging of construction materials and equipment and excavation spoil stockpiles will be placed at least 50 feet from the water body and properly contained, such as with berms and/or covers, to minimize risk of sediment transport to the drainage. Any surplus soil will be transported from the site and appropriately disposed of. A copy of the SWPPP will be provided to the CPUC for recordkeeping. The plan will be maintained and updated during construction as required by the SWRCB.	Ensure a SWPPP is prepared and implemented to minimize construction impacts on surface water and groundwater quality	X	X	X	—
APM WQ-2	**Implementation of a Worker Environmental Awareness Program.** Ensure implementation of the Worker Environmental Awareness Program. As additional crew members are added conduct WEAP training and ensure construction personnel sign an environmental training attendance sheet.	Review training program materials and ensure construction personnel sign an environmental training attendance sheet.	X	X	X	X
APM WQ-3	**Implementation of Hazardous Material and Emergency Response Procedures.** PG&E will implement construction controls, training and communication to minimize the potential exposure of the public and site workers to potential hazardous materials during all phases of project construction. These construction practices include construction worker training appropriate to the site worker's role (see APM HM-3), containment and spill control practices in accordance with the SWPPP (see APM WQ-1), and emergency response to ensure appropriate cleanup of accidental spills. If it is necessary to store chemicals, they will be managed in accordance with all applicable regulations. Material safety data sheets will be maintained and kept available on site, as applicable. The project SWPPP (APM WQ-1) will identify areas where refueling and vehicle-maintenance activities and storage of hazardous materials, if any, will be permitted. *(Also see APM HM-1.)*	Ensure construction personnel sign an environmental training attendance sheet; observe storage of chemicals and availability of material safety data sheets	X	X	X	X

Table 6B. Mitigation Monitoring Plan – During-Construction Measures			1	2	3	4
Impact	**Applicant Proposed Measure (APM) or Mitigation Measure**	**Monitoring Requirement**	**Potrero**	**UG/ Land**	**HDD**	**Sub-marine Cable**
APM WQ-4	**Emergency Spill Supplies and Equipment.** Materials will be available on the project site during construction to contain, collect and dispose of any minor spill (for example, absorbent material, tarps, and storage drums). In the event that excess water or liquid concrete escapes during pouring activities, it will be directed to lined and bermed areas adjacent to the borings, where the water will evaporate and the concrete will begin to set. Once the excess concrete has been allowed to set up, it will be removed and transported for disposal, according to applicable regulations. *(Also see APM HM-4.)*	Ensure emergency spill supplies and equipment are on the project site and appropriate areas are lined and bermed	X	X	X	X
APM WQ-5	**Soil Sampling/Wastewater and Groundwater Characterization.** Soil information will be provided to construction crews to inform them about soil conditions and potential hazards. If hazardous substances are unexpectedly encountered during trenching, work will be stopped until the material is properly characterized and appropriate measures are taken to protect human health and the environment. If excavation of hazardous materials is required, they will be handled in accordance with applicable regulations. Ensure that borings are made prior to initiating excavation activities along the underground transmission cable routes and the construction proceeds in accordance with the results of the boring., If necessary, groundwater will be collected during construction, contained, and disposed of in accordance with all applicable regulations. Appropriate personal protective equipment will be used and waste management will be performed in accordance with applicable regulations. Non-contaminated groundwater will be released to one of the city's combined sanitary and stormwater drainage systems (with prior approval) or contained, tested, and disposed of in accordance with applicable regulations. *(Also see APM HM-5.)*	Ensure soil information is provided to construction crews; ensure work stoppage if suspected hazardous materials are encountered and appropriate testing, handling, and disposal	X	X	X	—
