Mitigation Monitoring, Compliance, and Reporting Plan

SDG&E Ocean Ranch Substation

October 2017

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1. Introduction

1.1 Project Overview

San Diego Gas & Electric Company (SDG&E) plans to construct and operate the Ocean Ranch 69/12-kV Substation and associated distribution lines (Project). Pursuant to the California Environmental Quality Act (CEQA), a Mitigated Negative Declaration (MND) and supporting Initial Study (IS) were prepared to assess the Project's potential environmental effects. The Initial Study was prepared based on information in the Proponent's Environmental Assessment (PEA), project site visits, and supplemental research. The Final Initial Study/Mitigated Negative Declaration (IS/MND) was issued in April 2017. CPUC issued a Permit to Construct (PTC) for the project on October 2, 2017 (Decision D.17-09-029).

The Ocean Ranch Substation site is in Oceanside, San Diego County, California, and is situated approximately 4 miles south of Marine Corps Base Camp Pendleton and 6 miles east of the Pacific Ocean. The site is within the Pacific Coast Business Park, which is part of the Rancho del Oro Specific Plan area. The Project will consist of the following: a new 69/12 kilovolt (kV) low-profile electric substation located on a 9.66-acre site on Avenida del Oro north of Avenida de la Plata; approximately 1,500 feet of underground power line duct bank to loop an existing 69 kV circuit into the new substation; four new 12 kV distribution circuits that would intercept four existing circuits in the vicinity; and a telecommunication system that would include a 40-foot monopole and attached microwave antenna.

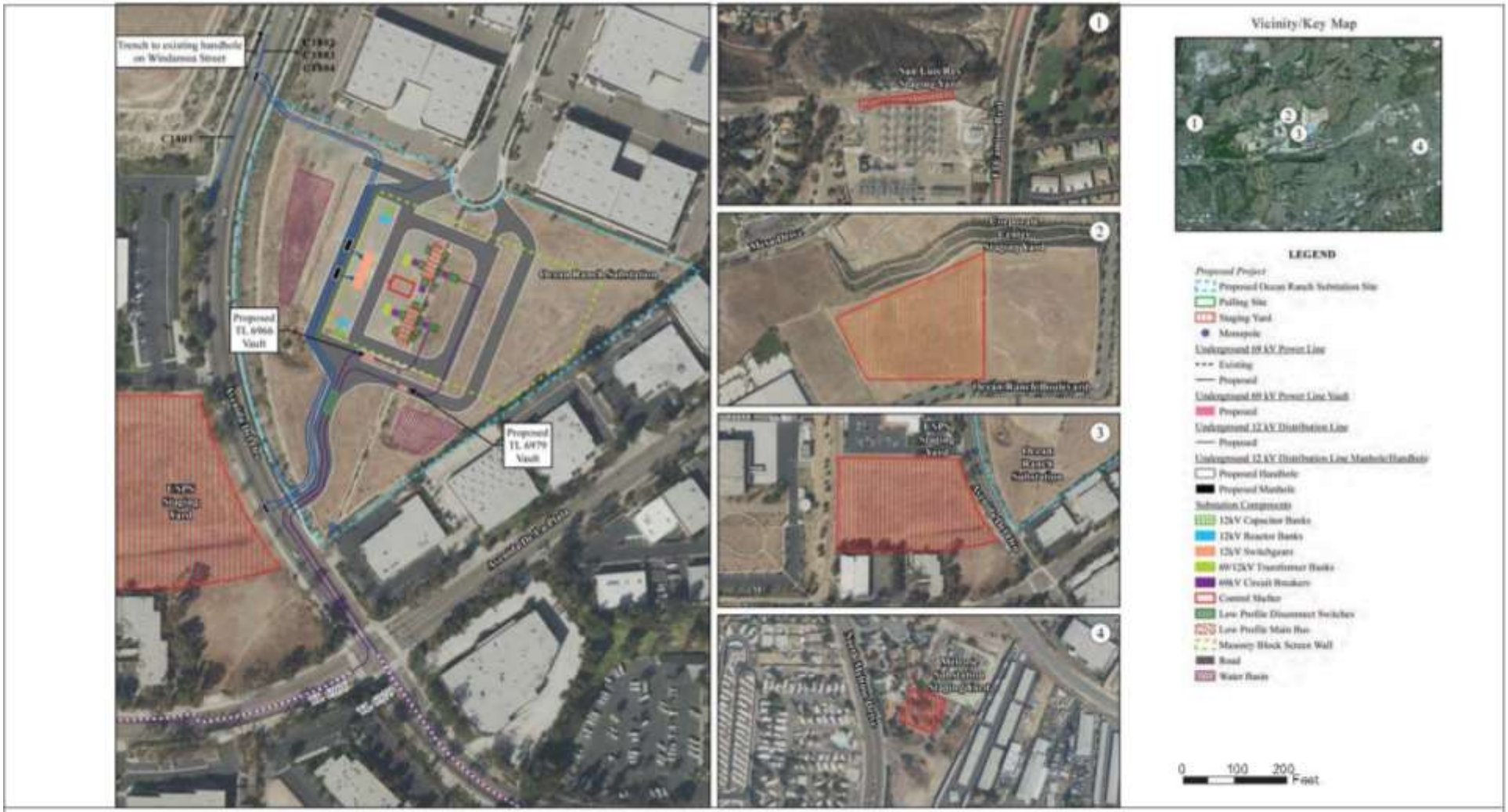
The detailed project description with figures from the April 2017 IS/MND is provided in Attachment A. Figure 4-2 from the IS/MND indicates the substation and yard locations and is provided on the following page.

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 2102-2105, 2107, 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). Mitigation Monitoring, Compliance, and Reporting Plans (MMCRPs) 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 CEQA. CEQA Guidelines Section 15097 clarifies requirements for mitigation monitoring or reporting. As well, 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 MND and where significant adverse environmental effects have been identified.

Mitigation measures to be implemented as part of the Project were identified in the Final IS/MND prepared by CPUC for the Project. The IS/MND was adopted by the CPUC in Decision D.17-09-029 issued on October 2, 2017, which includes procedures for preparing and implementing MMCRP to ensure compliance with the mitigation measures approved in the IS/MND. In addition, Applicant Proposed Measures (APMs) were adopted as part of the IS/MND. Together, the mitigation measures and APMs identified in the IS/MND provide the basis for this MMCRP.



Source: SDG&E, 2016b.

Figure 4-2
Project Site Location and Staging Yards

1.3 Mitigation Monitoring, Compliance, and Reporting Plan

SDG&E proposed APMs to reduce potentially significant adverse impacts related to project construction and operation. In addition, mitigation measures are imposed on the Project by the CPUC; regulatory agencies may impose permit requirements.

The MMCRP provides guidelines and procedures for environmental compliance on the Project. The MMCRP was developed by CPUC in coordination with SDG&E and CPUC's Environmental Monitors (CPUC EMs). The MMCRP defines 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 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 IS/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 SDG&E project staff. This MMCRP includes:

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

Section 6 lists the APMs and 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 SDG&E and CPUC EMs for review and comment. The final language of the MMCRP was established in consultation with SDG&E.

1.4 Agencies with Jurisdiction

The CPUC is the Lead Agency for the Project. However, the project may affect resources or require 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 by SDG&E 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 this will be brought to the attention of the SDG&E Lead Environmental Inspector. The CPUC EM has the authority to communicate these observations to the appropriate agency. Under their own authority and at their 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 by SDG&E for a Notice to Proceed from the CPUC. Copies of permits, including any permit requirements and stipulations, shall be provided to CPUC.

Table 1. Permits that May Be Required for the Ocean Ranch 69/12-kV Substation Project

Agency	Permit, Approval, or Consultation	Jurisdiction/Purpose
FEDERAL/STATE AGENCIES		
U.S. Fish and Wildlife Service (USFWS), Sacramento Field Office	Consultation	Consultation on burrowing owls and/or western yellow bat if these species are identified within the Proposed Project area.
California Department of Fish and Wildlife (CDFW)	Consultation	Consultation on burrowing owls and/or western yellow bat if these species are identified within the Proposed Project area.
State Water Resources Control Board (SWRCB)	National Pollutant Discharge Elimination System	Storm water discharges associated with construction activities disturbing more than one acre of land
LOCAL/REGIONAL AGENCIES		
City of Oceanside	Approval of Remandment of Access Rights	Accommodate secondary driveway at substation site along Avenida Del Oro.
City of Oceanside	Encroachment Permit	For trenching within the City ROW.
City of Oceanside	Grading Permit	Site grading.
City of Oceanside	Explosive Permit	Secure approval for rock blasting, if necessary, through Fire Department review
SWRCB	Recycled Water General Order	Used to discharge tertiary-treated recycled water to land for approved construction activities.

Table 2. Contact Information for Jurisdictional Agencies Associated with the SDG&E Ocean Ranch 69/12-kV Substation Project

Agency	Address	Contact Person	Phone	E-mail Address
LEAD AGENCY				
California Public Utilities Commission	505 Van Ness Avenue San Francisco, CA 94102	Andie Biggs	415-703-3305	Andie.Biggs@cpuc.ca.gov
FEDERAL AGENCIES				
US Fish and Wildlife Service	2177 Salk Avenue, Suite 250 Carlsbad, CA 92008	Patrick Gower	760-431-9440	patrick_gower@fws.gov
STATE AGENCIES				
California Department of Fish and Wildlife	3883 Ruffin Road San Diego, CA 92123	Elyse Levy	858-467-4237	elyse.levy@wildlife.ca.gov
State Water Resources Control Board (SWRCB)	San Diego Regional Water Board (Region 9) 2375 Northside Drive, Suite 100 San Diego, CA 92108-2700	To Be Determined	619-516-1990	rb9_questions@waterboards.ca.gov
LOCAL AND REGIONAL				
City of Oceanside	300 North Coast Highway Oceanside, CA 92054	Marty Eslambolchi	760-435-4500	meslambolchi@ci.oceanside.ca.us

1.5 Schedule

SDG&E plans to start construction soon after issuance of a Notice to Proceed (NTP) and to energize the new substation by June 2019. Table 3 shows a preliminary construction durations for key aspects of the Project: (1) Construction of the proposed Ocean Ranch Substation, (2) installation of 12-kV distribution circuits, (3) loop-in of an existing 69-kV power line, (4) and installation of a telecommunication system. The durations are based on initial conceptual engineering. The actual construction start schedule for each component may vary based upon many factors, including the timeline for additional agency approvals, materials acquisition, environmental conditions, and any necessary changes to project design due to unexpected physical conditions.

Important: Except for such pre-construction activities as engineering, design, studies, and permitting, Project-related construction activities will not begin without a NTP being issued by the CPUC. For construction to start, a Notice to Proceed Request (NTPR) must be made by SDG&E, necessary pre-construction compliance activities must be completed by SDG&E, and an NTP must be issued by CPUC (see Section 4.1.1). The mitigation measures and APMs listed in Section 6 include the locations where these requirements apply and identifies what must be implemented prior to the commencement of construction. SDG&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.

Table 3. Preliminary Construction Schedule

Project Component	Activity	Approximate Duration
Temporary Staging Yard	Site Preparation	1 week
	Clean-up	1 week
69/12 kV Substation	Site Development and Grading	5 months
	Retaining/Boundary Wall Construction	2 months
	Driveways/Sidewalks (AC Paving)	2 months
	Below-Grade Construction	6 months
	Substation Equipment Installation	6 months
69 kV Underground Power Line	Duct Bank Construction, Vault and Cable Installation	3 months
12 kV Distribution	Trenching and Conductor Installation	3 months
Telecommunication System Extension	Duct Bank Construction, Vault and Cable Installation	1 month
Energization	Testing and Commissioning	1 month
	Energization	1 month

2. Roles and Responsibilities

2.1 Implementation

SDG&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 MMCRP. SDG&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 state or federal agencies with jurisdiction through their discretionary permit processes, if any.

Important: SDG&E will inform the CPUC Project Manager in writing of mitigation measures or APMs 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, 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 MMCRP for Minor Project Changes (see Section 4.3.3) while others may require the submittal of a Petition for Modification (PFM) pursuant to CPUC Rules of Practice & Procedure, Rule 16.4(a).

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 SDG&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.

2.2 SDG&E Roles and Responsibilities

The following describes the roles and responsibilities of key project personnel responsible for implementing the MMCRP, as well as their relationship to other staff working on the Project.

SDG&E Project Manager

SDG&E's Project Manager (PM) will oversee all construction activities. Specific responsibilities of the PM include, but are not limited to:

- Ensure compliance with project specifications, drawings, permit conditions, construction contracts and applicable codes
- Notify the SDG&E Environmental Project Manager (EPM) and Environmental Compliance Lead (ECL) of project schedule changes
- Work with SDG&E EPM to evaluate and improve the implementation of the MMCRP as construction progresses
- Regularly facilitate project meetings

SDG&E Field Construction Advisors (FCA) and Construction Personnel

Construction activity will take place at any given time within multiple construction components. Construction contractors will have significant responsibilities for implementation of and compliance with the environmental requirements of the project. SDG&E field Construction Advisors (FCAs) will oversee the day-to-day construction activities conducted by SDG&E's construction contractors. The construction contractors will be responsible for incorporating all project environmental requirements into their day-to-day construction activities. Key environmental responsibilities for contractors' staff include, but are not limited to:

- Verify that all construction workers attend the project's Worker and Environmental Awareness Program (WEAP) prior to beginning work on the project
- Review and understand the environmental requirements
- Implement and maintain mitigation measure requirements and conditions during construction
- Respond to requests by SDG&E Environmental Resource Specialists and Lead Environmental Inspector during construction

SDG&E Environmental Project Manager (EPM)

SDG&E's Environmental Project Manager (EPM) is responsible for providing the appropriate level of resources for successful implementation of the MMCRP. The EPM will provide management, direction, and leadership to the SDG&E Environmental Compliance Team. Specific responsibilities of the EPM include, but are not limited to:

- Direct the development and implementation of the pre-construction environmental planning, permitting, and compliance activities.
- Ensure the development and implementation of the Worker Environmental Awareness Program (WEAP)
- Provide leadership and resources to assure compliance with the MMCRP
- Ensure frequent and clear communication between SDG&E environmental staff, construction personnel, resource agencies, and Lead Environmental Inspector
- Actively communicate with resource agencies, particularly in regards to the MMCRP
- Establish and support the lines of communication between the SDG&E environmental staff, construction personnel, resource agencies and Third-Party Monitors

SDG&E Environmental Compliance Lead (ECL)

SDG&E's Environmental Compliance Lead (ECL) will provide oversight of all activities required for compliance with the MMCRP. The ECL responsibilities include, but are not limited to:

- Coordinate and track the submittal process in order to receive the Notice to Proceed
- Prepare Minor Project Change Request Forms or assist SDG&E contractors with the preparation of such requests
- Ensure that construction personnel receive the WEAP
- Actively communicate with the CPUC EMs, particularly in regards to the MMCRP
- Provide coordination with construction and engineering groups to assure mitigation measures are understood and implemented

- Assure frequent and clear communication between the SDG&E PM, SDG&E EPM, FCAs, construction personnel, CPUC EMs, and Lead Environmental Inspector

SDG&E Environmental Specialists

SDG&E's Environmental Specialists will support the SDG&E EPM and ECL for successful implementation, planning, permitting and compliance activities required under the MMCRP. The Environmental Specialists' responsibilities include, but are not limited to:

- Coordinate the activities of the biological, paleontological, cultural, hazardous materials, and stormwater mitigation measure requirements
- Coordinate the development and implementation of the pre-construction environmental planning, permitting, and compliance activities
- Actively communicate with all agencies respective to the above mitigation measure requirements
- Provide assistance to SDG&E's Lead Environmental Inspector

SDG&E Lead Environmental Inspector (LEI)

SDG&E's Lead Environmental Inspector (LEI) will support the EPM and ECL for successful day-to-day field implementation of MMCRP. The LEI will assist the EPM and ECL in ensuring project compliance with the MMCRP through field inspections and first-line communication with the FCAs, construction contractor foremen, and the CPUC EMs. The LEI's responsibilities include, but are not limited to:

- Coordinate with CPUC EMs as appropriate
- Coordinate the mobilization of other resource specialists, including storm water, biological, cultural, and paleontological resource specialists
- Conduct on-going inspection of construction activities
- Coordinate the assessment of work area conditions ahead of construction and provide advance notice of conditions and situations that require specific awareness, planning, or notifications
- Work closely with the EPM, ECL, FCAs and CPUC EMs to evaluate compliance with the mitigation measures
- Coordinate with the FCAs and construction and engineering groups to ensure mitigation measures are understood and implemented
- Provide and document WEAP training for project personnel.
- Complete daily inspection reports
- Assist the EMP and ECL with the preparation of Minor Project Change requests

SDG&E Specialty Environmental Monitors

APM CUL-01, mitigation measure (MM) C-1, and MM C-2 require qualified specialty monitoring during construction. The Specialty Environmental Monitors will provide oversight, protection and direction for compliance within their field of expertise at the applicable construction areas.

Additional SDG&E Roles

SDG&E Public Affairs Manager

The SDG&E Public Affairs Manager provides information and guidance to both the Ocean Ranch Substation Project Construction Management and Environmental Management Teams as needed.

SDG&E Environmental Law Department

The SDG&E Counsel for the Environmental Law Department provides information and guidance to both the Ocean Ranch Substation Project Construction Management and Environmental Management Teams as needed.

Mitigation Compliance

SDG&E is responsible for successfully implementing all the adopted mitigation measures in the MMCRP. The MMCRP contains criteria that define whether mitigation is successful. Standards for successful mitigation also are implicit in many mitigation measures that include such requirements as obtaining nondiscretionary permits or avoiding a specific impact entirely. Additional mitigation success thresholds may be imposed by applicable state or federal agencies with jurisdiction through the discretionary permit process.

SDG&E shall inform the CPUC in writing (i.e., Minor Project Change Request) of any mitigation measures that are not or cannot be successfully implemented and their proposed mitigation options to reduce the subject impact(s) to less than significant. The CPUC in coordination with its monitors and jurisdictional agencies will assess whether alternative mitigation is appropriate and specify in writing to SDG&E the subsequent actions required.

2.3 California Public Utilities Commission

2.3.1 CPUC Project Manager (PM)

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 compliance with the MMCRP based on the implementation of the measures included in Section 6. The CPUC delegates field monitoring and reporting responsibilities to its 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 issue(s).

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

2.3.2 CPUC Environmental Monitor (Aspen)

SDG&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 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 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 number of third-party monitors (CPUC EMs) and the frequency of site inspections will depend on the number of concurrent construction activities and their locations with respect to sensitive resources and land uses, as well as project compliance history.

- **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 PM for major compliance matters.
- **Aspen CPUC Environmental Monitor (CPUC EM).** The CPUC EM will conduct random, spot-check monitoring and be the primary point of contact with in-field agency and project personnel. In order to assure the safety of all personnel on the construction site, including the CPUC and its monitors, the CPUC EM shall check in with the site safety representative prior to conducting a compliance inspection. The CPUC EM 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 EM will document compliance through daily logs/incident reports and provide input for the weekly reports. The CPUC EM 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 SDG&E field representative to address appropriately.

Important: In accordance with the protocols in this MMCRP, 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 will not direct the contractor, but is authorized to temporarily stop work under these conditions if it is safe to do so. SDG&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 SDG&E environmental and construction representatives will interact regularly and maintain professional, responsive communications at all times. SDG&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 EM can get accurate information on ongoing surveys, construction work, and schedules, the following protocols have been established:

- The CPUC EM's primary point of contact will be the LEI. If the LEI is not available, the ECL 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 via e-mail or telephone.
- The LEI will inform the CPUC EM of all current and planned survey and construction activities, including status of permits and activity locations, in a timely manner. Timely notification must be sufficient to allow response time for the CPUC EM 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 LEI or other designated person. The LEI is the appropriate contact for obtaining information on construction activity schedules or construction practices.
- SDG&E will provide to the CPUC EM a list of all construction monitoring personnel and managers, identified by work package or project 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 the LEI and give them time to resolve compliance issues. If this includes discussions with resource agencies, documentation of such communication and any subsequent actions to be undertaken to achieve compliance will be provided to the CPUC EM. If the concern involves a permit, because SDG&E is the permit holder with jurisdictional agencies, the ECL 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 ECL will call the appropriate resource agency to discuss the issue. The EPM will take the lead in the coordination effort and in resolving the issue.
- The resource agencies will be notified immediately by the ECL of any substantive issues regarding endangerment of natural 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 ECL, assisted by the EPM, will develop a plan to resolve the issue and will follow up with the respective agencies to explain the strategy and receive agency approval.
- SDG&E will expeditiously provide verbal notification and/or submit a preliminary electronic notification of a suspected event (notification timeframe no greater than 24 hours), followed by a timely submittal of a final notification that more fully characterizes the event, actions, and outcomes to the CPUC EM.
- The CPUC EM will not direct the contractor, but 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 LEI or senior SDG&E person on site. At any time, anyone can order an activity to be halted temporarily if a take or a hazard is imminent.
- As required, conference calls will include a discussion of construction and compliance activities, with the CPUC EM, ECL, LEI, and agency staff participating.

3.2 Pre-Construction Compliance Coordination

Prior to construction, SDG&E is required by the terms of some project mitigation measures and APMs and permitting requirements of other agencies, to prepare various plans and obtain approval of these plans, in addition to performing surveys. During the pre-construction period, SDG&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 SDG&E’s submittals,
- Document the findings of data reviews and jurisdictional agency approvals,

- Review SDG&E submittals,
- Document the status of mitigation measures/APMs as they apply to the Project or work package/project component, 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/project component.

Other pre-construction activities include the following:

- Inclusion of mitigation measures within each construction contract 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
- A pre-construction meeting was held on September 21, 2017 with SDG&E and CPUC EMs to review the project and construction schedule, 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.

3.3 Coordination during Construction

Many mitigation measures were derived from specific permit conditions or agency input. The CPUC EM, along with SDG&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 SDG&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 ECL and they will contact the agency to discuss resolution.

3.4 Ongoing Communication

Generally, problems encountered during construction can be resolved in the field through regular communication among the LEI, construction contractors, and CPUC EM. 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 SDG&E.

3.4.1 CPUC EM

The CPUC EM's primary point of contact in the field is the LEI. The CPUC EM will contact the LEI 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 SDG&E. If the CPUC EM cannot immediately reach the LEI, the ECL will be contacted to address the issue. Similarly, the CPUC EM will contact the LEI 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, SDG&E may require its construction contractors to defer questions to an onsite SDG&E representative. In all cases, the CPUC EM will contact the designated SDG&E representative if a problem is noted that requires action from the construction contractor or SDG&E.

Important: The CPUC EM will not direct the construction contractor, but will contact the designated SDG&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 LEI, 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 SDG&E

SDG&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. The contact list will include each person's title and responsibility, including the names of SDG&E and CPUC environmental staff, 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 SDG&E as new personnel are assigned to the Project. This list is confidential and will not be published or put on the CPUC project website.

SDG&E and/or its contractors will hold daily onsite meetings that the LEI will attend on an as-needed, regular basis. Prior to beginning the day's work at a job site, a tail-board briefing will be held by SDG&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 SDG&E Compliance Report

SDG&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 ECL. 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

SDG&E will conduct field meetings with construction managers, supervisors, SDG&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 field meetings also will provide a forum for discussing environmental compliance issues or concerns. These meeting typically occur on a weekly basis.

SDG&E may request that CPUC EM (and other agency EMs) participate in the field meetings to help resolve any issues that may have arisen during the previous period and to anticipate potential issues that may arise during upcoming activities. Alternatively, the ECL or the CPUC's EM 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 ECL, EPM, CPUC PM, the CPUC EM, and other parties may participate in an as needed teleconference call. The teleconference calls will be scheduled for an agreed date, time, and frequency and will be used to identify actual or potential issues and discuss solutions. The conference calls will focus on the MMCRP 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 SDG&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 ECL. An agenda will be provided before the call.

4. Environmental Compliance and Field Procedures

4.1 Pre-Construction Compliance Verification

Prior to beginning construction, SDG&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 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 SDG&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 also may be involved in the review of applicable plans and reports and may provide comments.

The CPUC EM, including project management staff and technical experts as needed, will review and provide comments on all mitigation plans and reports. Comments on submitted plans and reports will be provided to SDG&E to ensure that the plans and reports adequately accomplish the intended reduction in impacts. For required local and State agency permitting/consultations, the CPUC EM will track SDG&E's progress as it relates to SDG&E's construction plans and project mitigation, APMs, and permitting requirements. Based on SDG&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 work package/project component separately, as soon as pre-construction compliance is satisfactorily accomplished for that work package/project component.

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/project component before SDG&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, SDG&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 an NTP before construction can start.

