Pacific Gas & Electric Company's

Windsor Substation Project

Mitigation Monitoring, Compliance, and Reporting Program

FINAL REPORT

Prepared for
California Public Utilities Commission

Prepared by
Aspen Environmental Group

June 2018

Contents

Tables

Figures

1. Introduction and Project Overview

This Final Construction Completion Report has been prepared to summarize the construction and monitoring activities conducted for the Pacific Gas and Electric (PG&E) Company's Windsor Substation Project. The Windsor Substation Project included the construction, operation, and maintenance of a new three-bank 115/12 kV distribution Substation on 2.6 acres of a 4.1-acre property and reconductoring of nearby distribution lines in the town of Windsor, Sonoma County, California (see Figures 1 and 2). The California Public Utilities Commission (CPUC), as the Lead Agency for the project, conducted the environmental review process and granted final approval of the Project. The CPUC issued a Certificate of Public Convenience and Necessity (CPCN) and certified the Final Mitigated Negative Declaration (MND) on April 3, 2014 (Decision D.14-03-031), and a Notice or Determination was submitted to the State Clearinghouse (SCH #2013072033). The MND was prepared by Aspen Environmental Group under contract to the CPUC in accordance with the California Environmental Quality Act (CEQA) to inform the public and to meet the needs of local, State, and federal permitting agencies in considering the project proposed by PG&E. Aspen Environmental Group implemented the Mitigation Monitoring, Compliance, and Reporting Program (MMCRP) to ensure compliance with the Project mitigation measures, compliance plans, and permit conditions during all phases of construction.

Chapter 1, Introduction and Project Overview, provides a brief overview of the Windsor Substation Project and project approvals granted by the CPUC. In addition, Chapter 1 outlines the role and responsibility undertaken by Aspen Environmental Group as the mitigation monitoring team, including preconstruction compliance review. The methods established for addressing non-compliance issues, changes in the project description or mitigation implementation, and extra workspace requirements are also discussed.

The Windsor Substation Project was construction in two phases, as described in Chapters 2 and 3:

1. Site preparation and construction of the Windsor Substation (see Chapter 2);
2. Rebuild of a segment of the Fulton No. 1 power line to hold a new double-circuit 12 kV distribution line underbuild, and reconductoring of an existing distribution line along Old Redwood Highway (see Chapter 3);

Chapter 4 discusses the work that remains for the project.

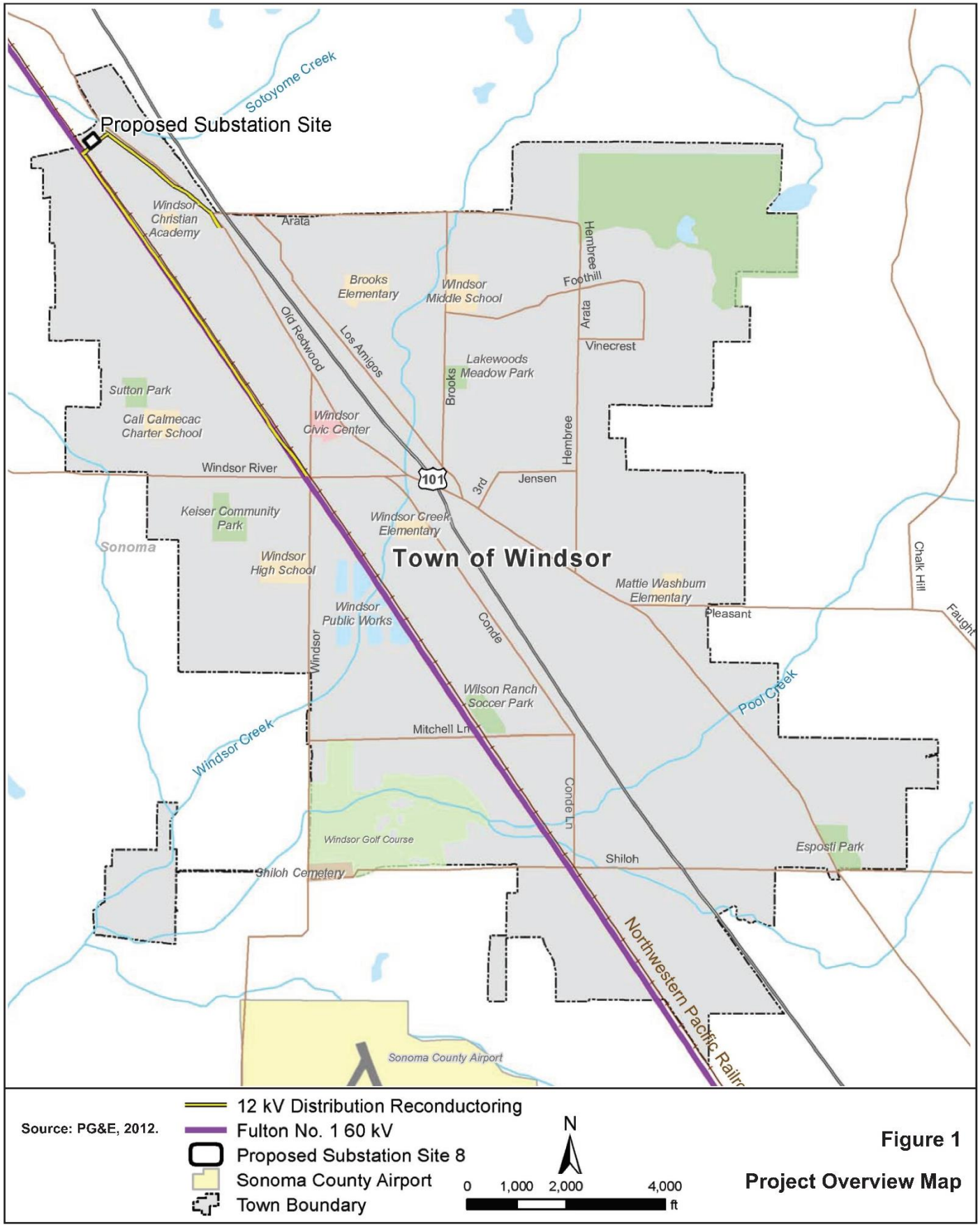
Mainline construction of the Windsor Substation Project took place between November 2016 and May 2018, with full energization on December 20, 2017.

1.1 Overview of the Windsor Substation Project

PG&E constructed and will operate and maintain the Substation, and related facilities listed below, known as the Windsor Substation Project. PG&E's project objectives included meeting immediate capacity needs of customers, meeting long-term capacity needs, maximizing system efficiency and increasing future flexibility by construction of a new distribution Substation near load growth.

The Windsor Substation Project consists of:

- Connecting the new Substation to the existing nearby Fulton No. 1 60 kV transmission line (via a 270-foot 60 kV power line loop);
- Installing underground distribution line vaults and conduits for current and future use;
- Installing 3 underground 12 kV circuits initially, with up to 9 additional circuits to be installed in the future as needed;



Source: PG&E, 2012.

Figure 1

Project Overview Map

Figure 2

Windsor Three-Bank 115/12 Kilovolt (kV) Distribution Project

This page intentionally blank.

- Installing 700 feet (0.1 mile) of new underground distribution line;
- Rebuilding approximately 7,900 feet (1.5 miles) of the existing Fulton No. 1 60 kV Power Line to hold a new double-circuit 12 kV distribution line underneath existing higher voltage lines (underbuild); and
- Replacing conductors (reconductoring) on approximately 3,352 feet (0.63 miles) of existing overhead and underground single-circuit distribution line with 12 kV double-circuit conductor along Old Redwood Highway.

1.2 Role of Aspen Monitoring Team

The Aspen Monitoring Team was composed of the Monitoring Manager (Vida Strong), MND Project Manager (Fritts Golden), and Environmental Monitor (Jody Fessler).

Aspen's Monitoring Manager, Vida Strong, supervised Aspen's Environmental Monitor, determined the appropriate inspection frequency, and was responsible for weekly report preparation. The Monitoring Manager also served as the main point of contact with the CPUC Project Manager (CPUC PM) for major compliance matters.

Aspen's MND Project Manager, Fritts Golden, provided historical context on possible impacts identified in the MND.

Aspen's CPUC Environmental Monitor (CPUC EM), Jody Fessler, conducted the day-to-day monitoring and was the primary point of contact with in-field agency and Project personnel. The CPUC EM stayed apprised of construction activities and schedule changes and monitored construction activities for compliance with approved project mitigation measures, APMs, compliance plans, and permit conditions. The CPUC EM documented compliance through daily logs and provided input for the weekly reports. The CPUC EM noted any issues or problems with implementation of mitigation/APM/permit conditions, notified the appropriate designated project members, and reported problems to the Aspen Monitoring Manager. All other issues were brought to the attention of the PG&E field representatives to address appropriately.

1.3 Pre- and During-construction Compliance

The MMCRP was developed between the CPUC, Aspen, and PG&E, which provides guidelines and procedures for environmental compliance on the Project. Several specific compliance plans and reports were submitted to satisfy federal and State agency requirements, including:

- Worker Environmental Awareness Program Materials
- Hazardous Substance Control and Emergency Response Plan
- Spill Prevention Control and Countermeasure Plans
- Storm Water Pollution Prevention Plan (SWPPP)
- Construction Site Monitoring Program (CSMP)
- Landscaping Plan
- Vernal Pool Restoration Plan
- Sensitive Biological Habitat Survey Reports
- Bird Nesting Survey Reports
- Special-status Bat Survey Reports

These compliance plans were reviewed by Aspen prior to the start of construction to ensure that appropriate environmental protection would take place. In addition, Aspen tracked the necessary permitting requirements to ensure that all the applicable agency permits and approvals had been issued prior to construction. Permits and approvals issued for the project included:

Federal and State

- CPUC – MND Certification; Certificate of Public Convenience and Necessity; Notices to Proceed
- Regional Water Quality Control Board (RWQCB), North Coast Region – National Pollution Discharge Elimination System NOI, General Construction Storm Water Pollution Prevention Plan (SWPPP)
- RWQCB, North Coast Region – Spill Prevention Control and Countermeasure (SPCC) for mineral oil in transformers. Clean Water Act Section 401 Permits.