APM WQ-6	**Horizontal Directional Drilling (HDD) Monitoring and Management.** Ensure implementation of HDD monitoring program and Frac-out Plan. HDD operations will include best management practices for monitoring for loss of drilling fluids, spill containment and response measures. Routine monitoring will be conducted at regular intervals during all drilling activities. More intensive monitoring will be implemented if drilling fluid circulation to the HDD endpoints is lost or an unplanned release is detected. In general, both the drilling technique and early detection and response shall be used to minimize release of fluids to the environment. Techniques to minimize potential loss of drilling fluids include termination of the pilot hole short of the exit into the bay, monitoring of fluid pressures, and adjustments to the drilling fluid mix (see PEA Section 2.6.4, Submarine Cable Installation.) To minimize any potential impacts to water quality, drilling muds (which are heavier than water) shall consist of naturally occurring materials such as water and bentonite clay, plus inert, non-toxic polymers. *(Also see APM HM-6 and APM WQ-7.)*	Ensure HDD monitoring for loss of drilling fluids and development of a Frac-out Plan; observe installation of berms and pits on land and use of dyes, among other monitoring measures; ensure appropriate containment and clean-up, if necessary	—	—	X	—

Table 6B. Mitigation Monitoring Plan – During-Construction Measures			1	2	3	4
Impact	**Applicant Proposed Measure (APM) or Mitigation Measure**	**Monitoring Requirement**	**Potrero**	**UG/ Land**	**HDD**	**Sub-marine Cable**
APM WQ-7	**Prevention of Contaminant Migration along HDD Route.** In areas of contamination (as determined by soil and sediment sampling) the HDD conduit can be sealed to effectively plug voids that might permit movement of contaminants down the HDD drill path after the HDD initial drill is established and the HDD conduit is being pulled into position. In the event that contaminants are found during pre-construction sampling, in areas where contaminants are found and where there are potential voids between the conduit and surrounding soil the voids will be filled with grout or similar material to prevent any potential preferential pathway for the passage of contaminants, as described below.	Observe voids filled with grout or similar material if required	—	—	X	—
APM WQ-8	**Sediment Testing Program and Sediment Controls for Submarine Cable and Offshore HDD Intercept.** Sediments along the submarine cable route are located near known contaminated sediment areas (SFEI, 2012), and may be contaminated with PAHs, metals, and/or pesticides. These compounds are generally insoluble or have low solubility in water. Sediments will be temporarily disturbed during hydroplow operations and during excavation of the HDD exit pits. The HDD offshore exits were selected far enough into the Bay to minimize the potential for encountering near-shore contaminated sediments. At an HDD exit location, it is a common practice to deploy divers to excavate a collection pit approximately 100 to 400 square feet and 6 feet deep at the exit point depending on final design. The results of the sediment sampling will be used to plan the appropriate handling of sediment resulting from the excavation of the HDD pit as determined in consultation with the DMMO. As the HDD is installed, drilling muds, which are heavier than water, will collect in this excavated collection pit. A barge on the surface is used during HDD installation to pump these drilling muds into a containment tank on the barge/ship for appropriate disposal. Hydroplow installation causes temporary disturbance of sediments. Most of the fluidized material falls back behind the hydroflow jets and increases in turbidity along the narrow path of the jets are minimized. Turbidity is limited by con-trolling the pressure of the jets and the rate of hydroplow advancement. The hydroplow is instrumented to enable measurement and control of pressure and tow tension. *(Also see APM HM-7.)*	Review Sampling and Analysis Plan and results of sampling	—	—	X	X
APM WQ-9	**Project Site Restoration.** As part of the final construction activities, PG&E will restore all removed curbs and gutters, repave, and restore landscaping or vegetation as necessary.	Ensure project site restoration	X	X	X	—
APM WQ-10	**Sediment Monitoring and Response Plan.** Ensure implementation of the Sediment Monitoring and Response Plan.	Review and ensure appropriate controls are implemented based on the Sediment Monitoring and Response Plan	—	—	X	X

Table 6B. Mitigation Monitoring Plan – During-Construction Measures			1	2	3	4
Impact	**Applicant Proposed Measure (APM) or Mitigation Measure**	**Monitoring Requirement**	**Potrero**	**UG/ Land**	**HDD**	**Sub-marine Cable**