SDG&E will submit a formal request for an NTP. If needed, Minor Project Change requests may be submitted by SDG&E with the NTP request for incorporation into the NTP (see Section 4.3.3 for minor project change submittal requirements). Where there may be multiple work sites, SDG&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 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 that apply to the work covered by the NTP request have been met.
- 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 survey results prior to construction
- Cultural resource surveys or verification that no cultural resources will be significantly affected
- Copies of permits issued by other agencies, including any requirements
- Date when construction is anticipated to begin and estimated 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, each 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 SDG&E and noted in the NTP. At its discretion, CPUC may issue the NTP subject to specific conditions. In such an event, the NTP will clearly define any limitations that apply and the actions to be taken and documented by SDG&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 specific 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 SDG&E or be unannounced. In order to assure the safety of all personnel on the construction site, including the CPUC and its monitors, the CPUC EM shall check in with site the safety representative prior to conducting a compliance inspection. Supplemental information provided by SDG&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/oceanranch/oceanranch.htm

4.1.3 Compliance and Non-Compliance Levels

Project compliance and non-compliance 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 SDG&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 a Level B Non-Compliance is 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 state 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 SDG&E's Environmental Compliance Lead (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 and Aspen Monitoring Manager, 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 SDG&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 SDG&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 SDG&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 no action is taken by SDG&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 IS/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 SDG&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, SDG&E will immediately report these events to the CPUC and other regulatory agencies as appropriate. SDG&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 with the potential to have significant environmental impacts that 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 SDG&E’s reasonable judgment, had the potential to result in serious bodily harm or death.

4.2 Dispute Resolution

The MMCRP is intended to reduce or eliminate potential disputes. However, even with the best preparation, differences in mitigation implementation approaches and interpretation may occur. Issues should first be addressed informally at the field level, between the CPUC EM and SDG&E's Environmental Inspectors or Environmental Monitors, or at the regular progress meetings. Questions may be raised to the SDG&E ECL and the SDG&E EPM for resolution. 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 SDG&E's EPM.

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 the adopted MMCRP, if they have occurred without prior authorization. The CPUC PM may issue a formal letter requiring corrective actions to address the unresolved or persistent deviations from the Project or adopted MMCRP.

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 parties 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 ECL will coordinate with other permitting agencies for issues outside CPUC's jurisdiction. Separate dispute resolution or enforcement steps solely involving other regulatory agencies would follow that agency's procedures.

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

4.3 Project Refinements

4.3.1 Transition from Preliminary Design to Final Engineering

The IS/MND for the Project was based on preliminary designs. Prior to construction, SDG&E will complete 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 IS/MND).

4.3.2 Project Changes

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, SDG&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 EM and Aspen Monitoring Manager, will ensure that any process to consider minor project changes that may be necessary due to final engineering or variances or deviations from the procedures identified under the monitoring program 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, unless the change involves a Temporary Extra Work Space (TEWS) as defined in Section 4.3.4,
  - 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 PM. SDG&E must seek any other project changes by a Petition for Modification (PFM). Should a project change require a PFM, supplemental environmental review is required under CEQA.

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. Examples of changes that may be approved by staff after final engineering include, but are not limited to:

- Adjusting the alignment or position of a project element to avoid unanticipated impacts related to cultural artifacts, buried utility infrastructure, hazardous and toxic substances, and other land use impacts including effects on businesses and homeowners.
- Adjusting the alignment or position of a project element to avoid or adapt to conditions on the ground that vary from the conditions that existed at the time of the original environmental analysis.

Important: The changes must be located within the geographic study area used in the original environmental analysis and must not create a new significant impact or a substantial increase in the severity of a previously identified significant impact**.**

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

The CPUC EM and Aspen Monitoring Manager will review the request, including field validation to ensure that all of the information required to process the minor project change is included, and then forward the request to the CPUC PM for review and approval/denial. The CPUC PM 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 the weekly reports.

4.3.4 Temporary Extra Work Space Procedures

For the purposes of this MMCRP, TEWS is defined as an existing workspace (i.e., no site preparation is required) that was not specifically identified and evaluated during the CEQA process but would be used by SDG&E during construction for a period of up to 60 days. Any such location 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 SDG&E determines a need for a TEWS, it must submit such a request to the CPUC EM, consistent with the communication protocol. SDG&E will not be permitted to use a TEWS prior to receiving written authorization from the CPUC EM. If appropriate, SDG&E will also send a copy of the TEWS to affected jurisdictional agencies.

SDG&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) SDG&E has permission of the 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 SDG&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 EM and Aspen Monitoring Manager 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/oceanranch/oceanranch.htm

6. Mitigation Measures and APMs

The following table includes the mitigation measures and APMs from the adopted IS/MND. The table indicates the resource of concern, the measure to be implemented, the monitoring requirement, and when the measure is to be implemented (pre- or during-construction; or post-construction mitigation requirements).

Table 4. Mitigation Measures and APMs

BIOLOGICAL RESOURCES	
APM BIO-1 General Biological Resources.	
Measure Text	▪ The Proposed Project work areas shall be limited to the sites specified in the project description. Access to the project site shall utilize existing access roads, where possible. Parking, driving, and storing of vehicles will be limited to previously disturbed, compacted, and developed areas, where possible. ▪ A contractor education program will be conducted by a qualified biologist. It will be conducted during all project phases and cover: (1) the potential presence of listed species and their habitats; (2) the requirements and boundaries of the project (e.g., areas delineated on maps and by flags or fencing); (3) the importance of complying with avoidance and minimization measures; (4) environmentally responsible construction practices; (5) identification of sensitive resource areas in the field; and (6) problem reporting and resolution methods. ▪ A qualified biologist will be assigned to the Proposed Project. The designated biologist will have the authority to halt construction in that segment of the Proposed Project to prevent impact to any listed species. ▪ Heavy equipment, construction, equipment maintenance, and staging activities will occur in designated areas and be restricted to existing roads and disturbed areas to the maximum extent practicable. ▪ Where possible, laydown, stockpiling, parking, driving, and storing of vehicles and equipment will be limited to previously disturbed/compacted and developed areas within and immediately adjacent to existing roads.
Monitoring Requirement	Review and attend contractor education program.
Compliance Outcome	Construction impacts are limited to the project area.
APM BIO-2: Vegetation and Special-status Plant Species.	
Measure Text	▪ Disturbance to adjacent native vegetation will be avoided to the greatest extent.
Monitoring Requirement	Review and attend contractor education program.
Compliance Outcome	Impacts to adjacent native vegetation are minimized.

Table 4. Mitigation Measures and APMs

APM BIO-3: Migratory Birds	
Measure Text	▪ Pre-construction nest surveys will be conducted by a qualified biologist if construction or demolition activities on the project site occurs between January 1 and August 31 (nesting season). Surveys shall cover all potential nesting habitat within the Project Survey Area (PSA) and be repeated on a weekly basis throughout the nesting season. If SDG&E determines that any staging yards included in the proposed project, is not needed, then those staging yards will be exempt from nest surveys ▪ If an active nest is found within the Proposed Project at any time, work will stop immediately in the immediate area of the nest and redirected away from the nest location. A no disturbance buffer zone will be established around each nest. The size of the buffer zone for non-special-status species will be determined by a qualified biologist. Any activities that might, in the opinion of the biological monitor, disturb nesting activities, will be prohibited in the buffer zone. If an active nest of a special-status species is identified, SDG&E shall consult with the USFWS and CDFW to determine the size of the buffer zone (except for burrowing owls, which will be determined in accordance with APM BIO-4). Nest locations will be mapped using GPS technology. ▪ The biological monitor will monitor all active nests and buffers at least once per week, to determine whether birds are being disturbed. If signs of disturbance or distress are observed, the biological monitor shall immediately implement adaptive measures to reduce disturbance. These measures could include, but are not limited to, increasing buffer size, halting disruptive construction activities in the vicinity of the nest until fledging is confirmed, or placement of visual screens or sound dampening structures between the nest and construction activity. ▪ The qualified biologist or biological monitor will monitor the nest until he or she determines that nestlings have fledged and dispersed or the nest is no longer active. The results of nest surveys and nest monitoring shall be included in biological monitoring reports, described in Mitigation Measure B-1 (Biological Monitoring and Reporting).
Monitoring Requirement	Review survey results and monitor implementation of required remedial activities.
Compliance Outcome	Impacts to breeding birds are minimized.
APM BIO-4: Special-status Wildlife Species	
Measure Text	▪ Protocol-level surveys for the burrowing owl shall occur prior to the commencement of construction. The survey shall be conducted by a qualified biologist in accordance with the Staff Report on Burrowing Owl Mitigation. The surveys shall commence at least 30 days and not less than 14 days prior to construction. The survey results shall be provided to SDG&E within 14 days following completion of surveys. ▪ If burrowing owls are detected within the Project Study Area, measures consistent with the methodology as established in the Staff Report on Burrowing Owl Mitigation and in concurrence with the local CDFW office will be implemented. This includes, but is not limited to the use of buffers around burrows, inspection of equipment, monitoring, and the potential for development of a Burrowing Owl Exclusion Plan approved by the local CDFW office. ▪ Prior to the commencement of the construction phase, a qualified biologist shall conduct a pre-construction survey/sweep of Melrose Staging Yard to determine the presence of the western yellow bat. If the western yellow bat is not found during the initial preconstruction survey/sweep, the staging yard will be resurveyed weekly while the yard is in use for the project. Surveys will be conducted year-round. If roosts are found during the survey sweeps, a no disturbance buffer zone will be established of 165 feet from any active roost and 300 feet from any active maternity roost. The qualified biologist shall consult with CDFW to determine the appropriate buffer limits to adequately protect the species and the buffer sizes listed above may be reduced with concurrence from CDFW. The buffers will remain in place until the staging yard is no longer used for this project or until the bat(s) have left the roost and a buffer is no longer necessary.
Monitoring Requirement	Review survey results and monitor implementation of required remedial activities
Compliance Outcome	Impacts to burrowing owls are minimized.

Table 4. Mitigation Measures and APMs	
B-1. Biological monitoring and reporting.	
Measure Text	SDG&E shall assign a qualified biologist or biological monitor to the Project to monitor work during the construction phase and inspect the Project site at least once per week, or until such time that construction activities at locations identified by the monitor no longer have the potential to impact special-status species, native vegetation, wildlife habitat, or sensitive biological resources. The qualified biologist or biological monitor is responsible for ensuring that impacts to special-status species, native vegetation, wildlife habitat, and sensitive or unique biological resources are avoided or minimized to the fullest extent safely possible. Monitors are also responsible for communicating with construction supervisors and crews to ensure that work activities are conducted in compliance with APMs, mitigation measures, permit conditions, and other project requirements. The qualified biologist or biological monitor shall clearly mark sensitive biological resource areas with staking, flagging, or other appropriate materials that are readily visible and durable, and ensure that work activities are contained within approved disturbance area boundaries at all times. The monitors will inform work crews of these areas and the requirements for avoidance, and will inspect these areas at appropriate intervals for compliance with regulatory terms and conditions. The qualified biologist or biological monitor shall have the authority and responsibility to halt any project activities that are not in compliance with applicable mitigation measures, APMs, permit conditions, or other project requirements, or will have an unauthorized adverse effect on biological resources. The qualified biologist or biological monitor shall, to the extent safe, practicable, and consistent with mitigation measures and permit conditions, actively or passively relocate wildlife out of harm's way. Handling, relocation, release from entrapment, or other interaction with wildlife shall be performed consistent with mitigation measures, safety protocols, permits (including CDFW and USFWS permits), and other project requirements. If safety or other considerations prevent the qualified biologist or biological monitor from aiding trapped wildlife or wildlife in harm's way, SDG&E shall consult with the construction contractor, CDFW, wildlife rehabilitator, or other appropriate party to obtain aid for the animal. The qualified biologist or biological monitor shall communicate with work crews to ensure that all excavations, open tanks, trenches, pits, or similar wildlife entrapment hazards have been covered or have ramps installed to prevent wildlife entrapment, and communicate with work crews to ensure these structures are installed and functioning properly. Monitoring activities shall be thoroughly and accurately documented during each monitoring visit or inspection and shall include: ▪ Any special-status species observations, including location of observation, location and description of project activities in the vicinity, and any measures taken to avoid the species. In addition, all special-status species observations shall be reported to the California Natural Diversity Database (CNDDB). ▪ Bird nesting activities and buffers established. ▪ Wildlife entrapments and relocations. ▪ All non-compliance incidents, including nest buffer incursions, with resolution or remedial actions taken. ▪ Any other information relevant to compliance with biological resource APMs, mitigation measures, permit conditions, or other project requirements. The qualified biologist or biological monitor shall compile this information into a brief monthly summary report to be submitted to the CPUC within 30 calendar days of the end of each month. At the conclusion of construction activities, a final project summary report shall be submitted to the CPUC within 90 calendar days of the end of construction.
Monitoring Requirement	Monitor implementation of specified biological monitor activities.
Compliance Outcome	Impacts to biological resources are minimized to the extent feasible.

Table 4. Mitigation Measures and APMs	
B-2. Worker Training.	
Measure Text	The contractor education program defined by APM BIO-1 shall stipulate the following general behavior requirements: 1. No wildlife may be harmed, except to protect life and limb. 2. Firearms shall be prohibited except for those used by security personnel. 3. Feeding of wildlife shall be prohibited. 4. SDG&E personnel shall not bring pets to work areas. 5. Plant or wildlife species shall not be collected under any circumstance, unless by an authorized/permitted biologist. 6. Littering shall not be allowed. SDG&E shall not deposit or leave any food or waste in any work area. 7. Wildfires shall be prevented or minimized by exercising care when driving and by not parking vehicles where catalytic converters can ignite dry vegetation. The use of shields, protective mats, or other fire prevention methods shall be used during grinding and welding to prevent or minimize the potential for fire. Care shall be exhibited when smoking in permitted areas. 8. Field crews shall refer environmental issues, including wildlife relocation, dead or sick wildlife, hazardous waste, or questions about avoiding environmental impacts, to a biologist(s) approved by the CPUC, USFWS, and CDFW. Other CPUC, USFWS, or CDFW biologists or experts in wildlife handling may need to be brought in for assistance with wildlife relocations. 9. Night lighting shall be of the lowest illumination allowed for human safety, selectively placed, shielded, and to the maximum extent practicable, directed so as to not disturb adjacent land uses or streets. 10. Vehicle speeds on the project site shall be maintained at 15 mph or less.
Monitoring Requirement	Review and attend contractor education program. Monitor training implementation.
Compliance Outcome	Workers are aware of and abide by environmental restrictions.
CULTURAL RESOURCES / TRIBAL CULTURAL RESOURCES	
APM CUL-1: Paleontological Resource Monitoring Program	
Measure Text	A paleontological resource monitoring program will be implemented during construction. The program will include construction monitoring, fossil salvage, laboratory preparation of salvaged specimens, curation of prepared specimens, and storage of curated specimens. A qualified paleontologist will be onsite to monitor all ground disturbing activities (e.g., grading and excavation) within native sediments, until the monitor determines monitoring activities are not necessary. The monitor will inspect all fresh cut slopes and trenches, spoils piles, and graded pad surfaces for unearthed fossil remains. If any paleontological find is identified during monitoring, then the monitor will communicate with the general environmental monitor and the construction manager. Salvage may include techniques such as "pluck-and-run," hand quarrying, and bulk matrix sampling and screen-washing. The monitor will also collect stratigraphic data to define the nature of fossiliferous sedimentary rock units within the Proposed Project area, their geographic distributions, and their lithologic characteristics. Paleontological monitoring would not be required in locations where artificial imported fill materials occur for the full depth of the proposed ground disturbance.
Monitoring Requirement	Review Paleontological Resource Monitoring Program for compliance with APM CUL-1. Monitor implementation of Program.
Compliance Outcome	Paleontological resources are protected and salvaged.

Table 4. Mitigation Measures and APMs	
C-1: Management of Unanticipated Discoveries of Historical Resources or Unique Archaeological Resources.	
Measure Text	Unanticipated discovery protocols shall be communicated to project workers as part of the contractor education program. If previously unidentified cultural resources are identified during construction activities, construction work within 100 feet of the find shall be halted and directed away from the discovery until a Secretary of the Interior qualified archaeologist and tribal representative assesses the significance of the resource. The archaeologist, in consultation with the County, SHPO, any interested Tribes, and any other responsible public agency, shall make the necessary plans for recording and curating the find(s) and for the evaluation and mitigation of impacts if the finds are found to be eligible to the National Register of Historic Places or California Register of Historical Resources, or qualifies as a unique archaeological resource under CEQA Section 21083.2.
Monitoring Requirement	Review & attend contractor education program. Monitor implementation of unanticipated discovery protocols.
Compliance Outcome	Cultural resources found during construction are identified and protected.
C-2: Appropriate Treatment of Human Remains.	
Measure Text	Upon discovery of human remains, all work within 100 feet of the discovery area must cease immediately, the area must be secured, and the following actions taken: ▪ The land manager/owner of the site is to be called and informed of the discovery. ▪ The San Diego County Coroner's Office is to be called. The Coroner has two working days to examine the remains after notification (Health and Safety Code Section 7050.5(b)). The Coroner will determine if the remains are archaeological/historic or of modern origin, and if there are any criminal or jurisdictional questions. The Coroner will make recommendations concerning the treatment and disposition of the remains to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in Section 5097.98 of the Public Resources Code. ▪ If the Coroner believes the remains to be those of a Native American, he/she shall contact the NAHC by telephone within 24 hours. The NAHC will immediately notify the person it believes to be the most likely descendant (MLD) of the remains. ▪ The MLD has 48 hours to make recommendations to the land owner for treatment or disposition of the human remains. If the descendant does not make recommendations within 48 hours, the land owner shall re-inter the remains in an area of the property secure from further disturbance. If the land owner does not accept the descendant's recommendations, the owner or the descendant may request mediation by NAHC. Per California Health and Safety Code, six or more human burials at one location constitutes a cemetery (Section 8100) and willful disturbance of human remains is a felony (Section 7052).
Monitoring Requirement	Monitor implementation of human remain discovery protocols.
Compliance Outcome	Effective protection of human remains.
HAZARDS AND HAZARDOUS MATERIALS	
See T-1: Construction Traffic Control Plan (under Transportation and Traffic)	
Measure Text	T-1 regarding interfering with emergency vehicles.
Monitoring Requirement	Review & attend contractor education program.
Compliance Outcome	Construction of the project does not interfere with emergency vehicles.

Table 4. Mitigation Measures and APMs	
NOISE	
N-1: Minimize Construction Vehicle, Equipment, and Traffic Noise.	
Measure Text	SDG&E shall maintain construction equipment and vehicle mufflers in accordance with equipment vendor specifications on all engines used in construction. Where feasible, construction traffic shall be routed to avoid noise-sensitive areas, such as residences, educational facilities, hospitals, convalescent homes, and parks.
Monitoring Requirement	Monitor implementation.
Compliance Outcome	Construction vehicle, equipment, and traffic noise is minimized.
N-2 Limit Construction Noise to Daytime Hours.	
Measure Text	SDG&E shall not operate any pneumatic hammer, pile driver, excavator, crane, hoist, or other equipment which generates loud or unusual noise from the hours of 10:00 p.m. to 7:00 a.m. Exceptions for work outside of these hours shall be allowed for project safety, to take advantage of the limited times when power lines can be taken out of service, to complete project work that must occur continuously without interruption, or as determined to be warranted by the CPUC. If nighttime work is needed because of clearance restrictions on power lines, SDG&E shall take appropriate measures to minimize disturbance to local residents, if any are within 500 feet of the work site, by informing them in advance of the work schedule and probable inconveniences.
Monitoring Requirement	Monitor implementation.
Compliance Outcome	Construction occurs within allowable work hours only.
N-3: Secure City of Oceanside Explosive Permit for Blasting Activity.	
Measure Text	In the event that blasting is required, SDG&E shall prepare and submit a plan for blasting that quantifies the resulting noise and vibration levels from the use of explosives. The plan shall in compliance with City of Oceanside procedures and requirements for all blasting activities and shall be submitted to the CPUC before blasting at each site.
Monitoring Requirement	Review Blasting Plan(s). Monitor Plan(s) implementation.
Compliance Outcome	Conditions of the blasting plan and permit are adhered to.
N-4. Avoid Blasting Where Damage to Structures Could Occur.	
Measure Text	Blasting shall be managed with a plan for each site. The plan shall include the blasting methods, surveys of existing structures and other built facilities, and distance calculations to estimate the area of effect of the blasting. The blasting plan shall identify and implement construction techniques available as an alternative to rock blasting for locations where damage to vulnerable structures could occur, where the distance depends on the force of the explosives under consideration. Rock anchoring or a mini-pile system shall be used if adjacent structures could be damaged as a result of blasting or any construction method used as an alternative to blasting. If any structure is inadvertently adversely affected by construction vibration from rock blasting, the structure shall be restored to conditions equivalent to those prior to blasting. SDG&E shall then fairly compensate the owner of any damaged structure for lost use of the property.
Monitoring Requirement	Monitor implementation of Plan. Monitor any restoration and compensation for adverse effects or damage.
Compliance Outcome	Blasting damage to adjacent structures is avoided or repaired.

Table 4. Mitigation Measures and APMs	
TRANSPORTATION AND TRAFFIC	
T-1. Construction Traffic Control Plan	
Measure Text	Prior to the start of construction, San Diego Gas & Electric (SDG&E) shall prepare and submit a Construction Traffic Control Plan for review and approval to the City of Oceanside for public roads and transportation facilities that would be directly affected by the construction activities and/or would require permits and approvals. SDG&E shall submit the Construction Traffic Control Plan to the California Public Utilities Commission (CPUC) prior to conducting activities covered in the traffic control permits. The Construction Traffic Control Plan shall include, but not be limited to: ▪ The locations and use of flaggers, warning signs, lights, barricades, delineators, cones, arrow boards, etc., according to standard guidelines outlined in the Manual on Uniform Traffic Control Devices, the Standard Specifications for Public Works Construction, and/or the California Joint Utility Traffic Control Manual. ▪ Additional methods to reduce temporary traffic delays and trips during peak travel hours (8:00-10:00 a.m. and 4:00-6:00 p.m.) to the maximum extent feasible. ▪ Typical access routes between all staging areas and the proposed Ocean Ranch Substation work areas. To the extent feasible, access routes should minimize travel on College Boulevard. ▪ Defining methods to coordinate with all agencies responsible for encroachment permits throughout construction to minimize cumulative lane disruption impacts should simultaneous construction projects affect shared segments/portions of the circulation system. ▪ Prior to the start of construction, provide (or identify the timing to provide) copies of all approved permits and agreements to the CPUC and methods to comply with all specified requirements. ▪ Plans to coordinate in advance with emergency service providers to avoid restricting the movements of emergency vehicles. Police departments and fire departments shall be notified in advance by SDG&E of the proposed locations, nature, timing, and duration of any roadway disruptions, and shall be advised of any access restrictions that could impact their effectiveness. At locations where roads will be blocked, provisions shall be ready at all times to accommodate emergency vehicles, such as immediately stopping work for emergency vehicle passage, providing short detours, and developing alternate routes in conjunction with the public agencies. Documentation of the coordination with police and fire departments shall be provided to the CPUC prior to the start of construction. ▪ Plans to coordinate in advance with property owners, if any, that may have limited access to properties due to temporary lane closures. Provisions for ensuring secondary access should be provided. ▪ Plans to coordinate with North Country Transit District at least one month prior to construction to minimize the impacts associated with the interruption or delays of bus transit service to Routes 315 and 316. Documentation of this coordination shall be provided to the CPUC prior to the start of construction.
Monitoring Requirement	Monitor Traffic Control Plan implementation.
Compliance Outcome	Construction impacts to public roads, property owners, and emergency service providers is minimized.

Attachment A

Project Description

Attachment A: Project Description

This attachment is Section 4, Project Description, from the Final Initial Study/Mitigated Negative Declaration (June 2016). Section numbering from the original is retained. Figures reference in the Project Description are included at the end of the attachment.

4. Project Description

San Diego Gas & Electric Company (SDG&E) proposes to construct the Ocean Ranch Substation Project (Proposed Project) in Oceanside, San Diego County, California. The Proposed Project would consist of the following: a new 69/12 kilovolt (kV) low-profile electric substation located on a 9.66-acre site on Avenida del Oro north of Avenida de la Plata; approximately 1,500 feet of underground power line duct bank to loop an existing 69 kV circuit into the new substation; four new 12 kV distribution circuits that would intercept four existing circuits in the vicinity; and a telecommunication system that would include a 40-foot monopole and microwave antenna.

4.1 Project Title

San Diego Gas & Electric Ocean Ranch Substation Project

4.2 Lead Agency Name and Address

California Public Utilities Commission
Energy Division
505 Van Ness Avenue
San Francisco, California 94102

4.3 Lead Agency Contact Person and Phone Number

Ms. Andie Biggs, Project Manager
(415) 703-3305

4.4 Project Location

The proposed Ocean Ranch Substation would be situated in the City of Oceanside, in northern San Diego County. The proposed site is approximately 4 miles south of Marine Corps Base Camp Pendleton and 6 miles east of the Pacific Ocean. The site is within the Pacific Coast Business Park, which is part of the Rancho del Oro Specific Plan area. The substation would be located entirely on land owned by SDG&E. Portions of the project's transmission and distribution lines would be installed in nearby streets as well as within the substation property. The 69 kV transmission power line that would loop into the substation would be located underground within existing SDG&E rights-of-way (ROWs) and franchise position in City of Oceanside public streets. The 12 kV distribution lines exiting the substation also would be underground. Figure 4-1 depicts the location of the Proposed Project within the North San Diego County area and Figure 4-2 illustrates the proposed substation site with project components and potential construction yard sites in the region. (Note: All figures referenced in the text are located at the end of this section.)