Regional and Local

- Town of Windsor: Demolition, Building, Grading, and Encroachment Permits

Mitigation Measures and Applicant Proposed Measures (APMs) were included in the MND to reduce impacts to less than significant levels in the areas of aesthetics, air quality, biological resources, cultural resources, paleontological resources, hazardous materials, hydrology and water quality, sensitive land uses, noise, and traffic. As part of PG&E's Environmental Compliance Management Plan, and a requirement of the MND, all employees working on the Project were required to attend a Worker Environmental Training Program (WEAP) before they could begin work. PG&E's environmental and safety representatives presented the training sessions, which covered environmental, biological resources, cultural resources issues, water quality protection, hazardous materials handling, emergency response, State and federal laws, and reporting procedures, as described below.

Aesthetics. The Substation site is at the northern gateway to the Town of Windsor. Landscaping comprised of trees and shrubs was required along Herb Road and along the east edge of the Substation site in the setback area from Old Redwood Highway. The landscaping will help screen the Substation wall and site from the road and rural residents on Herb Road. A Landscape Plan was submitted and approved by the CPUC.

Air Quality. PG&E was required to post publicly visible signs at the Substation site and along the distribution and reconductoring right-of-way with telephone number and person to contact at PG&E regarding dust complaints, as well as the Northern Sonoma County Air Pollution District phone number (see Figure 3). PG&E was required to respond to complaints and take corrective action within 48 hours. PG&E was also to report to the CPUC within one week regarding complaints and corrective action taken.

Biological Resources. The Windsor Substation site is relatively flat and was dominated by concrete foundations, asphalt, and gravel (see Figure 4). The western and southern portions of the site contain ruderal/disturbed vegetation. There are mature trees along the northern, southern, and western property lines. There is a seasonal swale along parts of the southern and western boundaries, which was protected by silt fence and Environmentally Sensitive Area (ESA) fencing during construction (see Figure 5); and a small drainage ditch and two inlets along the northern boundary (see Figure 6), which was protected by sandbags and fiber rolls. There is also a roadside ditch at the eastern edge of the property along Old Redwood Highway. Some tree trimming and removal was conducted within the Substation site and around the perimeter of the site.

Figure 3. Public notice of Project and contact info for construction or dust complaints, view west, April 20, 2017

Figure 4. Demo of concrete pad at Substation site, view south, November 28, 2016

Figure 5. Silt fence-ESA fence installed on west and south sides, view south, November 28, 2016

Figure 6. Drainage inlets on north side of site, view west, December 9, 2016

Habitat along the Fulton No. 1 60 kV Power Line is a mosaic of natural habitats, such as annual grasslands, wetlands, and oak woodlands; rural, medium-, and high-density residential areas, livestock areas, public roadways, and other developed/disturbed areas. The property directly west of the Substation site is where a tubular steel pole (TSP), three replacement poles, and an access road were located (see Figure 7). This area contains mostly annual grassland, along with some oak woodland, as well as a seasonal swale and three vernal pools along the southern border. Directly south of this vacant property is a parcel that is part of the proposed Kerry Conservation Site, which is a mitigation area in the Santa Rosa Plan Conservation Strategy (see Figure 8). The California Department of Fish and Wildlife (CDFW) intends for this parcel to serve as a special-status plant mitigation area, as it contains vernal pools and fairly dense oak woodland. South of the Kerry Conservation Site is another parcel which contains vernal pools where one pole was replaced. At the pole replacement locations that were located near vernal pool habitat (Poles a7, a8, and a10), avoidance measures were required which included only working between June 15 and September 30 when the pools are dry and the special-status plant species have completed their entire lifecycle for the year (i.e., seeds have set). Also, a qualified biologist (approved by the CPUC) was required to be present during all construction activities within the vicinity of these three locations. An additional

Figure 7. TSP installation on property west of Substation site, view east, December 13, 2017

Figure 8. Kerry Conservation Site, view west, May 4, 2017

avoidance measure was required at Pole a10 replacement, which was located immediately adjacent to a vernal pool and included: (1) Filling of the exposed hole from the removed pole with a clay material that supports vernal pool re-establishment; and (2) Installation of the new pole as far outside the vernal pool area as feasible (see Figures 9 through 11).

Figure 9. Pole a10 adjacent to vernal pool, view southwest, May 4, 2017

Figure 10. Pole a10 new location away from vernal pool, view southwest, May 4, 2018

Figure 11. Location where Pole a10 was removed from adjacent vernal pool, view northwest, May 4, 2018

The area along the Old Redwood Highway 12 kV distribution line between the Substation and just south of Arata Lane is a mix of light industrial, commercial, and residential, with a few vacant lots. Habitat along this alignment includes ruderal, grassland, and developed areas (see Figure 12). The line spans and or is adjacent to numerous roadside ditches, several drainage ditches and swales, and Starr Creek.

Figure 12. Old Redwood Highway reconductoring alignment, view south, July 6, 2017

There were 14 special-status plant species with high or moderate potential to be present in the Project area, including: Sonoma alopecurus (*Alopecurus aequalis* var. *sonomensis*), Sonoma sunshine (*Blemnosperma bakeri*), vine hill clarkia (*Clarkia imbricata*), dwarf downingia (*Downingia pusilla*), fragrant fritillary (*Fritillaria lilacea*), pale yellow hayfield tarplant (*Hemizonia congesta* ssp. *congesta*), thin-lobed horkelia (*Horkelia tenuiloba*), Burke's goldfields (*Lasthenia burkei*), Pitkin marsh lily (*Lilium pardalinum* ssp. *pitkinense*), Sebastopol meadowfoam (*Limnanthes vinculans*), marsh microseris (*Microseris paludosa*), robust monardella (*Monardella villosa* ssp. *globosa*), Baker's navarretia (*Navarretia leucocephala* ssp. *bakeri*), and two-fork clover (*Trifolium amoenum*). No special-status plants were observed within the Project disturbance areas. Most of the special-status plants were associated with vernal pool habitat, which was avoided by Project construction.

There were nine special-status wildlife species with a high or moderate potential to be present in the Project area, including: Northwestern pond turtle (*Actinemys marmorata marmorata*), Cooper's hawk (*Accipiter cooperii*), great blue heron (*Ardea herodias*), long-eared owl (*Asio otus*), Northern harrier (*Circus cyaneus*), white-tailed kite (*Elanus leucurus*), loggerhead shrike (*Lanius ludovicianus*), purple martin (*Progne subis*), and Western red bat (*Lasiurus blossevillii*). No special-status wildlife were observed within the Project site. Cooper's hawk, red-tailed hawk (*Buteo jamaicensis*), and a peregrine falcon (*Falco peregrinus*) were observed flying over the Substation site and red-shouldered hawks nested near the Project area.

Multiple bird nests were found near the Project area and nest buffer reduction requests were sent to the CPUC and CDFW for review and approval. No nest failures occurred due to project activities.

Cultural Resources. The records search for prehistoric resources did not return any finds near the Windsor Substation site or along the Fulton No. 1 60 kV Power Line or Old Redwood Highway distribution line. Historic resources have been documented near the Project site and include the Northwest Pacific Railroad and associated features (recommended as ineligible for listing in the NRHP and CRHR), the Fulton No. 1 60 kV Power Line (rebuilt in 2009), Old Redwood Highway (continuously used and frequently upgraded), and other historic structures that were avoided. Prior to the initiation of construction or ground-disturbing activities, as part of the Worker Environmental Awareness Program (WEAP), PG&E trained all construction personnel to understand the potential for exposing subsurface cultural resources and to recognize possible buried cultural resources. Training informed all construction personnel of the anticipated procedures that would be followed upon the discovery or suspected discovery of archaeological materials, including Native American remains and their treatment. As discussed by APM CU-3, in the event human remains were encountered during the project, work in the immediate area of the find would be halted and the County Coroner would be notified immediately. Work would remain suspended until the Coroner could assess the remains. In the event the remains were determined to be prehistoric in origin, the Coroner

would notify the Native American Heritage Commission, who would then identify a Most Likely Descendent. The Most Likely Descendent would consult with PG&E's archaeologist to determine further treatment of the remains. No cultural resources were encountered during the Project.

Paleontological Resources. The geology in the vicinity of the Project consists largely of Halocene and Pleistocene age sedimentary and volcanic rocks. The Project is located on Quaternary sedimentary units which include alluvium, Glen Ellen, Huichica, and Sonoma Volcanics formations. The alluvial sediments were deemed unlikely to contain any significant fossil resources. The sedimentary rocks of the Glen Ellen and Huichica formations have not been identified as important paleontological formations. Sonoma Volcanics are typically deep below the surface, so construction activities would be unlikely to encounter this formation. The UC Museum of Paleontology (UCMP) databases of known paleontological sites in Sonoma County were reviewed by the Applicant to identify the occurrence of fossils in these formations and to determine the likelihood that paleontological resources might be encountered during excavation and grading of the Substation site. The UCMP records search indicated that there are 503 fossil locations within Sonoma County, with the closest two specimens collected from locations two to five miles west of the Project Substation site. Most previously identified fossils within Sonoma County were found in the Wilson Grove and Petaluma formations. These formations are unlikely to be encountered during Project construction. No fossils were encountered during the Project.