	Land Use					
APM LU-2	**Provide Public Liaison Person and Toll-Free Information Hotline.** PG&E shall identify and provide a public liaison person before and during construction to respond to concerns of neighboring residents about noise, dust, and other construction disturbance. Procedures for reaching the public liaison officer via telephone or in person shall be included in notices distributed to the public as described above. PG&E shall also establish a toll-free telephone number for receiving questions or complaints during construction.	Review notices and ensure public liaison person and hotline	X	X	X	X
	Noise					
APM NO-1	**Noise Minimization with Portable Barriers.** Compressors and other small stationary equipment used during construction will be shielded with portable barriers if located within 200 feet of a residence.	Ensure implementation of barriers such that construction noise to nearby sensitive receptors is minimized	X	X	X	—
APM NO-4	**Noise Minimization through Truck Traffic Routing.** Truck traffic will be routed away from noise-sensitive areas where feasible.	Ensure implementation such that noise-related complaints from nearby residents are minimized	X	X	X	—
APM NO-5	**Noise Disruption Minimization through Residential Notification.** In the event that nighttime construction is necessary because of clearance restrictions, affected residents will be notified in advance by mail, personal visit, or door-hanger and informed of the expected work schedule.	Review notification	X	X	X	—
APM NO-6	**HDD Noise Minimization Measures.** Temporary barriers utilizing materials such as intermodal containers or frac tanks, plywood walls, mass-loaded vinyl (vinyl impregnated with metal) or hay bales will be used to reduce noise generated by the onshore HDD operations. If night-time HDD activities are required, the project will monitor actual noise levels from HDD activities between 8:00 p.m. and 7:00 a.m. If the noise levels created by the HDD operation are found to be in excess of the ambient noise level by 5 dBA at the nearest property plane, PG&E will, within 24 hours of the excess measurement, employ additional minimization measures necessary to limit the increase to 5 dBA. Such measures may include ensuring semi-permanent stationary equipment (generators, lights, etc.) are stationed as far from sensitive areas as practicable, utilize “quiet” or “Hollywood/Movie Studio” silencing packages, and/or modify barriers to further reduce noise levels.	Ensure implementation of barriers such that HDD construction noise to nearby sensitive receptors is minimized; review nighttime monitoring results and ensure additional measures, if necessary	—	—	X	—
APM NO-7	**Noise Minimization Equipment Specification.** Ensure implementation of PG&E’s general construction noise reduction measures which require that all equipment is in good working order, adequately muffled and maintained in accordance with the manufacturers’ recommendations.	Review reduction measures to ensure implementation such that construction noise to nearby buildings and residents is minimized	X	X	X	—

Table 6B. Mitigation Monitoring Plan – During-Construction Measures			1	2	3	4
Impact	**Applicant Proposed Measure (APM) or Mitigation Measure**	**Monitoring Requirement**	**Potrero**	**UG/ Land**	**HDD**	**Sub-marine Cable**
Underground Transmission Line Construction Noise	**MM N-1: Implement General Noise Control Measures**. PG&E shall implement the following general noise control measures in addition to APMs NO-1 to NO-7, with APMs NO-2 and NO-3 superseded: ▪ PG&E and contractors shall use equipment that incorporates noise-control elements into the design. ▪ PG&E and contractors shall ensure equipment exhaust stacks and vents are directed away from buildings. ▪ Where use of pneumatic tools, such as impact tools (e.g., jack hammers and pavement breakers), is unavoidable, a noise source screen such as a barrier around the activity using the tools, an external noise jacket, or an exhaust muffler on the compressed air exhaust shall be used and shall be designed to reduce noise levels from the source by 10 dBA. ▪ PG&E shall include noise control requirements in specifications provided to construction contractors. Such contract specifications would include, but not be limited to, performing all work in a manner that minimizes noise; use of equipment with effective mufflers; undertaking the most noisy activities during times of least disturbance to surrounding residents, day care operations, and commercial uses; and using haul routes that avoid residential buildings inasmuch as such routes are otherwise safely available. ▪ PG&E shall respond to and track complaints pertaining to construction noise. PG&E shall provide a complaint hotline phone number that shall be answered at all times during construction and designate an on-site construction complaint and enforcement manager for the project. The noise complaint and response process shall be described in the residential notifications required under APM NO-5 and posted publicly near work areas that are within 300 feet of residential buildings or day care operations.	