4.5 Project Sponsor's Name and Address

San Diego Gas & Electric Company
8830 Century Park Court, CP32A
San Diego, CA 92123

4.6 General Plan Designation

The City of Oceanside General Plan designation for the proposed substation property is Industrial. The property is within the approved Rancho del Oro Master Plan Area.

4.7 Zoning

The property is zoned IL (Limited Industrial) and PD-1 (under the Rancho Del Oro Master Plan).

4.8 Surrounding Land Uses and Setting

The 9.66-acre substation property consists of two parcels: Assessor Parcel Number (APN) 161-512-26 is 5.60 acres and APN 161-512-27 is 4.06 acres. The two triangular parcels together form the larger triangle-shaped substation site. Both parcels are flat, previously filled land. The land consists of disturbed soils with non-native vegetation. A row of young trees marks the boundary between the two parcels. The easternmost of the two parcels is somewhat higher in elevation than the western parcel. The parcels are approximately 364 feet and 375 feet above mean sea level (MSL), respectively. Following site grading and preparation, the final finished pad elevation would range from 370 feet above MSL at the southwest corner to 375 feet above MSL at the northeast side.

The proposed substation site is within the 120-acre Pacific Coast Business Park, which supports commercial, office, and light industrial uses. The business park currently is a mix of recently built structures as well as vacant, graded building lots.

The property around the Project site is largely developed. To the west, the substation site abuts Avenida del Oro. A U.S Post Office facility and a vacant lot are located across this street from the substation site, and a large Federal Express handling facility surrounded by extensive paved car and truck parking is located north of the Postal facility, near the northwest corner of the substation site. Along the north side of the site are two developed commercial properties, each with a 2-story building and off-street parking. These adjacent properties and the substation site are accessed by Rocky Point Drive, which terminates in a cul-de-sac at the north side of the substation site. TL 693 is an existing 69 kV line between San Luis Rey Substation and Melrose Substation that separates these adjacent properties from the substation project; this line bypasses the substation and would not be affected by the project. To the southeast, the substation site abuts the rear of five developed commercial properties that separate the substation site from Avenida de la Plata. These properties along Avenida de la Plata are developed with 1- and 2-story structures, off-street parking, and landscape vegetation.

The topographic relationship of the project site to its surroundings varies. Overall, the two parcels comprising the substation site have an elevation similar to the adjoining developed properties to the north on Rocky Point Drive. The site is approximately 20 feet higher than Avenida del Oro at the north end of the parcel and approximately 10 feet higher than the street at its south end. This edge of the site is separated from the street and adjacent sidewalk by a vegetated slope. To the southeast, the northern end the substation site is slightly lower than the northern most properties facing Avenida del la Plata, but slightly higher than the properties at the southern end of the site.

The nearest residential properties are in subdivisions located approximately 0.3 miles east and 0.5 miles north of the site at their nearest points. Three schools are within 1 mile of the site: Ivey Ranch Elementary School on Mesa Drive 0.6 miles to the northwest; Empresa Elementary School on Avenida Empresa 0.85 miles to the northeast; and Coastal Academy charter school on Calle Platino near Avenida

del Oro 0.22 miles to the south. Le Petite Academy, providing day care and after school programs, is approximately 0.25 miles northeast of the site on Avenida del la Plata.

Primary access to the substation site would be from the cul-de-sac on Rocky Point Drive, where two gated access points would be established. Secondary access would be provided from another gated entry point on Avenida del Oro near its intersection with Avenida de la Plata. SDG&E is requesting permission from the City of Oceanside to establish this secondary access driveway, which would be limited to SDG&E personnel.

4.9 Project Overview

SDG&E proposes to construct a new substation, with associated electrical tie lines, distribution lines, and telecommunications, as shown in Figure 4-2. The proposed substation site is owned by SDG&E and the transmission line looping into the substation would be located within existing SDG&E rights-of-way (ROWs) and franchise position within the City of Oceanside public streets. The Proposed Project would include the following primary components:

- **Ocean Ranch Distribution Substation.** A new 69/12 kilovolt (kV) low-profile substation in the City of `Oceanside. The substation would be named Ocean Ranch, and would have an initial capacity of 60 megavolt ampere (MVA) rating and an ultimate capacity of 120 MVA.
- **Power Line TL 6966 Loop-In.** An existing transmission line (TL 6966) provides an underground 69 kV circuit that extends between San Luis Rey Substation (to the west) and Melrose Substation (to the east). This existing underground line would be intercepted at the intersection of Avenida de la Plata and Avenida del Oro and extended to the proposed Ocean Ranch Substation in a new underground power line duct bank with a total length of approximately 1,500 feet. This would reconfigure the existing TL 6966 tie line into two lines, one line into the substation and one out of the substation. These lines would be designated TL6966 (San Luis Rey to Ocean Ranch) and TL 6979 (Ocean Ranch to Melrose). Figure 4-3 and Figure 4-4 are schematic drawings illustrating the existing and ultimate configuration of substations and power lines in the area, with the difference being the looping in of TL 6966 to the proposed new substation.
- **12 kV Distribution System.** Four new distribution circuits would exit the new substation and intercept four existing 12 kV circuits in the vicinity. Service to these existing 12 kV circuits would be switched to the new Ocean Ranch Substation. Approximately 4,650 feet of new 12 kV distribution line would be constructed to connect to the existing circuits. The Proposed Project also includes construction of five new manholes and one new handhole to access the new underground 12 kV distribution lines.
- **Telecommunication Systems:** A 40-foot monopole would be installed in the southwest corner of the proposed Ocean Ranch Substation property as part of a microwave radio communication system. A 3-foot-diameter antenna would be mounted on the monopole and pointed west to provide a communication link to the San Luis Rey Substation. AT&T services would enter the property from the street. A conduit duct would be installed from the substation control shelter to the property line to intercept the AT&T duct structure. Two pad-mounted pedestals, approximately 3 feet high, would be installed to enclose the communications equipment at or near the property line.

The proposed Ocean Ranch Substation would initially be constructed at a rated capacity of 60 MVA, but designed to expand to an ultimate capacity of 120 MVA. The planned initial substation load and anticipated load growth rate within the current 10-year distribution system planning horizon do not require the installation of the ultimate 120 MVA substation capacity at this time.

4.9.1 Project Objectives

SDG&E has identified four project objectives:

- Objective 1: Meet the area's existing and forecasted electric load growth.
- Objective 2: Maintain substation and circuit reliability with additional tie line and transformer capacity.
- Objective 3: Reduce area substation loading to optimum operating conditions.
- Objective 4: Locate the Proposed Project's facilities within SDG&E fee-owned property, franchise, or existing easements.

4.9.2 Purpose and Need

Within the general vicinity of the Proposed Project are three existing substations (Morro Hill, San Luis Rey, and Melrose) that feed the majority of northern San Diego County's electricity demand.

SDG&E's stated project purpose for the Proposed Project is to construct a new substation to (1) provide additional capacity to serve the existing load and the forecasted customer-driven load growth in the area; and (2) prevent potential long outages or disruption of service to SDG&E customers in the Ocean-side area. The Proposed Project is needed to meet existing and forecast demand, enhance reliability, and reallocate some 12 kV service from existing substations to a new substation.

San Luis Rey Substation is a 230/69/12 kV substation located on the northwest corner of the El Camino Real and Mesa Drive intersection in Oceanside, approximately 2.3 miles west of the Proposed Project site. The substation currently has four 69/12 kV, 30 MVA distribution transformers installed and feeds the following 15 individual 12 kV distribution circuits: C190, C191, C192, C194, C198, C199, C213, C497, C498, C900, C901, C902, C903, C904, and C905. The substation is built out to its ultimate configuration with no room for expansion.

Melrose Substation is a 69/12 kV substation located on the northeast corner of the Olive Avenue and Melrose Drive intersection in Vista, approximately 2.3 miles east of the Proposed Project site. The sub-station currently has four 69/12 kV, 30 MVA distribution transformers installed and feeds 12 separate 12 kV distribution circuits: C205, C206, C207, C208, C209, C504, C505, C506, C507, C508, C509, and C821. The substation is built out to its ultimate configuration with no room for expansion.

Morro Hill Substation is a 69/12 kV substation located on the west side of Vandegrift Boulevard, just north of College Boulevard in Oceanside, approximately 2.8 miles north of the Proposed Project site. The substation currently has one 69/12 kV, 12.5 MVA distribution transformer installed and feeds the follow-ing 12 kV distribution circuits: C486 and C487. The substation is built out to its ultimate configuration. Due to its proximity to the Marine Corps Base Camp Pendleton to the north and west, and to the San Luis Rey River south and east, the locational constraints of Morro Hill Substation prohibit the routing of circuits north and west of the substation. As such, this substation is a land-locked radial-fed temporary substation with a one-transformer bank (12.5 MVA capacity). Although this SDG&E-owned substation property would have room for potential expansion by moving the existing fence line to install more transformers, its location inhibits the construction of more distribution circuits out of the substation and south across the San Luis Rey riverbed to the identified load center. Due to this limiting factor, Morro Hill would not be able to meet SDG&E's needs or serve the electric distribution load growth that would be served by the Proposed Project.

Existing transmission line (TL) 6966 is a 69 kV power line that would be looped into the new substation from its underground position at the intersection of Avenida de la Plata and Avenida del Oro. The existing line originates at San Luis Rey Substation and terminates at Melrose Substation. From San Luis Rey Substation, TL 6966 is an overhead double-circuit line that shares common overhead pole structures with TL 693. The lines run overhead in an easterly direction to where TL 6966 transitions from overhead to underground on a cable pole located along Avenida de la Plata west of Avenida del Oro. At a second cable pole, TL 693 turns north on overhead structures, bypassing the Ocean Ranch Substation site and eventually reaching Melrose Substation. TL 6966 continues underground east along Avenida de la Plata for approximately 0.3 miles to Avenida del Oro, where it turns south on Avenida del Oro and continues underground to Melrose Substation. The intersection of Avenida del La Plata and Avenida del Oro, where TL 6966 turns south, is approximately 270 feet from the proposed substation site's southern corner.

4.10 Project Components

Each of the Proposed Project components are discussed below.

4.10.1 Ocean Ranch Distribution Substation

The proposed Ocean Ranch Substation facility is planned to occupy the entire site (9.66 acres). The proposed substation would be a low profile design facility. Electrical equipment, a control shelter, and paved and rock-covered surfaces would be enclosed by an approximately 10-foot-tall "La Paz" or similar sandstone colored masonry perimeter wall set back from Avenida del Oro. Gates in the substation wall would have vinyl slats similar in color to the masonry wall. Driveways, stormwater management basins, a telecommunications pole and antenna, and landscaping would be located outside of the substation wall, but within the substation property. A preliminary conceptual site plan for the substation property is provided in Appendix C.

The steel structures within the substation would be comprised of galvanized steel, while the transformers, breakers, switchgear, and capacitors would be painted American National Standards Institute (ANSI) 70 Grey. The control shelter within the substation would be constructed from "La Paz" or similar sandstone color masonry blocks as the wall and would include a welded metal roof.

The initial configuration of the substation is proposed to have a capacity of 60 MVA and include the following equipment:

- Two 69 kV low profile underground power line terminations
- Two 69 kV low profile main bus sections
- Twelve 69 kV low profile disconnect switches
- Five 69 kV circuit breakers
- Two low profile 69/12 kV, 30 MVA transformer banks
- Two quarter sections of 12 kV metal clad switchgear
- Two 12 kV, 4-step, 7,200 kilovolt-ampere reactive (kVAR) capacitor banks
- One 20-foot-wide by 40-foot-long by 11-foot-tall masonry block control shelter to enclose all protection relays, controls, supervisory control and data acquisition (SCADA), and telecommunication equipment
- Two points of entry via two 30-foot-wide slide gates (main entry) from Rocky Point Drive and one 20-foot-wide slide gate (secondary access) from Avenida del Oro.

At its ultimate configuration, anticipated to be required beyond the current 10-year demand forecast, the substation is planned to be a 120 MVA, 69/12 kV low profile distribution substation. The ultimate configuration is proposed to include the following components, some of which are in the initial configuration as well:

- Four 69 kV low profile underground power line terminations
- Two 69 kV low profile main bus sections
- Fourteen 69 kV low profile disconnect switches
- Nine 69 kV circuit breakers
- Four low profile 69/12 kV, 30 MVA transformer banks
- Four quarter sections of 12 kV metal clad switchgear
- Four 12 kV, 4-step, 7,200 kVAR capacitor banks
- Two 12 kV, 4-step, 7,200 kVAR reactor banks
- One 20-foot-wide by 40-foot-long by 11-foot-tall masonry block control shelter to enclose all protection relays, controls, SCADA, and telecommunication equipment
- Two points of entry via two 30-foot-wide slide gates (main entry) and one 20-foot-wide slide gate (secondary access).

Under both the initial and ultimate configurations, each low profile transformer would contain approximately 10,400 gallons of oil (the exact amount varies by manufacturer). The proposed substation would be designed and constructed with a containment system to prevent any accidental oil leaks from leaving the substation. The global oil containment system would be designed to contain 110 percent of the oil capacity of the installed equipment containing the largest amount of oil. The containment system would be installed inside the substation.

Substation lighting would be provided by a mixture of high-pressure sodium, metal halide, and LED lights that would be installed to adhere to the following SDG&E standards:

- Provide enough light for a safe entry into and exit from the substation
- Allow for safe driving around busses/racks, corners, and roadways
- Allow for a preliminary visual inspection of the substation.

One free-standing entry light would be installed on a 7-foot high light pole at the gate in the northwest portion of the substation near Rocky Point Drive. With the exception of the gate entry light, which would remain on at night for safety, substation lighting would be on only when required for nighttime work or in an emergency. These lights would be installed at the other gates, on each side of the control shelter, and a on the interior side of the substation walls. All on-site lighting would be oriented downward to minimize glare on surrounding properties.

As described previously, an approximately 10-foot-tall masonry wall would enclose the substation. The wall would be set back from the site boundaries, except for along the rear of existing commercial properties on the southeast side of the site, where the wall would be near the property line. Exterior to the substation wall, areas not otherwise required for access driveways, a communications pole, and stormwater management facilities, would be landscaped. The landscaping would be similar in character to the existing streetscape and landscaped areas in the business park, and would include trees and shrubs. Three gates would be installed within the perimeter wall to provide primary and secondary access to the

substation. The gates would be constructed from chain-link material and would include vinyl slats similar in color to the wall. Barbed wire would be installed horizontally along the interior of the wall and gates so as not to be visible from the exterior of the substation. The primary access to the substation would be from Rocky Point Drive via the existing cul-de-sac. The secondary access to the substation would be from Avenida del Oro on the southwest side of the substation property. See Figures 4-2 and 4.3. Appropriate signage would be posted on the substation wall and gates, in accordance with federal, state, and local safety regulations.

The approximately 20-foot-wide access road within the proposed substation would be asphalt-paved. The road would connect the primary and secondary access to the control shelter, which would be located in the center of the substation. This interior road would be approximately 940 feet long, occupying approximately 0.4 acres and circling various installed equipment within the interior perimeter wall.

The proposed Ocean Ranch Substation layout, planned access routes, driveways, and interior access road are illustrated in Figure 4-2 and in Appendix C. Details on the initial configuration of the proposed Ocean Ranch Substation are shown on Figure 4-5, with the ultimate configuration shown on Figure 4-6. The substation will be a low-profile design, as illustrated in Figure 4-7. The substation's electrical equipment would be housed within a walled area. However, for illustration purposes one view in Figure 4-7 shows how the substation would appear viewed from the west without the wall in place. The other view illustrates the substation as viewed from Rocky Point Drive with the wall in place and the upper part of the equipment visible beyond.

Site development includes:

- Site improvements for the 69/12 kV substation pad and future use area directly adjacent to the substation within the perimeter wall;
- Minimal retaining walls as needed;
- Replacement of the existing temporary desilting basins with permanent construction of two flow-through planter basins exterior to the substation wall;
- Storm drain system and connection to proposed flow-through planter basins;
- Approximately 1,200 linear feet of masonry block screening wall; and
- 18,800 square feet of access roads and/or driveways.

4.10.2 Power Line TL 6966 Loop-In

In order to connect in to the proposed Ocean Ranch Substation, the underground segment of existing power line TL 6966 would be intercepted at the intersection of Avenida del Oro and Avenida de la Plata and extended underground in a northerly direction along Avenida del Oro and into the proposed substation site. The new underground power line would be approximately 1,500 feet long, of which approximately 1,000 feet would be within the public road ROW. The remainder would be within SDG&E ROW or franchise position. The proposed underground segment would establish two circuits into the Ocean Ranch Substation. The underground 69 kV power line connecting the proposed Ocean Ranch Substation and San Luis Rey Substation would continue to be identified as TL 6966. Two vaults, one per underground power line, would be installed within the proposed substation property (Figure 4-2). An offset vault design configuration (one circuit per vault) would be implemented to maintain reliability and for maintenance. The underground 69 kV power line between the proposed Ocean Ranch Substation and Melrose Substation would be relabeled as TL 6979.

The two final loop-in transmission line re-configurations would be as follows:

- Re-configured TL 6966 – San Luis Rey Substation to Ocean Ranch Substation rather than Melrose Substation (overhead and underground).
- Re-configured TL 6979 – Melrose Substation to Ocean Ranch Substation rather than to San Luis Rey Substation (underground)

Open trench construction would be used to install the new loop-in underground between the Avenida del Oro/Avenida de la Plata intersection and the Ocean Ranch Substation. During construction, the trench for the loop-in line would be 3 feet wide, and the construction corridor would be approximately 20 to 30 feet wide. This is expected to require the temporary closure of one to two traffic lanes; entire road closures are not anticipated. Figure 4-8 illustrates a typical 69 kV underground vault and Figure 4-9 a typical 69 kV underground duct bank.

A minor segment of existing underground 69 kV power line would be abandoned at the intersection of Avenida del Oro and Avenida de la Plata to accommodate the new interception points for the proposed underground transmission lines. TL 694, a 69 kV line between Morro Hill and Melrose Substations, shares the existing duct bank with existing TL 6966; it would not be affected.

One pulling site would be required to pull underground cable. The pulling site would be approximately 50 feet long by 30 feet wide and would be on the substation site. No additional grading is anticipated at the pulling site.

4.10.3 12 kV Distribution System

The Proposed Project would include installing approximately 4,650 feet of new underground duct banks to facilitate transferring four existing 12 kV distribution circuits from existing substations to the proposed Ocean Ranch Substation. Each underground duct bank would be comprised of four 8-5-inch diameter polyvinyl chloride (PVC) conduits encased in concrete, as shown in Figure 4-10. The conduit duct packages for the 12 kV circuits and telecommunications would be arranged in two columns of four conduits each, spaced vertically and horizontally from the conduit centerline by 7.5 inches.

The proposed underground segment of the 12 kV distribution line would require installation of five new manholes and one new handhole. Two new manholes would be located within the proposed Ocean Ranch Substation site, two would be located within franchise positions along Avenida del Oro adjacent to the substation site, and one would be just south of the intersection of Avenida del Oro and Windansea Streets, north of the substation site. One new handhole would be located at the southern end of the proposed substation site. The exact locations will be determined during final engineering design.

The horizontal separation between adjacent duct packages would be 5 feet from centerline to centerline and the duct package would have an average depth of approximately 5 feet. The conduit duct packages for the 12 kV lines would continue and intercept existing conduit in Avenida del Oro. All distribution circuits would be installed underground outside of the proposed Ocean Ranch Substation within franchise position. Figure 4-11 illustrates a typical 12 kV underground manhole.

The new 12 kV distribution line going north on Avenida del Oro would intercept existing handholes at Windansea Street. Four 12 kV underground distribution circuits would be constructed. All four underground distribution circuits would be routed to five proposed manholes and one handhole, extending along Avenida del Oro tying into the existing underground system serving the area.

A portion of existing 12 kV circuits would be offloaded to the proposed new circuits from the Ocean Ranch Substation. The offloaded circuits would comprise existing line C509 from Melrose and existing lines C903, C904, and C905 from San Luis Rey. Four initial duct packages would be installed: two would head south and two would go directly west onto Avenida del Oro. Table 4-1 summarizes the relocated 12 kV circuits and Table 4-2 identifies the 12 kV distribution system structures proposed as part of the substation project.

Table 4-1. Distribution Relocation Summary

Existing Distribution Circuit Number	Approximate Interception Point	Proposed Distribution Circuit Number
C509	800 feet	C1801
C903	800 feet	C1802
C904	1,400 feet	C1803
C905	2,500 feet	C1804

Source: SDG&E 2015.
Notes: Table contents based on preliminary engineering and subject to change.

Table 4-2. Distribution System Structures

Structure Type	Amount Installed
12 kV underground distribution circuits	4
Underground duct banks	4,650 feet
Manholes	5
Handholes	1

Source: SDG&E 2015.
Notes: Table contents based on preliminary engineering.

- The first 12 kV circuit from Ocean Ranch Substation, C1801, would be routed from the northern manhole on Avenida del Oro south to a new pad-mounted switch located on Avenida del Oro. C1801 would ultimately connect to existing C509.
- The second circuit, C1802, would be routed from the northern manhole on Avenida del Oro north to a new pad-mounted switch where it would ultimately connect to existing C903.
- The third circuit, C1803, also would be routed from the northern manhole on Avenida del Oro north to a new padmount switch and would ultimately connect to existing C904.
- The fourth circuit, C1804, also would be routed from the northern manhole on Avenida del Oro north to a new padmount switch located on Old Grove Road north of Windansea Street and would ultimately connect to existing C905.

The Proposed Project would provide additional circuits to facilitate load transfers and distribute circuit load. The electric distribution circuits exiting the substation would be installed in public ROW or within the franchise position of City of Oceanside public streets. The proposed 12 kV system would be designed to accommodate a 120 MVA substation. The configuration of the proposed four circuits would cut over to existing circuits originating from the proposed Ocean Ranch Substation and have the following equipment installed:

- 7,000 feet of trench conduit 8-5 (improved street) including manholes.
- 2,000 feet of cable and connections no. 1000 kcmil copper (CU) 3 ph 15 kV.
- 3,500 feet of cable and connections no. 1000 kcmil aluminum (AL) 3 ph 15 kV.
- Four switch trayer 4-way with SCADA padmount.
- Four capacitor pad-mount SCADA 1,200 kVAR.

4.10.4 Telecommunication Systems

The telecommunication services that would be installed would facilitate remote monitoring, control, and operation of substation equipment and provide telecommunication protection relaying, telemetry, telephone, modem, access control, and video monitoring. In order to connect the proposed Ocean Ranch Substation to these substation systems, fiber optic cable, microwave radio, and AT&T services would be installed.

The fiber optic cable would be installed within the underground duct structures connecting the proposed Ocean Ranch Substation and the existing San Luis Rey Substation. A 40-foot monopole would be installed in the southwest corner of the proposed Ocean Ranch Substation site for the microwave radio communication system. A 3-foot-diameter antenna would be mounted on the monopole and pointed west to provide a communications link to the San Luis Rey Substation. A conduit duct would be installed on site between the monopole and the substation control building. A typical drawing of a typical telecommunication monopole is provided in Figure 4-12.

AT&T services would enter the site from a public street near the substation site. A conduit duct would be installed from the substation to the property line to intercept the AT&T duct. Two pad-mounted pedestals, approximately 3 feet high, would be installed to enclose the communications equipment, which would be located at or near the property line. Figure 4-13 illustrates the typical underground duct package used by SDG&E.

4.11 Project Construction

This section describes typical construction methods for substations and underground facilities. Staging and work areas also would be required for construction of new facilities, removal existing facilities, and storage and staging of construction equipment and materials.

4.11.1 Work Areas

In addition to space at the substation site, temporary workspace would be required for each Proposed Project component in order to facilitate construction. These anticipated workspace requirements include staging yards, storage yards, access roads, pull sites, and underground work areas, as described in detail in the following sections and summarized in Table 4-3. Temporary work areas would all be accessed by construction equipment using existing access roads. All work areas would be restored as near to preconstruction conditions as possible following the completion of construction.

Table 4-3. Summary of Temporary Work Areas

Work Area Type	Estimated Number	Estimated Total Area (acres)
Staging Yards	4 areas	17.50
Underground Construction (69 kV loop-in)	1,500 feet (length)	1.10
Underground Construction (12 kV distribution line)	4,650 feet (length)	3.20
Total		21.80

Source: SDG&E 2015.

Staging Yards

In addition to the substation site, SDG&E has identified potential staging yards for the Proposed Project. These include existing, previously used staging yards as well as large undeveloped areas near the Proposed Project that have been previously disturbed and/or graded. While SDG&E has identified potential construction staging yards, there is no guarantee that all the identified staging yards would be available when the Proposed Project is set to begin construction because the Proposed Project is in an area with

several vacant lots that are currently available for development. If the identified staging yards are not available at the time of construction, several alternate locations within the general vicinity are potentially available. These sites possess similar characteristics (graded, disturbed habitat, industrial land uses), that would satisfy project needs. Prior to use, SDG&E would be required to ensure that these alternative parcels would be reviewed for environmental sensitivity such as sensitive species or habitats to ensure that their use would not result in any significant environmental impacts.