Hazards and Hazardous Materials. A Hazardous Substance Control and Emergency Response Plan was submitted with Notice to Procced (NTP) Request #1, which was reviewed and approved by the CPUC on June 8, 2016. The plan prescribed hazardous material handling procedures to reduce the potential for a spill during construction or exposure of the workers or public to a hazardous material. The plan provided a discussion of appropriate response actions in the event that hazardous materials were released or encountered during field activities. The WEAP communicated environmental concerns and appropriate work practices to all construction field personnel. The training program emphasized site-specific physical conditions to improve hazard prevention and included a review of the Hazardous Substances Control and Emergency Response Plan and SWPPP. As required by Mitigation Measure (MM) HAZ-1, proper notification was to be made in the event of spills and if contaminated soil was encountered, and PG&E was to ensure proper sampling, data review, regulatory coordination, and documentation of compliance. PG&E provided the CPUC with hazardous waste characterization trucking and landfill manifests for all soil, materials, and debris taken off site.

Hydrology and Water Quality. This Project was subject to the requirements listed in the National Pollutant Discharge Elimination System (NPDES No. CAS000002) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (General Permit), Order No. 2009-0009-DWQ2 (CGP) and was managed by the State Water Resources Control Board per the Clean Water Act (CWA) Section 402(b) and 40 CFR Part 123. PG&E prepared an Erosion and Sediment Control Plan as part of the Storm Water Pollution Prevention Plan (SWPPP). The Regional Water Quality Control Board issued a Waste Discharge Identification (WDID) number for the Project (WDID# 469458). Erosion control and pollution prevention measures in the SWPPP addressed elements such as track-out controls, stock-pile handling, dewatering discharge, drain inlet protection, and replacement of any disturbed pavement or landscaping. Rumble strips were installed at the entrances to the Substation site and roadway at the entrance gates were swept, as needed, to control track-out.

PG&E also prepared a Spill Prevention Containment and Countermeasure (SPCC) Plan, which was included with the grading permit application to the Town of Windsor. The SPCC plan included engineered methods for containing and controlling an oil release, including a water-collection system and retention ponds equipped with an oil/water separator. Oil-absorbent material, tarps, and storage drums were present on-

site to contain and control any minor releases. Prior to the start of construction, all field personnel were required to attend WEAP training, which included a review of the appropriate application and construction or erosion and sediment control measures. The WEAP also discussed appropriate hazardous materials management and spill response. No jurisdictional waters were impacted at the Substation site or along the Fulton No. 1 or Old Redwood Highway line upgrades; therefore, no additional permits were required.

Sensitive Land Uses/Noise. The Windsor Substation site is located west of Highway 101 and is bounded on the north by Herb Road, on the south by a Public Works lot, on the west by the Northwest Pacific Railroad right-of-way, and on the east by Old Redwood Highway. The adjacent parcels to the north and west each contain two single-family dwelling units. One residence is located on the east side of Old Redwood Highway. The nearest homes are 60 feet north and 160 feet west of the Project Substation parcel boundary and 125 feet north and 200 feet west of the Substation fence line. The installation of the underground distribution lines from the Substation to the Fulton No. 1 60 kV line, and from the Substation to Old Redwood Highway, occurred in an area zoned Service Commercial. Installation of the overhead, double-circuit distribution line under the Fulton No. 1 Power Line primarily occurred on lands zoned Surrounding Residential, with portions of the power line being adjacent to lands zoned as Estate Residential and Planned Development to the west. Reconductoring of the distribution line along Old Redwood Highway included lands zoned as Service Commercial, Public Institutional, and Medium Density Residential. Construction notifications were provided to the public prior to the start of construction along with contact information for complaints related to construction activities. PG&E also specified construction noise reduction measures that required the contractor to ensure all equipment was in good working order, adequately muffled, and maintained in accordance with the manufacturers' recommendations. Stationary equipment was located as far as practical from sensitive noise receptors.

Traffic and Transportation. PG&E was required to coordinate in advance with emergency service providers to avoid restricting movements of emergency vehicles. Police departments, fire departments, ambulance services, and paramedic services serving the Project area were notified 30 days in advance by PG&E of the proposed locations, nature, timing, and duration of any construction activities and advised of any access restrictions that could impact their effectiveness. At locations where roads were to be temporarily blocked, work crews were ready at all times to accommodate emergency vehicles through immediately stopping work for emergency vehicle passage and/or facilitating the use of short detours and alternate routes in conjunction with local agencies. PG&E was also required to consult with Sonoma County Transit District at least one month prior to construction to reduce potential interruption of bus transit services. Additionally, PG&E obtained approval from Sonoma Marin Area Rail Transit (SMART) to encroach on the railroad right-of-way. Documentation of coordination with emergency services providers and Sonoma County Transit District, as well as SMART approval for encroachment on the railroad right-of-way, was provided to the CPUC prior to the start of construction. Traffic warning signs for construction were staged on Old Redwood Highway at the Substation site.

1.4 Notices to Proceed

PG&E requested the CPUC issue two Notices to Proceed (NTP) authorizing the start of construction on a given portion of the Project, which included NTP #1 for the site preparation and construction of the Windsor Substation; and NTP #2 for the rebuild of a segment of the Fulton No. 1 power line to hold a new double-circuit 12 kV distribution line underbuild, and reconductoring of an existing distribution line along Old Redwood Highway.

In general, the NTP requests included 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 had been met, applied, or did not apply to the work covered by the NTP request.
- In a case where some outstanding requirements could not be met prior to issuance of the NTP, an outline of outstanding submittals and how they would be met prior to construction.
- Up-to-date resource surveys or a commitment to conduct surveys and submit results prior to construction.
- Cultural resource surveys or verification that no cultural resources would be significantly impacted.
- Copies of permits issued by other agencies, including requirements.
- Date of when construction was anticipated to begin and duration of work.

Aspen reviewed the NTP requests and the applicable pre-construction requirements to ensure that all the information required to process and approve the NTP was included. If additional information or clarification was needed, it was requested from PG&E. Aspen prepared recommended NTPs for CPUC review and issuance. NTP #1 was issued by CPUC on June 15, 2016 and NTP #2 was issued on March 30, 2017.

1.5 Minor Project Changes

The CPUC and Aspen reviewed Minor Project Change requests for consistency with CEQA requirements. Minor Project Changes are located within the geographic boundary of the project study area. Minor Project Changes do not create new or substantially more severe significant impacts, or conflict with any mitigation measure or applicable law or policy. Also, they do 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. The CPUC allowed Minor Project Change requests to be submitted by PG&E along with the NTP request for incorporation into the NTP.

Each Minor Project Change Request submitted by PG&E was first reviewed by Aspen for completeness. If incomplete, a request for information was prepared by Aspen and sent to PG&E. When complete, each request was analyzed, including field verification and resource/local agency consultation, to determine if new impacts or an increase in significant impacts would result. After analysis of the request, Aspen prepared a written recommendation of approval or denial for the CPUC. As appropriate, mitigation measures or other agency conditions were required by the CPUC to avoid, or reduce to a less than significant level, any identified impacts. The Minor Project Change Requests submitted for the PG&E Windsor Substation Project are presented in Chapters 2 and 3 and are summarized in Table 1.

Table 1. Minor Project Changes

MPC #	Date Requested	Date Issued	Phase	Description
MPC #1	5/17/16	6/15/16 Approved under NPT #1	Substation site preparation and construction	Design change to the Spill Prevention, Control, and Countermeasure (SPCC) retention pond and storm-water flow submitted with NTP Request #1.
MPC #2	5/17/16	6/15/16 Approved under NPT #1	Substation site preparation and construction	Use of water truck or Driwater pods instead of irrigation system for landscaping submitted with NTP Request #1.

Table 1. Minor Project Changes

MPC #	Date Requested	Date Issued	Phase	Description
MPC #3	5/17/16	6/15/16 Approved under NPT #1	Substation site preparation and construction	Replacement of culverts in existing roadways entering Substation site and Herb Lane submitted with NTP Request #1.
MPC #4	8/11/16	8/19/16	Substation site	Revision of the Conceptual Landscape Plan based on final design and engineering.
MPC #5	2/17/17	3/30/17 Approved under NPT #2	Reconductoring & 12 kV Line Underbuild	Use of crane staged on SMART tracks to replace certain poles along the Fulton No. 1 Power Line submitted with NTP Request #2.
MPC #6	2/17/17	3/30/17 Approved under NPT #2	Reconductoring & 12 kV Line Underbuild	Final design and engineering revision to the tubular steel pole (TSP) west of the Substation submitted with NTP Request #2.
MPC #7	2/17/17	3/30/17 Approved under NPT #2	Reconductoring & 12 kV Line Underbuild	Changes to tree trimming and removal due to construction method changes (crane use on SMART tracks) submitted with NTP Request #2.
MPC #8	2/17/17	3/30/17 Approved under NPT #2	Reconductoring & 12 kV Line Underbuild	Additional pull and tension site located on Railroad Avenue between Poles a32 and a33 submitted with NTP Request #2.
MPC #9	6/12/17	6/22/17	Reconductoring & 12 kV Line Underbuild	Reconfiguration of distribution line crossing of Old Redwood Highway and pole changes.
MPC #10	9/11/17	9/12/17	Reconductoring & 12 kV Line Underbuild	Use of additional temporary staging yard at corner of Windsor River Road and Windsor Road.
MPC #11	2/01/18	2/07/18	Reconductoring & 12 kV Line Underbuild	Increase the height of Pole a35 on the Fulton No. 1 60 kV line for clearance purposes.
MPC #12	2/13/18	2/21/18	Reconductoring & 12 kV Line Underbuild	Use of drone instead of ground equipment to facilitate installing the new distribution underbuild on the Fulton No. 1 60 kV line.