Ensure implementation of specified noise control elements, contract language, and timely response and tracking of complaints with public posting near work areas	X	X	X	X

Table 6B. Mitigation Monitoring Plan – During-Construction Measures			1	2	3	4
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24-Hour HDD Construction Noise	**MM N-2: Obtain Special Permit for Nighttime HDD Noise.** This mitigation measure is to supplement and ensure enforceability of APM NO-6 for noise sources at the Embarcadero HDD Transition Area. ▪ PG&E shall apply to the San Francisco Director of Public Works and obtain a special permit for nighttime or 24-hour activity at the Embarcadero HDD Transition Area, consistent with Section 2908 of the Police Code. Prior to commencing construction of the HDD, PG&E shall provide to the CPUC a copy of the special permit or evidence that no permit is required by San Francisco. ▪ PG&E shall provide to the CPUC at least 7 days prior to commencing construction of the Embarcadero HDD Transition Area the results of actual ambient hourly (Leq) noise measurements for each hour between 8:00 p.m. to 7:00 a.m. at the edge of the nearest private property containing residential use obtained from monitored noise levels as specified in APM NO-6. ▪ PG&E and contractors conducting nighttime work at the Embarcadero HDD Transition Area, between 8:00 p.m. to 7:00 a.m., shall implement noise attenuation features, including acoustical barriers, blankets and enclosures as identified in APM NO-6, to achieve no more than 5 dBA above existing local ambient noise levels at the edge of the nearest private property containing residential use, based on 1-hour Leq. ▪ PG&E shall provide a report to the CPUC regarding actions taken to reduce the duration or level of noise within 48 hours of monitoring noise levels found to be in excess of the ambient noise level by 5 dBA, at the edge of the nearest private property containing residential use, based on 1-hour Leq.	Review correspondence related to special permit, and review results of noise measurements to establish hour-by-hour baseline and measurements taken under APM NO-6	—	—	X	—
	Traffic/Transportation					
APM TR-1	**Traffic Management Implementation.** PG&E will follow its standard safety practices, including installing appropriate barriers between work zones and transportation facilities, posting adequate signs, and using proper construction techniques. PG&E will coordinate construction traffic access at Embarcadero Substation and Potrero Switchyard with SFMTA during project construction. PG&E is a member of the California Joint Utility Traffic Control Committee, which published the California Joint Utility Traffic Control Manual (2010). PG&E will follow the recommendations in this manual regarding basic standards for the safe movement of traffic on highways and streets in accordance with Section 21400 of the CVC. These recommendations include provisions for safe access of police, fire, and other rescue vehicles. Ensure implementation of Traffic Management Plan, and compliance with City of San Francisco Excavation Permits and Special Traffic Permits.	Review Traffic Management Plan; ensure traffic safety practices and coordination are implemented	X	X	X	X
APM TR-2	**Marine Traffic Management Implementation.** PG&E and its contractors will coordinate with the USCG VTS to establish a Vessel Safety Zone, and will provide information for the appropriate notices to mariners for cable laying work. The USCG requires 90-day notification for establishment of the Vessel Safety Zone. This information is then disseminated by the USCG to mariners and other parties.	Review notice and observe Vessel Safety Zone	—	—	X	X

Table 6B. Mitigation Monitoring Plan – During-Construction Measures			1	2	3	4
Impact	**Applicant Proposed Measure (APM) or Mitigation Measure**	**Monitoring Requirement**	**Potrero**	**UG/ Land**	**HDD**	**Sub-marine Cable**
	Utilities and Service Systems					