Four staging yards have been identified, in addition to the substation property. They are shown in Figure 4-2. These would accommodate the majority of construction equipment, vehicles, personnel, and material staging, as discussed below. Combined, these temporary staging areas cover approximately 17.5 acres:

- The Corporate Center staging yard is approximately 11.5 acres of disturbed habitat located on the north side of Ocean Ranch Boulevard, south of Mesa Drive/Pacifica Way.
- The USPS staging yard is approximately 5 acres of undeveloped land, located just south of the U.S. Postal Service building on Avenida del Oro, to the west of Ocean Ranch Substation site. This area is comprised of ~~non-native grassland and~~ disturbed habitat. ~~non-native grassland.~~
- The San Luis Rey staging yard is approximately 0.5 acres of paved, fenced area with an existing access road located next to the existing San Luis Rey Substation.
- The Melrose staging yard is approximately 0.5 acres of paved, fenced area with an existing access road located next to the existing Melrose Substation and is approximately 3 miles from the proposed Ocean Ranch Substation.

In addition to the substation property, staging yards may be used for refueling vehicles and construction equipment by a mobile fueling truck. In addition, other activities performed at the staging areas may include assembly of project components, open storage of material and equipment, construction trailers, portable restrooms, parking, and lighting and may include generator use for temporary power supply. Construction workers typically would meet at the staging yard each morning and park their vehicles at the yard. In-ground fencing would be installed at the staging yards where it is not already installed. Gravel, class II base, or other best management practices (BMPs) may be used to line the ground at staging yards to avoid creation of unsafe mud conditions and sediment transport off-site.

Existing SDG&E Material Storage Yards

Materials would be initially delivered to existing SDG&E facilities, from where they would be transported to the Proposed Project site or a staging area. No improvements would occur at these existing SDG&E facilities as a result of the Proposed Project. The existing material storage yards that would be used include:

- Kearny Construction and Operation Center, located on approximately 18.6 acres in San Diego County. It is between Interstate 15 and State Route 163, on Clairemont Mesa Boulevard (Figure 4-14). It is accessed from Overland Avenue, and is approximately 28 miles from the proposed Ocean Ranch Substation.
- North Coast Construction and Operations Center is approximately 15.2 acres, located in Carlsbad, near the intersection of Carlsbad Boulevard and Cannon Road. (Figure 4-15). It is approximately 6 miles from the proposed Ocean Ranch Substation.

- Northeast Construction and Operations Center is approximately 25.1 acres, located in Escondido, north of Auto Park Way and south of West Mission Road (Figure 4-16). It is located approximately 12 miles from the proposed Ocean Ranch Substation.

These existing SDG&E facilities are paved and fenced land, with security. Upon the completion of final engineering, additional existing SDG&E facilities may be identified for use.

Access Roads

Construction would take place primarily within the existing SDG&E fee-owned property, franchise, or existing easements. Most work areas are accessible by vehicle in paved/developed areas or other existing disturbed areas. Vehicles would remain within existing access roads, previously disturbed areas, and designated temporary work areas, where feasible.

The temporary impact areas may vary because the positioning of construction vehicles, equipment, and materials cannot be fully anticipated prior to construction, as locations are dependent upon the contractor safely performing the work.

Pulling sites

Pulling sites are temporary construction areas used for pulling underground cable. The underground cable installation process would require a pull site located beside the proposed and existing underground vaults. This pull site would be approximately 50 feet long by 30 feet wide and would be located within the underground trench/vault work areas within the substation property. A typical drawing of the proposed underground construction activities in roadways has been included as Figure 4-17.

69 kV and 12 kV Underground Line Work Areas

Installation of new duct banks and vaults would require temporary workspace within Avenida del Oro and Avenida de la Plata. The underground trench work area would be approximately 20 to 30 feet wide and would be generally centered on the power line alignments. The underground trench work area would be adjusted to comply with traffic control permits to maintain traffic flow through construction areas as necessary.

All trenching and vault work areas would be located within City of Oceanside streets and SDG&E fee-owned property, franchise positions, or existing easements. These work areas would also support all cable installation activities, as well as the associated construction equipment to perform the work. A total of approximately 4,650 linear feet of workspace would be required for the proposed 12 kV underground distribution lines, which requires approximately 3.2 acres of temporary use (assuming a work area width of 30 feet for installation of a duct bank). A total of approximately 1,500 linear feet of work space (or approximately 1.10 acres, assuming a work area width of 30 feet for duct banks, 30 feet wide by 30 feet long for vault installation, and 30 feet wide by 50 feet long for the pulling site) would be required to install the proposed 69 kV underground power line loop-in. Site preparation in an underground trench work area and vault installation work areas would include marking out the proposed trench alignment and offsets to define the work area, as well as setting up traffic controls prior to construction.

4.11.2 Construction Methods

Construction of Ocean Ranch Substation

Site Development

Because the proposed substation site currently is disturbed land, minimal vegetation clearing would be required for construction. Site development activities would commence with clearing and grading of the site based on the recommendations of the geotechnical investigation, which would determine the appropriate onsite pad elevation and foundation support in order to maintain adequate site drainage. Approximately 18,100 cubic yards would be excavated during site grading, of which 8,000 cubic yards would be used as fill/embankment within the site and 10,100 cubic yards would be exported from the site. Onsite material would be reused to the extent possible, as recommended by a Geotechnical Engineer.

Approximately 16,600 cubic yards of select fill would be imported to help achieve the site design elevation. For construction of the flow-through planters, approximately 2,200 cubic yards of bioretention soil mix and 1,500 cubic yards of gravel would be imported and placed. Site grading would be accomplished primarily with bulldozers and backhoes, which would condition, cut and fill, and blend the native soil and imported material to the desired pad elevations.

Next, it is expected that approximately 7,200 cubic yards of Class II aggregate base and 1,200 cubic yards of asphalt would also be installed at the proposed Ocean Ranch Substation. The substation pad would be surfaced primarily with Class II aggregate base, and primary access roads would be paved with asphalt. Construction of the boundary walls would begin once grading is complete.

Construction of the proposed Ocean Ranch Substation would require importing approximately 28,700 cubic yards of material (select fill, bioretention soil mix, gravel, aggregate, and asphalt) and exporting 10,100 cubic yards of excavated material. Haul trucks would operate periodically, as needed, during the grading phase of construction. In general, an average of approximately 20 truck trips per day for an estimated 6 months would be required to complete the proposed substation grading and boundary wall installation. In addition, approximately 5 additional trips per day are anticipated for the delivery of materials and equipment for the duration of construction, based on current design criteria.

Primary access to the substation site during construction would be by way of Rocky Point Drive with secondary access from Avenida del Oro.

Below-Grade Construction

Following site development, below-grade work would begin, which would include the construction of structure and equipment foundations, underground ducts, and the ground grid, and erection of the control shelter. Concrete trucks, backhoes, loaders, ditch-witches, and skid steer loaders would be used for the below-grade work.

Above-Grade Construction

Once the grading activities, below-grade construction, and erection of the wall and control structure are complete, major equipment and structures would be installed and anchored to their respective foundations. The following steps would be taken to install the above-grade equipment:

- The 69 kV low profile bus section steel would be erected.
- The 69 kV circuit breakers would be installed on their foundations.

- Relay panels, controls, and station lighting and power would be installed in the control structure.
- The ground grid, control, communication, and power ducts would be installed and wiring of the equipment controls and protection devices would follow.
- The 69/12 kV transformers would be installed on their foundations, assembled, and filled with oil.
- The 12 kV switchgear and capacitors would be installed on their foundations.

Power line loop-in and distribution circuits would be completed and connected inside the substation following final installation of the substation structures and equipment. Communication equipment would be connected inside the control shelter. Testing would be performed on all equipment after the equipment is installed and wired, and before placing it in service. Equipment would be placed in service once the circuits and power line are ready to be energized and are tested outside the substation.

Portable cranes and heavy hauling trucks would be employed to bring in the 69/12 kV transformers. Substation crews, assist vehicles, forklifts, man lifts, and boom trucks would be used to construct the substation. Oil-processing equipment and vacuum pumps would be used to fill transformers with oil. Pick-up trucks and vans would be used during the wiring and control testing of the substation equipment. Line trucks, assist vehicles, and cable dolly trailers would be used for construction of the power line and distribution circuits.

A temporary tap to an existing distribution line may be installed to provide electrical service to the substation work area during construction. This temporary tap may be used to power construction trailers, lighting, or small hand-held machinery or tools until the substation is energized.

Installation of Underground 12 kV Distribution Line and 69 kV Loop-In

Trenching

Coordination with the City would occur to secure encroachment permits for trenching in the City's ROW, as required. It is anticipated that between one and two lanes of Avenida del Oro and Avenida de la Plata would be closed occasionally during trenching activities. During the closures, traffic controls would be implemented as required by the encroachment permit(s).

Trenching operations would be staged in intervals as allowed by any permit requirements. The spoils generated by excavation activities would be transported to an SDG&E-approved disposal site. At any one time, open trenches would not exceed that required to facilitate installation of the duct bank. Steel plating would be placed over the trenches to maintain vehicular and pedestrian traffic across areas that are not under active construction.

The duct bank would be installed using open-cut trenching techniques. The typical trench dimensions for installation of each duct bank would be 3 to 6 feet deep and 2 to 7 feet wide, depending on the duct bank configuration. Depths may vary depending on soil stability and the presence of existing substructures. The trench would be widened and shored where necessary to meet California Occupational Safety and Health Administration (Cal/OSHA) requirements. If trench water is encountered, trenches would be dewatered using a portable pump, and the water would be disposed of in accordance with acquired permits.

Throughout trench excavation and installation of the duct bank and vaults in roadways, removed asphalt and concrete would be transported to an approved off-site facility. Excavated soils not suspected to be impacted by contamination would be reused to the extent feasible or disposed of at an appropriate facility. Should soil that is stained, odorous, or otherwise suspect be encountered during trenching activ-

ities, SDG&E would sample in place, test, profile, and transport this material to an appropriately permitted disposal facility in accordance with applicable federal, state and local laws and regulations.

The number of truck trips to transport excavated materials to storage yards and/or disposal facilities would vary based on the rate of the trenching, the area excavated to install the vaults, and the proximity of the storage yards/disposal facilities to the ROW. For purposes of this Proposed Project, approximately 5 to 10 truck trips per day would be required during trenching activities at one site. Jackhammers may be used to break up sections of concrete that saw-cutting and pavement-breaking machines cannot reach. Other miscellaneous equipment may include a concrete saw, backhoe, excavator, roller compactor, water trucks, various paving equipment, and standard 1-ton pick-up trucks.

As described previously, traffic controls would be implemented to direct local traffic safely around work areas. SDG&E would coordinate provisions for emergency vehicle and local access with the City of Oceanside as necessary.

Duct Bank Installation

Duct banks are comprised of a number of separate conduits. Duct banks are used to consolidate cabling and secure circuit conduits below ground. As the trenches for the underground duct banks are completed, SDG&E would install empty conduits separated by spacers and then pour concrete around the conduits to form the duct banks. The duct banks would typically consist of 8-inch-diameter conduits (which would house the electrical cables that would be pulled into the conduits), and 2-inch-diameter conduits for the telecommunications cable that would be used for system protection and communication. See Figure 4-9 and Figure 4-10 for illustrations of typical 69 kV and 12 kV duct banks.

Once the conduits are installed and encased, a fluidized thermal backfill would be used to fill most of the remainder of the trench. Finally, an aggregate road base or backfill of slurry concrete with an asphalt concrete cap would be installed to restore the road in compliance with local requirements. As the completed trench sections are being restored, additional trench would be opened farther down the street. This process would continue until the distribution circuits are completed. Each duct bank would have a minimum of 36 inches of cover. Larger trenches would be excavated where vaults are installed, as described in the subsection that follows.

Where a distribution duct bank would cross other substructures that operate at normal soil temperature (e.g., gas lines, telephone lines, water mains, storm drains, and sewer lines), a minimal radial clearance of 12 inches would be required. In instances where a duct bank would be installed parallel to other substructures, a minimum radial clearance of 24 inches would be required. Ideal clearances of 2 to 5 feet are preferred. Where duct banks cross or run parallel to substructures that operate at temperatures significantly exceeding normal soil temperature (e.g., other underground power line circuits, primary distribution cables, steam lines, and heated oil lines), additional radial clearance may be required. All work would be in conformance with SDG&E's current construction and operating practices.

Manhole Installation

Manholes would be constructed to provide access to the circuit for operations, maintenance, and repair activities. SDG&E would excavate and install preformed concrete manholes during trenching for duct banks for the underground power line. The manholes would be used to pull cable through the conduits and splice the cables together during installation. During operation, the manholes would provide access to the underground cables for maintenance, inspections, and repairs.

Manholes would be constructed of prefabricated steel-reinforced concrete and designed to withstand the maximum credible earthquake in the area and heavy truck traffic loading. Installation would occur over a 1-week period beginning with excavation and shoring of the manhole pit followed by delivery and installation of the manhole, filling and compacting the backfill, and repaving the excavated area where necessary.

Vault Installation

SDG&E would excavate and install preformed concrete splice vaults during trenching for the duct banks inside the substation property. The proposed trench alignment and vault locations are shown on Figure 4-2. The installation of each vault would require an excavation measuring approximately 11 feet by 7.5 feet by 29 feet. Initially, the vaults would be used to pull cable through the conduits and splice the cables together during construction. During operation, the vaults would provide access to the underground cables for maintenance, inspections, and repairs.

Vaults would be constructed of prefabricated, steel-reinforced concrete and designed to withstand the maximum credible earthquake in the area and traffic loading. The installation process for each vault would occur over a 1-week period, beginning with excavation and shoring of the vault pit, followed by delivery and installation of the vault, filling and compacting the backfill, and repaving the excavated area where necessary.

Cable Pulling, Splicing, and Termination

After installation of the conduit, SDG&E would install the cables in the duct banks. Each cable segment would be pulled into the duct bank, spliced at each of the vaults along the route, and terminated at the proposed Ocean Ranch Substation. To pull the cable through the ducts, a cable reel would be placed at one end of the section and a pulling rig would be placed at the other end. A larger rope would then be pulled into the duct using a pull line and would be attached to the cable-pulling eyes to pull the cable into the duct. A lubricant would be applied to the cable as it enters the duct to decrease friction during pulling.

Splicing typically takes 12 to 16 hours to complete. The cables would rise out of the ground and terminate within the substation.

Dewatering

No dewatering is anticipated during construction of the underground 69 kV loop-in or the distribution circuits; however, SDG&E would acquire coverage under the General Permit for Stormwater Discharges Associated with Construction Activity (Construction General Permit) from the State Water Resources Control Board (SWRCB) and prepare a Stormwater Pollution Prevention Plan (SWPPP) prior to construction. The SWPPP would address any potential discharges in the event that dewatering is required. The SWPPP would detail project information, dewatering procedures, stormwater runoff prevention control procedures, monitoring and reporting procedures, and BMPs. Bentonite or similar stabilizing materials may be used to support foundation installation when water is present within the excavation.

Should dewatering be necessary, the following dewatering procedures would be implemented during construction:

- A submersible pump would be installed.
- Groundwater would be pumped to a desiltation tank (e.g., Baker tank). Baffles would be installed in the tank to increase sedimentation.

- Water quality testing of encountered groundwater would be performed to ensure compliance with the RWQCB National Pollutant Discharge Elimination System requirements. If water quality levels do not meet permit requirements, additional Baker tanks, or treatment, or filtering may be required.
- Treated water would be reused in compliance with permit requirements or disposed of at an approved SDG&E disposal site.

Rock-Splitting and Blasting

The substation site is on fill and the off-site trenching would be in existing previously disturbed ROW. Therefore, it is anticipated that blasting would not be required to complete construction of the Proposed Project. However, if significant or dense rock is encountered, blasting could be required. In most instances, if rock is encountered during excavation, a hydraulic rock drilling and splitting procedure (rock-splitting) may potentially be used to minimize trenching or drilling time, depending on site-specific conditions. The procedure involves drilling a hole in the rock and inserting a nonblasting cartridge of propellant. The cartridge is mechanically initiated by an impact generation device. This hydro-fracturing effect causes controlled tensile crack propagation in the rock and does not result in flyrock, noxious fumes, or ground vibrations.

In the event that rock blasting is used during construction where solid rock is present and where the hydraulic rock drilling and splitting procedure would be ineffective, the following procedure would be used to minimize both drilling time and noise impacts. The procedure involves drilling approximately 3-inch-diameter blast holes to the full depth of the shaft and inserting explosives. Blasting caps are connected, and a nonelectric detonator is employed. Flyrock protection is installed prior to blasting, and seismographs are placed to measure and record peak particle velocity and air blast levels at various distances from the blast site. Dust control would include a combination of steel plate covering, geotextile fabric with chain-link fence covering, and wetting the blasting surface. If blasting is used with the Proposed Project, the blasting contractor would be required to obtain a blasting permit and explosive permit per applicable local regulations.

Site Cleanup

Following the completion of construction, SDG&E would restore all areas that are temporarily disturbed by Proposed Project activities (including pulling sites and staging areas) to near preconstruction conditions. Restoration would include grading and restoring sites to original contours and reseeding, as appropriate. Where land is rented from private land owners (such as staging yards), post-construction restoration may be completed in consultation with the landowner. All post-construction restoration would be in compliance with the Project's SWPPP, which would be prepared pursuant to applicable stormwater regulations. In addition, all construction materials and debris would be removed from the Proposed Project area and recycled or properly disposed of off-site. SDG&E would conduct a final survey to ensure that cleanup activities are successfully completed as required.

All areas that are temporarily disturbed by the underground power line loop-in installation activities would be restored as near to preconstruction conditions as possible, following completion of construction. Restoration would involve the removal of all construction debris for recycling or disposal off-site and repaving, as appropriate. SDG&E would complete the following as part of the final construction activities:

- Restore all removed curbs, gutters, and sidewalks.
- Repave all removed or damaged paved surfaces.

- Restore landscaping or vegetation as necessary.
- Replace any damaged or removed fencing.
- Remove all construction materials from the construction site.

Outage Coordination

SDG&E would coordinate line outages in order to maintain system reliability and construction personnel safety. Based upon preliminary engineering, SDG&E anticipates only minor interruptions of service to customers during construction tie-ins.

4.11.3 Construction Equipment and Personnel

Construction equipment would include bulldozers, excavators, loaders, graders, and trucks for excavating, compacting, and hauling. All exported soil and new fill would be transported using street-legal dump/loader trucks. Concrete trucks, backhoes, ditch-witches, and skid steers would be used for the foundation and below-grade work. Portable cranes and heavy hauling trucks would be employed to deliver the 69/12 kV transformers. Substation crews, assist vehicles, forklifts, man lifts, and boom trucks would be used to construct the substation. Underground line trucks, assist vehicles, and cable dolly trailers would be used for construction of the 69 kV loop-in and distribution circuits. Pick-up trucks and vans would be required during the wiring and control testing of the substation equipment. Table 4-4, lists standard construction equipment that could be used, including the phase of the project, duration, type of equipment, quantities, and hours per day.

SDG&E primarily would use its own workforce for construction, but would supplement the workforce from an approved contractors' pool of qualified workers, as needed. It is anticipated that a peak of up to 40 workers would be employed during the site development phase of the Proposed Project. Approximately 33 workers would be required for the grading and site preparation. An average of approximately 12 workers are expected to be needed during the foundation and below-grade work. Construction of the substation is expected to require an average of 24 workers. Installation of the power line loop-in would require between 14 to 20 workers. Final testing and checkout would require 9 electricians and/or engineers. Crews are anticipated to work Monday through Saturday from 7:00 a.m. to 5:00 p.m.

Table 4-4. Standard Construction Equipment and Usage

Project Phase	Phase Duration	Vehicle/Equipment Type	Quantity Required	Hours Per Day Operating at Site
Temporary Staging Yard – Site Preparation	1 Week	Dump Truck	3	6
		Rubber Tired Loader	1	6
		Backhoe	1	6
Proposed 69/12 kV Substation – Site Development and Mass Grading[1]	3 Months	D5K Dozer	1	6
		D8T Dozer	1	6
		140H Blade	1	6
		966 H Loader	1	6
		834 Rubber Tired Dozer	1	6
		Dump Truck (12 CY)	25	7
		Asphalt Truck	8	1
		Maintenance Truck	1	1

Table 4-4. Standard Construction Equipment and Usage

Project Phase	Phase Duration	Vehicle/Equipment Type	Quantity Required	Hours Per Day Operating at Site
		657E Scraper or 637E Scraper	1	7
		289C Track Skid Steer	1	4
		Excavator	1	6
		430E Rubber Tire Backhoe	1	6
		Ride On Roller Compactor	1	7
		Ditch-witch	1	6
		John Deer 210E Skip Loader	1	3
		2,000 Gallon Water Truck (2)	1	7
Proposed 69/12 kV Substation – Site Development and Finish Grading[1]	2 Months	D5K Dozer	1	6
		D8T Dozer	1	6
		140H Blade	1	6
		966 H Loader	1	6
		834 Rubber Tired Dozer	1	6
		Maintenance Truck	1	1
		657E Scraper (2) or 637E Scraper (2)	1	7
		289C Track Skid Steer	1	6
		430E Rubber Tire Backhoe	1	6
		Ride On Roller Compactor	1	7
		John Deer 210E Skip Loader	1	4
		2,000 Gallon Water Truck (2)	1	4
Proposed 69/12 kV Substation – Retaining/Boundary Wall Construction	2 Months	Skytrack Forklift	1	2
		Bobcat Skid Steer Loader	1	6
		Excavator	1	9
		Water Truck	1	9
		Car/Pick-up Truck	5	1
		Maintenance Truck	1	3
		Delivery Truck	3	1
		Walk-behind Compactor	3	8
		Motor Grader	1	8
		Compactor	2	8
		Front-end loader (IT28)	3	8
		Skip Loader	1	7
		Rubber Tire Backhoe	1	7

Table 4-4. Standard Construction Equipment and Usage

Project Phase	Phase Duration	Vehicle/Equipment Type	Quantity Required	Hours Per Day Operating at Site
Proposed 69/12 kV Substation – Driveways/Sidewalks (AC Paving)	2 Months	AC Paver	1	6
		Bobcat Skid Steer	1	5
		Skip Loader	1	5
		Steel Drum Roller	2	6
		Backhoe	1	6
		Loader	2	6
		Dump Truck (20 CY)	2	3
Proposed 69/12 kV Substation – Below-Grade Construction	6 Months	Bobcat Skid Steer Loader	1	4
		Water Truck	1	3
		Concrete Truck	15	0.5
		Ditch-witch	1	6
		938H Loader	1	6
		Rubber Tire Backhoe	1	7
		305 Mini Excavator	1	7
Proposed 69/12 kV Substation – Equipment Installation	6 Months	Boom Trucks	2	6
		Manlift	1	6
		Bucket Truck	4	5
		Oil Rig (Trailer with Generator)	1	24
		Cable Dolly (Trailer)	1	No Engine
		Pulling Rig (Trailer)	2	No Engine
		Water Truck	1	2
69 kV Underground Power Line – Duct Bank Construction, Vault and Cable Installation	3 Months	Backhoe	1	7
		Flatbed Truck	1	1
		Dump Truck	2	3
		Water Truck	1	1
		Air Compressor	1	7
		Pulling Rig	1	1
		Air Truck	1	0.2
		Boom Truck	1	0.2
		Bucket Truck	1	0.2
12 kV Distribution – Trenching and Conductor Installation	3 Months	Line Truck	1	0.1
		Puller	1	2
		Reel Trailer	1	1
		Splice Truck	1	1
		Pick-up Truck	1	1
		Water Truck	1	2

Table 4-4. Standard Construction Equipment and Usage

Project Phase	Phase Duration	Vehicle/Equipment Type	Quantity Required	Hours Per Day Operating at Site
		Pulling Rig	1	0.3
		Forklift	1	0.2
		Wire Truck	1	0.2
		Boom Truck	1	0.2
		Concrete Saw	1	0.5
		Pick-up Truck, 1-2 Man	3	1
		Pick-up Truck, Crew Cab	4	1
		Flatbed Truck	4	1
		Crane	1	0.5
		Bobcat Skid Steer Loader	1	6
		Backhoe	2	7
		Trackhoe	1	1
		Dump Haul Truck	5	6
		Pick-up with Saw Cutter Trailer	1	0.1
		Concrete Truck	9	0.7
		Asphalt Dump Truck	2	0.2
		Asphalt Paver	1	0.5
		Steel Drum Roller	1	0.1
		Dump Trucks with Compressor and Emulsion Sprayer	1	0.2
Telecommunication System Extension – Duct Bank Construction, Vault and Cable Installation	1 Month	Backhoe or Rockwheel	1	7
		Dump Trucks (20 CY)	2	0.2
		Skid Steer Loader	1	7
		Concrete Truck	4	0.7
Energization – Testing and Commissioning	1 Month	Relay Telecommunication Vans	3	3
Temporary Staging Yard – Clean-Up	1 Week	Dump Truck	1	2
		Flatbed Truck	1	2
		Backhoe	1	7

1 - Mass grade and finish grade involve the same type, quantity, and hours of operation for a majority of the off-road equipment. The same equipment used for mass grade will also be used for finish grade.