1.6 Compliance Monitoring

Compliance monitoring by the CPUC EMs is intended to chronicle and document PG&E's compliance with project mitigation measures, compliance plans, and agency permit conditions. Compliance monitoring is implemented to minimize or eliminate potential significant impacts and to protect environmental resources. A Non-Compliance is defined as "any deviation from applicable mitigation measures, applicant-proposed measures and project parameters, permit conditions or requirements, and approved plans." A Project Memorandum is a written warning of a non-compliance activity. A Non-Compliance Report is issued when chronic non-compliance activity occurs or a blatant disregard for project mitigation measures, compliance plans, or permit conditions is demonstrated. Verbal warnings are typically given prior to any written Project Memoranda or Non-Compliance Reports. The compliance record for the Windsor Substation Project is discussed in Chapters 2 and 3.

1.7 Coordination and Communications

In field communications were conducted by the CPUC EM with PG&E's Environmental Inspectors (EIs) and other Project personnel. Verbal warnings and written communications (emails and photographs) were utilized to notify PG&E and its contractors of non-compliance activities. Field observations were logged by the CPUC EM for every site visit. Monitoring reports were submitted to the CPUC documenting compliance, requested Project changes, and construction progress.

2. Substation Site Preparation & Construction (NTP #1)

2.1 Description of Substation and Site Preparation

Description of Substation

On May 17, 2016, PG&E requested authorization from the CPUC to commence with site preparation and construction of the Substation component of the Windsor Substation Project. PG&E requested that Notice to Proceed #1 (NTP #1) also include Minor Project Changes #1, #2, and 3, which are described below. On June 15, 2016, NTP #1 was issued by the CPUC for the requested Substation work.

The Windsor Substation consists of electrical equipment needed to operate the Substation, a looped transmission line into and out of the Substation, and distribution lines out of the Substation. The fenced footprint of the facility covers approximately 2.6 acres. Site access is via paved driveways to two gates on the east side of the site, from Old Redwood Highway.

Electrical equipment required for the three-bank Substation consists of the following at ultimate 115 kV build-out:

- Three 115 kV bus structures
- Six 115 kV circuit breakers
- Three 115/12 kV power transformers
- Eighteen 115 kV disconnecting switches
- Three 12 kV metal-clad switchgear enclosures
- Twelve 12 kV distribution circuits
- Three 30 MVA power transformers
- Connection of the new Substation to an existing 60 kV powerline by way of a new tubular steel pole (TSP) replacing an existing wood pole
- Two 42-foot-high dead-end structures within the Substation supporting the 60 kV powerline entering and existing the Substation

Site Preparation

NTP #1 was issued by the CPUC on June 15, 2016; however, no work activities began until late October because of the pending grading permit from the Town of Windsor. PG&E was allowed to start vegetation clearing and tree trimming prior to receiving their grading permit from the Town of Windsor. Silt fencing and ESA fencing was first installed around the wetland swales on the south and west sides of the site. Trees were also protected with ESA fencing. PG&E received the grading and building permits from the Town of Windsor on November 14, 2016, and minimal construction activities started thereafter. Tree removal and trimming was performed on November 14th and 15th. During the last week of November, PG&E's contractor, Hotline Construction, Inc. mobilized equipment to the site and began demolition and excavation of existing concrete foundations, asphalt, and remnants from structures at the site, as well as grading. Concrete and asphalt were off-hauled from the site and delivered to a designated landfill. PG&E submitted truck hauling manifests to the CPUC. Hotline attempted to stabilize the site with rock fill as much as possible. During the 2016/2017 rainy season, heavy rains and saturated conditions precluded construction activities at the Windsor Substation site for the majority of the season (see Figure 13). Stormwater accumulation and runoff to an unnamed creek, tributary to Sotoyome Creek and a tributary to the Russian River,

was a concern and two Baker tanks with secondary containment were delivered in late December to temporarily store stormwater. Frequent SWPPP inspections were conducted by PG&E's SWPPP contractor AHTNA. Construction activities started back up in April 2017. Grading activities and base rock continued to be delivered, spread, and compacted to build up the Substation pad. Kleinfelder performed compaction testing of the soil. As the days got warmer, a water truck was used for dust control and to facilitate compaction.

Figure 13. Stormwater at Windsor Substation site, view south, December 15, 2016

2.2 Construction Activities

Substation Construction Activities

Excavation of the SPCC ponds was the first area to be excavated in early April 2017. Excavation for the Substation's switchgear foundation and conduit trenches began in late April 2017. Mirafi fabric was installed in the switchgear excavation, forms built, rebar installed, and concrete slurry poured in the bottom of the excavations. Excavation of the transformer pad foundation began in early May 2017 and foundation work followed in the same manner as for the switchgear foundations (see Figure 14). Excavation for the breaker foundation began mid-May 2017 and foundation work followed. Also, pier foundation holes were drilled and groundwater encountered at 12 feet was pumped through a filter bag and into the Baker tank. Concrete was then poured for the pier foundations. All holes not poured with concrete were covered at the end of the day with plywood and surrounded by sandbags to prevent wildlife entrapment. Foundation work for pull boxes and began mid-May 2017 and included excavating, installing forms, installing rebar, pouring cement, and stripping forms. Conduit trenches were also excavated throughout the site, conduit installed, and the trenches backfilled. When not completed the same day, 2x8 ramps were placed in each excavation to avoid wildlife entrapment and the excavation was surrounded by orange construction fencing. Beginning in June 2017, the locations for the perimeter wall foundation were laid out, holes were augured, forms were set, and concrete poured (see Figure 15). Foundation work for the perimeter wall piers was completed in early August 2017. Kleinfelder performed all concrete testing. PG&E delivered and set up two office and supply trailers at the east perimeter in early June 2017. The switchgear building was delivered and set on June 12, 2017 and crews worked on assembly and welding. Work

Figure 14. Foundation work at Windsor Substation, view south, May 10, 2017

Figure 15. Augering holes for perimeter wall piers at Substation, view northwest, June 13, 2017

inside the switchgear building has been ongoing and will continue until the final connection is made with the Fulton No. 1 line. The transformer was delivered and set on June 19, 2017 and was painted during the same week. Work inside the switchgear building began that same week. During the last week of June 2017, the assembly of the transformer continued and a tanker truck delivered mineral oil and filled the transformer. Construction of the subsurface ground grid copper wire installation followed grading and excavation. In July 2017, trenching and conduit installation from the switchgear building to the north-eastern corner of the site began. Construction of the SPCC pond along the western side of the site recommenced on July 12, 2017 with excavation and off-hauling of spoils. Forms where then installed for the foundation and cement slurry poured.

After the concrete foundations cured, the aboveground steel structures began to be erected in late July 2017, followed by installation of circuit breakers, switches, buses, dead ends, and other electrical equipment, including associated control system hardware (see Figure 16). This work continued into October 2017.

Installation of the perimeter wall panels began the first week of October 2017 and was completed the first week of November 2017.

No work was conducted the week of October 9–15, 2017 due to wildfires in the area. Construction resumed on October 17, 2017 at the Substation. Work included excavating conduit trenches for the distribution lines, installing conduit in pull boxes, backfilling trenches, spreading and grading base rock to build up Substation pad and backfilling around the SPCC pond, pouring concrete for the SPCC pond, installation of transmission switches and insulators on dead-end structures, and work inside the switchgear building (see Figure 17).

Figure 16. Erecting steel structures, installing insulators and switches, view southeast, August 1, 2017

On October 30, 2017, VPI mobilized equipment for the horizontal directional drill (HDD) under the railroad tracks to connect the Substation to the Fulton No. 1 line, including two vacuum trucks, and excavator, a dump truck, and a flatbed truck. Hotline coordinated with the PG&E EI in placing delineators along the access route to the west side of the railroad tracks so that vernal pools at the southern boundary of the property (adjacent to the Kerry Conservation Site) were avoided. VPI potholed to locate the gas transmission line and fiber optic line adjacent to the railroad tracks, and excavated the entrance pit for the bore. The exit pit was excavated on the east side of the SPCC pond. All excavations were covered with plywood and surrounded by cones at the end of the day. From October 31 through November 2, 2017, boring, reaming, and pulling conduit was conducted and completed for three sets of underground conduit (see Figures 18 and 19). Mud from the bore

Figure 17. Working on SPCC pond, view south, October 19, 2017

Figure 18. Horizontal Directional Drilling in field west of Substation, view west, October 31, 2017

Figure 19. HDD conduit ready to be pulled back through hole, view west, October 31, 2017

was vacuumed up and contained in a tanker truck staged in the substation. No frac-outs or spills occurred. Following completion of the conduit installation, all excavations were backfilled. Excess soil and sand were left stockpiled on site, covered with plastic and surrounded by wattles.

The last pour for the concrete walls of the SPCC pond was conducted on November 6, 2017. Installation of a corrugated drain pipe from the SPCC pond to the drain inlet at the northern fence line occurred the following week. Pull box and conduit excavation and installation continued into mid-December. V-ditch work began mid-December.

Metal fence installation began on the south side of the Substation site mid-December 2017.

During the week of December 18–24, 2017, crews conducted grading of the Substation pad, continued to work on V-ditches, worked on completing conduit installation in pull boxes, and continued fence installation on the south side of the Substation pad. PG&E crews worked on the dead-end switches and in the switchgear building, and the Substation was activated and went "hot" on December 20, 2017.

During the month of January and February 2018, wet weather slowed construction activities, which included: continued work on final grade of the Substation pad, work on the ground grid, installation of bollards, backfill of conduit trenches, fence installation on southern side of site, work on V-ditches, testing of equipment, and miscellaneous house-keeping items.

Paving of the asphalt roads within the Substation site began and was completed in March 2018 as the other remaining V-ditch work, culvert work at the entrances, and clean-up continued.