APM UTIL-1	**Coordination with SFPUC Regarding Stormwater System Facilities.** One of the extremely large SFPUC stormwater transport/storage boxes underlies The Embarcadero, where the northern HDD is planned. In this area, the HDD depth will be coordinated with SFPUC, in order to prevent damaging the storage box.	Ensure knowledge of outcome of coordination with SFPUC in order to prevent damaging the storage box	—	—	X	—
Accidental Utility Service Disruptions	**MM UT-1: Protect underground utilities.** Prior to commencing construction of the underground transmission line, PG&E shall submit to the CPUC written documentation of the following: ▪ Construction plans designed to protect existing utilities, showing the dimensions and location of the finalized alignment as well as the corrosion and induced currents study; ▪ Records that the Applicant provided the plans to the City and County of San Francisco for review, revision and final approval; ▪ Construction plans approved by the City and County of San Francisco detailing the steps taken to prevent damage to two large SFPUC storm sewers, including but not limited to an appropriate shoring plan, work zone restrictions, and setbacks for the adjacent structures, at the following locations: (1) in the intersection of Spear and Folsom; and (2) at the end of the route as it turns to enter Embarcadero Substation; ▪ Evidence of coordination with all utility owners within the approved right-of-way, including their review of construction plans, results of the induced current and corrosion potential analysis, and a description of any protection measures or compensation to be implemented to protect affected facilities; ▪ Copy of the Applicant's database of emergency contacts for utilities that may be in close proximity or require monitoring during construction of the project; ▪ Evidence that the project meets all applicable local requirements; ▪ Evidence of compliance with design standards; and Copies of any necessary permits, agreements, or conditions of approval.	Review documentation of construction plans and evidence of coordination and compliance with requirements, permits or agreements to minimize accidental disruptions	X	X	X	X

Table 6C. Mitigation Monitoring Plan – Post-Construction Measures			1	2	3	4
Impact	**Applicant Proposed Measure (APM) or Mitigation Measure**	**Monitoring Requirement**	**Potrero**	**UG/ Land**	**HDD**	**Sub-marine Cable**
	Aesthetics					
APM AE-1	**Nighttime Lighting to Minimize Potential Visual Impacts.** The new switchyard may include outdoor lighting for safety and security purposes. Design and layout for new outdoor lighting at the switchyard will incorporate measures, such as use of non-glare or hooded fixtures and directional lighting, to reduce spillover into areas outside the switchyard site and minimize the visibility of lighting from offsite locations. During operations, the new lighting will be operated only as needed.	Review design and layout to ensure that lighting spillover is minimized to off-site locations	X	—	—	—
	Greenhouse Gas Emissions					
APM GHG-2	**Avoid and Minimize Potential SF6 Emissions.** PG&E will include Potrero Switchyard in PG&E's system-wide SF6 emission reduction program, which includes inventorying and monitoring system-wide SF6 leakage rates and employing X-ray technology to inspect internal circuit breaker components to eliminate dismantling of breakers and reduce accidental releases. New circuit breakers installed at Potrero Switchyard and Embarcadero Substation will have a manufacturer's guaranteed SF6 leakage rate of 0.5 percent per year or less and will be maintained in accordance with PG&E's maintenance guidelines. Potential for SF_6 leaks is minimized according to a leak reduction standard.	Potential for SF_6 leaks is minimized according to a leak reduction standard	X	—	—	—
	Hazards and Hazardous Materials					
APM HM-1	**Implementation of Hazardous Material and Emergency Response Procedures.** For the O&M phase of the project, existing operational hazardous substance control and emergency response plans will be updated as appropriate to incorporate necessary modifications resulting from this project.	Review training program materials and ensure construction personnel sign an environmental training attendance sheet; ensure that contaminated soil and hazardous materials and wastes are handled, stored, and disposed of in accordance with all applicable regulations; observe availability of material safety data sheets	—	—	—	—
APM HM-2	**Development and Implementation of a Health and Safety Plan.** For the O&M phase of the project, existing H&S plans for Potrero Switchyard and Embarcadero Substation will be modified and adhered to as appropriate.	Review project-specific health and safety plan	—	—	—	—