Proposed Construction Schedule

SDG&E estimates that construction of the Proposed Project would take approximately 20 months to complete, depending upon unforeseen or unpredictable factors such as weather and required transmission outages. Proposed construction is scheduled to occur on or about October 1, 2017, and run through June 2019. The proposed construction schedule, outlined by component, is summarized in Table 4-5. The dates shown are based on permitting estimates and approvals, and are subject to change.

Transformer oil filling is a continuous activity once started and may require round the clock work (3 to 5 days per transformer).

Table 4-5. Proposed Construction Schedule

Proposed Project Component	Activity	Approximate Duration	Anticipated Start Date
Temporary Staging Yard	Site Preparation	1 week	October 2017
	Clean-up	1 week	June 2019
Proposed 69/12 kV Substation	Site Development and Grading	5 months	October 2017
	Retaining/Boundary Wall Construction	2 months	January 2018
	Driveways/Sidewalks (AC Paving)	2 months	March 2019
	Below-Grade Construction	6 months	March 2018
	Substation Equipment Installation	6 months	September 2018
69 kV Underground Power Line	Duct Bank Construction, Vault and Cable Installation	3 months	January 2019
12 kV Distribution	Trenching and Conductor Installation	3 months	February 2019
Telecommunication System Extension	Duct Bank Construction, Vault and Cable Installation	1 month	February 2019
Energization	Testing and Commissioning	1 month	May 2019
	Energization	1 month	June 2019

4.11.4 Cut and Fill

It is anticipated that construction of the Proposed Project would result in up to approximately 69,860 cubic yards of cut and fill (See Table 4-6).

Final civil engineering for the Proposed Project has yet to be completed, therefore final cut and fill may differ from the estimates provided. Actual cut and fill grading amounts may vary depending upon actual field conditions and final detailed engineering. Soil may be reused onsite within SDG&E fee-owned property, franchise or existing easements. Excess soil from excavation may also be transported to a local recycling or appropriately permitted waste disposal facility if the soil is not reused onsite or otherwise recycled. Excess soil would be reused onsite where possible and transported offsite only as the final option.

Table 4-6. Proposed Project Cut-And-Fill Requirements Summary (cubic yards)

Project Component	Cut	Fill	Net Import/Export
Temporary Staging Yards Site Preparation and Cleanup[1]	1,965	1,965	1,965/1,965
Ocean Ranch Substation	18,100	36,700	28,700/10,100
Underground power line (69 kV) trench and duct bank installation	1,995	1,995	1,995/1,995
Underground distribution (12 kV) line trench and duct bank installation	3,650	3,650	3,650/3,650

Source: SDG&E 2015.
Table contents based on preliminary engineering.
1 - 30 percent of 17.5 acres of temporary staging yards will have 3 inches of rock temporarily installed (for a total of 5 acres). Cut for this purpose refers to rock clean-up and fill refers to rock installation

4.11.5 Permanent Land/Right-of-Way Requirements

The Proposed Project will be within existing utility corridors, franchise areas, and SDG&E fee-owned property that currently feature permanent access roads and will include permanent pads and roads within the substation site. Operation and maintenance of the Proposed Project would use these existing and planned work areas and roads. It is anticipated that no additional ROW is a required for this project.

4.12 Operation and Maintenance

4.12.1 Substation Operation and Maintenance

Implementation of the Proposed Project would not significantly increase the intensity, frequency, or duration of SDG&E's overall operation and maintenance activities. These would be substantially similar to existing operation and maintenance activities at other substations. Typical activities involve both routine inspections and preventive maintenance to ensure service reliability, as well as emergency work to maintain or restore service continuity. General Order 165 requires that transmission and power lines be inspected at least every three years for corrosion, equipment misalignment, loose fittings, and other common mechanical problems.

SDG&E conducts power and transmission line operation and maintenance activities that typically include security and other inspections, ROW and access repairs, herbicide application, emergency and non-emergency repairs and replacements, and tree trimming.

Ocean Ranch Substation would be unmanned except for periodic routine maintenance activities to ensure reliable operation of all equipment within the facility. The substation would be monitored and controlled remotely by SDG&E's Control Center.

Ongoing maintenance would involve testing, monitoring, and repairing equipment, as well as emergency and routine procedures. All access gates to the proposed substation would be locked to prevent entry of unauthorized individuals. In addition, signage would be posted on the substation's exterior and at the entryways to restrict entry of those who are not qualified SDG&E personnel.

Routine operations would require one or two workers in a light utility truck to visit the substation on a daily or weekly basis. Routine maintenance is expected to require approximately six trips to the substation per year by a two- to four-person crew. It is anticipated that one annual major maintenance inspection would occur, requiring an estimated 10 SDG&E personnel to be present at the substation. It is anticipated that this inspection would take approximately one week to complete. Nighttime maintenance activities are not expected to occur more than once a year.

Landscape maintenance would occur on an as-needed basis for purposes of enhancing the streetscape along the perimeter of the substation and for safety and/or access. Such activities would generally require the presence of one or two maintenance vehicles and one or more employees to clear and/or trim vegetation to ensure that an adequate working space is maintained around the substation.

4.12.2 Power Line Maintenance

SDG&E maintains a clear working space area around certain facilities pursuant to requirements found within General Order 95 and Public Resources Code (PRC) section 4292. SDG&E keeps these areas clear of shrubs and other obstructions for fire prevention.

The new 69 kV loop-in would be inspected consistent with SDG&E's existing underground inspection and maintenance program. The line would be accessed from the two new vaults during the annual underground transmission inspection program. Where needed, to access the vaults safely, inspection typically requires traffic control. However, the new 69 kV vaults are within the proposed substation. The inspection crew would open the vault covers and perform a visual survey from above (entry into vault with energized cables is not permitted), and use infrared, partial discharge monitoring, or other diagnostic instrumentation that may be available. The total time to inspect each vault is expected to be less than 1 day under normal operating conditions. The inspection of the underground power line would be the same for all existing underground inspections currently completed by SDG&E within the City of Oceanside and throughout SDG&E's service territory.

4.12.3 Standard Operating Procedures

The Proposed Project includes design features and ordinary construction and operating procedures that avoid and minimize environmental impacts. The standard operating procedures incorporated into the Proposed Project include measures that are routinely implemented by SDG&E. SDG&E would implement these operating procedures as appropriate during construction, operation, and maintenance to avoid and minimize potential environmental impacts.

Design features and construction and operating procedures incorporated into all phases of the Proposed Project are described below.

- **Blasting.** In the event that rock blasting is used during construction, a noise and vibration calculation would be prepared and submitted to SDG&E for review before blasting at each site. The construction contractor would ensure compliance with all relevant local, state, and federal regulations relating to blasting activities, as well as SDG&E's blasting guidelines.
- **Carpooling.** SDG&E would encourage construction workers to carpool to the greatest extent possible.
- **Communication with Adjacent Property Owners (Parking).** SDG&E would communicate with adjacent land owners for use of areas where off-street parking may be temporarily lost due to construction activities.
- **Conceptual Landscape Plan.** The conceptual landscape plan for the proposed Ocean Ranch Substation would be implemented as part of the Proposed Project following construction of the substation. (The Conceptual Site Plan provided as Appendix C shows landscaping). The landscaping plan, planting scheme, lighting guidelines, and sign regulations, include street trees and shrubs along Rocky Point Drive and Avenida del Oro and landscape plants that are low-water use, regionally appropriate, and visually compatible with the surrounding area and that do not conflict with the Pacific Coast Business Park Industrial Master Development Plan.

  Implementation of the landscape plan would ensure that the project perimeter wall, street-front areas, and slopes are visually similar to the existing business park surrounding the project, and would provide partial screening of the perimeter wall.

  The plan incorporates low-water-use, mostly native plants that are visually similar to existing plants on neighboring properties. The landscaping includes strawberry tree (*Arbutus unedo*) at the entrance to the site from Rocky Point Drive, and on the top of the slope along Avenida del Oro. The landscape plan leaves in place the existing street trees and slope planting along the west side of the parcel facing Avenida del Oro, and adds more shrubs and trees to the slope as well. The Proposed Project's landscape elements would comply with existing streetscape guidelines and visually blend with existing neighboring landscapes. Low-water-use, mostly native plants are proposed throughout the landscape

areas of the site, including trees and shrubs that are visually similar to existing plants on neighboring lots, such as Australian willow (*Geijera parviflora*) and holly leaf cherry (*Prunus ilicifolia*). These trees would provide a visual connection to the surrounding streetscapes, and would provide some screening of the Proposed Project's perimeter wall. Medium-sized shrubs and low-growing shrubs and ground covers are proposed as well. The site includes two retention basins located on the property but outside the substation wall, which would be planted with locally appropriate grasses and rushes.

- **Construction Noise.** For the few locations where the Proposed Project may exceed the noise ordinances, SDG&E would meet and confer with the City of Oceanside to discuss temporarily deviating from the requirements of the Municipal Code.
- **Construction Practices.** During clearing, grading, earth moving, or excavation operations, SDG&E would follow applicable regulations and control excessive fugitive dust emissions by regular watering or other dust preventive measures, which may include the following procedures:
  - Spray unpaved construction areas with water, approved dust-control agents, or soil stabilizers to reduce particulates; sufficiently water material excavated or graded.
  - Sweep, vacuum, and/or remove dirt or debris spilled onto or tracked onto paved surfaces to reduce resuspension of particulate matter caused by vehicle movement.
  - Haul trucks moving soil to or from the site would either be covered or maintain 2 feet minimum freeboard.
  - Onsite stockpiles would be covered, watered, or bermed if left inactive for more than 24 hours.
  - Tracking-control measures, in accordance with SDG&E Water Quality Construction BMP Manual, Measure 1-07 (Tracking Controls), would be implemented. (At page 25 of Appendix H provided in SDG&E's PEA the Manual is included here as Appendix D.)
  - Implementation of measures during construction to control fugitive dust and reduce exhaust emissions to meet SDAPCD Rule 55 requirements.
  - Prevent visible dust from the project from emanating beyond the property line, to the maximum extent feasible.
  - To the extent feasible, unnecessary construction vehicle idling time would be minimized. 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 startup. Where such diesel-powered vehicles are required for repetitive construction tasks, these vehicles may require more idling time. If a vehicle is not required for use immediately or continuously for construction activities, its engine would be shut off. Construction foremen would include briefings to crews on vehicle use as part of preconstruction tailboard or training. Those briefings would include discussion of a "common sense" approach to vehicle use.
- **Coordination with City.** SDG&E is coordinating with the City regarding the establishment of access rights on Avenida del Oro for a secondary private driveway at the proposed Ocean Ranch Substation site.
- **Coordination with Emergency Service Providers.** SDG&E will coordinate with the affected emergency service providers in the event that lane closures occur.
- **Cultural Resources.** SDG&E will follow applicable federal, state, and local laws to protect and avoid cultural resources, including the Archaeological Resources Protection Act of 1979, as amended; the National Historic Preservation Act of 1966, as amended (NHPA); California Penal Code section 622½,

PRC sections 5097.1 through 5097.6, PRC section 5097.98, and CEQA. An independent expert conducted preconstruction surveys, prepared an inventory of cultural resources within the Proposed Project's Area of Potential Effect, and provided recommendations for avoidance and minimization of cultural resources. Known cultural resources would be spanned or otherwise avoided through Project design and through routing during construction activities to the extent feasible.

- **Encroachment Permits.** SDG&E would obtain the required encroachment permits from the City of Oceanside for crossings at city streets and would ensure that proper safety measures are in place while construction work is occurring in or near public roadways. These safety measures include flagging, proper signage, and orange cones to alert the public to construction activities near the roadway.
- **Generators.** Generator use would be limited to less than 50 horsepower (HP) at all staging yards, if required. Any generators used at the staging yards would be located away from noise-sensitive areas, and positioned on the property to ensure compliance with local noise ordinances.
- **Geotechnical Report.** A geotechnical study has been conducted for the Proposed Project under direction of a California-licensed Geotechnical Engineer or Certified Engineering Geologist, and recommendations identified in the geotechnical report would be carried out. (See Appendix E: Geotechnical Siting Study.)
- **Hazardous Materials.** SDG&E would address potential impacts relating to the handling and use of hazardous materials through compliance with applicable state and federal regulations, including but not limited to the following:
  - Federal OSHA regulations for worker safety in hazardous material remediation and hazardous waste operations (29 CFR Section 1910.120)
  - Federal OSHA regulations hazard communication for workers (29 CFR Section 1910.1200)
  - Federal OSHA regulations for toxic air contaminants for workers (29 CFR Section 1910.1000)
  - California OSHA (CalOSHA) regulations for worker safety in hazardous material remediation and hazardous waste operations (8 California Code of Regulations [CCR] 5192)
  - CalOSHA regulations for hazard communication for workers (8 CCR 5194)
  - Department of Toxic Substances Control (DTSC) regulations implementing Resource Conservation and Recovery Act of 1976 (RCRA) and the California Hazardous Waste Control Law (HWCL) (22 CCR Division 4.5).
- **Hazardous Materials and Waste Management Plan.** SDG&E would prepare a project-specific Hazardous Materials and Waste Management Plan (HMWMP) for the construction phase of the Proposed Project to ensure compliance with all applicable federal, state, and local regulations. The HMWMP would reduce or avoid the use of potentially hazardous materials for the purposes of worker safety, protection from groundwater contamination, and proper disposal of hazardous materials. The plan would include the following information related to hazardous materials and waste, as applicable:
  - A list of the hazardous materials that would be present on site during construction, including information regarding their storage, use, and transportation.
  - Procedures for the identification of and avoidance of contaminated materials.
  - Any secondary containment and countermeasures that would be required for onsite hazardous materials, as well as the required responses for different quantities of potential spills.

- A list of spill response materials and the locations of such materials at the Proposed Project site during construction.
- A list of the adequate safety and fire suppression devices for construction activities involving toxic, flammable, or exposure materials.
- A description of the waste-specific management and disposal procedures that would be conducted for any hazardous materials that would be used or are discovered during construction of the Proposed Project.
- A description of the waste minimization procedures to be implemented during construction of the Proposed Project.

- **Landowner Notification.** Landowners of parcels within 300 feet of Proposed Project would receive notification of the start of construction at least one week prior to the start of construction activities within that area.
- **Mufflers.** Functioning mufflers would be maintained on all equipment.
- **Natural Community Conservation Plan (NCCP) Operation Protocols.** Based on the design of the Proposed Project, no mitigation is required, but SDG&E would implement the following construction and operation protocols (See Initial Study Section 5.4 Biological Resources for additional information):
  - Section 7.1.1 General Behavior for All Field Personnel
  - Section 7.1.2 Training
  - Section 7.1.4 Maintenance, Repair, and Construction of Facilities
  - Section 7.1.5 Maintenance of Access Roads
  - Section 7.1.8 Survey Work
  - Section 7.1.9 Emergency Repairs
- **New Chain-Link Fence.** Any fencing installed as part of the Proposed Project would be a dull, non-reflective finish to reduce potential glare.
- **Overall Grading and Drainage Design.** The overall grading design would include replacement of the existing temporary desilting basins with permanent construction of two flow-through planter basins to provide management of smaller, more frequent storm events, treatment of stormwater runoff, and peak flow attenuation from larger, less frequent events (such as the 100-year storm).
- **Perimeter Wall.** The perimeter wall would be designed to blend with the neighboring buildings and provide continuity with the existing landscape, and would not conflict with standard design criteria and requirements for electrical substations or the Pacific Coast Business Park Industrial Master Development Plan.
- **Project Fire Prevention Plan.** SDG&E Electric Standard Practice 113.1 would serve as the Project Fire Prevention Plan. This standard identifies risk-related activities as well as measures (including tools and procedures) to address said risks. This standard addresses all work activities which have the potential to start a wildland fire and sets forth equipment and practices relevant to fire prevention. (See Appendix F: O&M Wildland Fire Prevention Plan)
- **Restoring Appearance of Temporarily Disturbed Areas.** When Proposed Project construction has been completed, all temporarily disturbed terrain would be restored as near to preconstruction conditions as possible. Revegetation would be used, where appropriate (revegetation in certain areas is not possible due to vegetation management requirements related to fire safety) to reestablish a natural

appearing landscape and reduce potential visual contrast between disturbed areas and the surrounding landscape.

- **Safety and Worker Environmental Awareness Program.** SDG&E would prepare a project-specific environmental and safety awareness program for project personnel. Training would include the following topics, as applicable:
  - General safety procedures
  - General environmental procedures
  - Fire safety
  - Biological resources
  - Cultural resources
  - Paleontological resources
  - Hazardous materials protocols and BMPs
  - SWPPP
- **SDG&E Water Quality Construction BMP Manual.** SDG&E's Water Quality Construction BMP Manual would be used during construction (by way of preparation and implementation of the SWPPP), operation, and maintenance of the Proposed Project to ensure compliance with all relevant SDG&E and government-mandated regulatory water quality standards. This manual organizes and presents SDG&E's standard water quality protection procedures for various specific actions that routinely occur as part of SDG&E's ongoing construction, operations, and maintenance activities. The primary focus of most BMPs is the reduction and/or elimination of potential water quality impacts during construction of linear and substation projects, such as the Proposed Project. The BMPs described within the BMP Manual were derived from several sources including State of California guidelines as well as the Caltrans Water Quality BMPs.
- **SF6 mitigation strategies.** SDG&E would implement its existing SF6 mitigation strategies during the operation and maintenance of SF6-containing equipment installed as part of the Proposed Project. These strategies include**:**
  - Continue CARB's Mandatory Reporting Regulation for GHG emissions.
  - Implement SDG&E's SF6 leak detection and repair program. This program includes monthly visual inspections of each GIS, which includes checking pressure levels within the breaker and recording these readings in SDG&E's Substation Management System. During the installation or major overhaul of any GIS, the unit is tested over a 24-hour period to ensure no leaks are present. Minor overhauls of each GIS are conducted every 36 to 40 months to check overall equipment health. This process includes checking gas pressure, moisture ingress, and SF6 decomposition. If the GIS fails any of these checks, the unit is checked for leaks and repaired. In addition, all GISs are equipped with a gas monitoring device and alarm that automatically alert SDG&E's Grid Operations Center. If gas pressure approaches minimum operating levels, an alarm is immediately reported to SDG&E's Substation Construction and Maintenance Department. The GIS is usually inspected for leaks within 24 hours of such an alarm. SDG&E's leak detection practice includes the following three methodologies:
    - Spraying a leak-detection agent onto common leak points — including O-rings, gaskets, and fittings;
    - Using a field-monitoring device (sniffer) to detect the presence of SF_6 gas; and
    - Using a laser-detection camera to detect the presence of SF_6 gas when the above two methods are unsuccessful in finding a leak.
  - Implement a SF6 recycling program.

  - Train employees on the safety and proper handling of SF6.

- **Soil Disturbance.** Ground and soil disturbance would be minimized through the use of existing access routes, to the extent feasible.
- **Soil Stabilization.** Once temporary surface disturbances are complete, areas that would not be subject to additional disturbance would be stabilized to control soil erosion. Disturbed areas would be stabilized per the project SWPPP.
- **Spill Prevention, Control, and Countermeasure (SPCC) Plan.** If required, an SPCC Plan would be prepared in accordance with CFR 40, Part 112 before petroleum products in threshold quantities would be stored on-site. Elements of an SPCC Plan include, but are not limited to, the following:
  - Facility diagram and description;
  - Oil discharge predictions;
  - Appropriate secondary containment or diversionary structures;
  - Facility drainage;
  - Personnel training and oil discharge prevention briefings; and
  - Recordkeeping and five-year plan review.
- **Standard Traffic Control Procedures.** SDG&E would implement traffic control plans to address potential disruption of traffic circulation during construction activities and address any safety issues. These traffic control plans would be prepared prior to construction by the project engineer or contractor and subject to approval by the appropriate jurisdictional agencies.
- **Temporary Lighting.** Temporary lighting at staging and storage areas would be directed on site and away from any sensitive receptors.
- **Visual Screening of Staging Yards.** Where staging yards are visible to the public, opaque mesh or slats (or equivalent material) would be installed along the fence that would soften the view of the staging yard from public vantage points such as roads, residences, and public vantage points.
- **Water Sources.**
  - To the extent that recycled water is used, the Proposed Project would adhere to use restrictions and water quality monitoring and reporting regulations associated with use of tertiary-treated recycled water for construction uses (e.g., dust control, soil compaction, and concrete mixing) permitted under the SWRCB General Order or the San Diego RWQCB Waiver 2 and consistent with the state's anti-degradation policy.
  - Potable water to support project construction and operations activities would be sourced from the City of Oceanside. Project construction water use calculations are the basis for obtaining a would-serve letter from the City of Oceanside. To the extent feasible and if available, tertiary-treated recycled water would be used for allowed construction practices (e.g., dust control, soil compaction, cement mixing). The San Luis Rey Wastewater Treatment Plant (WWTP), which is located approximately one mile west of the project, is being upgraded to double its current daily volume of recycled water. The associated El Corazon commercial recycled water fill station near the NE corner of Oceanside Boulevard and El Camino Real has been permitted and is operational. To the extent that tertiary-treated recycled water is available at this fill station it would be used for approved uses.
  - The Proposed Project would adhere to the City of Oceanside Emergency Drought Response Ordinance.

4.13 Other Permits and Approvals

The CPUC is the lead agency for CEQA review of this project. In accordance with CPUC General Order No. 131-D SDG&E prepared and submitted a Proponent's Environmental Assessment (PEA) as part of its application for a Permit to Construct (PTC).

The CPUC has exclusive authority to approve or deny SDG&E's application; however, various permits from other agencies may also need to be obtained by SDG&E for the Proposed Project. If the CPUC issues a PTC, it would provide overall project approval and certify compliance of the project with CEQA. In addition to the PTC, Table 4-7 summarizes the permits from federal, State, and local agencies that may be needed for the project.

Table 4-7. Anticipated Permit, Approval, and Consultation Requirements

Permit Type/Name	Issuing Agency	Jurisdiction/Purpose
Federal Agencies		
Not Applicable		
State Agencies		
Permit to Construct	CPUC	Overall Project approval and CEQA review.
National Pollutant Discharge Elimination System–Construction Stormwater Permit	California SWRCB	Stormwater discharges associated with construction activities disturbing more than one acre of land.
Consultation	CDFW	Consultation on burrowing owls and/or western yellow bats if these species are identified within the Proposed Project area.
Local Agencies		
Approval of Remandment of Access Application	City of Oceanside	Accommodate secondary driveway at substation site along Avenida Del Oro.
Encroachment Permit	City of Oceanside	For crossings at city streets and trenching in the City's ROW.
Grading Permit	City of Oceanside	Site grading.
Explosive Permit	City of Oceanside	Secure approval for rock blasting through Fire Department review.
Recycled Water General Order	SWRCB	Used to discharge tertiary-treated recycled water to land for approved construction activities.

4.14 Applicant Proposed Measures

During the design, construction, and operation of the Proposed Project, SDG&E proposes to implement certain measures, in a manner consistent with applicable rules and regulations, to avoid or minimize potential environmental impacts. These would be in addition to the procedures included as part of the overall project description, including the Standard Operating Procedures listed as part of the project description.

The Applicant Proposed Measures (APMs) listed in Table 4-8 are considered part of the Proposed Project and are considered in the evaluation of environmental impacts in Section 5, Environmental Analysis and Mitigation. SDG&E would be responsible for overseeing the assembly of construction and environmental teams that would implement the Proposed Project APMs. CPUC approval would be based upon SDG&E

adhering to the Proposed Project as described in this document, including this project description, the APMs, and any adopted mitigation measures identified by this Initial Study.

Table 4-8 details SDG&E's APMs by environmental topic. For many environmental topics, SDG&E did not identify any APMs. In some cases, mitigation measures presented in Section 5 either expand upon or add detail to the APMs presented in Table 4-8 if necessary, to ensure that potential impacts would be reduced to less than significant levels.