During the month of April 2018, Hotline installed handrails along the SPCC pond perimeter, continued to work on V-ditches, continued work on culvert installation at the two Substation entrances, capped the existing well in the northwest corner of the property, maintained BMPs, and conducted clean-up activities.

During the first week of May 2018, civil construction at the Substation site was completed. ALB Construction fog sealed the asphalt in the Substation and at the entries. Hotline graded and added drain rock to the drainage ditch along Old Redwood Highway, added base rock and compacted as needed around the Substation, off-hauled equipment and supplied, cleaned-up the site, and demobilized. The PG&E EI removed the silt fencing from around the wetlands on the south and west sides of the property.

During the second week of May 2018, Miguel Garcia Landscaping, with oversight from Davey Resource Group, installed irrigation lines, shrubs, trees, and mulch at the Substation site.

2.3 Environmental Compliance and Non-compliance Events During Construction

WEAP trainings were held for new workers to the Project site and sign in sheets were submitted to the CPUC on a weekly basis. Throughout construction, the CPUC EM and the PG&E EI brought attention to incidents and non-compliance issues. All issues were resolved. There were very few incidents at the Windsor Substation for the site preparation and construction. Incidents that were resolved by self-reporting and verbal warnings included small generators with no secondary containment, small equipment leaks (i.e., oil, fluids, fuel), additional BMPs or maintenance, and garbage cans without lids.

2.4 Minor Project Changes Requested for Windsor Substation Site

PG&E requested that Notice to Proceed #1 (NTP #1) include three Minor Project Changes (see Table 1). The MMCRP acknowledges that final engineering refinements and temporary changes to the project, such as the need for additional workspace or access, are anticipated and common practice for construction efforts of this scale and that a Minor Project Change request would be required for these activities and can be incorporated into an NTP. The NTP documented the CPUC's thorough evaluation of all activities covered in these Minor Project Changes, and that no new impacts or increase in impact severity would result from the requested Minor Project Change activities.

Minor Project Change #1

Minor Project Change #1 was submitted with NTP Request #1 on May 17, 2016 for a design change to the Spill Prevention, Control, and Countermeasure (SPCC) retention pond and stormwater flow. The preliminary design for the pond was depicted as being in the corner of the Substation. Section 4.9.1 of the MND stated that the SPCC pond would be designed to contain 110 percent of the transformer's coolant volume (5,500 gallons).

The final design included two SPCC ponds along the western boundary of the Substation, each within the Substation wall and collecting stormwater runoff from gutters within the Substation facility. The SPCC ponds, with a combined capacity of approximately 11,000 gallons, have concrete walls and bottoms. The two SPCC ponds are within a larger stormwater detention basin that have an earthen bottom and connect to the existing stormwater system at the site. This refinement was made to maximize on-site percolation of water and reduce the rate of flow off site. The final design for the SPCC ponds provided sufficient capacity to accommodate future equipment and is consistent with the project description that the Substation would be designed and built to accommodate future equipment, therefore limiting construction necessary for future upgrades.

The final grading design for the site also included directing stormwater runoff from the eastern portion of the site adjacent to Old Redwood Highway, where no equipment was located, to a concrete ditch to be installed adjacent to the outside of the perimeter wall facing Old Redwood Highway. The ditch is approximately 10 inches deep, 3 feet wide, and 300 feet long, and drains to the existing stormwater system at the site adjacent to Herb Lane. This refinement was made to limit stormwater runoff draining to the SPCC ponds to runoff associated with equipment containing hazardous materials. Although the configuration of the SPCC pond changed and increased in number and capacity, the ponds are still located inside the graveled yard and Substation perimeter wall, where, as described in the MND, no sensitive biological resources or cultural resources are present. Likewise, there are no sensitive biological resources or cultural resources present in the area where the concrete ditch was installed along the Substation wall facing

Old Redwood Highway and did not result in any additional land disturbance than initially proposed. The Minor Project Change #1 was approved with NTP #1 on June 15, 2016.

Minor Project Change #2

Minor Project Change #2 was submitted with NTP Request #1 on May 17, 2016 for use of a water truck or Driwater pods instead of an irrigation system for landscaping. The MND stated that the final stage of construction would be landscaping, including installation of an irrigation system, and the Town of Windsor may supply potable water for irrigation from a valve box along Old Redwood Highway, or water may also be obtained from a well adjacent to Herb Road or from construction baker tanks.

While installing an irrigation system was anticipated, the MND identified a plant palette comprised of drought tolerant plants that would not require regular water once established. The duration of initial watering until landscaping is established would depend on the timing of landscape installation and rainfall events, but typically would be required only during the first one to three years after planting. In addition, because the Substation is automated and does not have permanent onsite employees, no water service is needed. Given these facts and considering the drought conditions in California, PG&E proposed to obtain water for landscaped plants just until they are established and no longer require watering. The water would be obtained from the Town of Windsor valve box along Old Redwood Highway, from water trucks, or from Driwater pacs placed adjacent to plantings. This modification minimizes water use by limiting onsite water consumption to the time period that it takes the plants to become established. The Minor Project Change #2 was approved with NTP #1 on June 15, 2016.

Minor Project Change #3

Minor Project Change #3 was submitted with NTP Request #1 on May 17, 2016 for the replacement of culverts in existing roadways entering the Substation site and Herb Lane. The previous old culverts in each of the two roadways entering the Substation site and the culvert at the entrance to Herb Lane were replaced with new culverts, measuring 18+ inches in diameter, as the old culverts were in poor condition. As described in the MND, no sensitive biological resources or cultural resources were present. The road-side ditch is a non-relatively permanent water and is not a jurisdictional waterway. The culverts were replaced as part of constructing the paved driveways into the Substation and use of Herb Lane access. Replacement of the culverts during road construction did not result in any additional land disturbance than initially proposed.

Minor Project Change #4

Minor Project Change #4 was submitted on August 11, 2016 for a revision to the conceptual Landscape Plan based on final design and engineering. The revision of the conceptual Landscape Plan included an arborist's assessment recommending up to four trees be removed. Removal of these trees was recommended because it was determined that ground disturbance and removal of existing concrete would adversely impact tree health and likely cause death. To minimize impacts to existing vegetation and maintain tree health, tree trimming and protective fencing was implemented around trees that were in close proximity to project activities. The CPUC EM also reviewed the protective fencing at the site prior to tree trimming and ground disturbing activities. Existing vegetation around the Substation site was supplemented with the implementation of the landscaping plan, which included planting vegetation along the east and north sides of the project site. The CPUC approved MPC #4 on August 19, 2016.

2.5 Final Inspection of Windsor Substation

The CPUC EM conducted a final inspection within the Windsor Substation site on May 4, 2018 (see Figure 20). The CPUC EM observed that the site was neat and clean. At that time, remaining work within the Substation included installing a pump in the storm-water retention pond, removing PG&E's office trailers, and work within the electrical building.

Figure 20. Final inspection of Substation, view northwest, May 4, 2018

On May 21, 2018, the CPUC EM conducted a final inspection of the landscaping outside the Substation walls on the east and north sides (see Figures 21 and 22). The CPUC EM reviewed the approved conceptual Landscape Plan against what was planted. PG&E planted seven valley oak (*Quercus lobata*), 17 coast live oak (*Quercus agrifolia*), seven more than was in their conceptual Landscape Plan), and 60 evergreen native shrubs (five less than was in their conceptual Landscape Plan). The extra coast live oaks make up for the reduced number of evergreen shrubs and are evergreen trees. Irrigation was also installed, despite MPC #2 request to not install irrigation. Redwood bark was spread within the landscaped area, which will help retain soil moisture and prevent weed growth.

Figure 21. Landscaping in front of Substation on east side along Old Redwood Highway, view north, May 21, 2018

Figure 22. Landscaping on north side of Substation along Herb Road, view west, May 21, 2018

3. Old Redwood Hwy Reconductoring and Fulton No. 1 Underbuild (NTP #2)

3.1 Description of Old Redwood Hwy Reconductoring

On February 17, 2017, PG&E requested authorization from the CPUC to commence with rebuilding a segment of the Fulton No. 1 power line to hold a new double-circuit 12 kilovolt (kV) distribution line underbuild, and reconductor an existing distribution line along Old Redwood Highway. PG&E provided additional information to the CPUC on March 24, 2017. PG&E requested that Notice to Proceed #2 (NTP #2) also include Minor Project Changes #5, #6, #7, and #8, which are described below. On March 30, 2017, NTP #2 was issued by the CPUC for the PG&E Windsor Substation Project.

Work authorized under NTP #2 included the following:

- Connection of the new Substation to an existing 60 kV powerline by way of a new tubular steel pole (TSP) replacing an existing wood pole.
- Approximately 1.5 miles of the existing Fulton No. 1 60 kV Power Line will be rebuilt. This required replacing 39 wood poles (with 38 wood poles and 1 steel pole) and installation of two (2) new wood riser poles.
- Approximately 0.63 mile of existing distribution line with 12 kV double-circuit conductor along Old Redwood Highway was reconductored. This required replacement of 18 wood poles with taller wood poles.
- Underground installation of three 12 kV circuits from the Substation to Fulton No. 1 60 kV Power Line and Old Redwood Highway distribution line.

The construction for the powerline interconnection work was done in two phases: (1) replacing the existing pole on the Fulton No. 1 60 kV power line with a TSP, and (2) installing the conductor.

3.2 Construction Activities

Old Redwood Highway Reconductoring Work

The 12 kV distribution line underbuild and reconductoring work began along Old Redwood Highway on July 5, 2017. PG&E crews augured and set replacement poles along the road. Traffic controls were conducted by the subcontractor Parmeter. On August 1, 2017, construction activities of the underground crossing approved under Minor Project Change #9 (see description below) began. A crew saw cut the asphalt between Poles a9 and b9 within Old Redwood Highway. A wet-vac was used to capture the water and mud created by the saw cutting activity. A trench was then excavated across the road and conduit installed. All work was performed on the asphalt roadway with no impacts to roadside drainages and the wetland area on the east side of the road. This work was completed in a few days. No work occurred again until the end of August 2017 when a new pole outside the Substation was set and replacement poles were staged at the remaining pole locations along Old Redwood Highway. Crews then removed old poles and set new poles along Old Redwood Highway working their way south from the Substation. During the first week of October 2017, one pole was replaced along Old Redwood Highway. On November 14, 2017, PG&E line crews worked at the transition poles on Old Redwood Highway just north of Starr Road installing cable from the transitions poles to underground conduit that was previously installed. On December 5, 2017, the PG&E line crew pulled in new conductor from the Substation to the underground crossing along Old Redwood Highway north of Starr Road. Traffic controls were in place to direct traffic.

Fulton No. 1 Line 12 kV Distribution Line Underbuild

On September 12, 2017, a PG&E crew attempted to dig holes for Poles a7 and a8 in the Kerry Conservation Site by hand; however, very hard dry soil was encountered and a track-mounted auger was brought in the following day. The approved access route along the north side of the preserve was used to reach the right-of-way, and then the augur proceeded southward into the Preserve to each of the two pole locations avoiding all vernal pool areas. The holes were secured with plywood covers and dirt around the edges, and excavated soil was surrounded with fiber rolls and covered with plastic.

In advance of reconductoring work for the Fulton No. 1 line, tree trimming was conducted on September 23, 2017, and one blue oak tree (approximately 8 inches DBH and 15 feet tall) was removed. Work sites were accessed on foot in the Kerry Conservation Site (Poles a7 and a8 of the Fulton No. 1 line are within the preserve), and from Wilcox Road for the remaining areas. Within the Kerry Conservation Site, branches were cut to small sizes acceptable to CalFire standards and left onsite. Along Wilcox Road, trimmed branches and saplings were chipped into a dump truck. The PG&E EI was present during all tree trimming and removal activities within the Kerry Conservation Site and all vernal pools were avoided.

On September 25, 2017, PG&E commenced preparations for pole replacements at three locations adjacent to vernal pools along the Fulton No. 1 line (Poles a7 and a8 in the Kerry Conservation Site, and Pole a10 in a field next to Wilcox Road). Parmeter assisted Precision Crane in driving the crane across planks atop the railroad tracks from Starr Road to the Kerry Conservation Site vicinity, adjacent to Poles a7 and a8. Northwest Pacific Railroad used an excavator to create an approximately 4x4 foot smooth surface for the crane outrigger cribbing in four locations on the western edge of the railroad tracks, and a smaller pad in one location on the east. The PG&E EI confirmed that all excavations had no impacts to wetlands. A portable light standard was set up at each work location for the night work.

During the nighttime clearance on September 25-26, 2017, the crane set Poles a7 and a8 from the railroad tracks and the old poles were cut six feet above grade. All vernal pools in the Kerry Conservation Site were avoided and no impacts to sensitive resources occurred. PG&E set Pole a10 using equipment parked on Wilcox Road. The new pole location was augured adjacent to the fence line on Wilcox Road, approximately 10 feet from its original location and well outside the vernal pool (see Figures 9 through 11). The old pole was removed using a wench and jack, and the hole was backfilled with bentonite to within 2.5 feet of grade. Augured native soil was used to top off the old hole. No impact to the vernal pool occurred. A portion of the augured soil was piled at the base of the new pole, with the remainder captured in a tarp and removed from the pole location.

On Wednesday, September 27, 2017, the crane was moved along the tracks to Wilcox Road, where it was maneuvered off the tracks and onto the roadway. Northwest Pacific Railroad removed all wooden cribbing at the outrigger locations and restored the excavated outrigger platforms. A PG&E crew truck and Parmeter's UTV entered the Kerry Conservation Site along the approved access and jacked out the pole butts and backfilled the holes. Soil was piled around the base of the new poles as required, and the minimal amount of soil remaining from the excavations was spread thinly in the vicinity. No vernal pools were impacted.

On November 27 and 28, 2017, a Northwestern Pacific Railroad crew used an excavator to travel along the tracks to bring the poles from the laydown yard at the corner of Windsor River Road and Windsor Road, and stage them adjacent to the tracks and the Fulton No. 1 line. The PG&E line crews installed temporary disconnects at Poles a10 and a17 (Wilcox Road, north of Starr Road) to prepare for a clearance on November 29; however, when crews began excavating the first of the holes (at Pole a15) a hard pan

layer was encountered at three feet and the effort was abandoned. The partially excavated hole was covered with gravel bags. The clearance of November 29 was canceled and scheduled for a later date.

During the week of December 4–10, 2017, construction activities along the Fulton No. 1 alignment focused on the TSP foundation installation. Mats were placed along the access route to the TSP location in the field west of the Substation site to enable equipment to travel over soft wet ground. The mats were installed within 50 feet of the perimeter fence, as required by the landowner, but well away from the vernal pools straddling the southern fence line and Kerry Conservation Site. Drilling the TSP foundation hole was conducted on December 6, 2017 to approximately 22 feet and no groundwater was encountered. Excavated soil was stockpiled at the site on top of plastic sheeting prior to off-haul. At the end of the work day, the excavation was completely covered with plywood, dirt was mounded around the sides to exclude wildlife, and the excavation was fenced. The following day, the rebar cage and bolt pattern were set and concrete was poured for the foundation. Kleinfelder took concrete samples. The TSP sections and materials were staged adjacent to the foundation. Line trucks were used to work at the two poles adjacent to the TSP location, reconfiguring the set ups on the poles to spread the distribution lines apart. The HDD underground conduit was excavated, exposed, and cut where additional conduit will be installed. The excavation was then backfilled.

During the week of December 11–17, 2017, on the property west of the Substation across from the railroad tracks, crews erected the TSP and completed conductor work. All six phases of conductor were pulled into the TSP from the Substation. Distribution lines were moved to the TSP, the existing wood pole (Pole a1) was removed, and the hole was backfilled with gravel to within two feet of the ground surface, with the remaining portion backfilled with soil. All vehicles and equipment stayed on mats while in the work area and along the access route.

Figure 23. Laying down planks along railroad tracks for crane to drive over, view north, December 19, 2017

Along the Fulton No. 1 line, crews completed four pole replacements at Poles a17 through a20, which were all accessible from roadways. The crew jackhammered around poles set in concrete at two of the locations. In advance of the following week's clearance and replacement of Poles a21 through a27 to be done by two cranes from the railroad tracks, crews hand dug or used a vac-truck to excavate holes, and line crews framed poles staged along the railroad tracks. Holes were covered with plywood and soil mounded around the sides to prevent wildlife entrapment. Two cranes accessed the tracks at Starr Road, and traveled south along the tracks atop wooden planks placed along the track rails (see Figure 23). Staging and setup of the cranes was completed on Sunday in advance of the clearance scheduled for December 18 and 19, 2017.

During the week of December 18–24, 2017, PG&E crews worked Monday through Friday along the Fulton No. 1 alignment where seven poles were replaced. Two cranes were used to carry new poles to the appropriate locations and remove and move the old poles to the staging area to be removed at a later date. The cranes and bucket trucks were used to transfer wires from the old poles to the new poles. After a pole replacement was completed, crews moved the cranes along the tracks to the next pole location. While the last pole replacement was being completed, crews removed one of the cranes from the Project area.

Once the last pole replacement was completed, the second crane was removed. Crews removed wood beams from along the railroad tracks following pole replacement and cleared out larger wooden platforms that were used to bring in the cranes to the Project area. Crews also raked and cleared all debris that may have been associated with the construction work and left the site clean and debris free.

During the week of December 25-31, 2017, on the property west of the Substation across from the railroad tracks (Drew property), work occurred in the vicinity of the TSP. The mats along the access road for heavy equipment were removed the previous week. A small excavator was used to dig a trench for conduit installation to the TSP and PVC piping was installed. The trench was then backfilled with imported sand and excavated soil and compacted. A small amount of remaining soil was removed from the site and the work area was graded. All materials, including fencing, cones, lumber pallets, and debris were removed from the site following completion of the work. Tire ruts along the temporary access route were removed and track out onto Herb Road beyond the rumble plates was swept by hand.

During the week of January 29–February 4, 2018, crews excavated pole holes with a vac-truck and replaced seven poles along the Fulton No. 1 alignment (see Figure 24). The pole replacements were north of Starr Road on Wilcox Road, and north of Windsor River Road on Wild Oak Drive.

Figure 24. Replacing pole along Fulton No. 1 line, view west, January 29, 2018

On February 7, 2018, PG&E crews excavated holes at Poles b17 and b18 and the poles were replaced on February 8. During the clearance on February 8, Poles b10 through b16 were reframed, and not replaced, and the reconductoring was completed. At the end of Herb Road, a new gate was installed, and from February 6 to February 9, Herc Rentals installed mats again along the access and right-of-way within the field north of the Kerry Conservation Site (Drew property) in preparation for future work.

Between February 12 and 16, 2018, PG&E crews performed work between the TSP and Pole a11 staging and framing poles in preparation for replacement. PG&E crews installed the new riser poles adjacent to the TSP on February 20, and Poles a4, a5, a6, a9, and a11 were replaced during a clearance on February 22. On the days prior to the clearance, the new poles were staged and framed, and holes were excavated using a vacuum truck and auger. Additionally, Pole a10 (adjacent to a vernal pool) was re-framed using bucket trucks parked on Wilcox Road, and holes were excavated at Poles a28, a29, and a30.