Table 4-8. Applicant Proposed Measures by Resource Area

Resource Area	Relevant Applicant Proposed Measures
Biological Resources	**APM BIO-1: General Biological Resources** ▪ The Proposed Project work areas shall be limited to the sites specified in the project description. Access to the project site shall utilize existing access roads, where possible. Parking, driving, and storing of vehicles will be limited to previously disturbed, compacted, and developed areas, where possible. ▪ A contractor education program will be conducted by a qualified biologist. It will be conducted during all project phases and cover: (1) the potential presence of listed species and their habitats; (2) the requirements and boundaries of the project (e.g., areas delineated on maps and by flags or fencing); (3) the importance of complying with avoidance and minimization measures; (4) environmentally responsible construction practices; (5) identification of sensitive resource areas in the field; and (6) problem reporting and resolution methods. ▪ A qualified biologist will be assigned to the Proposed Project. The designated biologist will have the authority to halt construction in that segment of the Proposed Project to prevent impact to any listed species. ▪ Heavy equipment, construction, equipment maintenance, and staging activities will occur in designated areas and be restricted to existing roads and disturbed areas to the maximum extent practicable. ▪ Where possible, laydown, stockpiling, parking, driving, and storing of vehicles and equipment will be limited to previously disturbed/compacted and developed areas within and immediately adjacent to existing roads. **APM BIO-2: Vegetation and Special-status Plant Species** ▪ Disturbance to adjacent native vegetation will be avoided to the greatest extent. **APM BIO-3: Migratory Birds** ▪ Pre-construction nest surveys will be conducted by a qualified biologist if construction or demolition activities on the project site occurs between January 1 and August 31 (nesting season). Surveys shall cover all potential nesting habitat within the PSA and be repeated on a weekly basis throughout the nesting season. If SDG&E determines that any staging yards included in the proposed project, is not needed, then those staging yards will be exempt from nest surveys ▪ If an active nest is found within the Proposed Project at any time, work will stop immediately in the immediate area of the nest and redirected away from the nest location. A no disturbance buffer zone will be established around each nest. The size of the buffer zone for non-special-status species will be determined by a qualified biologist. Any activities that might, in the opinion of the biological monitor, disturb nesting activities, will be prohibited in the buffer zone. If an active nest of a special-status species is identified, SDG&E shall consult with the USFWS and CDFW to determine the size of the buffer zone (except for burrowing owls, which will be determined in accordance with APM BIO-4). Nest locations will be mapped using GPS technology. ▪ The biological monitor will monitor all active nests and buffers at least once per week, to determine whether birds are being disturbed. If signs of disturbance or distress are observed, the biological monitor shall immediately implement adaptive measures to reduce disturbance. These measures could include, but are not limited to, increasing buffer size, halting disruptive construction activities in the vicinity of the nest until fledging is confirmed, or placement of visual screens or sound dampening structures between the nest and construction activity. ▪ The qualified biologist or biological monitor will monitor the nest until he or she determines that nestlings have fledged and dispersed or the nest is no longer active. The results of nest surveys and nest monitoring shall be included in biological monitoring reports, described in Mitigation Measure B-1 (Biological Monitoring and Reporting).

Table 4-8. Applicant Proposed Measures by Resource Area

Resource Area	Relevant Applicant Proposed Measures
Biological Resources *(cont.)*	**APM BIO-4: Special-status Wildlife Species.** ▪ Protocol-level surveys for the burrowing owl shall occur prior to the commencement of construction. The survey shall be conducted by a qualified biologist in accordance with the Staff Report on Burrowing Owl Mitigation. The surveys shall commence at least 30 days and not less than 14 days prior to construction. The survey results shall be provided to SDG&E within 14 days following completion of surveys. ▪ If burrowing owls are detected within the Project Study Area, measures consistent with the methodology as established in the Staff Report on Burrowing Owl Mitigation and in concurrence with the local CDFW office will be implemented. This includes, but is not limited to the use of buffers around burrows, inspection of equipment, monitoring, and the potential for development of a Burrowing Owl Exclusion Plan approved by the local CDFW office. ▪ Prior to the commencement of the construction phase, a qualified biologist shall conduct a preconstruction survey/sweep of Melrose Staging Yard to determine the presence of the western yellow bat. If the western yellow bat is not found during the initial preconstruction survey/sweep, the staging yard will be resurveyed weekly while the yard is in use for the project. Surveys will be conducted year-round. If roosts are found during the survey sweeps, a no disturbance buffer zone will be established of 165 feet from any active roost and 300 feet from any active maternity roost. The qualified biologist shall consult with CDFW to determine the appropriate buffer limits to adequately protect the species and the buffer sizes listed above may be reduced with concurrence from CDFW. The buffers will remain in place until the staging yard is no longer used for this project or until the bat(s) have left the roost and a buffer is no longer necessary.
Cultural/ Paleontological Resources	**APM CUL-1: Paleontological Resource Monitoring Program.** ▪ A paleontological resource monitoring program will be implemented during construction. The program will include construction monitoring, fossil salvage, laboratory preparation of salvaged specimens, curation of prepared specimens, and storage of curated specimens. A qualified paleontologist will be onsite to monitor all ground disturbing activities (e.g., grading and excavation) within native sediments, until the monitor determines monitoring activities are not necessary. The monitor will inspect all fresh cut slopes and trenches, spoils piles, and graded pad surfaces for unearthed fossil remains. If any paleontological find is identified during monitoring, then the monitor will communicate with the general environmental monitor and the construction manager. Salvage may include techniques such as "pluck-and-run," hand quarrying, and bulk matrix sampling and screen-washing. The monitor will also collect stratigraphic data to define the nature of fossiliferous sedimentary rock units within the Proposed Project area, their geographic distributions, and their lithologic characteristics. Paleontological monitoring would not be required in locations where artificial imported fill materials occur for the full depth of the proposed ground disturbance.

4.15 Electric and Magnetic Fields Summary

Recognizing that there is a great deal of public interest and concern regarding potential health effects from exposure to electric and magnetic fields (EMF) from power lines, this Initial Study provides information regarding EMF associated with electric utility facilities and the potential effects of the proposed project related to public health and safety. Potential health effects from exposure to ***electric fields*** from power lines (produced by the existence of an electric charge, such as an electron, ion, or proton, in the volume of space or medium that surrounds it) are typically not of concern since electric fields are effectively shielded by materials such as trees, walls, etc., therefore, the majority of the following information related to EMF focuses primarily on exposure to ***magnetic fields*** (invisible fields created by moving charges) from power lines. However, this Initial Study does not consider magnetic fields in the context of CEQA and determination of environmental impact. This is because (a) there is no agreement among scientists that EMF does create a potential health risk, and therefore, (b) there are no defined or adopted CEQA standards for defining health risk from EMF. As a result, EMF information is presented for the benefit of the public and decisionmakers.

After several decades of study regarding potential public health risks from exposure to power line EMF, research results remains inconclusive. Several national and international panels have conducted reviews of data from multiple studies and state that there is not sufficient evidence to conclude that EMF causes cancer. The International Agency for Research on Cancer (IARC), an agency of the World Health Organization (WHO), and the California Department of Health Services (DHS) both classified EMF as a *possible* carcinogen (WHO, 2001; DHS, 2002).

In addition, the 2007 WHO [Environmental Health Criteria (EHC) 238] report concluded that:

- Evidence for a link between Extremely Low Frequency (50–60 Hz) magnetic fields and health risks is based on epidemiological studies demonstrating a consistent pattern of increased risk for childhood leukemia. However, "…virtually all of the laboratory evidence and the mechanistic evidence fail to support a relationship between low-level ELF magnetic fields and changes in biological function or disease status.…the evidence is not strong enough to be considered causal but sufficiently strong to remain a concern."
- "For other diseases, there is inadequate or no evidence of health effects at low exposure levels."

Currently, there are no applicable regulations related to EMF levels from power lines or substations. However, following a decision from 1993 (D.93-11-013) that was reaffirmed on January 27, 2006 (D.06-01-042), the CPUC requires utilities to incorporate "low-cost" or "no-cost" measures to mitigate EMF from new or upgraded electrical utility facilities up to approximately 4 percent of total project cost. To comply, SDG&E developed certain measures to reduce magnetic field levels in the vicinity of the proposed substation and subtransmission lines. SDG&E filed its Magnetic Field Management Plan for the Proposed Ocean Ranch Substation Project as Appendix F of its Application for a Permit to Construct (A.16-07-016; filed July 27, 2016).

4.16 Alternatives

Pursuant to CEQA, the purpose of an alternatives analysis is to identify options that would feasibly attain the project's objectives while reducing identified significant environmental impacts that would result from the proposed project being implemented. Alternatives analysis is not required in a Mitigated Negative Declaration because the Initial Study concludes that with incorporation of mitigation measures there would be no significant adverse impacts resulting from the proposed project.

However, CPUC's GO 131-D requires that an application for a PTC include the "reasons for adoption of the power line route or substation location selected, including comparison with alternative routes or locations, including the advantages and disadvantages of each" (GO 131-D, section IX.B.1.c.). A summary of the alternatives considered in SDG&E's PEA is provided below.

During the development of the Proposed Project, a No Project Alternative, six alternative locations for a new substation site, and three power line alternatives to serve the new substation were considered for further analysis. The Proposed Project was ultimately selected because it best meets all of the Proposed Project objectives.

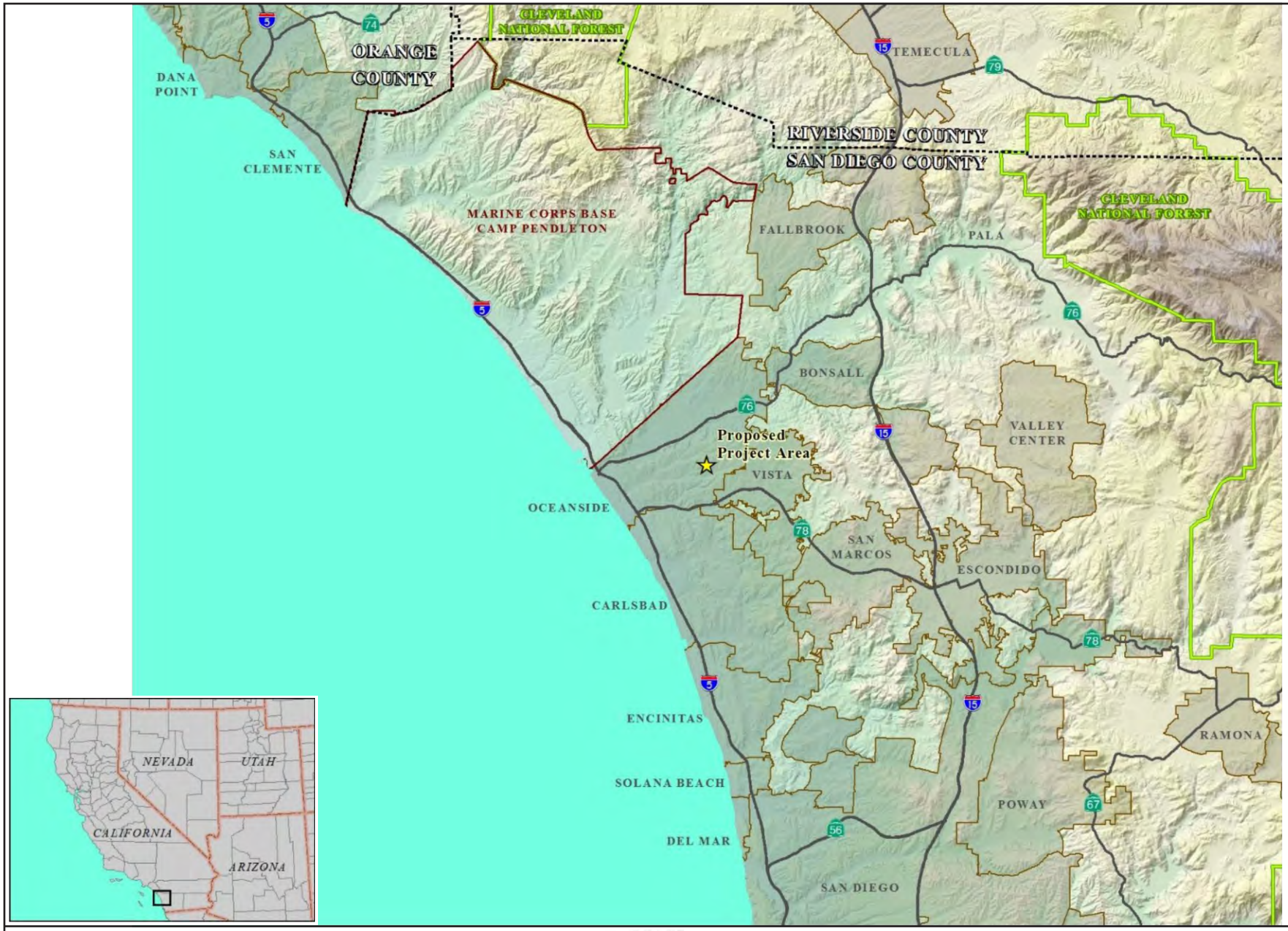
Under the No Project Alternative, the proposed Ocean Ranch Substation would not be constructed. However, by 2018, San Luis Rey Substation and Melrose Substation are projected to be at 92 percent and 94 percent load, respectively. San Luis Rey Substation is projected to be experiencing transformer bank and circuit (line) overloads, and Melrose Substation will be experiencing a transformer bank overload. When the design rating for a transformer is exceeded, the equipment may be damaged; when the design rating for a circuit is exceeded, the conductor (line) may be damaged and the circuit may trip

and go offline. Both substations already are built out to ultimate four-transformer bank (120 MVA) capacity. Morro Hill Substation is projected to be at 96 percent of load by 2018, and is constrained by its proximity to Marine Corps Base Camp Pendleton and the San Luis Rey River. The No Project Alternative would not meet 3 of the 4 Proposed Project objectives; namely: it would not meet existing or forecasted load growth; would not maintain substation and circuit reliability; and would not reduce area substation loading to optimum operating conditions.

For substation site alternatives to the Ocean Ranch site, SDG&E considered 22 locations over several years and identified 6 for further analysis. These 6 alternative sites were rejected because of land use compatibility issues, size constraints, previously recorded archaeological sites, non-availability of parcels due to development/purchase by other parties, unwilling sellers, and/or need for business relocation.

Three power line configuration alternatives were selected for evaluation:

- Option A was to loop in the existing TL 6966 between San Luis Rey and Melrose Substations into Ocean Ranch Substation. (This was the preferred alternative.)
- Option B included the Option A loop in of TL 6966 as well as reconductoring 2.5 miles of lines TL 6966 and TL 693 from San Luis Rey Substation to Ocean Ranch Substation to serve the ultimate design of the Ocean Ranch Substation. The California Independent System Operator (CAISO) did not support this alternative because its 2015-2016 Transmission Planning Report did not find a need for the second transmission line into the new substation at this time.
- Option C included bundling of TL 6966 and TL 693 between San Luis Rey and Ocean Ranch Substations, and construction of 3 miles of new overhead/underground powerline between the substations. This would serve the ultimate design of Ocean Ranch Substation, but this option was not considered further for the same reasons Option B was no considered further.



Source: SDG&E, 2016a.

Figure 4-1

Project Regional Location

Vicinity/Key Map

LEGEND

Proposed Project
- Proposed Ocean Ranch Substation Site
- Pulling Site
- Staging Yard
- Monopole

Underground 69 kV Power Line
- Existing
- Proposed

Underground 69 kV Power Line Vault
- Proposed

Underground 12 kV Distribution Line
- Proposed

Underground 12 kV Distribution Line Manhole/Handhole
- Proposed Handhole
- Proposed Manhole

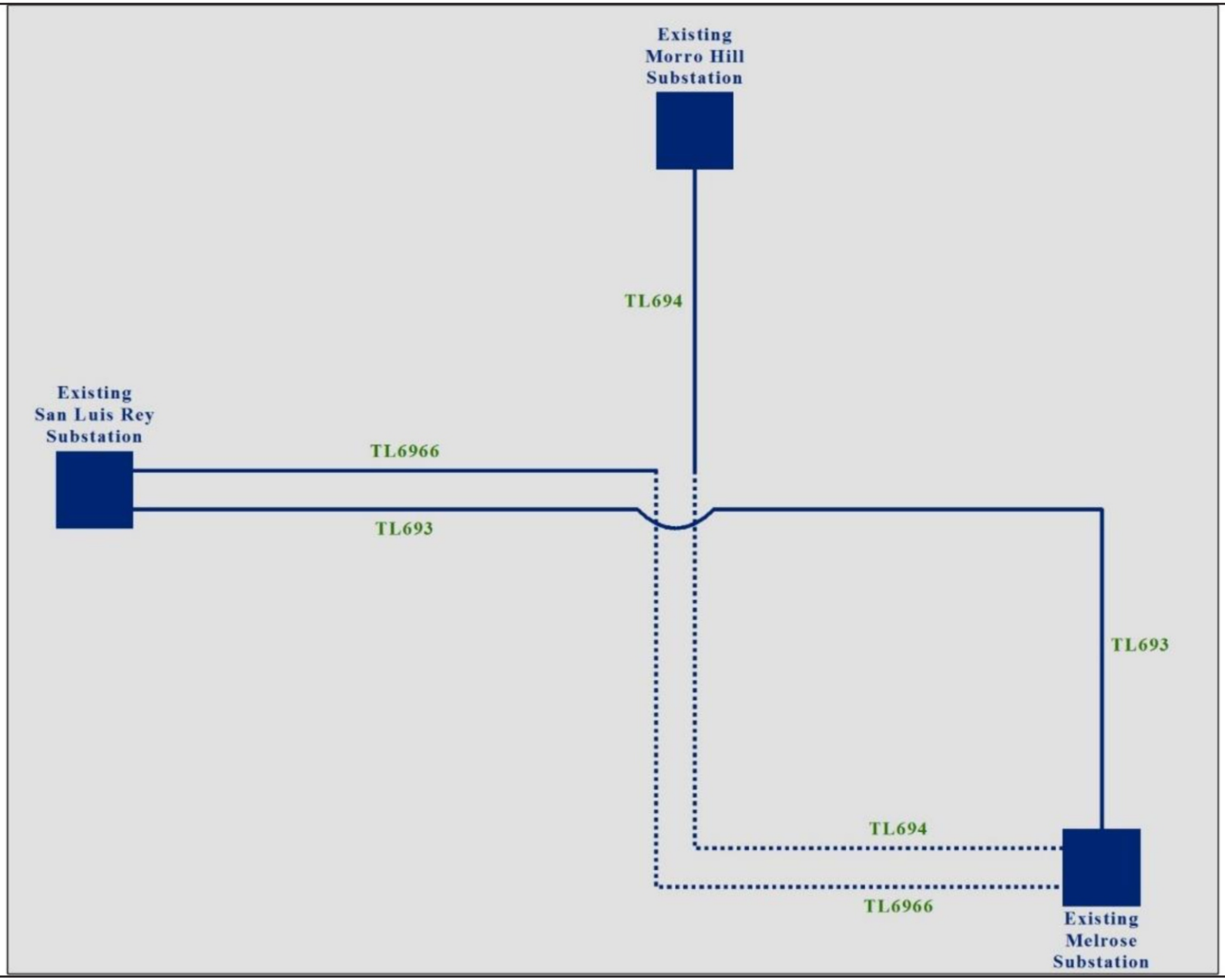
Substation Components
- 12kV Capacitor Banks
- 12kV Reactor Banks
- 12kV Switchgears
- 69/12kV Transformer Banks
- 69kV Circuit Breakers
- Control Shelter
- Low Profile Disconnect Switches
- Low Profile Main Bus
- Masonry Block Screen Wall
- Road
- Water Basin

0 100 200 Feet

Source: SDG&E, 2016b.

Figure 4-2

Project Site Location and Staging Yards

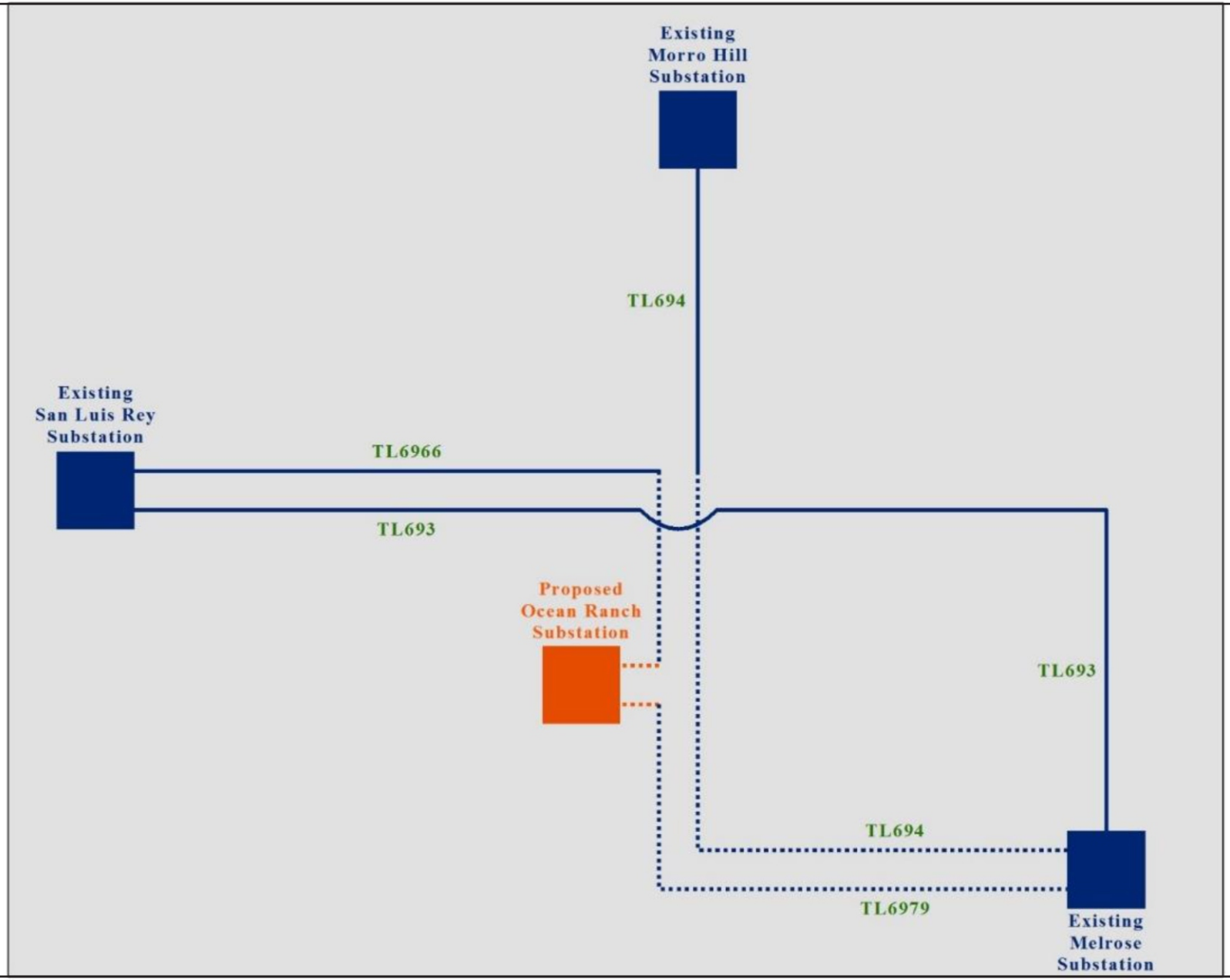


Source: SDG&E, 2016a.

69 kV Substation
69 kV Overhead Tie Line
69 kV Underground Tie Line

Figure 4-3

Existing Configuration of Substations



Source: SDG&E, 2016a.