On February 26, 2018, replacement of Poles a28, a29, and a30 occurred. The replacement of the remaining four poles schedule for March 1 did not occur due to rain.

During the week of March 12–18, 2018, PG&E crews worked along the Fulton No. 1 alignment between Poles a17 and a29 preparing for the wire pull scheduled for the week of March 19. In addition, rock was spread over the saturated ground along the ROW between Poles a28 and a30.

On March 22, 2018, Hotline and Aztrack Engineering completed the excavation and relocation of conduit at the southern riser pole. All vehicles remained on mats while accessing the area.

On March 21 and 22, 2018, PG&E completed pulling in new conductor between Poles a18 and a28 on the Fulton No. 1 alignment. Poles a21 through a27, located in backyards, were accessed on foot and poles

were climbed, with the exception of Pole a24, which was accessible with a truck. Parmeter was on site or traffic control at the north pull site, just south of Starr Road.

On April 16, 2018, Poles a31, a32, a35, and a40 at the south end of the Fulton No. 1 alignment were replaced. On April 24 and 25, 2018, PG&E crews pulled in new conductor on the bottom circuit between the TSP and Pole a18.

On May 1 and 2, 2018, PG&E crews pulled in new conductor between Poles a28 and a41. Four distribution poles (Poles a33, a34, a37, and a38) were dismantled, removed, and the holes backfilled. Poles that had been replaced and left on the railroad right-of-way for removal at a later date, we all removed during the month of May.

On June 4, 2018, tie-in of the distribution line at Windsor River Road (Pole a41) and the TSP (west of the substation) was conducted during a clearance, which completed the Fulton No. 1 alignment work. During the week of June 11, 2018, mat removal along the access road to the TSP on the property west of the substation site occurred.

3.3 Environmental Compliance and Non-compliance Events During Construction

WEAP trainings were held for new workers to the Project site and sign in sheets were submitted to the CPUC on a weekly basis. Throughout construction, the CPUC EM and the PG&E EI brought attention to incidents and non-compliance issues. All issues were resolved. The only issues on this portion of the Project was delivery trucks not staying within the approved work areas on the Drew property to the west of the Substation site.

3.4 Minor Project Changes Requested for NTP #2 Work

PG&E requested that Notice to Proceed #2 (NTP #2) include four Minor Project Changes (see Table 1). The NTP documented the CPUC's thorough evaluation of all activities covered in these Minor Project Changes, and that no new impacts or increase in impact severity would result from the requested Minor Project Change activities.

Minor Project Change #5

On February 17, 2017, PG&E submitted a request for Minor Project Change #5 under NTP #2 for use of a crane staged on the Sonoma-Marin Rail Transit (SMART) tracks. PG&E proposed to use a crane, staged on the SMART tracks, to replace certain poles along the Fulton No. 1 line that are difficult to access. This refinement was made to minimize construction disturbance by utilizing the existing railroad tracks for access. The SMART tracks are within approximately 60 feet of the Fulton No. 1 power line. Poles that were replaced in this manner include the poles within the proposed Kerry Conservation Site (Poles a7 and a8), and poles located within the backyards of houses along Starburst Court, Collen Drive, and Joni Court (Poles a21 through a28).

The crane accessed the tracks at the crossing of Starr Road, approximately 0.6 mile south of the Substation site. Crane access required the SMART tracks to be clear for a width of approximately 7 feet from the center of the track — a width of approximately 14 feet in total. The SMART tracks have not been used recently by railway traffic, and trees and shrubs have encroached onto the tracks in several locations. Tree species are primarily acacia and eucalyptus. One tree needed to be removed to replace Pole a6; other trees only needed to be trimmed, not removed. The tree that was to be removed is a valley oak in declining

health, with a diameter at breast height (dbh) of 18 inches. A minimal amount of vegetation clearing was required to allow the crane to be moved along the tracks.

At locations where the crane performed work, outriggers extended for stabilization and crane cribbing was placed on the ground to dissipate the pressure of the outriggers. Cribbing consisted of wood mats that measure approximately 4 feet by 7 feet or 5 feet by 7 feet. Where the ground was uneven or there was a ditch, wood blocks were placed on the ground and bridged with a steel plate measuring approximately 6 feet by 10 feet in size. At the end of each work day, the crane and cribbing remained in place overnight, or was moved to a new location along the tracks.

By using the existing railroad tracks, an established route, to provide access, potential disturbance to residents and the proposed Kerry Conservation Site during construction was minimized. Furthermore, construction equipment was similar to that disclosed in the MND and the level of disturbance associated with installation of pole replacement was consistent with the description in the MND. In accordance with the preconstruction compliance MMs, surveys for special-status plant and wildlife species was conducted prior to using the SMART tracks. The CPUC approved Minor Project Change #5 on March 30, 2017 under NTP #2.

Minor Project Change #6

On February 17, 2017, PG&E submitted a request for Minor Project Change #6 under NTP #2 for pole installation and replacement. Final engineering and design of the Project identified the following minor refinements and clarifications to Section 4.11.1 on the MND (Pole Installation and Replacement):

> *The MND stated "The existing wooden pole on the Fulton No. 1 60 kV power line that would be replaced with a TSP is located on the west side of the railroad right-of-way in an area containing open space and rural residences. The new TSP would be made of weathered steel tapering upward from a ground-level diameter of approximately 30 inches. A concrete foundation for the TSP would have a diameter of approximately 5.5 feet. The TSP would reach a height of 75 feet; two cross arms would extend 4-feet laterally on each side of the pole."*

The final design of the TSP concluded that it be composed of galvanized steel tapering upward from a ground-level diameter of approximately 55 inches (versus 30 inches), the concrete foundation have a diameter of approximately 5.7 feet (versus 5.5 feet), the TSP be approximately 80 feet tall (versus 75 feet), and two cross arms extend 5 feet laterally on each side of the pole (versus 4 feet). Galvanized steel is preferred over weathered steel, especially in wet climates, because weathered steel requires re-coating to preserve structural integrity. It is also less visible against the sky than weathered steel. Given the location of the TSP in an open area behind the Substation and the railroad track, PG&E's designers proposed to go with galvanized steel. The TSP is less visible against the skyline where it is viewed above the existing trees.

The MND identified four Key Observation Points (KOPs) representing the typical and worst-case visual aesthetic impacts of the proposed Project and "because the distribution line work is updating existing landscape elements rather than creating new ones, KOPs were chosen for the Substation only" (MND Section 5.1.2). However, KOP-4 from Herb Road and the Northwestern Pacific Railroad, looking southeast, included view of the TSP noting that the new TSP would be visible above the existing trees along the railroad corridor. The discussion concluded that overall visual change would be moderate (MND Section 5.1.2, Visual Change at KOP-4).

While the base of the TSP is larger with this Project refinement, the TSP is situated adjacent to the railroad right-of-way in a relatively secluded area containing open space. The nearest rural residence is located more than 250 feet north of the TSP and views of the TSP are screened by existing trees and vegetation. Thus, the base of the TSP is not highly visible. Furthermore, the TSP is located within an existing utility corridor. The TSP 5-foot height increase and slightly longer arms (one foot increase) resulted in an incremental change, but is not readily noticeable. The use of galvanized steel for the TSP is less visible against the skyline where it is above the existing trees.

SCE also offered the following minor clarifications concerning the pole replacements:

- The two wood poles installed on either side of the TSP, incorrectly described in Section 4.11.1 as temporary shoo-fly poles, are correctly depicted on Figure 5.4.1 of the MND as permanent new riser poles.
- Section 4.11.1, Pole Installation and Replacement, states that the Fulton No. 1 line currently has two 12 kV distribution circuits mounted under the 60 kV conductors. Prior to construction there was only one underbuild; the Project added the second circuit, and there are now two distribution underbuilds.

The CPUC approved Minor Project Change #6 on March 30, 2017 under NTP #2.

Minor Project Change #7

On February 17, 2017, PG&E submitted a request for Minor Project Change #7 under NTP #2 for tree trimming and removal. Figure 5.4-1 of the MND identified three trees to be removed in association with the reconductoring work — one near Pole a2 on the west side of the SMART tracks, and two at the north end of the Kerry Conservation Site. Based upon final design and engineering, and proposed use of the SMART tracks for construction access at some locations, a different tree needed to be removed near Pole a2 than was identified in the MND. The tree to be removed was on the east side of the SMART tracks — as depicted on the biological resources map in Attachment A of the NTP request — and had a dbh of 10 inches, requiring in-kind replacement at a ratio of 1:1 dbh. No adjustment to the Substation landscape plan needed to be made to accommodate this mitigation ratio as the tree had a smaller dbh than the tree previously identified to be removed.

With the use of a crane staged on the SMART tracks to replace Poles a6 and a7, the two oak trees at the north end of the Kerry Conservation Site did not need to be removed. A large dead oak tree on the ground within the Kerry Conservation Site needed to be cleared to access Pole a7. Tree trimming was required at various locations to access poles or use the crane to remove and install poles from the SMART tracks. One valley oak, near Pole a6, needed to be removed to replace this pole; this tree was in decline, and as such did not qualify for in-kind replacement. Per APM BIO-15 of the MND, PG&E has committed to replacing or compensating for the removal of protected oak trees in accordance with the Town of Windsor's Tree Ordinance. Page 3-126 of the Town of Windsor Tree Ordinance states "If the protected tree is dead, dying, or diseased, replacement/in-lieu fee will not be required." Page 3-127 states "In no case shall an applicant for a Tree Removal Permit be required to replace or otherwise pay for the value of a tree that is diseased or in danger of collapse, or that the Town has requested to be removed. The CPUC approved Minor Project Change #7 on March 30, 2017 under NTP #2.

Minor Project Change #8

On February 17, 2017, PG&E submitted a request for Minor Project Change #8 under NTP #2 for an additional pull and tension site located on Railroad Avenue between Poles a32 and a33. This pull site was needed because the distance between Starr Road and Windsor River Road is slightly longer than the size of a standard spool of wire.

The MND identified an approximate number of pull and tension sites, and also noted that "exact locations of pull and tension sites would depend on Town traffic permits and permission from property owners" (MND Section 4.12.2). The additional pull and tension site was within the Project study corridor as defined by the MND and it was identified as a developed/landscaped area. This site was located within existing paved roadways, and an encroachment permit was acquired prior to work occurring within the public right-of-way. The CPUC approved Minor Project Change #8 on March 30, 2017 under NTP #2.

Minor Project Change #9

On June 12, 2017, PG&E submitted Minor Project Change #9 request for reconfiguration of the distribution line crossing Old Redwood Highway in the vicinity of Starr Road that would remove the existing overhead diagonal crossing of the intersection. Figure 5.4-1 (Biological Resources Mapset Map 6) of the Final Mitigated Negative Declaration (MND) showed replacement of the existing 12 kilovolt (kV) distribution line crossing Old Redwood Highway diagonally with another overhead line crossing diagonally between Poles b9 and b10, located north and south of the intersection of Starr Road. The final engineering design replaced the diagonal overhead crossing of the highway with an underground crossing, perpendicular to the road. The engineering design addressed a clearance issue between the conductor and adjacent street lights and maintained the pole heights along Old Redwood Highway described in the Final MND. The design included:

- changing the replacement pole (Pole b9) on the west side of the highway to a riser pole with an anchor,
- adding a new riser pole (Pole b9a) on the east side of the highway, directly across from Pole b9, and
- replacing a communication pole that supports a distribution line with a new pole (Pole b9b) approximately 105 feet south of the new riser pole (Pole b9a) on the east side of the highway.

The riser poles are approximately 52 feet tall and have an anchor with an approximately 25-foot lead, in line with the overhead line. The new pole replacing the communication pole is also approximately 52 feet tall. These pole heights are consistent with the height range of replacement poles described in the Final MND, Section 4.12.1. Additionally, the new riser pole and the new pole replacing the communication pole were located within the existing north-south utility alignment parallel to Old Redwood Highway. The segment of existing overhead conductor previously crossing the roadway diagonally was removed.

The methodology to complete the work was as described in the Final MND, Sections 4.12.1 (Pole Replacement) and 4.12.3 (Underground Installation – Open Trenching). Pole replacement and installation was performed by equipment staged on the road. Temporary lane closures occurred during pole replacement and installation, and during open trenching. The open trench work took 1 day per lane. An encroachment permit was obtained by the Town of Windsor for this work. The CPUC approved Minor Project Change #9 on June 22, 2017.

Minor Project Change #10

Minor Project Change #10 was submitted on August 15, 2017 for the use of an additional temporary staging yard at a PG&E-owned property located at 1054 Mitchell Land in the Town of Windsor, California. PG&E had intended to use the Windsor Substation site as their staging yard; however, because of the timing of work activities at the Substation site and the work needed to be done along the Fulton No. 1 line and Old Redwood Highway rebuild, it was too crowded at that site. The CPUC (Aspen) sent PG&E a data request on August 16, 2017, and PG&E responded on August 28, 2017. As a result of subsequent discussions with the CPUC and further reconnaissance of available alternative sites, on September 11, 2017,

PG&E submitted Revised Minor Project Change #10 with a new location at 8900 Windsor Road in the Town of Windsor at the southern end of the Project for the additional temporary staging yard.

The staging area is an approximately 38,000-square-foot portion of a property located at 8900 Windsor Road. The Windsor Road site is located west of Highway 101 at the intersection of Windsor Road and Windsor River Road, and is bounded by Windsor Road on the west, a residential neighborhood on the south, Sonoma-Marin Area Rail Transit (SMART) railroad tracks on the east, and Windsor River Road on the north. The southernmost pole of the reconductoring alignment along the Fulton Line is on the northwest corner of the intersection of Windsor Road and Windsor River Road. The fenced parcel is owned by SMART and leased to Denno Enterprises, which was using the site as a yard for staging construction vehicles and trucks. SMART was contacted and was amenable to Denno Enterprises sub-leasing to PG&E. At the time PG&E viewed the site on September 6, 2017, the parcel was partially graveled and had some areas covered in grasses and weeds. Approximately 14,000 square feet had been recently graveled, and there were piles of gravel onsite to complete the remaining area. PG&E did not need to perform any other site preparation to use the location as a staging area. Access is via an existing driveway onto the property from Windsor Road, using gates in the fence installed surrounding the site. As of May 21, 2018, the site was still being used by PG&E as a staging yard. Most of the materials and all of the equipment has been removed; however, some conductor and a few other materials remain. PG&E will return the staging yard to the owner once they complete the underground tie-in work that has to be conducted at the south and north ends of the Fulton No. 1 line.

Minor Project Change #11

On February 1, 2018, PG&E submitted Minor Project Change #11 to increase the height of Pole a35 on the Fulton No. 1 60 kV line. The Final MND for the project described rebuilding a portion of the existing overhead Fulton No. 1 60 kV line and installing two underbuilt distribution circuits (Section 4.12.1, Reconductoring of Distribution Line and Power Line Underbuild). Section 4.12.1 (Pole Replacement) of the Final MND stated that existing poles were approximately 45 feet tall and new poles would be approximately 20 feet higher, or about 65 feet tall.

PG&E identified that the replacement pole for Pole a35 on the Fulton alignment needed to be approximately 76 feet tall. The reason this pole needed to be taller was that along this portion of the power line the framing transitions between types of framing, and the span length between the poles was such that the shorter pole would not provide sufficient separation distance [vertically] between the conductors.

Figure 25. Pole a35 approved under MPC 11, view northwest, May 4, 2018

Pole a35 is located within PG&E's existing easement in the backyard of a residence on the corner of Railroad Avenue and 2nd Street and is partially screened from view by mature trees and the property. From the east side of the railroad tracks, the top of the pole is visible when traveling south along Railroad Avenue or north on Wild Oak Drive. From the west side of the railroad tracks, the pole is mostly screened by trees when viewed from Emily Road Circle.

Apart from aesthetics, the change in the pole height did not result in any other changes as the construction technique will be the same. As Pole a35 is in an urban area, there are no views of the pole from a distance, and in closer proximity the pole is partially

screened by vegetation (see Figure 25). The CPUC approved Minor Project Change #11 on February 7, 2018.

Minor Project Change #12

On February 13, 2018, PG&E requested Minor Project Change #12 for the use of a drone to facilitate installing the new distribution underbuild on the Fulton No. 1 60 kV line. The Final MND for the project stated that increasing the distribution capacity from the new Substation would require installing two, 12 kV underbuilt distribution circuits on the Fulton No. 1 60 kV line (Section 4.12, Reconductoring of Distribution Line and Power Line Underbuild). Previously, the Fulton No. 1 60 kV line consisted of a 60 kV line with a 12 kV underbuild; the second 12 kV underbuild would be installed between the two existing lines. To install the new 12 kV line, PG&E proposed to use a small, approximately 24" [inch] by 24" [inch] by 12" [inch] drone instead of ground equipment to pull a string between the poles, which will then pull the sock line into place.

The drone would be used to install the new distribution line on the entire length of the project along the Fulton No. 1 60 kV line, divided into approximately three sections. It was anticipated that the drone would be used approximately four hours per section, flying three times in each section as it pulls a string into place for each of the three wires to be installed. Use of the drone would avoid extensive labor and several customer outages in comparison to stringing the sock line by traditional methods, which would involve multiple days walking the alignment, crossing through yards, dragging rope, and throwing rope over obstacles.

The flight path would include flying over the backyards of residences where there is no vehicle access between poles. Multiple spotters would monitor the drone to ensure line of sight is maintained and to avoid flying over people. The landing zones for the drone would be within PG&E's alignment for the Fulton No. 1 60 kV line or along the railroad tracks where the pilot would be positioned. The CPUC approved Minor Project Change #12 on February 21, 2018; however, PG&E decided not to use this method for installing the new distribution underbuild.

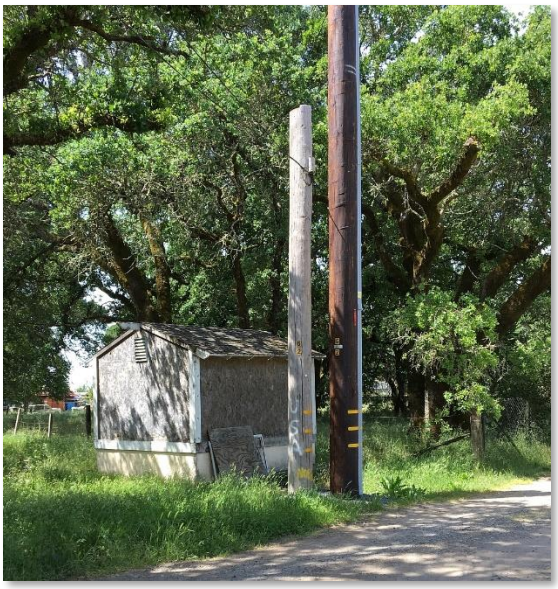


Figure 26. Final inspection of Fulton No. 1 pole replacements, view northwest, May 4, 2018

3.5 Final Inspection of NTP #2 Work

The CPUC EM conducted a final inspection of the Fulton No. 1 line and Old Redwood Highway alignment work areas on May 4, 2018. All BMPs had been removed, pole areas stabilized, and the work areas were left neat and clean (see Figure 26).