Existing Features

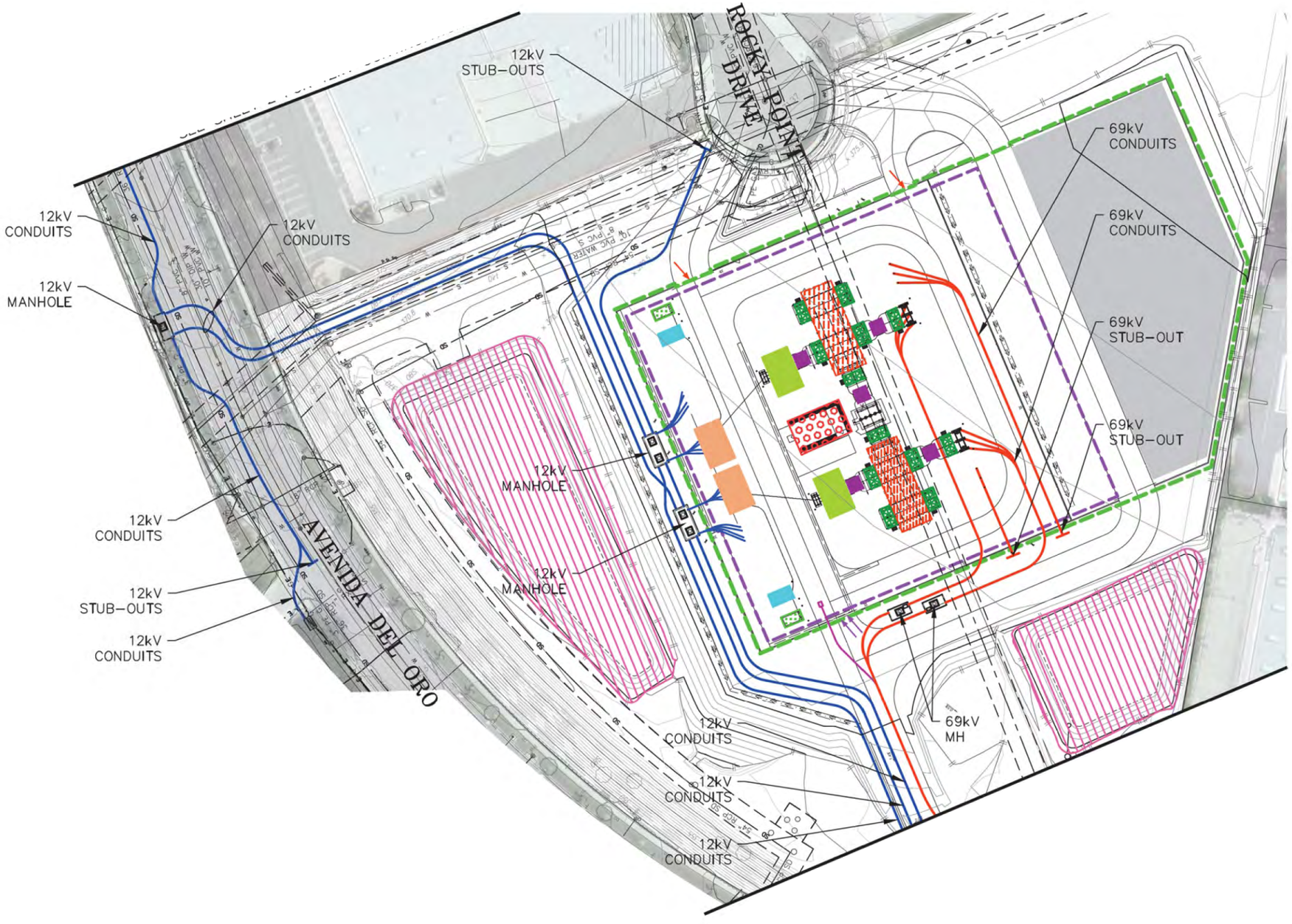
- 69 kV Substation
- 69 kV Overhead Tie Line
- 69 kV Underground Tie Line

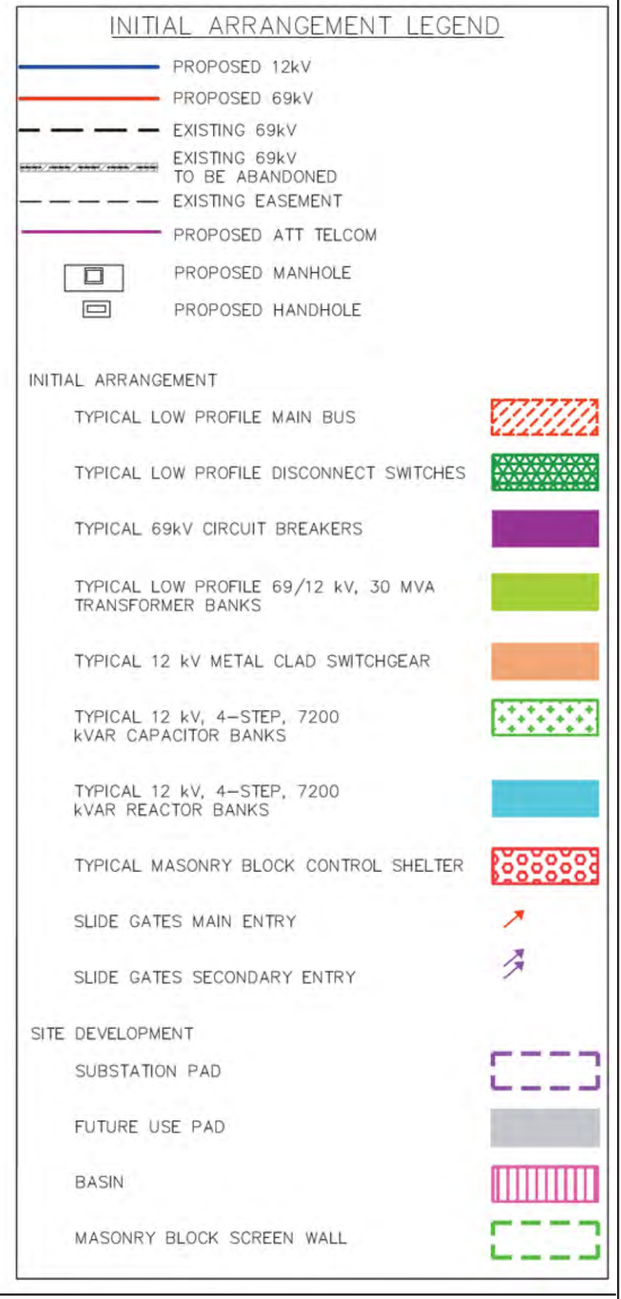
Proposed Features

- 69 kV Substation
- 69 kV Underground Tie Line

Figure 4-4

Ultimate Configuration of Substations



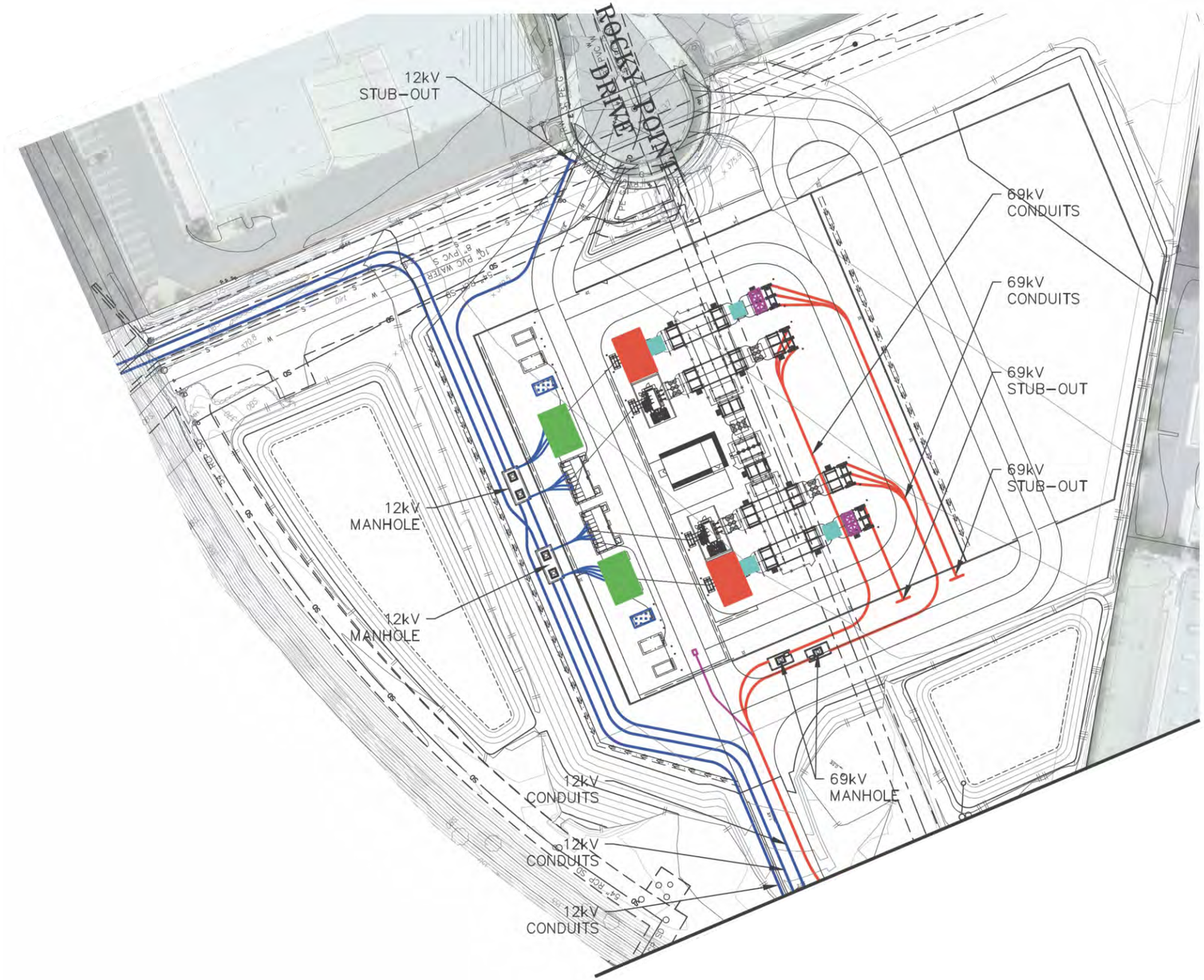


Source: SDG&E, 2016b.

0 40 80 Feet

Figure 4-5

Initial Layout of Ocean Ranch Substation



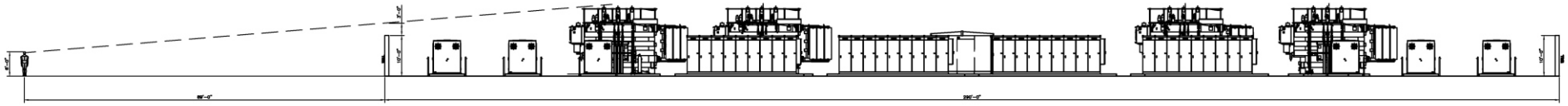
Source: SDG&E, 2016b.

0 40 80 Feet

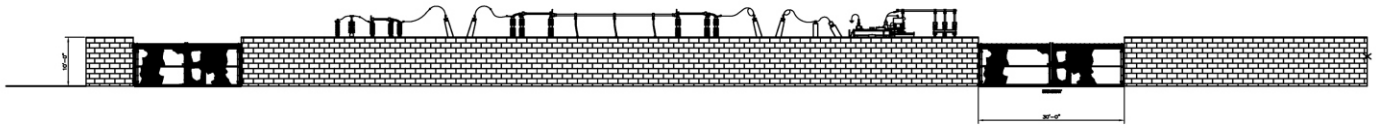
Figure 4-6

Ultimate Layout of Ocean Ranch Substation

View Looking East (without wall built)



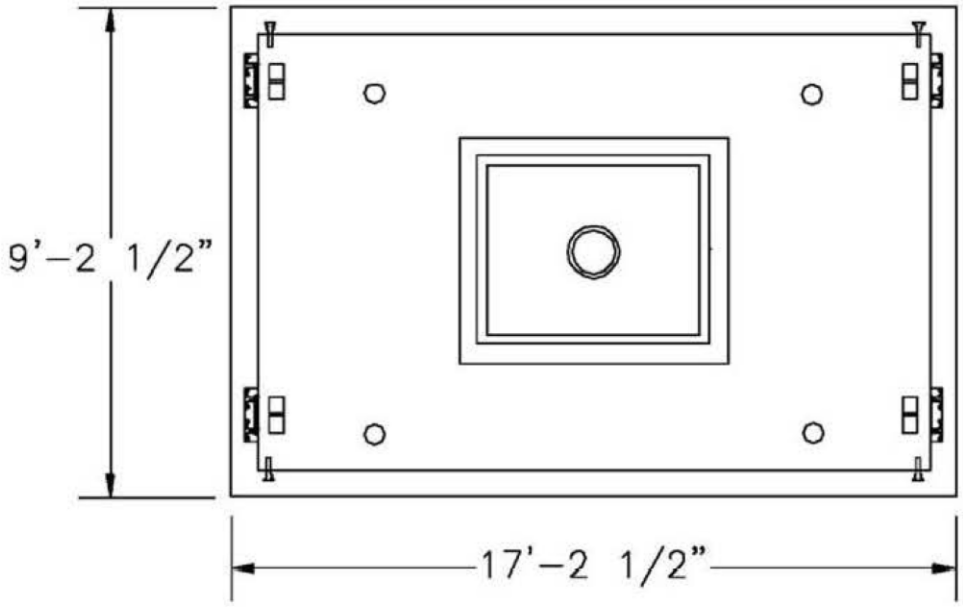
View Looking South from Rocky Point Drive (with wall built)



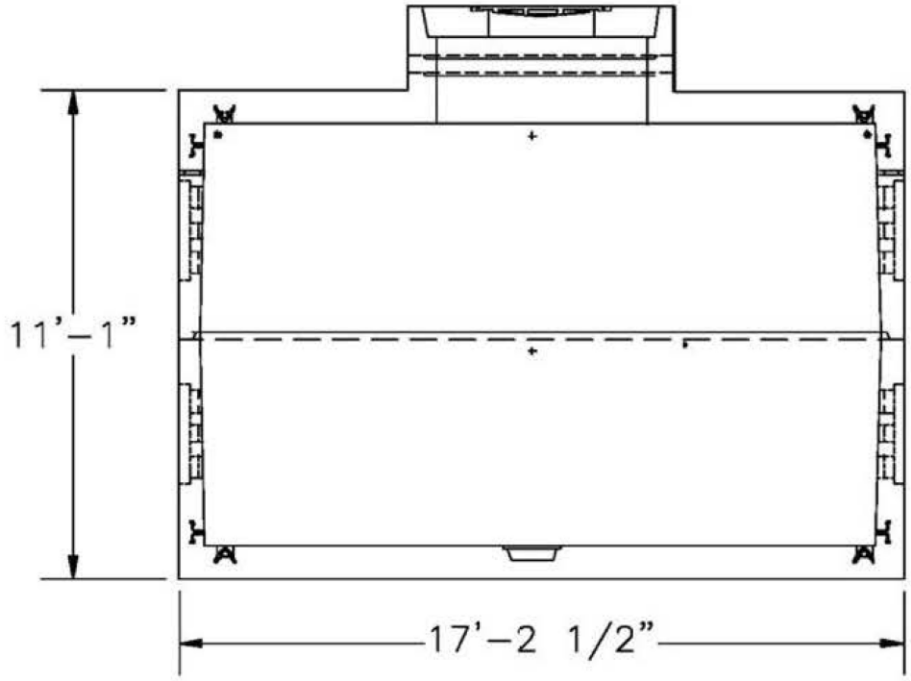
Source: SDG&E, 2016b.

Figure 4-7

Low-Profile Substation



PLAN

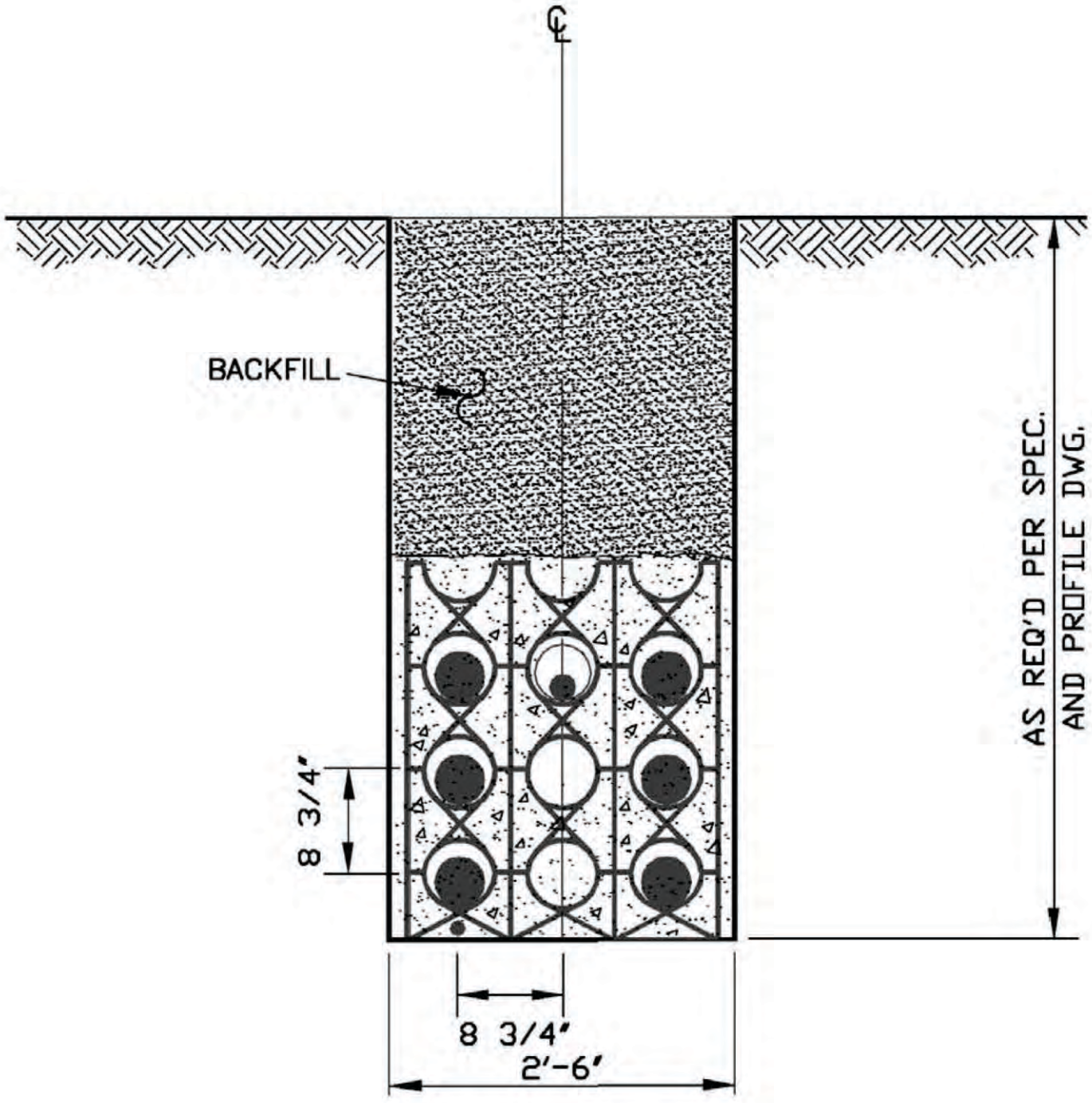


ELEVATION

Source: SDG&E, 2016a.

Figure 4-8

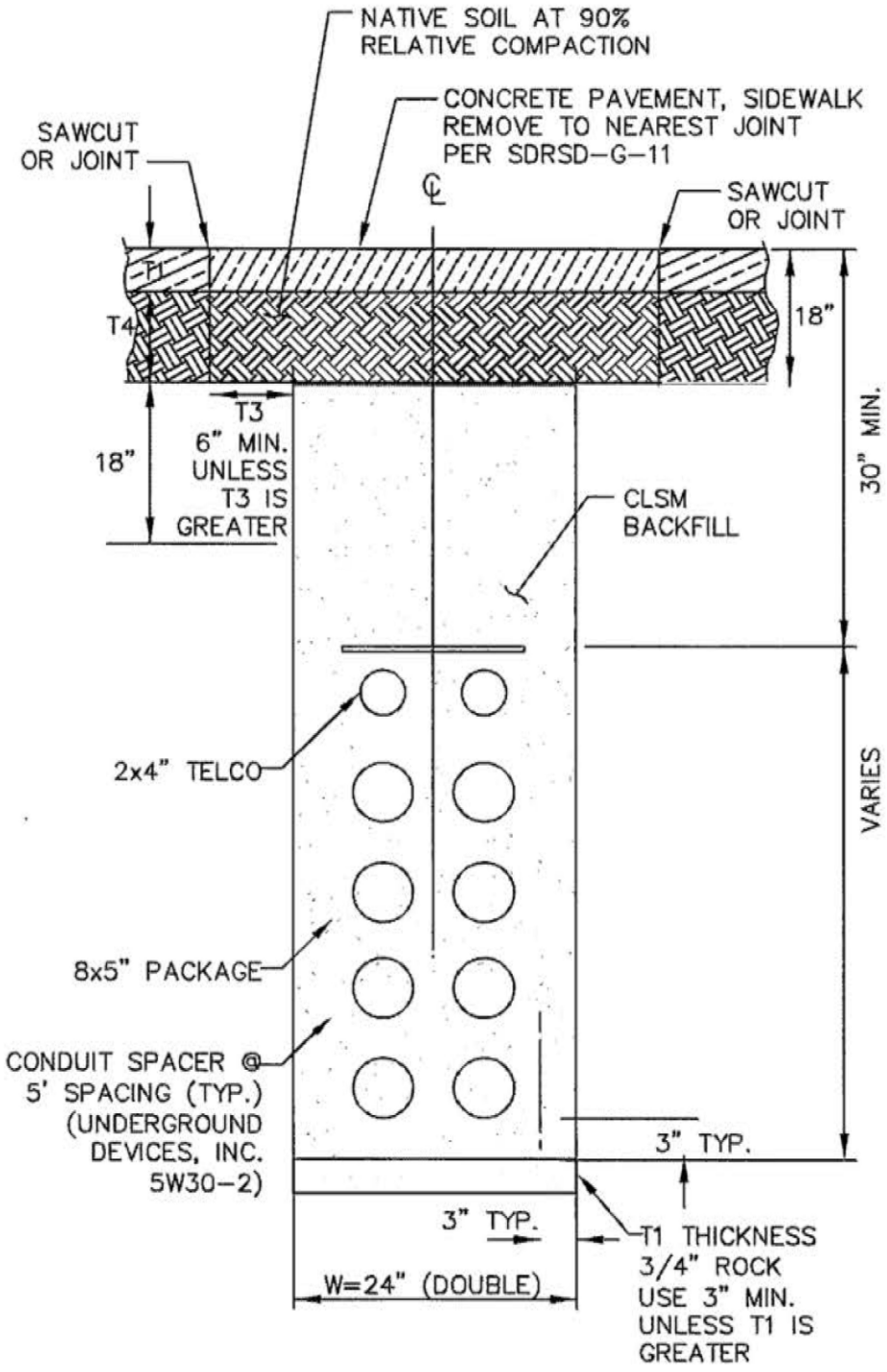
Typical 69 kV Underground Vault



Source: SDG&E, 2016a.

Figure 4-9

Typical 69 kV Underground Duct Bank



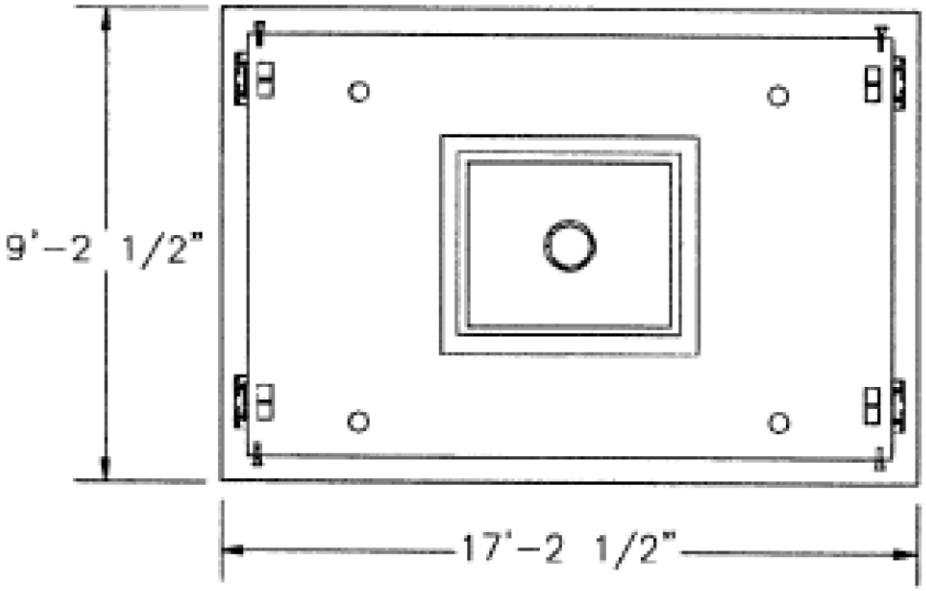
DETAIL O

ASPHALT THICKNESS ENCOUNTERED IN THE
POTHOLING VARIED BETWEEN x & x" THICK,
UNDERLYING CONCRETE FOUND APPROXIMATELY x & x" THICK.

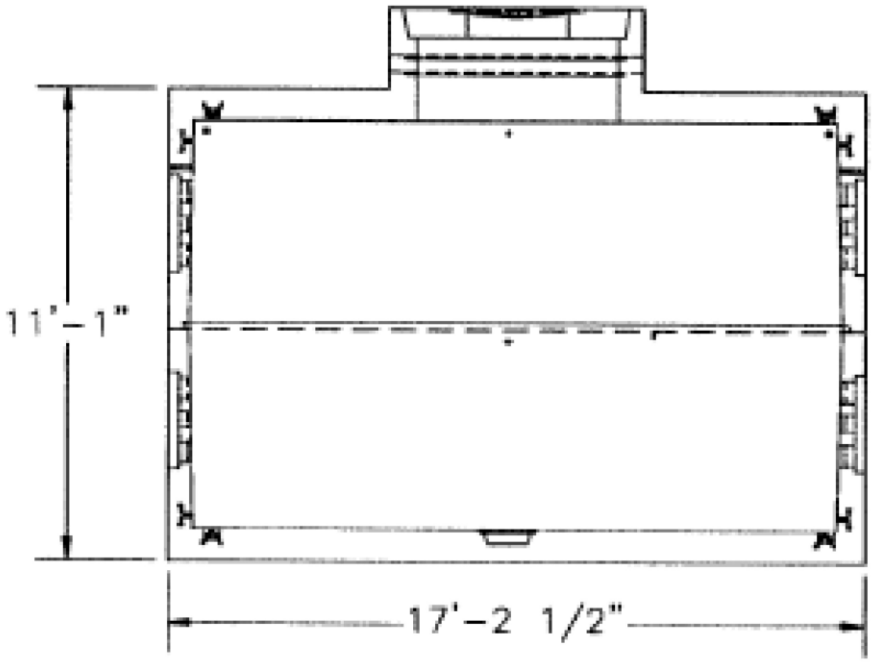
Source: SDG&E, 2016a.

Figure 4-10

Typical 12 kV Underground Duct Bank



PLAN

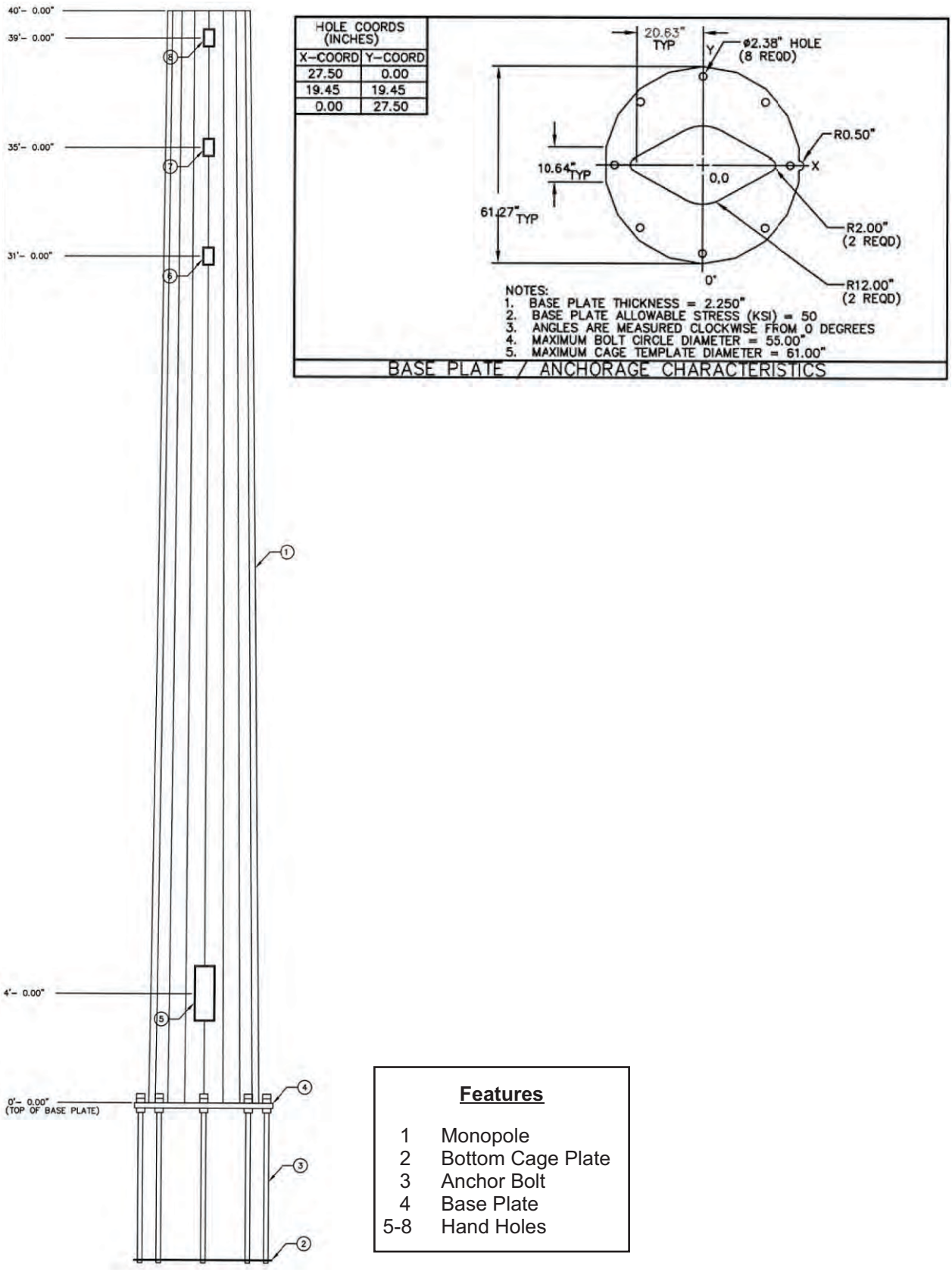


ELEVATION

Source: SDG&E, 2016a.

Figure 4-11

Typical 12 kV Underground Manhole



Features

1	Monopole
2	Bottom Cage Plate
3	Anchor Bolt
4	Base Plate
5-8	Hand Holes

Source: SDG&E, 2016b.

Figure 4-12

Typical Telecommunication Monopole

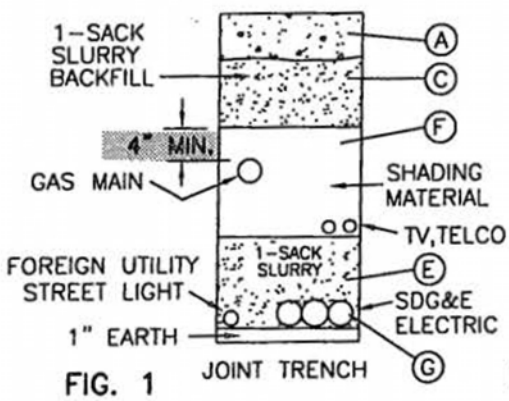


FIG. 1

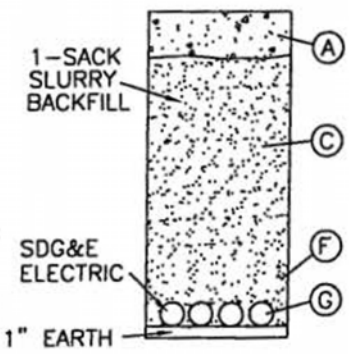


FIG. 2 ELECTRIC ONLY

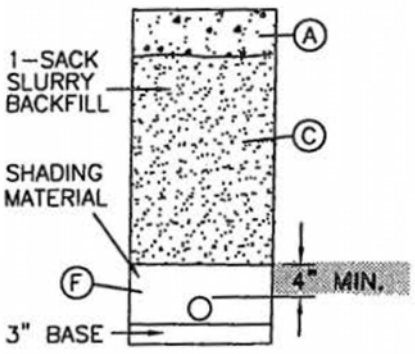


FIG. 3 SINGLE GAS ONLY

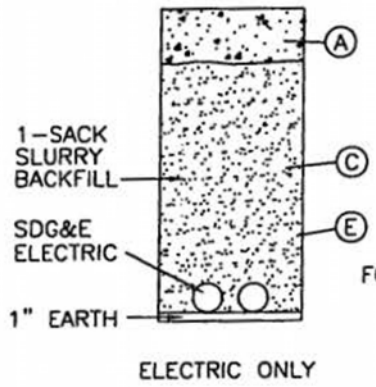


FIG. 4

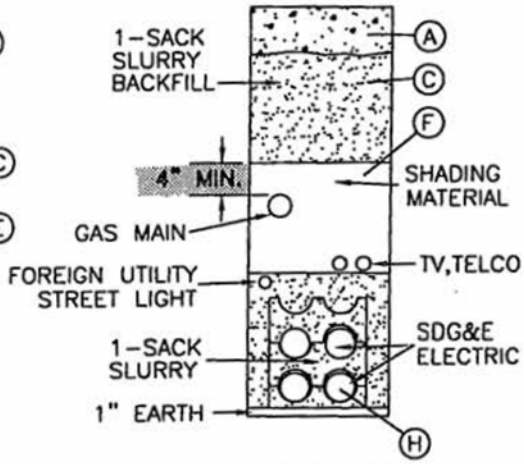


FIG. 5 JOINT TRENCH

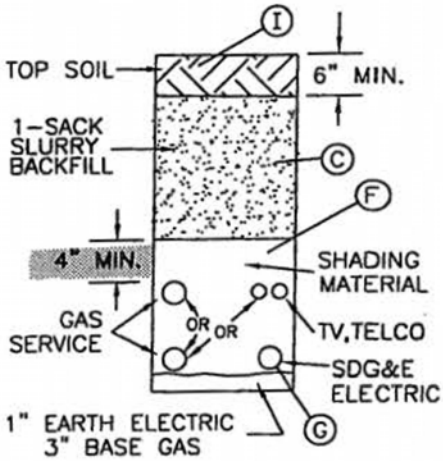


FIG. 6 SERVICE TRENCH ON PRIVATE PROPERTY

INSTALLATION:

(A) ALL TRENCH RESURFACING SHALL BE DONE ACCORDING TO GOVERNMENTAL AGENCIES REQUIREMENTS.

B. SHADING MATERIAL SHALL MEET GAS STANDARD 7405 OR UNDERGROUND 3370/3371 SPECIFICATIONS AND MUST BE APPROVED BY AN SDG&E AUTHORIZED INSPECTOR.

(C) BACKFILL MATERIAL SHALL MEET THE GOVERNMENTAL (PERMITTING) AGENCIES REQUIREMENTS AND SDG&E STANDARDS. THE SAND USED FOR THE ONE SACK SLURRY OR TWO SACK, IF REQUIRED BY GOVERNMENTAL AGENCIES, MUST MEET THE CONCRETE SAND SPECIFICATION LISTED IN THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (GREEN BOOK) AND CONTAIN NO GRAVEL. SLURRY MUST BE FIRM BEFORE A PAVEMENT CONCRETE CAP IS INSTALLED. SLURRY IS TYPICALLY USED FOR BACKFILLING AROUND SUBSTRUCTURES, UNDER EQUIPMENT PADS, FOR TRENCHES IN EXISTING PAVED AREAS, AND UNDER CONCRETE OR PAVED DRIVEWAYS.

IT MAY NOT BE APPROPRIATE TO USE ONE SACK SLURRY UNDER THE THE FOLLOWING CIRCUMSTANCES:

- GOVERNMENTAL AGENCIES DO NOT ALLOW ONE SACK OR MAY REQUIRE TWO SACK SLURRY BACKFILL.
- INACCESSABILITY OF CONCRETE TRUCKS DELIVERING SLURRY.
- WHEN SLURRY IS NOT COST EFFECTIVE.
- NEW RESIDENTIAL SUBDIVISIONS, SINGLE FAMILY RESIDENCE SERVICE TRENCH
- SHALLOW WELD HOLES, POT HOLES, ETC.

Source: SDG&E, 2016a.

Figure 4-13

Typical Underground Duct Package

Source: SDG&E, 2016a.

0 125 250 500 Feet

Legend

Existing Material Storage Yard

Kearny

Figure 4-14

Kearny Construction and Operations Center

Source: SDG&E, 2016a.

0 125 250 500 Feet

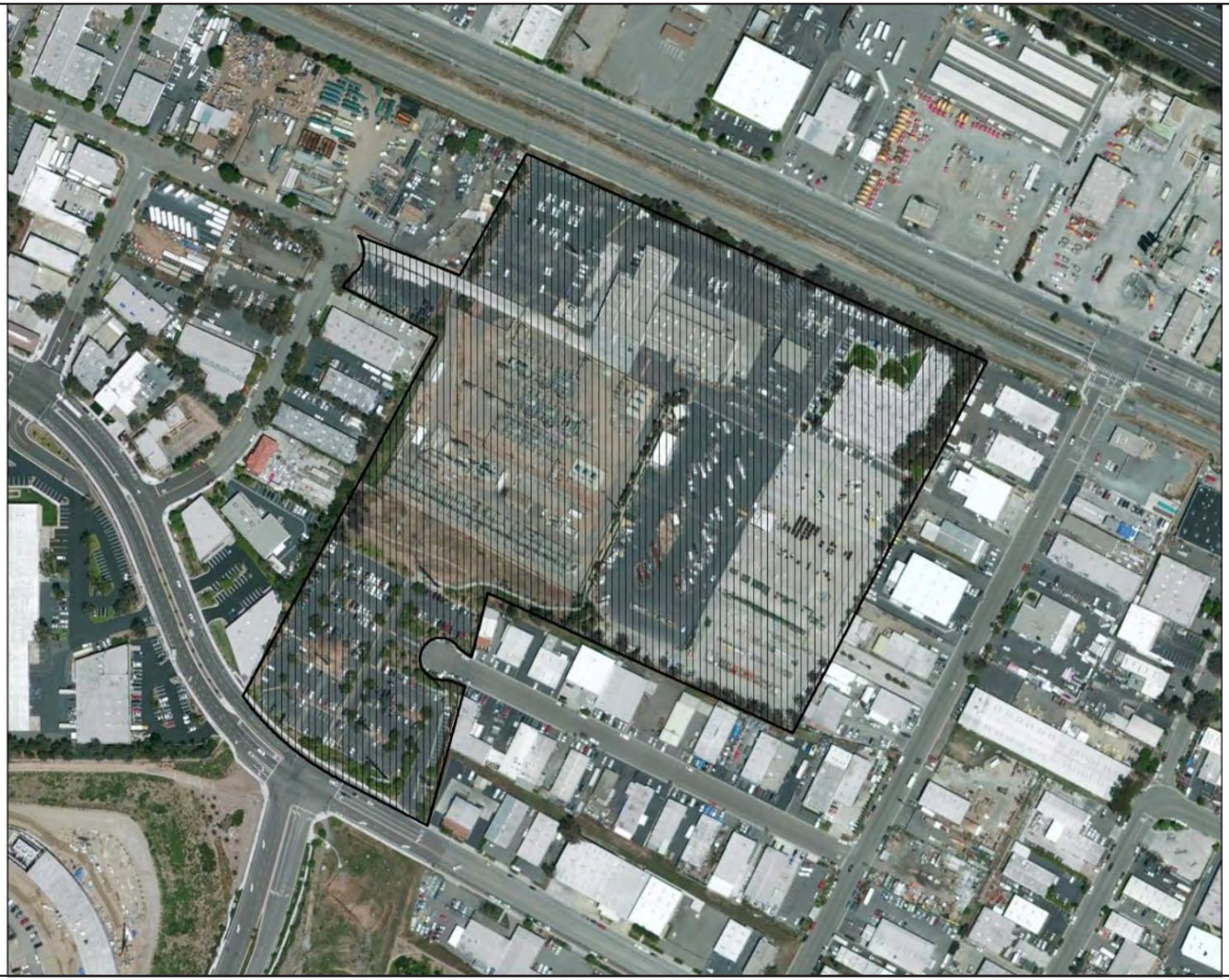
Legend

Existing Material Storage Yard

North Coast

Figure 4-15

North Coast Construction and Operations Center



Source: SDG&E, 2016a.

0 125 250 500 Feet

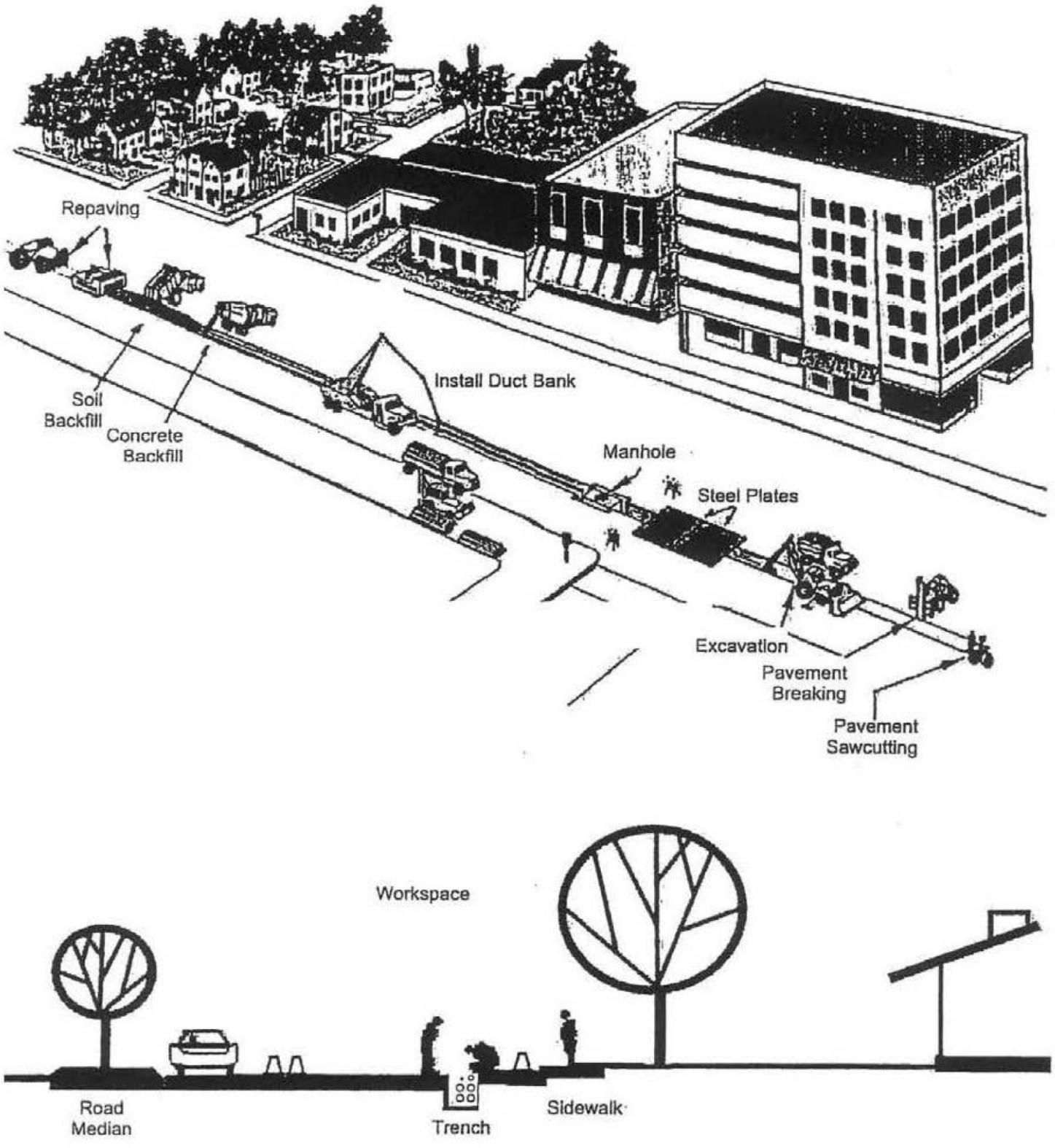
Legend

Existing Material Storage Yard

Northeast

Figure 4-16

Northeast Construction and Operations Center



Source: SDG&E, 2016a.

Figure 4-17

Typical Underground Construction Process within Roadways

Attachment B

Minor Project Change Form

ENVIRONMENTAL MINOR PROJECT CHANGE FORM

Project Name: _____ Request Prepared By: _____

Date Approval Required: _____ Variance Request No: _____

Date Submitted: _____ Location: _____

Landowner: _____ Landowner Parcel Number: _____

Current Vegetative Cover/Land Use: _____

Existing Sensitive Resource? ☐ NO ☐ YES Specify: _____

Modifying (Check as many as apply): ☐ MITIGATION MEASURE ☐ PLAN /PROCEDURE ☐ SPECIFICATION ☐ DRAWING ☐ PERMIT CONDITION ☐ OTHER

Specify Source (e.g., Mitigation Measure B.5): _____

Description of Change and Justification: (Attach additional sheets if needed.)

Attachments: ☐ PHOTO ☐ CONSTRUCTION DRAWING ☐ ADDITIONAL ENVIRONMENTAL ANALYSIS ☐ CORRESPONDENCE ☐ OTHER : _____

Resources:

Biological ☐ NO SENSITIVE RESOURCES PRESENT ☐ SENSITIVE RESOURCES PRESENT ☐ N/A

New Survey Report Attached: ☐ YES ☐ NO

If No, Previous Biological Survey Reference: _____

Cultural ☐ NO RESOURCES PRESENT ☐ RESOURCES PRESENT WITHIN PROJECT APE : ☐ YES ☐ NO ☐ N/A (PAVED /GRAVEL AREA AND NO GROUND DISTURBANCE)

If in APE, Previous Cultural Survey Report Reference: _____

If not in APE, attach new survey report.

Other Potential Impacts: (Check any potential changes to permitted impacts and provide details below. Attach additional sheets if needed.)

- ☐ AIR QUALITY
- ☐ BIOLOGICAL RESOURCES
- ☐ CONTAMINATED SOILS
- ☐ CULTURAL RESOURCES
- ☐ HAZARDOUS MATERIALS
- ☐ LAND USE
- ☐ NOISE
- ☐ PALEO RESOURCES
- ☐ SOCIOECONOMIC
- ☐ STORM WATER (SWPPP)
- ☐ TRAFFIC
- ☐ VISUAL
- ☐ WATER RESOURCES
- ☐ WETLANDS

CEQA and Permitting: (Provide details for any "Yes" answer and attach additional information if needed.)

1. Will modification involve substantial changes that will require major changes to the CEQA document? ☐ YES ☐ NO

2. Will modification result in new significant environmental effects or a substantial increase in the severity of previously identified impacts? ☐ YES ☐ NO

3. Additional agency notifications and/or permit modifications required? ☐ YES ☐ NO

Conditions of Approval or Reasons for Denial: (Attach additional information if needed.)

SDG&E Required Signatures: (Attached email approvals may be used in lieu of signatures.)

SDG&E Chief Construction Inspector or Foreman: ☐ VARIANCE MODIFICATION IS NEEDED FOR SAFE AND EFFICIENT CONSTRUCTION

Name: _____ Signature: _____ Date: _____

Environmental Inspector: ☐ FIELD REVIEW COMPLETE

Name: _____ Signature: _____ Date: _____

SDG&E Land Agent: ☐ CONSISTENT WITH EXISTING RIGHTS ☐ NEW RIGHTS OBTAINED

Name: _____ Signature: _____ Date: _____

SDG&E Environmental Compliance Lead: ☐ APPROVED ☐ APPROVED WITH CONDITIONS (SEE CONDITIONS ABOVE) ☐ DENIED

Name: _____ Signature: _____ Date: _____

Attachment C

Temporary Extra Workspace Form

ATTACHMENT C

TEMPORARY EXTRA WORK SPACE (TEWS) REQUEST

Project Name

TEWS Location/Address City/County

Proposed Use of Site

Proposed Date(s) of Use Proposed Hours of Use

Adjacent Land Uses

SDG&E Environmental Compliance Lead (Prepared by) Date

Biological, Cultural and Paleontological reconnaissance surveys are mandatory for use of any areas containing vegetation, or exposed earth that have not been previously surveyed and fully described in project documents. Biological surveys are mandatory for all temporary extra work sites. Attach a diagram of the proposed area that identifies the location of the site and proximity to sensitive resources or receptors.

Complete the environmental checklist below. Note: **Yes** answers require additional clarification and should be submitted as an attachment to this form.

ATTACHMENT C

TEMPORARY EXTRA WORK SPACE (TEWS) REQUEST

Environmental Checklist	Yes*	No	CPUC Verified
Air Quality: Would equipment be on site or idled for more than 10 minutes? Would there be dust-producing activities?			
Biological Resources: Would use of the site result in potential impacts to sensitive biological resources? Would use of the site result in potential for the spread of noxious weeds?			
Cultural/Paleontological Resources: Would clearing or grading be required?			
Water Resources: Would runoff from the site flow into storm drains or a waterway? Would equipment refueling or maintenance be performed? Would materials block/impact storm drains or gutters?			
Land Use and Recreation: Would use of site block access to local land uses and recreational areas?			
Noise: Are noise-sensitive receptors adjacent to the site? (e.g., homes, schools, care facilities, hospitals, churches convalescent homes, parks, recreational areas)			
Socioeconomics: Would access to business be blocked? Would there be disruption of business operations?			
Traffic: Would parking be eliminated? Would increased construction traffic result in impacts? Is the site a residential area?			
Visual: Would lights at site create glare for adjacent land uses (including roadways)?			

Standard Conditions of Approval

- The CPUC, via its designated Environmental Monitor, will review and approve/deny the Temporary Extra Workspace Request (TEWS) request within four business days of receiving this completed form.
- Use of TEWS is limited to 60 days. First proposed date of use: _____
- Use of TEWS shall be in compliance with local ordinances (including traffic/noise) and mitigation measures.
- If any signs of cultural resources are identified, work shall cease immediately and the site shall be reevaluated.
- The proposed site shall not be used for storage of fuel or hazardous materials.
- All drips, leaks, and/or spills from vehicles and/or equipment shall be cleaned-up immediately and disposed of in appropriate, labeled containers.
- Adjacent streets shall be swept or cleaned with water at the end of each workday if visible soil material is carried on them.
- No parking or storage of vehicles (including personnel vehicles), equipment, pipe, or any other project-related item shall be allowed on adjacent roadways.
- If a complaint is received, it shall be forwarded to the SDG&E Environmental Compliance Lead and the CPUC Environmental Monitor for review.

The following signatures indicate that the proposed site is approved for TEWS. On a random basis, a CPUC Environmental Monitor will verify that use of the proposed site is in accordance with the conditions noted. This approval may be revoked at any time by any one of the approval team. Failure to comply with all conditions will result in immediate revocation of this TEWS approval.

Property Owner Date

SDG&E Construction Date

SDG&E Environmental Compliance Lead Date

The above TEWS request and attached documentation have been reviewed and this request is ____ approved or ____denied (*X one*).

CPUC Environmental Monitor Date

Additional CPUC Conditions of Approval

(CPUC Monitor Initial _____)

REASON(S) FOR DENIAL: