Napa Bundle Northern Corridor Gas Pipeline Maintenance Program

NAPA COUNTY, CALIFORNIA
CALTRANS DISTRICT 04
STATE ROUTE 29, Post Miles 27.4-35.5

Initial Study with Proposed Mitigated Negative Declaration



Prepared by the
California Department of Transportation

July 2021

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General Information about this Document

What's in this document:

The California Department of Transportation (Caltrans) has prepared this Initial Study with Proposed Mitigated Negative Declaration (IS/MND) to examine the potential environmental impacts of performing hydrostatic strength testing and pipe replacements on an approximate 7-mile section of natural gas pipeline extending along the State Route (SR) 29 corridor between the cities of St. Helena and Calistoga in Napa Valley (Project). The Project is being proposed by the Pacific Gas and Electric Company (PG&E), and Caltrans is the lead agency under the California Environmental Quality Act (CEQA). The document tells you why the Project is being proposed, how the existing environment could be affected by the Project, the potential impacts of each proposed activity, and the proposed avoidance, minimization, and mitigation measures.

What you should do:

- Please read this document.
- The document, maps, and Project information are available to download at the Caltrans environmental document website (https://dot.ca.gov/caltrans-near-me/district-4/d4-popular-links/d4-environmental-docs).
- We would like to hear what you think. Send your written or email comments at the addresses provided below:

  ATTN Maxwell Lammert
  P.O. Box 23660
  MS: 8B
  Oakland, CA 94623-2660

  Or email Skylar Nguyen at skylar.nguyen@dot.ca.gov **(preferred)**

- Be sure to send comments by the deadline: August 6, 2021.

What happens next:

Per CEQA Section 15073, Caltrans will circulate the IS/MND for review for 30 days. During the 30-day public review period, the general public and responsible and trustee agencies can submit comments on this document to Caltrans. Caltrans will consider the

comments and will respond to the comments after the 30-day public review period. After comments are received from the public and reviewing agencies, Caltrans may (1) grant environmental approval to the proposed Project, (2) conduct additional environmental studies, or (3) abandon the Project. If the Project is given environmental approval, Caltrans would continue to coordinate with PG&E to process their encroachment permit application.

Alternative Formats:

For individuals with sensory disabilities, this document can be made available in Braille, in large print, on audiocassette, or on computer disk by writing to the above address or email or calling **California Relay Service 1 (800) 735-2929 (TTY), 1 (800) 735-2929 (Voice), or 711**.

An ADA-compliant electronic copy of this document is available to download at: the Caltrans environmental document website (https://dot.ca.gov/caltrans-near-me/district-4/d4-popular-links/d4-environmental-docs).

Initial Study with Proposed Mitigated Negative Declaration

04-NAP-29	27.4 – 35.5	04-1W650
Dist. – Co. – Rte.	PM	E.A.

Project title:	Napa Bundle Northern Corridor Gas Pipeline Maintenance Program
Lead agency name and address:	California Department of Transportation, District 4, 111 Grand Avenue, Oakland, CA 94612
Contact person and phone number:	Maxwell Lammert, Senior Environmental Planner (510) 506-9862
Project location:	Between the Cities of Calistoga and St. Helena, California
General plan description:	Highway, Urban (City), Open Space (Agriculture), Watershed & Operational; Agricultural Resource
Zoning:	Transportation Corridor, Agricultural Preserve, Agricultural Watershed
Other public agencies whose approval is required (e.g., permits, financial approval, or participation agreements)	• Encroachment Permit, City of St. Helena • Encroachment Permit, County of Napa • Encroachment Permit, Caltrans • National Pollutant Discharge Elimination System – General Construction Storm Water Permit, Regional Water Quality Control Board

The document, maps, Project information, and supporting technical studies are available for review and download at the Caltrans environmental document website (https://dot.ca.gov/caltrans-near-me/district-4/d4-popular-links/d4-environmental-docs).

Lindsay Vivian

07/06/2021

Lindsay Vivian
Caltrans District 4, Office Chief
Office of Environmental Analysis

Date

Proposed Mitigated Negative Declaration

Pursuant to: Division 13, Public Resources Code

Project Description

The Pacific Gas and Electric Company (PG&E) proposes to perform strength testing and pipe replacements on an approximate 7-mile section of natural gas pipeline extending between the cities of St. Helena and Calistoga, in Napa County, California.

Determination

Caltrans is the Lead Agency under CEQA. This proposed Mitigated Negative Declaration (MND) is included to give notice to interested agencies and the public that it is Caltrans' intent to adopt an MND for this Project. This does not mean that Caltrans' decision regarding the Project is final. This MND is subject to change based on comments received by interested agencies and the public. Caltrans has prepared an Initial Study for this Project, and pending public review, has determined from this study that the proposed Project would not have a significant effect on the environment for the following reasons:

The proposed Project would have no effect on land use and planning, mineral resources, population and housing, public services, and utilities and service systems.

The proposed Project would have a less than significant impact on aesthetics, agricultural and forest resources, biological resources, energy, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, noise, recreation, transportation, tribal cultural resources, and wildfire.

The proposed Project would have a less than significant impact on air quality and cultural resources, with the implementation of the following mitigation measures:

MM AQ-1. Use of Tier 4 Equipment. All off-road diesel-powered heavy equipment used to construct the Project will be equipped with Tier 4 engines, except for specialized equipment or when Tier 4 engines are not available. Retrofits that achieve or exceed emission reductions equivalent to that of a Tier 4 engine may be used in lieu of Tier 4 engines.

MM CUL-6: Data Recovery at Archaeological Sites Determined to be Eligible per California and National Register Criteria in ADI. At archeological sites that are identified as being historical resources, data recovery will be implemented prior to Project commencement. Data recovery will be guided by a data recovery plan produced by PG&E in coordination with State Parks, interested parties (e.g., the Mishewal-Wappo Tribe of Alexander Valley and Middletown Rancheria), and Caltrans PQS.

_____ _____

Melanie Brent
Deputy District Director
Environmental Planning and Engineering
Caltrans District 4

Date

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CHAPTER 1 — SUMMARY

PG&E is seeking an encroachment permit from Caltrans to perform hydrostatic testing and pipe replacements on an approximate 7-mile section of its natural gas pipeline extending along the State Route 29 corridor between the cities of St. Helena and Calistoga in Napa Valley. The Napa Bundle Northern Corridor Gas Pipeline Project (Project) is needed for safety purposes and to expand capacity of the pipeline to meet customer requirements.

Most of the proposed work would take place in or adjacent to Caltrans right-of-way (ROW) and the issuance of the Caltrans encroachment permit is the only discretionary approval required for the Project. Caltrans is the Lead Agency under the California Environmental Quality Act (CEQA). As Caltrans is responsible for the environmental review of the Project pursuant to CEQA, the entire scope of the Project described herein based on coordination between Caltrans and PG&E. The Project location and work areas are shown in Figure 2.0-1. A more detailed depiction of the Project and Caltrans' ROW is in the mapbook of Gas Transmission and Distribution Work Locations in Appendix A. Although Caltrans is issuing an encroachment permit for this work, Caltrans does not otherwise have jurisdiction or approval authority over PG&E's pipeline testing and replacement work, which is regulated under the California Public Utilities Commission's (CPUC) General Order 112-E that contains the CPUC's requirements governing the design, construction, testing, operation, and maintenance of gas pipeline systems. The Project would:

- Perform strength testing of two segments of existing transmission pipeline to ensure the safety of the pipeline and associated infrastructure;
- Replace approximately 3.9 miles of existing 4-inch and 6-inch diameter steel transmission pipeline with 8-inch diameter steel pipeline to increase capacity of the pipeline in response to demand for gas;
- Install approximately 4 miles of 8-inch diameter plastic distribution pipeline within the same alignment as the transmission pipeline to facilitate distribution of natural gas; and
- Replace or transfer 57, 0.5- to 1.25-inch diameter existing customer service lines so that they connect to the new, lower pressure distribution pipeline, and not the higher pressure transmission pipeline.

The Project involves maintenance and upgrades of existing infrastructure that delivers natural gas to customers along the pipeline corridor and other communities north of St. Helena. Rerouting of the pipeline is limited to locations where changes to the land use

prevent installation of replacement pipeline within PG&E's existing easement; at these locations the replacement pipeline would be installed within the adjacent highway to avoid impacting sensitive areas. Avoidance and Minimization Measures (AMM) would be implemented to further avoid or minimize impacts to environmental resources. Mitigation Measures (MM) have been developed and will be implemented to reduce the potential for the Project to result in a significant impact(s) on the environment. This Initial Study with Proposed Mitigated Negative Declaration (IS/MND) describes the environmental setting, regulations, and AMMs for minimizing potential effects, and evaluates potential environmental impacts that could result from construction and operation of the Project. With implementation of the AMMs and MMs, all potential Project-related environmental impacts would be less than significant.

CHAPTER 2 — PROPOSED PROJECT

2.0 INTRODUCTION

Pacific Gas & Electric Company (PG&E) owns and operates a distribution feeder main (DFM) natural gas pipeline (DFM 0405-01) in Napa County that supplies natural gas to the cities of Calistoga, Napa, Yountville, and the unincorporated areas within Napa Valley. In an ongoing effort to ensure the safety of the pipeline and associated infrastructure, and meet increased consumer demand, PG&E proposes to perform hydrostatic testing and pipe replacements on a section of the pipeline extending between the cities of St. Helena and Calistoga. This approximately 7-mile section of pipeline is between post miles (PM) 28.36 and 35.43 on State Route (SR) 29 in Napa County (PG&E milepost 20.61 to 26.12). The Project is generally adjacent to or within Caltrans' ROW along SR 29 for the entire Project limits. PG&E is seeking an encroachment permit from Caltrans to cover the work activities within Caltrans ROW. See Figure 2.0-1 for a map of the Project location.

As part of the Project, PG&E would also remove individual services to customers and related high-pressure regulator (HPR) stations on the DFM transmission pipeline, and install a lower pressure natural gas distribution pipeline from which customers will be served. Construction activities would occur within and adjacent to PG&E's existing pipeline easement, and would include replacing approximately 4 miles of DFM natural gas transmission pipeline, and installing approximately 4 miles of natural gas distribution pipeline with service taps to customers.

In this document, DFM 0405-01 is referred to as a natural gas transmission pipeline based on its operating pressure, even though it is also used to distribute gas in areas where there is currently no existing distribution line. All measurements described in this document are approximate. References to supplemental reports that support the analysis can be made available to the public upon request.

The Project consists of:

- **Transmission Pipeline Replacements**

– **R-1018B** (PM 29.58 to PM 31.34). Replacing 1.4 miles of 6-inch diameter steel pipeline with three segments of new, 8-inch diameter steel pipeline. The existing pipeline at this location would be removed from service and left in place.

– **R-1018** (PM 31.37 to PM 33.15). Replacing an existing section of 4- and 6-inch diameter steel pipeline with 2.5 miles of 8-inch diameter steel pipeline. The existing pipeline at this location would be removed from service and left in place.

- **Transmission Pipeline Strength Tests**

– **T-1448A** (PM 27.4 to PM 29.26). Replacing unpiggable pipeline features (sections of the pipe that cannot be navigated using an internal inspection tool, see Appendix E Glossary of Technical Terms), and installing pipeline under Sulphur Creek, replacing an existing aerial crossing, followed by hydrostatic strength tests of the pipeline.

– **T-1448B** (PM 33.15–PM 35.43). Removing HPR stations and replacing of unpiggable pipeline features, followed by hydrostatic strength tests of the pipeline.

- **Distribution Pipeline Installation**

– Installing approximately 4 miles of 8-inch diameter plastic pipeline along SR 29 (PM 29.56–32.52).

– Replacing or transferring 57 customer service lines so that they connect to the new distribution pipeline and not the transmission pipeline. Customer service lines are generally 0.5- to 1.25-inch diameter plastic lines, extending to service customers east and west of SR 29.

All these components involve work in or along SR 29 and would be covered in whole or in part in the encroachment permit issued by Caltrans. Installing the replacement pipeline would require temporary construction easements and staging areas located along SR 29, including within Caltrans' ROW. See the mapbook of Gas Transmission and Distribution Work Locations in Appendix A. A summary of the Project by Caltrans postmile is provided in Appendix B.

DRAWN BY: G.Shenker

FILE: M:\Projects\PGandE\PGE_NapaMaps\2-0-1_Location.mxd REVISED: 06/07/2021 SCALE: 1:36,000 when printed at 11x17

T-1448B Hydrostatic Test

R-1018

R-1018B

T-1448A Hydrostatic Test

Napa River

St Helena

Deer Park

DIAMOND MOUNTAIN

Glass Mountain

Pratt Valley

Bell Canyon

Bell Canyon Reservoir

Cheyney Audubon

Bothe-Napa State Park

Ritchie Creek

Nash Creek

Mill Creek

Bell Creek

Conn Creek

Dutch Henry Creek

Canon Creek

York Creek

Sulphur Canyon

Sentinel Hill

Crane Park

Source: USDA NAIP flown 2016 at 1 meter per pixel; NAD 1983 StatePlane California II FIPS 0402 Feet

Legend

Project Work Areas

N

0 1,500 3,000 6,000

Feet

Figure 2.0-1
Project Overview
Napa Bundle Northern Corridor
Gas Pipeline Maintenance Program
Napa, CA

Environmental Resources Management
www.erm.com

2.1 PURPOSE AND NEED

The purpose of the Project is twofold: to undertake work necessary to ensure natural gas pipeline safety and reliability, and to meet customer demand for natural gas.

The Project is needed because PG&E, through its Transmission Integrity Management Program, has identified pipelines within its gas transmission system that must be assessed by strength testing or removed from the system by December 31, 2024. Most of the DFM 0405-01 pipeline between the cities of St. Helena and Calistoga was installed in 1930, and no records have been found to establish that the pipeline has been strength tested, thus necessitating the proposed hydrostatic tests.

In terms of demand for natural gas, the Project is needed because the existing transmission pipeline does not have sufficient capacity to meet the forecasted increase in demand that requires the addition of approximately 100,000 cubic feet per hour to the system. DFM 0405-01 is the sole pipeline serving the region. Increases in demand can be met by either increasing the size of the pipe or increasing the operating pressure within the pipeline. DFM 0405-01 is currently operating at 89 percent capacity, and this additional load would bring the system to over 100 percent utilization, meaning customers would experience outages during an abnormal peak day (e.g., cold weather event) if additional capacity is not added to the system. Based on 2014 data, the North Bay Local Gas Transmission System Network Master Plan concluded that replacing approximately 3,750 feet of 4-inch pipe with 8-inch pipe from Angwin Tap to Mill Creek would provide enough capacity for forecasted loads until 2033.

Additionally, the DFM 0405-01 natural gas pipeline between PM 28.361 and PM 35.431 (PG&E milepost 20.613 and 26.12) currently functions in both a distribution and transmission capacity. Each tap off the transmission line also requires an HPR station to reduce the pressure of the gas prior to delivery as the gas in a transmission line is at a higher pressure than gas in a distribution line serving a customer. Due to population growth and associated demand for gas, it is no longer possible or economically viable to serve each customer using a tap off the transmission line due to safety design requirements and annual maintenance associated with HPR stations. Installing a distribution line adjacent to the transmission line along SR 29 will enable PG&E to continue to provide safe and reliable gas service to existing customers and serve new Napa County customers as well.

2.2 PROJECT AND ROUTE ALTERNATIVES ELIMINATED FROM CONSIDERATION

2.2.1 Transmission Pipeline Alternatives

To address the capacity of the existing transmission line, the following alternatives were considered and eliminated from consideration for the reasons described below.

1. **Increase Operating Pressure of the Existing Pipeline**

As described in Section 2.2, Purpose and Need, the transmission pipeline is already operating at approximately 89 percent capacity to meet current demand. In order to be uprated to operate at higher operating pressures, the pipeline would require additional testing and repairs. Given that the pipeline was installed in the 1930's, increasing the operating pressure of the existing pipeline was determined to be an unviable alternative for meeting forecasted demand.

2. **Loop the Existing Pipeline with a Parallel Pipeline**

Looping adds additional capacity to a pipeline system by installing a parallel line to an existing pipeline and connecting it to that existing pipeline. Looping DFM 0405-01 would add more capacity than needed and would require acquisition of more easement than the proposed Project. Achieving increased capacity through installation of larger diameter pipeline rather than looping the existing pipeline would also replace pipe that was installed in the 1930s and is almost 100 years old. Therefore, looping the existing pipeline was determined to be an unviable alternative.

3. **Install Replacement Pipeline In Situ**

Installing larger diameter replacement pipeline where the existing pipeline is located (replacement *in situ*) has the following constraints:

- The transmission pipeline was installed in 1930s and the existing pipeline alignment is now near many trees and utility poles that would need to be removed or relocated to replace the pipeline *in situ*, which would substantially increase the Project's impacts on the environment.

- The transmission pipeline in this location is fed from a single source to the south, and functions as the sole supply of PG&E natural gas to the City of Calistoga, the City of Angwin, and multiple smaller distribution systems. Removing the line from service to replace it would require the extensive use of portable compressed natural gas (CNG) and liquified natural gas (LNG) to continue supplying gas to PG&E customers. This in turn would entail acquiring additional locations to temporarily store the portable gas and increasing shipments by truck. The result would drastically increase the cost and potential risks of construction.

- Digging near pressurized gas pipelines must be performed manually to address construction safety risks, significantly increasing the duration and cost of construction.

Therefore, installing a pipeline in situ within the existing easement was determined to be an unviable alternative.

4. **Install Replacement Pipeline to the West of SR 29**

Most areas along the west side of SR 29 have significant grade increases immediately adjacent to the shoulder of the highway, along with stone walls, water mains, and other features limiting workspace. In these areas, installing a pipeline adjacent to the southbound lane of SR 29 would require a full shutdown of the highway to obtain sufficient workspace. Therefore, installing a pipeline adjacent to the west of SR 29 was determined to be an unviable alternative.

5. **Install the Replacement Pipeline Entirely Within SR 29**

SR 29 in the Project Area is generally limited to one lane in each direction, with periodic center turn lanes and variable shoulder widths. Installing all the replacement pipeline within SR 29 would require lane closures for the duration of the Project, and, in areas of steep topography adjacent to the southbound lane, a full shutdown of the highway to obtain sufficient workspace. Future maintenance along any part of the replacement pipeline would also require road closures. For these reasons, installing all the replacement pipeline within SR 29 was determined to be an unviable alternative.

2.2.2 Distribution Pipeline Alternatives

Customers are located both east and west of SR 29, and existing customer service lines extend from the existing transmission line. The current situation of servicing customers off a high-pressure transmission pipeline resulted from the historical presence of relatively few customers in the area. Each customer service line off a transmission pipeline requires installing an HPR station to reduce the pressure of the gas from transmission line pressure to distribution line pressure. Continuing to add HPR stations on a transmission pipeline for delivery of gas to each customer is not a preferred alternative because, due to population growth, it is no longer possible or economically viable to serve each customer using a tap off the transmission line due to safety design requirements and annual maintenance associated with HPR stations.

2.2.3 Other Routing Considerations (Napa Valley Vine Trail)

In addition to the siting considerations described above, planned sections of the Napa Valley Vine Trail bicycle path—an ongoing project of the Napa Valley Vine Trail Coalition—were also evaluated in the planning of the replacement pipeline. Specifically,

the Project considered the 3.4-mile segment of proposed bike path along SR 29 extending between York Creek (north of St. Helena) and the Sonoma Lake Napa Unit Headquarters of the California Department of Forestry and Fire Protection (CalFire) located on SR 29 on the north side of Big Tree Road. In this area, the proposed alignments of the bike path and pipeline generally overlap, and PG&E has coordinated with the Napa Valley Vine Coalition to minimize construction impacts associated with the two projects, in particular with respect to landowner notification and easement acquisition. Sequencing of the two projects such that the pipeline is installed prior to construction of the bike path over top of the pipeline would also minimize impacts.

2.3 PROPOSED PROJECT

The proposed Project is described below. A more detailed description of construction activities is provided in Section 2.8, Construction Techniques, and Section 2.9, Project Construction.

2.3.1 Transmission Pipeline Replacement

PG&E is proposing to install 3.9 miles of 8-inch-diameter transmission pipeline generally along the east (northbound) side of SR 29 to replace existing 4-inch and 6-inch diameter transmission pipeline. The existing transmission pipeline to be replaced is either located under SR 29 or immediately adjacent to the east side of SR 29. The topography to the east of SR 29 is generally flat, and there are relatively few structures or other constraints immediately adjacent to the road in comparison to the west side of SR 29. The pipeline would be installed east of the existing transmission line and along SR 29 where necessary to avoid routing constraints, such as structures and other existing utilities. Following installation of the replacement transmission pipeline, the existing transmission pipeline will be depleted of gas and retired in place, and approximately 50 HPR stations on customer service lines extending from the transmission line will be dug up and removed. Retired pipeline segments within Caltrans' ROW will be filled with cement in compliance with Caltrans requirements. Elsewhere, the pipe will be cut off and capped at regular intervals of 1,000 to 4,000 feet in accordance with applicable legal requirements.

2.3.2 Distribution Pipeline Installation

PG&E is proposing to install 3.2 miles of 8-inch plastic and 400 feet of 8-inch steel distribution main pipeline, generally in the same corridor along SR 29 where transmission pipeline is being replaced. In most locations, the new distribution line and transmission pipeline will be installed in the same trench. As stated previously, the existing DFM 0405-01 pipeline currently functions in both a transmission and distribution capacity. After completion of the Project, customers will be serviced off the distribution line instead of the transmission line, apart from a few customers who require gas

delivered at a higher pressure. A total of 57 customer service lines extending from the new distribution line will also be installed, replacing existing customer service lines extending from the transmission line. The replacement customer service lines will vary between 0.5 inch and 1.25 inches in diameter, and will carry a pressure of 60 pounds per square inch or lower.

2.3.3 Strength Testing

PG&E is proposing to conduct a strength test, also known as a hydrostatic test, on a 1-mile section of transmission pipeline within the City of St. Helena, and a 2.4-mile section of pipeline south of the City of Calistoga. Hydrostatic testing is the industry standard for testing transmission pipelines to verify the maximum operating pressure and ensure the integrity of a pipe. In addition to testing existing pipelines as part of pipeline maintenance, all new piping installed will be hydrostatically tested to ensure pipe integrity before the line is brought into service. Additional information on strength testing is provided below in the description of construction techniques.

2.4 PROJECT LOCATION

The existing DFM 0405-01 pipeline is generally located along the SR 29 corridor either within Caltrans' ROW or in private property adjacent to it. The portion of DFM 0405-01 included in the Project extends between the City of St. Helena and the City of Calistoga (see Appendix A). The Project Area, defined as all areas where work activities would occur, is mostly a mix of rural residences and agricultural lands within unincorporated Napa County that are almost exclusively vineyards, except for the urban areas of the City of St. Helena. Project work locations, from south to north, are described below. Representative views of the Project area are provided in Appendix C.

2.4.1 T-1448A

Work locations for the T-1448A strength test are located along an approximately 1-mile section of pipeline within or adjacent to Caltrans' ROW (Main Street), within the City of St. Helena. The southern end of the pipeline work is approximately 500 feet southeast of Sulphur Creek on SR 29. The existing pipeline at Sulphur Creek is an aerial crossing attached to the side of the bridge. The northern end of the T-1448A strength test work is approximately 50 feet west of Pratt Avenue. Work descriptions by SR 29 postmile segments are provided in Appendix B.

2.4.2 R-1018B

The R-1018B replacement work extends within or adjacent to Caltrans' ROW a distance of 1.9 miles along SR 29 between Pratt Avenue at the northern end of St. Helena, and Hirsch Creek, 600 feet north of Ehlers Lane. Both transmission and distribution pipeline will be installed throughout this alignment apart from three locations where the existing

transmission pipeline has recently been replaced and is not in need of upgrading. Where there are substantial constraints to installing the pipelines on private property adjacent to the highway, the pipelines will be installed within the northbound lane, southbound lane, or center lane of the highway (see Appendix B). The R-1018B work ends on the north side of the crossing of Hirsch Creek, near the Angwin Tap, a lateral pipeline extending eastward from DFM 0405-01 that services Angwin. The replacement work includes installation of customer services lines to residences and businesses.

2.4.3 R-1018

The R-1018 replacement work extends within or adjacent to Caltrans' ROW a distance of 1.8 miles between the end of R-1018B on the north side of Hirsch Creek (near Ehlers Lane), and the Caltrans pullout on the northwest side of Ritchie Creek (near Larkmead Lane). Both transmission and distribution pipeline will be installed throughout this alignment apart from two locations where the existing transmission pipeline has recently been replaced and is not in need of upgrading. Where there are significant constraints to installing the pipelines in private property adjacent to the highway, the pipelines will be installed within the northbound lane or center lane of the highway. The replacement work includes installation of customer services lines to residences and businesses.

2.4.4 T-1448B

Work locations for the T-1448B strength test are located between Ritchie Creek and Dunaweal Lane, within Caltrans' ROW (see Appendix B). This section of DFM 0405-01 is 2.4 miles in length, and is located adjacent to the north side of the highway, except for 1,700 feet along Heitz Way, 1,200 feet adjacent to the south side of the highway leading up to Azalea Springs Way, and 1,200 feet along Azalea Springs Way. The end of the T-1448B strength test work is on the north side of SR 29 at Dunaweal Lane. The Project alignment is generally vineyards along the north side of SR 29, and a mix of vineyards, rural residences, and forested areas along the south side of SR 29.

2.4.5 LNG Injection Site

The LNG injection site is located within Caltrans' ROW on the west side of Dunaweal Lane, adjacent to the north side of SR 29 (see Appendix B). LNG would be injected into the existing transmission pipeline to be able to continue to supply natural gas to communities north (downstream) of the Project location. It is the same LNG injection site used during construction activities on DFM 0405-01 in 2020.

2.5 RIGHT-OF-WAY REQUIREMENTS

PG&E has existing land rights for the existing DFM 0405-01. PG&E has already obtained new easements for installing pipeline outside of those existing land rights, both for the replacement of transmission pipeline (offset from the existing transmission line)

and installing new distribution pipeline, with the exception of a new easement on the CalFire property north of Big Tree Road that has been negotiated but is pending execution. Replacing the customer service lines would generally not require new easements with the exception of a new 2-inch line crossing private property to service a customer 1,500 feet north of Bea Lane, and locations where lines cross SR 29.

Where the pipeline alignment is on private property on the east side of SR 29, the western boundary of the proposed easement is immediately adjacent to Caltrans' ROW where feasible. The centerline of the trench would generally be 10 feet from the proposed western easement line and 30 feet from the proposed eastern easement line. This is to allow construction the ability to lay spoils on one side and run construction equipment and lay pipe on the other. PG&E would acquire temporary construction easements to accommodate temporary work areas and staging areas outside of easements or ROWs (see Appendix B).

2.6 WORK AREAS

This section describes typical work areas needed for Project construction. The following discussion is preliminary and based on typical construction practices and anticipated construction needs. Work descriptions by Caltrans post mile segments are provided in Appendix B. Final design may require modifications to the expected work areas described herein; however, impacts associated with potential refinements are not anticipated to differ. Due to the generally flat topography of the Project area, no contouring, grading, or rocking is anticipated to be needed to create stable and level work areas. Vegetation clearance, including removal of trees, shrubs, vines, and mowing of grass will be required for access and staging. Following construction, work areas will be returned to approximate pre-Project conditions in accordance with stormwater plans, agency permits, and landowner preferences, as appropriate.

2.6.1 Staging and Laydown Areas

Temporary staging and laydown areas, shown in the map book in Appendix A, will be used for a variety of purposes, including construction equipment storage, vehicle and equipment parking, meeting areas, and other Project-related purposes. The locations of staging and laydown areas are preliminary and subject to change with final engineering and ground conditions at the time of construction (see Appendix B).

The following locations and approximate acreages have been preliminarily identified as potential staging and laydown areas:

- A 2.3-acre grass-covered vacant lot on the east side of SR 29 between Mills Lane and Dowdell Lane, south of the City of St. Helena.

- A stretch of 1,000 feet within Caltrans' ROW along the southeast side of SR 29, 20 feet wide, south of Vintage Avenue, required for assembling and staging the pipeline to be installed under Sulphur Creek.

- A 1-acre PG&E graveled yard on the east side of Mitchell Drive, across from Oak Avenue, within the City of St. Helena.

- A 150-by-20-foot grass-covered area on the west side of Pratt Avenue near the intersection of SR 29.

- A 0.3-acre parking lot on the south side of Lodi Lane, adjacent to SR 29.

- A 0.2-acre parking lot on the east side of Larkmead Lane, 0.70 mile north of SR 29.

- A 1.6-acre agricultural field on the west side of Larkmead Lane, 1 mile north of SR 29 used during construction activities in 2020.

- A 0.2-acre parking lot on the south side of SR 29, 600 feet west of Larkmead Lane.

- A 2.7-acre grass-covered field on the west side of Maple Lane, on the north side of SR 29.

- A 0.2-acre grass-covered road shoulder adjacent to Caltrans' ROW on the east side of Azalea Springs Way at the eastern intersection with SR 29.

- A 0.2-acre grass-covered road shoulder adjacent to Caltrans' ROW on the east side of Azalea Springs Way at the western intersection with SR 29.

- A 10-acre agricultural field on the south of Deer Park Road, east SR 29 used during construction activities in 2020.

2.6.2 Access Roads

Construction vehicles would access work areas from existing roads or along the existing pipeline ROW. No repair or maintenance of roads is required for accessing work areas.

2.6.3 Vegetation Clearance

Vegetation clearance of work areas, including trimming and removal of trees, shrubs, vines, and mowing of grass, would need to occur to safely install the pipeline.

2.6.3.1 Trees and Shrubs

PG&E designed the Project to reduce tree removal to the extent feasible by obtaining new easement to avoid trees that have grown over time along the existing pipeline

easement and reducing temporary work space. An assessment of anticipated tree removal requirements that cannot be avoided is listed in Table 2.6-1, listed by species and diameter at breast height (DBH). These tree removals are recommended for various reasons, including when:

1. There is not enough space for the crew to maneuver around the tree safely without damaging the tree or equipment;
2. Trenching activity will remove a significant portion of the tree's root system, and the tree is likely to decline and die; and/or
3. The tree is already dead or dying with evidence of previous large limb failures, making the area underneath the tree an unsafe place for workers.

Trees will be removed during initial vegetation clearance activities. During construction activities that occur after vegetation clearance, tree protection measures that would be implemented to avoid damaging trees include the following:

1. Installing tree protection zone fencing;
2. When excavation within a dripline cannot be avoided, using a hydrovac truck to excavate without severing major roots; and
3. Having a Certified Consulting Arborist with stop-work authority on-site to monitor for root damage. Should the Certified Consulting Arborist determined that construction activities may significantly impact a tree, the work will cease in that location until the PG&E designated arborist in concert with the designated Caltrans construction field contact/construction monitor determines work can continue.

The County of Napa, City of St. Helena, Caltrans, and all private property owners will be notified prior to starting tree removal work. PG&E is not subject to local (county and city) discretionary tree-removal ordinances or permitting but generally complies with local ordinances when feasible; tree removal within Caltrans ROW will be addressed within the encroachment permit issued by Caltrans and will consist of either on-site plantings of species compatible with utility corridors or plantings offsite. Replanting of the 10 trees to be removed for T-1448A would be performed in coordination with the City of St. Helena.

Table 2.6-1: Anticipated Tree Removal

Location	Species	Number of Trees	Within Caltrans' ROW (DBH in inches)	Outside Caltrans' ROW (DBH in inches)
T-1448A	Crape myrtle	6	–	5, 6, 6, 6, 7, and 10
T-1448A	olive trees	3	–	7, 7, and 12
T-1448A	Raywood ash	1	–	6 (damaged tree)

Location	Species	Number of Trees	Within Caltrans' ROW (DBH in inches)	Outside Caltrans' ROW (DBH in inches)
R-1018B	valley oak	1	–	20
R-1018B	olive tree	1	12	–
R-1018	valley oak	7	18 and 24	12, 12, 15, 22, 25, and 30
R-1018	coast live oak	3	40	4 and 5
R-1018	black oak	1	–	25
R-1018	olive	5	–	15, 15, 20, 20, and 50
R-1018	pine tree	2	–	14 and 16
T-1448B	valley oak	2	–	3 and 14
T-1448B	blue gum eucalyptus	1	14	–
T-1448B	olive tree	2	–	6 and 6
T-1448B	interior live oak	1	–	15
Total Estimated:		**37 trees**	**5 trees**	**32 trees**

Notes: DBH = diameter at breast height

No herbicide would be used during this Project. All resulting debris would be disposed of offsite. Residual stumps would be cut as close to grade as possible and eucalyptus tree removals would require stump grinding and backfilling of the vacant hole. If construction plans change as they relate to tree work, PG&E would consult with Caltrans and the area of work would be re-assessed by a Certified Consulting Arborist.

2.6.3.2 Vines

Most of the land use along the Project alignment outside of the City of St. Helena is vineyards. At various locations along the alignment, vines will need to be removed to provide sufficient workspace to access the existing pipeline or install new pipeline. These locations are limited to the extent needed to complete the work, and removal of the vines will be performed in coordination with the vineyard owner. In some locations, vines can be replanted following construction under the terms of the easement agreement that will address allowable land use in proximity to gas pipelines.

2.7 CONSTRUCTION TECHNIQUES

2.7.1 Bell holes

Bell holes are excavations created to access the existing transmission pipeline, associated appurtenances, other underground utilities, and to tie in new pipeline to existing facilities. Bell holes will generally range in size between 6 by 6 feet and 15 by

30 feet, and the depth will depend on the depth of the facility but will generally be up to 10 feet deep. Bell holes not backfilled the same day as excavated will be covered with a metal plate if within Caltrans' ROW or other roadway, or with plywood or other covering if not within a location subject to traffic. Bell holes are backfilled following completion of the work at a given location and the surface restored to approximate pre-Project conditions.

2.7.2 HPR Stations

At various locations along the existing transmission pipeline, HPR stations connected to the pipeline by a tapping tee and inlet pipe control the flow of gas from higher to lower pressures. At 50 locations where these HPR stations are no longer required, a bell hole will be excavated to access the pipeline and remove the HPR station by cutting off the inlet pipe and welding a plug at the end of the tapping tee. In addition to removing HPR stations, one new HPR station will be installed, and one existing HPR station will be rebuilt.

2.7.3 Open Trench Construction

Most of the pipeline installation will be performed using the open trench method as it allows installation of the pipeline at a depth that enables future accessibility in the event of maintenance activities. Open trench construction will begin with a crew excavating the trench, followed by a welding and coating crew that will connect the sections of pipeline and lower it into the trench, and a backfill crew. The crews will proceed together so that there is minimal open trench at any one time. At the end of each workday, any open trench will be covered with a metal plate if within Caltrans' ROW or other roadway; other locations will be covered with plywood or fenced. The bottom of the trench will be filled with sand, then the pipeline will be installed, followed by an additional layer of sand, and then the remainder of the backfill. A pipeline warning tape will be laid in the trench during backfilling to minimize the potential for future excavations to inadvertently hit the pipeline. Where both pipelines are installed in a joint trench, the transmission pipeline will be installed first, and separated from the distribution pipeline with a layer of backfill.

In minimally developed areas and agricultural areas where spoil can be stored on-site, open trench installation will typically occur within a minimum 40-foot-wide permanent easement, or up to 60 feet where available. Generally, the centerline of the trench will be 10 feet from the proposed western easement line and 30 feet from the proposed eastern easement line. This provides space for piling of spoils and vehicle travel, a 3-foot-wide trench with buffers on either side due to minimal shoring and disposition of loose soil, space for welding and coating of pipe strings prior to lowering into the trench, and space for equipment to carry and lower the pipe into the trench. Additional temporary construction easements may also be acquired where necessary. For open

trench installation within SR 29, the required work area width will be 26 feet. Asphalt along the trench line will be saw-cut, shoring will be used as needed in trenches to stabilize soil, and all spoils will be continuously off-hauled and not stored on-site.

In the highway where both pipelines are installed in a joint trench, the distribution pipe will be a minimum 7.5 feet deep to the top of the pipe and the transmission pipe will be a minimum of 9 feet deep to top of pipe. Outside of the highway where both pipelines are installed in a joint trench, the distribution pipe will be 3 feet deep and the transmission pipe will be 3.5 feet deep to top of pipe. The width of a joint trench will be 4 feet wide. The width of a trench for transmission pipeline alone will be 2 feet wide, and there will be a minimum of 4 feet of cover to the top of the pipe, unless trench shoring is required in which case the trench may be up to 8 feet wide.

Open trenches are typically excavated using back hoes, although a hydrovac would be used in limited circumstances to protect resources, such as tree roots or other nearby resources, or to safely enable the removal of soils near live gas lines. A hydrovac uses pressurized water and a vacuum to simultaneously excavate and remove soil.

2.7.4 Auger Bore

For an auger bore or “jack and bore,” a casing is “jacked” through the ground with hydraulic jacks located on a bore machine, while helical augers, a spiral drilling device, removes dirt just ahead of the casing. After the casing is in place, the pipe is then inserted through the casing. Due to minimum clearances typically desired below creek beds, roads/highways, or other utilities, bore shafts tend to be relatively deep and require shoring. Entry pits are approximately 15 feet wide by 60 feet long, and exit pits are approximately 15 feet by 15 feet. There are four locations where an auger bore is proposed, including a drainage ditch associated with Hirsch Creek, a wetland located approximately 0.4 mile north of Hirsch Creek, a drainage ditch in front of the CalFire building on the north side of Big Tree Road, and Ritchie Creek. At each of these locations, both the new distribution pipeline and replacement transmission pipeline will be installed. Figure 2.7-1 provides a depiction of the auger bore technique (Researchgate 2021).

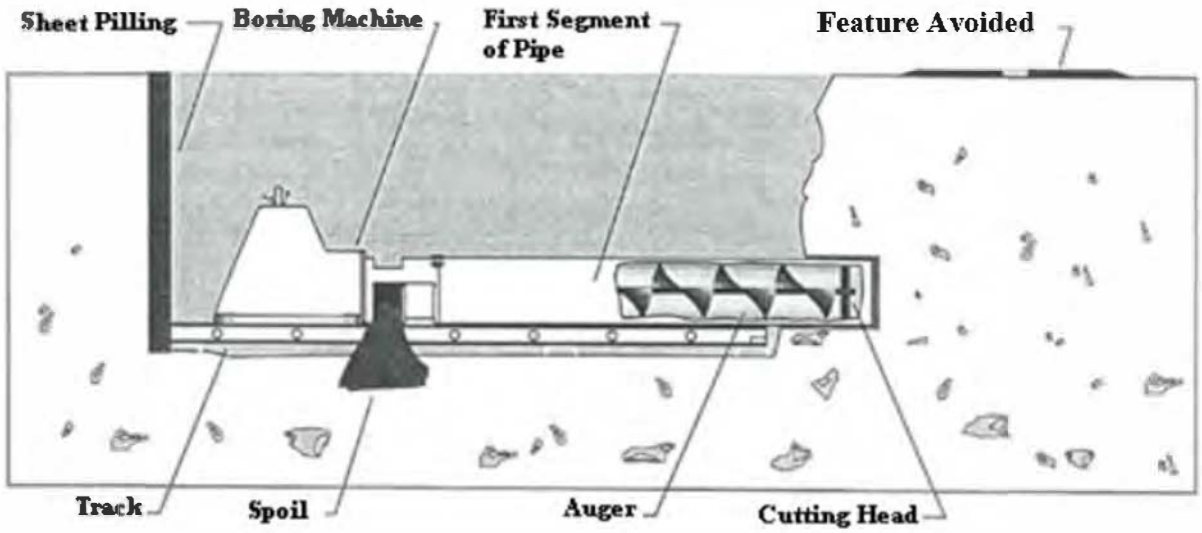


Figure 2.7-1: Example of Auger Bore Technique

2.7.5 Aerial Crossing

An aerial crossing, or free span, is where the pipeline is not installed underground. There are three locations on this Project where the distribution will free span watercourses, thereby avoiding any impacts on the bed, bank, channel, or the watercourses. These locations include York Creek, Mill Creek, and Hirsch Creek. None of the transmission pipeline will include aerial crossings.

2.7.6 Horizontal Directional Drilling

HDD is a bore process that can be used in certain soil conditions to avoid resources or features. In contrast to the auger bore, HDDs are completed using drilling rigs situated at the ground surface. Installing a pipeline by HDD is generally accomplished in three stages as depicted in Figure 2.7-2. A pilot drill rod enters the ground at the entry point, and then travels horizontally in an arc underneath the surface, before coming back out of the ground at the exit point. A reamer is used to enlarge the pilot hole to the required diameter, and then the pipeline is pulled through the borehole. Drilling fluids are used during the process to stabilize the borehole and carry the soil cuttings out of the hole. This construction technique is proposed for installing the replacement transmission pipeline and new distribution pipeline under Sulphur Creek in St. Helena and may be used for approximately 1,000 feet of distribution pipeline within Caltrans' ROW adjacent to the southbound lane of SR 29 north of Byrd Hill Lane. For the Sulphur Creek pipeline replacement, the drill rig will be positioned in the parking lot at the corner of Mitchell Drive and SR 29, by the Wells Fargo Bank.

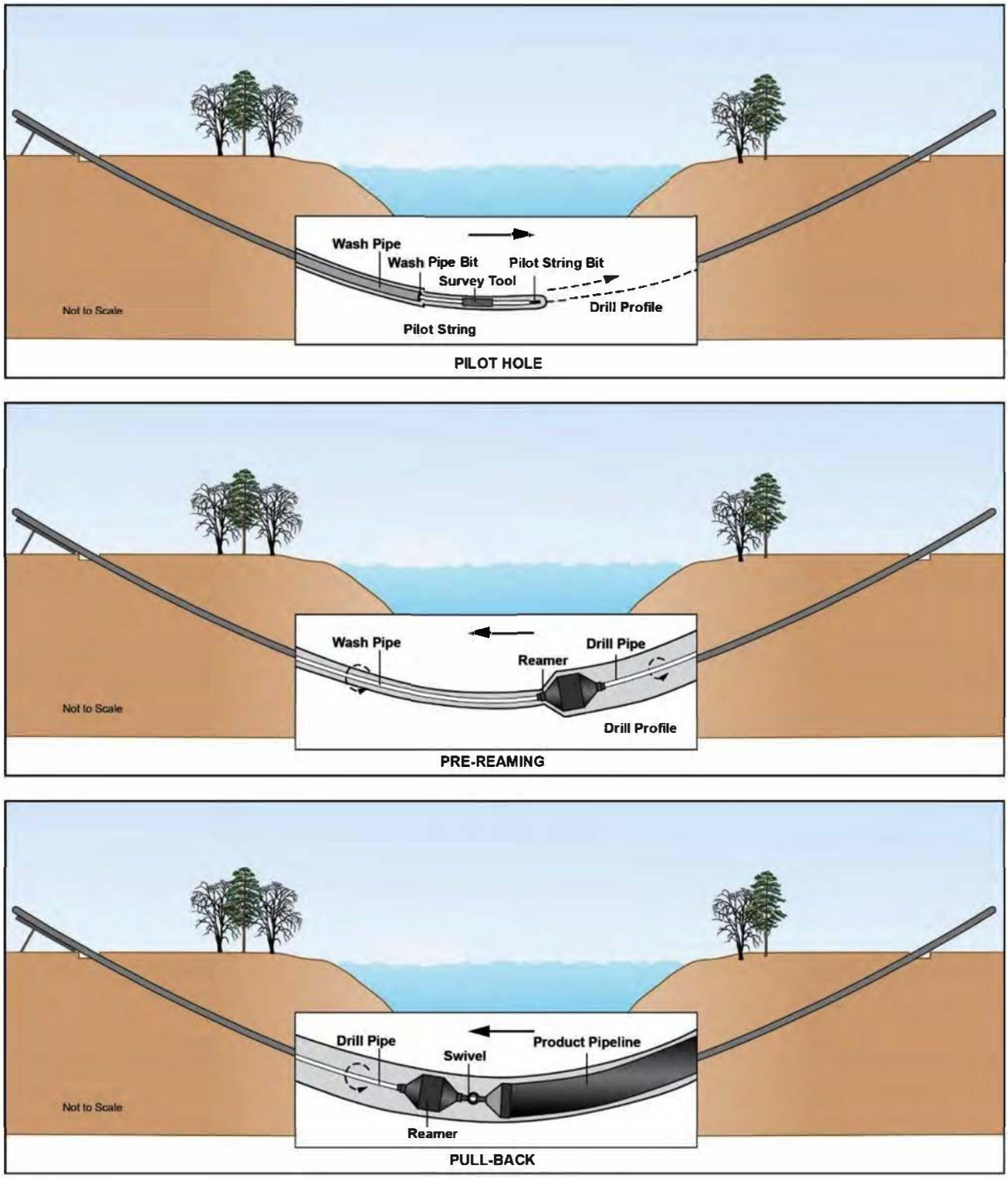


Figure 2.7-2: HDD Conceptual Diagram

At the entry point of the drill, a bore pit will be excavated within the designated, bermed work area to contain fluids used during the drilling, which are composed of non-toxic compounds, such as bentonite. A Drilling Fluid Migration Contingency Plan will be implemented to detect and address any inadvertent fluid migrations, also known as "frac-outs." Frac-outs occur when the pressurized drilling fluid finds an underground fracture or pathway other than the borehole, and can be detected by a loss of drilling fluid pressure in the borehole or appearance of drilling fluid on the ground surface near the bore alignment. Most frac-outs occur close to the bore entry or exit where the drill is at a shallower depth. After the bore hole is complete, the welded pipe string (assembled in a nearby temporary work area) is pulled through the hole from the exit side of the bore.

2.7.7 Hydrostatic Testing

Hydrostatic testing for this Project will require water to be trucked to the work areas. An estimated total of 106,500 gallons of water will be required for hydrostatic testing of all newly installed pipeline at R-1018 and R-1018B and testing of existing pipeline at T-1448A and T-1448B. Water will be supplied from municipal water resources for work areas within St. Helena City boundaries. For hydrotests and dust control outside of St. Helena, water will be supplied from trench water, well water, and ponds along the route, or other sources, including gray water, as available. Permission will be obtained from landowners for use of this water and the water will be tested prior to use and discharge. Once a test section of pipe is filled, the water pressure will be slowly raised to the appropriate test pressure for a minimum of 8 hours. At the end of the test, the pipe will be emptied of water and the water collected into liquid storage tanks, such as Baker™ Tanks, staged within the Project workspace. After hydrostatic testing is completed, the test water will be hauled offsite to an appropriate disposal site or used for on-site dust control. If the water is used for on-site dust control, it will be discharged in areas away from any jurisdictional waterways and/or wetlands within the Project footprint. The pipeline will then be dried before being placed in service using drying pigs and compressed air or nitrogen.

In order for a section of pipeline to be hydrostatically tested, it must be piggable. Features along the existing pipeline that may prevent the passage of a pig include elbows and miter bends in the pipe, control fittings, bottom fittings, and valves, including HPR stations. To replace unpiggable features, the pipeline will be partially exposed using a hydrovac truck while the pipeline is still in service. These excavations, ranging in size between approximately 8 by 8 feet and 10 by 20 feet, will typically take one day to perform at each location where valves are not accessible by an existing box (vault). Once the line is taken out of service it will take crews approximately 2 days at each location to cut into the pipe, remove the unpiggable feature, and weld and coat the

replacement pipe. The locations will remain plated until after the hydrostatic test is complete, at which time the excavations will be backfilled and the road surface repaired.

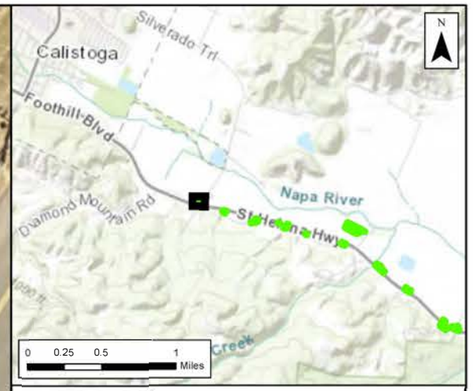
2.7.8 Customer Service Line Installation

Installing 2-inch or smaller, low pressure, customer service lines between the distribution pipeline and the gas meter at a residence or business will occur by boring, trenching, or using an existing customer service line as a conduit, if present, and of sufficient size. Installing these customer service lines by boring, at a depth of around 3 feet, is the preferred method as it creates the least disturbance. However, based on prior work in this area, it is anticipated that trenching may be required due to the presence of subsurface rocks obstructing the bore. The trench will be excavated with a mini-excavator or rubber-tired backhoe. The width of the trench will be 12 inches wide, unless a wider bucket is used. The depth of the trench on private property will range between 18 and 28 inches, and 5 feet deep at the point of tie-in with the distribution line. The minimum depth requirement below SR 29 is 42 inches. Trenches not backfilled the same day as excavated will be covered with a steel plate, or 1/2-inch plywood if no traffic.

2.7.9 LNG Injection and CNG

DFM 0405-01 is the only pipeline extending north of Yountville. When the line is taken out of service to enable specific construction activities, LNG will be injected into the pipeline at Dunaweal Lane to provide uninterrupted gas service to customers downstream of construction activities in Calistoga and surrounding communities. The parcel of land at the corner of Dunaweal Lane and SR 29 was modified in the spring of 2020 to facilitate pipeline maintenance projects south of St. Helena. In April 2020, gravel was applied to the approximately 1-acre parcel to provide a stable, clean surface, and security fencing was installed. When in use, the LNG injection site will be operational 24 hours a day, receiving LNG tankers, and compressing and injecting gas into the pipeline. In addition to equipment and an on-site workforce of up to 10 people, a construction trailer and nighttime lighting will be on-site. Following completion of construction activities in 2022, the gravel and fencing will be removed, and the site restored to approximate pre-Project conditions. A site plan showing the approximate layout of equipment at the LNG injection site is shown below in Figure 2.7-3, and a schematic and examples of LNG injection are provided in Figure 2.7-4.





Legend

- LNG Piping Skid
- CNG Ambient Heat Exchanger
- Fired Vaporizers
- Generator
- Gas Transport Module Containing Compressed Nitrogen
- Support Trailer
- LNG Ambient Heat Exchanger
- Office
- Support Trailer
- Tanker
- 360,000 Cubic Foot Tube Trailer
- Trim Trailer
- Cross Compressors
- Project Work Areas

N

0 17.5 35 70

Feet

Figure 2.7-3
LNG Site Features
PG&E Napa Bundle Northern Corridor
Gas Pipeline Maintenance Program
Napa, Ca

Environmental Resources Management
www.erm.com

Source: USDA NAIP flown 2016 at 1 meter per pixel; NAD 1983 StatePlane California II FIPS 0402 Feet

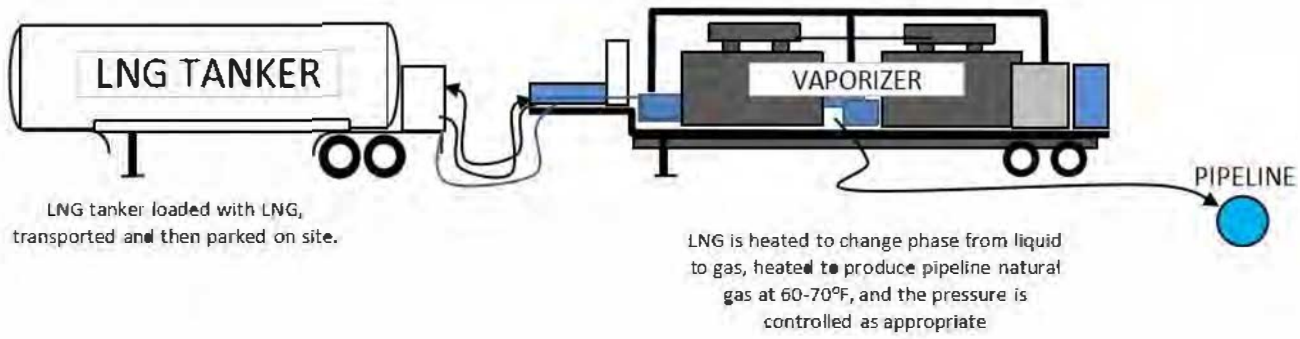
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REVISED: 10/13/2020

FILE: M:\Projects\PG&E\PGE_NapaMaps\2-7-2 LNG Layout.mxd

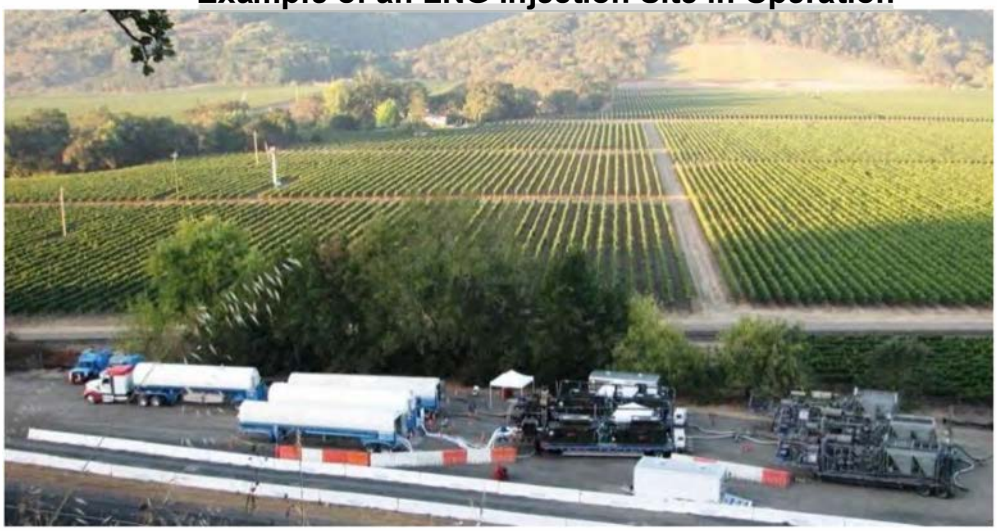
Figure 2.7-4: LNG Injection Site Schematic and Example



Example of Injection Point into Pipeline



Example of an LNG Injection Site in Operation



The process of LNG injection consists of transporting LNG by tanker trucks to the injection site, heating the LNG to change the phase from liquid to gas, and pressurizing it as it is injected into the pipeline. The LNG for this Project will be sourced from Boron, California, 360 miles from the Project site. Four tanker trailers will travel back and forth for a period of about 10 weeks, transporting LNG to the site. Each LNG trailer holds 10,000 gallons of LNG. If LNG cannot be obtained from an LNG distributor in Boron, the next closest location is a distributor in Topock (Arizona), 600 miles from the Project site.

Customers south of Dunaweal Lane whose gas service is affected during construction activities will be provided with compressed natural gas brought in by trailer and hooked up directly to their gas meter. Specifically for the T-1448A hydrostatic test in Saint Helena, either a distribution pipeline will be installed under Sulphur Creek at the same time the transmission line is replaced and connected to existing distribution pipeline on the south side of the creek, or CNG will be injected into an existing distribution pipeline. This will require installing 25 feet of 4-inch plastic pipe between CNG trailers staged in PG&E's yard on the east side of Mitchell Drive and an existing distribution pipeline on the west side of Mitchell Lane, 200 feet south of Main Street. Installation of this CNG line will require a temporary closure of Mitchell Drive between Main Street and Oak Street.

2.7.10 Pipeline Decommissioning and Abandonment

Decommissioning and abandonment of the existing transmission pipeline will consist of cleaning the pipeline, as needed, and also cutting and capping it at regular intervals to prevent migration of water that penetrates the abandoned pipe. Cleaning methods of the pipe will be determined following removal of the gas and may include sandjetting (a technique that uses high-velocity dry nitrogen to inject and propel sand through the pipe), cleaning with an organic biodegradable detergent, or cleaning with a pig.

Following cleaning, pipeline located within Caltrans' ROW will be filled with cellular concrete to prevent ground subsidence should the pipe collapse due to corrosion or external loading. Any above-grade facilities will be removed. This work will occur at the tie-in locations of the existing pipeline with the replacement pipeline, and other locations as needed to enable the pipeline to be cut into segments and capped on the ends at the minimum required interval of 1,000 to 4,000 feet in accordance with PG&E pipeline abandonment standard TD-9500P-16.

Existing customer service lines replaced by new lines extending from the new distribution pipeline will also be decommissioned and abandoned in place. The lines will be plugged, and any outside meters, risers, headers, markers, or other aboveground or belowground appurtenance no longer required will be dismantled and removed.

2.7.11 Erosion and Sediment Control and Pollution Prevention During Construction

Excavation of bell holes, entry and exit pits of bores, and open trenching will generate soil that will be removed offsite when the excavation is within a road or stored on-site when the excavation is in an agricultural or other open area. The total estimated volume of soil to be excavated is 27,194 cubic yards. If deemed suitable, these materials will be used to backfill excavations following pipeline installation or modifications. Soils stored on-site will be stabilized consistent with the Storm Water Pollution Prevention Plan (SWPPP) prepared for the Project. Stockpiles will be located away from or downgradient from waterways, and other sediment control best management practices (BMPs) will be implemented to manage temporary stockpiles.

PG&E will obtain coverage under the State Water Resources Control Board General Permit for Storm Water Discharges Associated with Construction Activity Order Number 2009-0009-DWQ (General Permit) for construction activities. To obtain coverage under the General Permit, PG&E will develop and submit permit registration documents—including a Notice of Intent, a SWPPP, a risk assessment, a site map, certification, and an annual fee—to the State Water Resources Control Board prior to initiating construction activities.

In conjunction with the SWPPP, appropriate BMPs will be developed to ensure that construction activities do not degrade surrounding water quality through erosion, sediment run-off, and other pollutants. These BMPs then will be implemented and monitored throughout construction. Water for dust control or other uses will be obtained from hydrants situated along the Project route, trench dewatering during excavation activities, and private ponds.

Additional avoidance and minimization measures (AMM) to reduce and avoid erosion and control sediment and pollution during construction are provided in Section 2.13, Avoidance and Minimization Measures, and are discussed further in Section 3.8, Hazards and Hazardous Materials and Section 3.9, Hydrology and Water Quality.

2.8 PROJECT CONSTRUCTION

Descriptions of the work by location are provided below. Appendix B provides a breakdown of construction activities by Caltrans postmile.

2.9 CONSTRUCTION SCHEDULE

Construction is scheduled to begin in fall of 2021 and to be completed in the spring of 2022. Table 2.9-1 provides an anticipated construction schedule; the actual construction schedule will be based on final design and construction contractor mobilization.

Table 2.9-1: Anticipated Construction Schedule

Project Activity	Proposed Schedule
R-1018	September 2021–June 2022
R-1018B	September 2021–June 2022
T-1448A	September 2021–February 2022
T-1448B	September 2021–February 2022

When possible, the schedule will be optimized to minimize the length of time the existing transmission line is out of service and LNG and CNG is needed to provide gas to customers. Also, gas flow to the Angwin Tap, a pipeline lateral extending east from DFM 0405-01 at the juncture of R-1018B and R-1018, must be maintained at all times. Therefore, it is likely that at least two separate clearances will be taken on DFM 0405-01.

2.9.1 R-1018B Pipeline Installation

R-1018 is a segment of pipeline work between Pratt Avenue and Bea Lane. Work within this nearly 2-mile stretch of SR 29 commencing 1,500 feet north of Pratt Avenue and ending 100 feet north of Hirsch Creek would consist of installing 1.38 miles of replacement transmission pipeline and 1.9 miles of distribution pipeline. Service lines extending from the distribution line would also be installed. The transmission and distribution pipeline would be installed when the existing transmission pipeline is still in service, thereby limiting the duration of time that customers need to be supplied with an alternate source of gas. The transmission pipeline would be installed by trenching, as would the distribution line with the exception of three locations where the transmission pipeline is not replaced. The distribution pipeline would free span York Creek and Hirsch Creek, and a 1,100-foot section of distribution line would be installed within the highway using HDD; however, if the HDD is not feasible, this section of pipeline would also be installed by trenching. The pipelines would be installed within private property adjacent to the east side of SR 29 apart from locations where they would be installed in the highway due to the presence of other underground utilities, including communication lines, water lines, storm drainage lines, and the existing DFM 0405-01 pipeline, or to avoid features such as drainage ditches, a retaining wall, significant topography changes, and substantial tree removal. See Figure 2.9-1 for R-1018B work locations.

While the actual work plan for R-1018B will be determined by the contractor performing the work, it is anticipated that construction activities will generally proceed in a northerly direction. After land survey crews stake work areas and equipment and materials are delivered to staging and laydown areas, it is likely that two pipeline installation crews would work simultaneously at different locations—excavating trench, installing the pipeline, and backfilling the trench, proceeding in a northerly direction. Each crew would

work on a section generally characterized by stretches of private property or paved highway, referred to as unimproved or improved land, respectively. After a pipeline installation crew completes a section, they will move onto the next section.

Following pipeline installation, a hydrostatic test of the newly installed transmission pipeline would be performed to confirm the integrity of the pipe. The hydrostatic test would be performed as one section, at a test pressure of approximately 500 pounds per square inch for 8 hours. Distribution pipelines would undergo a leak test using air compressed at 100 to 120 pounds per square inch gauge. Following completion of the testing, the new pipeline would be tied into the existing pipeline and placed into service. Cleanup and restoration activities are anticipated to be complete by June 2022.

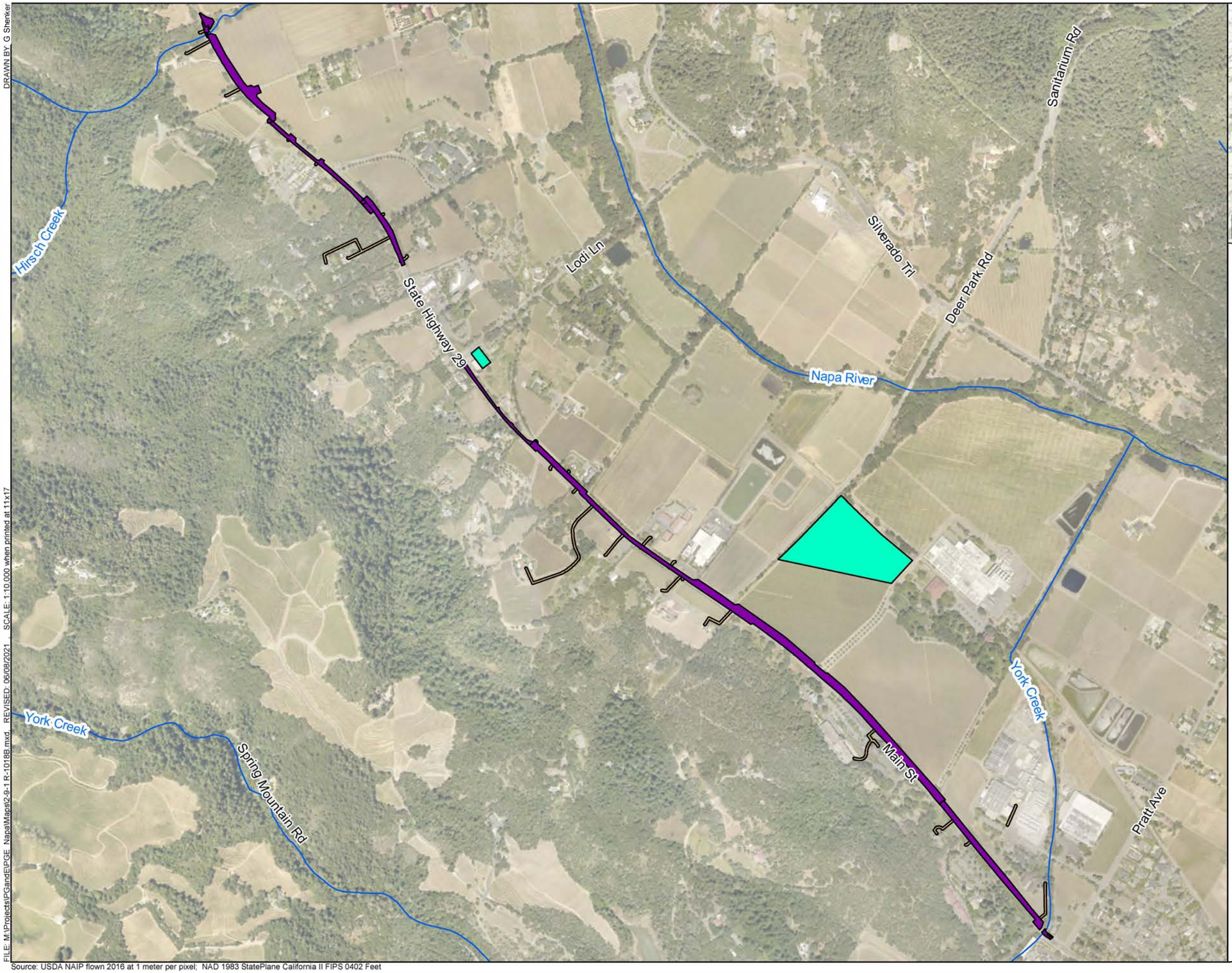
2.9.2 R-1018 Pipeline Installation

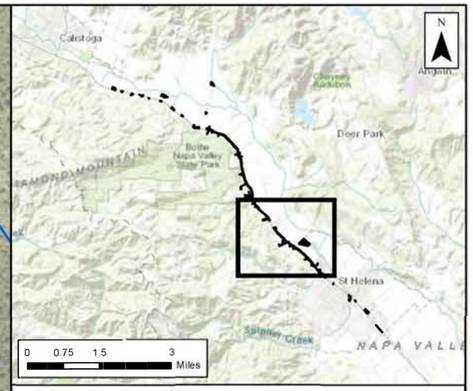
R-1018 is a segment of pipeline work between Bea Lane and Larkmead Lane. Work within this 2-mile stretch of SR 29 starting just north of Bea Lane will consist of installing 1.8 miles of replacement transmission pipeline and 1.3 miles of distribution pipeline. Service lines extending from the distribution line will also be installed, 16 of which will extend under SR 29. The transmission and distribution pipeline will be installed when the existing transmission pipeline is still in service, thereby limiting the duration of time that customers need to be supplied with an alternate source of gas. See Figure 2.9-2 for R-1018 work locations.

The transmission and distribution pipeline would be installed by trenching, and located in a joint trench in locations where both the installation pipeline is to be replaced and the new distribution pipeline installed. The pipelines would be installed within private property adjacent to the east side of SR 29 apart from locations where they would be installed in the highway due to the presence of other underground utilities, proximity to a residence or a pond, and to avoid substantial tree removal. Both pipelines would be bored under a drainage ditch associated with Hirsch Creek, and a wetland located 2,000 feet north of Bea Lane. In the vicinity of Mill Creek, the transmission pipeline does not need to be replaced, and the distribution pipeline would be installed in the northbound lane of SR 29 approaching Mill Creek, and an aerial crossing of the creek. Traversing in front of the CalFire Sonoma Lake Napa Unit Headquarters, the pipelines would be installed in joint trench and be bored under a drainage ditch. Beyond this point, only transmission pipeline would be installed, and the pipeline would be installed under Ritchie Creek by boring.

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Legend

- R-1018B Transmission and or Distribution Work Area
- Laydown/Staging Area
- Customer Service Line Work Area

N

0 500 1,000 2,000
Feet

Figure 2.9-1
R-1018B Overview
Napa Bundle Northern Corridor
Gas Pipeline Maintenance Program
Napa, CA

Environmental Resources Management
www.erm.com

Source: USDA NAIP flown 2016 at 1 meter per pixel; NAD 1983 StatePlane California II FIPS 0402 Feet

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Larkmead Ln

Bale Ln

Silverado Trl

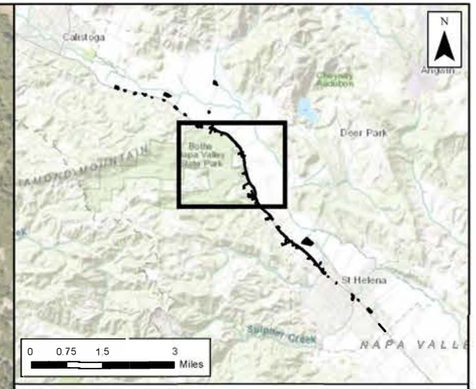
Crystal Springs Rd

Napa River

Ritchie Creek

Mill Creek

State Highway 29



Legend

- R-1018 Transmission and or Distribution Work Area
- Customer Service Line Work Area

N

0 500 1,000 2,000

Feet

Source: USDA NAIP flown 2016 at 1 meter per pixel; NAD 1983 StatePlane California II FIPS 0402 Feet

Figure 2.9-2
R-1018 Overview
Napa Bundle Northern Corridor
Gas Pipeline Maintenance Program
Napa, CA

Environmental Resources Management
www.erm.com

While the actual work plan for R-1018 will be determined by the contractor performing the work, it is anticipated that construction activities would start in September 2021, with two crews installing the transmission and distribution pipeline by trenching. It is anticipated that each bore to be performed would take 17 days to complete.

Following pipeline installation, a hydrostatic test of the newly installed transmission pipeline would be performed to confirm the integrity of the pipe. The hydrostatic test would be performed as one section, at a test pressure of 500 pounds per square inch for 8 hours. Distribution pipelines would undergo a leak test using air compressed at 100 to 120 pounds per square in gauge. Following completion of the testing, the new pipeline would be tied into the existing pipeline and placed into service. Cleanup activities would be completed by June 2022.

2.9.3 T-1448A Strength Testing and Sulphur Creek Replacement

2.9.3.1 Construction Activities

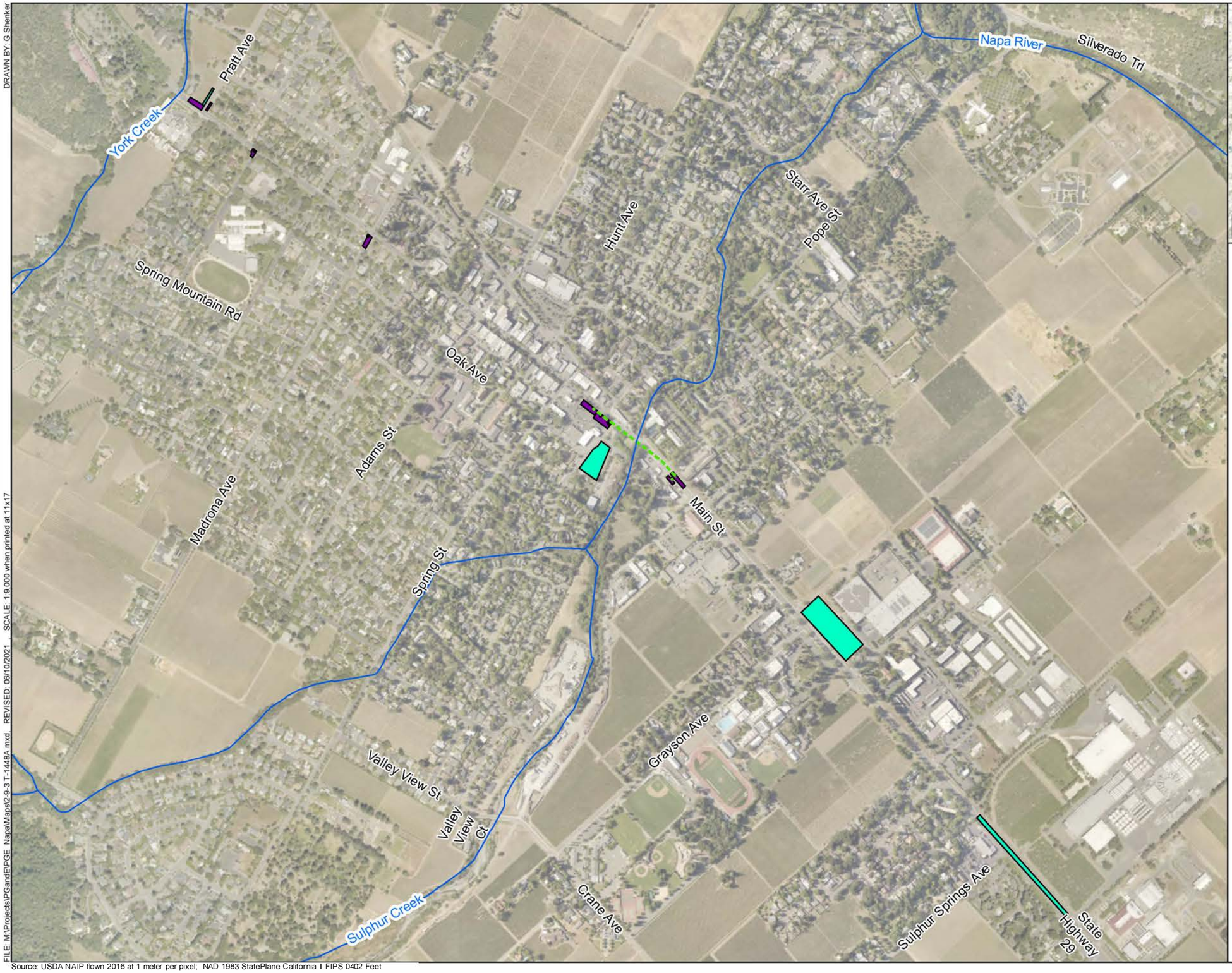
T-1448A is a segment of pipeline work within St. Helena between Charter Oak Avenue and Pratt Avenue. Construction activities for this 1-mile pipeline section would consist of modifying the existing pipeline to make it piggable, followed by a hydrostatic test to ensure its integrity. The modifications would consist of removing unpiggable features at approximately two locations by digging bell holes to access the pipe, and also installing replacement pipeline at the Sulphur Creek crossing and along SR 29 between Mitchell Drive and Pope Street. Two pipelines would be installed at the Sulphur Creek crossing, a replacement transmission pipeline and a distribution pipeline that would enable delivery of natural gas to customers north of the crossing when the transmission pipeline at the creek crossing is out of service. See Figure 2.9-3 for T-1448A work locations.

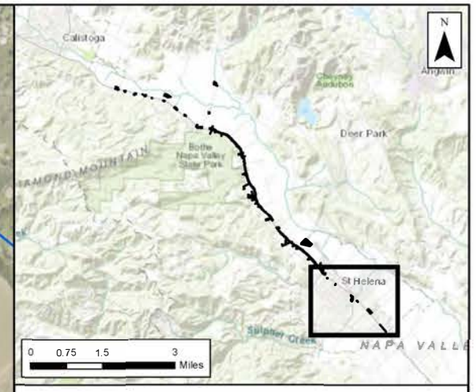
The hydrostatic test will be undertaken as described in Section 2.8.8. Should the test not be successful, the location of the leak would be accessed by excavating a bell hole, and the deficient piece of pipe replaced. The hydrostatic test may then be repeated to confirm there are no additional locations that may need to be replaced.

It is anticipated that the bell holes would be excavated and plated until the pipeline is taken out of service. The two HDDs at Sulphur Creek are anticipated to take a total of 6 weeks to complete. When the pipeline is taken out of service, the modifications to the pipeline at the bell hole locations would occur, the HDD sections of pipeline would be tied in, and test heads would be installed at each end of the pipeline to be tested. Following the successful completion of the hydrostatic test, the test heads would be removed, the line tied back in, and disturbed sites restored.

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Legend

- Horizontal Directional Drill
- T-1448A Project Work Area
- Laydown/Staging Area

N

0 500 1,000 2,000
Feet

Figure 2.9-3
T-1448A Overview
Napa Bundle Northern Corridor
Gas Pipeline Maintenance Program
Napa, CA

Environmental Resources Management
www.erm.com

Source: USDA NAIP flown 2016 at 1 meter per pixel; NAD 1983 StatePlane California II FIPS 0402 Feet

Sulphur Creek Horizontal Directional Drill

Sulphur Creek crosses SR 29 toward the southeast end of St. Helena. The channel at the highway crossing is approximately 60 feet wide, and the existing transmission pipeline is attached to the northeast side of the bridge. Replacement transmission pipeline and the new distribution pipeline would be installed by HDD per the methodology described in Section 2.8.7. The existing pipeline at Sulphur Creek would be decommissioned in place.

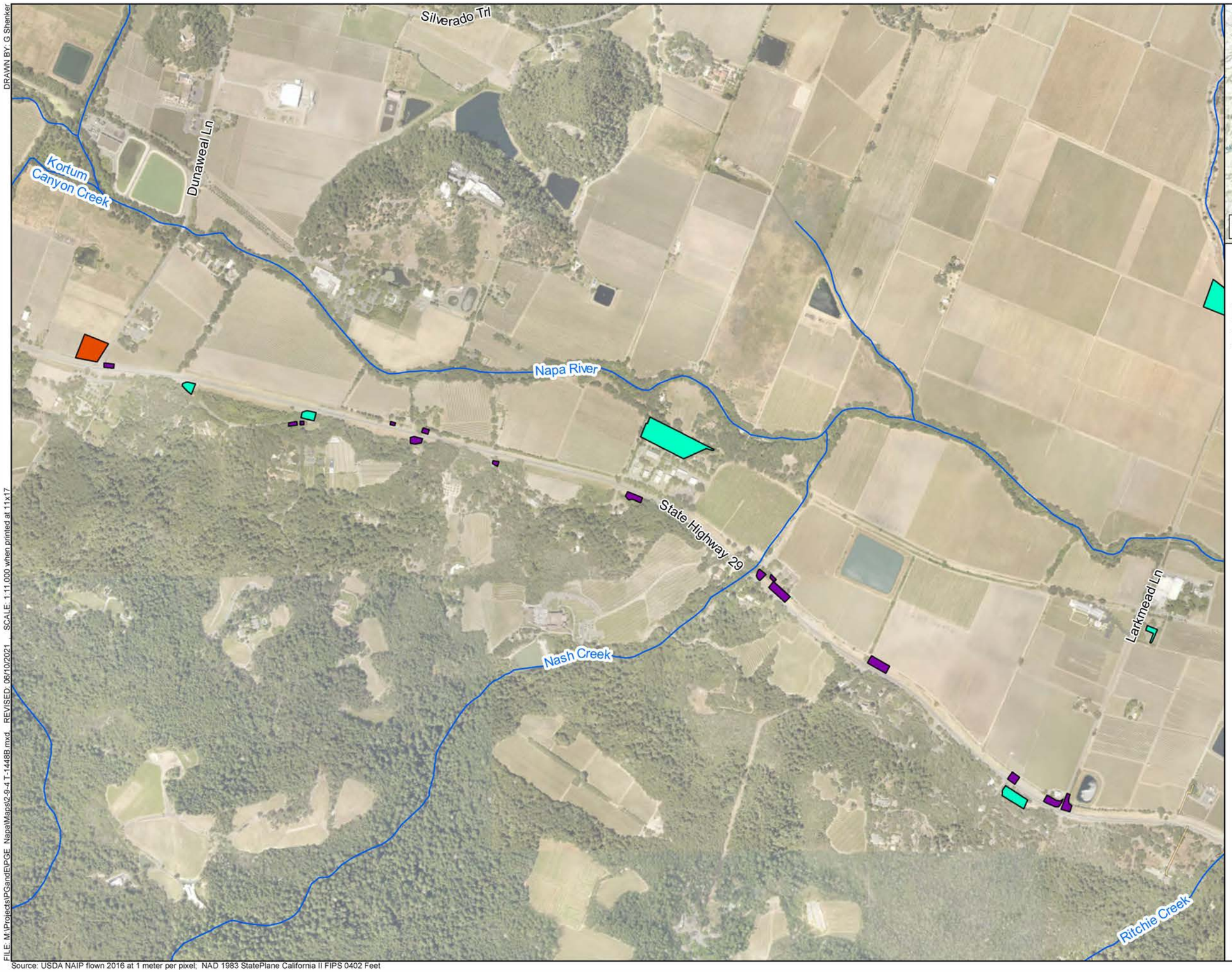
The entry point for the drill would be located in the parking lot on the northwest side of the intersection of Mitchell Drive with SR 29, and the exit point would be on the shoulder of SR 29, about 500 feet east of Sulphur Creek. When the HDD crew is working, the lane on Mitchell Drive adjacent to the parking lot where the drill entry point is would need to be blocked off, as would the southbound lane on SR 29 adjacent to the parking lot. It is anticipated that the lanes would only need to be blocked off at night while the crew is working, and not during the daytime.

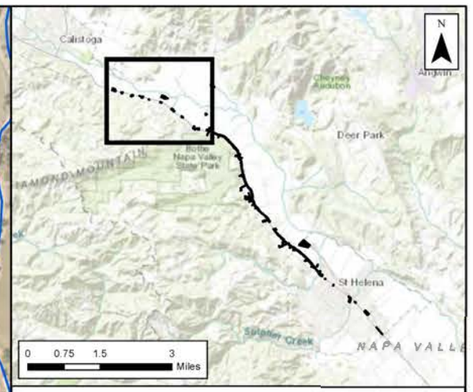
The total length of each HDD will be 750 feet, with a maximum depth under the creek bed of 40 feet. Two parallel bore holes will be drilled between the same entry and exit location. After the new 8-inch transmission pipeline crossing has been installed, the existing pipeline at Sulphur Creek will be deactivated, purged, cleaned using the sand-jetting technique described in Section 2.7.10 if internal sampling determines it necessary, and filled with a cement slurry for the entire length of the replaced pipe; the aboveground section of pipeline currently attached to the side of the bridge may be removed. The new distribution pipeline installed under the creek would be connected to existing distribution on each side of the creek. This would require trenching a 30-foot section of pipeline across SR 29 from the exit of the HDD to an existing distribution pipeline in the southbound lane of SR 29.

2.9.4 Test T-1448B Strength Testing

T-1448B is a segment of pipeline work between Larkmead Lane and Dunaweal Lane. Construction activities for this section of pipe would include removal of HPR taps at 10 locations, followed by a hydrostatic test to ensure its integrity. Preparation of work areas would include mowing and tree removal, and digging bell holes to access the pipe. See Figure 2.9-4 for T-1448B work locations.

The hydrostatic test would be undertaken as described in Section 2.8.8. Should the test not be successful, the location of the leak would be accessed by excavating a bell hole, and the deficient piece of pipe replaced. The hydrostatic test may then be repeated to confirm there are no additional locations that may need to be replaced.





Legend

- T-1448B Work Area
- Laydown/Staging Area
- LNG Injection Site

N

0 500 1,000 2,000
Feet

Figure 2.9-4
T-1448B Overview
Napa Bundle Northern Corridor
Gas Pipeline Maintenance Program
Napa, CA

Environmental Resources Management
www.erm.com

DRAWN BY: G.Shenker

FILE: M:\Projects\PGandE\PGE_NapaMaps\2-9-4 T-1448B.mxd REVISED: 06/10/2021 , SCALE: 1:11,000 when printed at 11x17

Source: USDA NAIP flown 2016 at 1 meter per pixel; NAD 1983 StatePlane California II FIPS 0402 Feet

It is anticipated that the bell holes would be excavated and plated until the pipeline is taken out of service. When the pipeline is taken out of service, the modifications to the pipeline at the bell hole locations would occur, and test heads would be installed at each end of the pipeline to be tested. Following the successful completion of the hydrostatic test, the test heads would be removed, the line tied back in, and disturbed sites restored.

2.9.5 Cleanup and Post-Construction Restoration

All non-hazardous construction debris would be picked up and hauled away for recycling or disposal during construction. Temporary work areas and staging areas would be restored in coordination with landowners, including applying a native seed mix or other seed mix in areas of ground disturbance that are not actively cultivated. Paving of work areas within SR 29 would occur, likely following completion of pipeline construction activities in any one area. PG&E would conduct a final survey to ensure that cleanup activities have been successfully completed as required.

2.10 OPERATION AND MAINTENANCE

All natural gas transmission pipelines are required to be designed, constructed, operated, maintained, and inspected in accordance with state and federal standards. The new distribution pipeline and transmission pipeline replacements would be subject to PG&E's existing procedures for monitoring, conducting leak inspections, surveys, and patrols. PG&E would continue to periodically perform in-line inspections, pressure testing, and direct assessments to assess pipeline integrity.

2.11 CONSTRUCTION WORKFORCE AND EQUIPMENT

During the construction period, typically there will be two to five crews of five people each. At peak construction, there may be as many as 10 crews working concurrently and a total of 48 crewmembers. In addition, there will be traffic control personnel, two to three inspectors associated with each crew, and construction management personnel, resulting in upwards of 100 people on-site at peak times.

Typically, construction will occur 6 days per week, 10 hours per day, pending approved work hours by Caltrans. Construction activities may primarily occur at night to minimize traffic impacts along SR 29. Installing customer service lines to residences will likely occur during daytime hours, while businesses may request service lines to be installed at night. Towable lighting equipment will be used for nighttime lighting. Each crew will have two pieces of lighting equipment: one in use and a second on standby for emergencies. Additional lighting equipment may be added if deemed necessary from a safety standpoint. Lighting equipment will also be used at laydown and staging areas.

Table 2.11-1 provides a list of construction equipment to be used on the Project.

Table 2.11-1: Construction Equipment

Equipment	Use
Air compressor	Operate tools
Air compressor/dryer	Dry pipeline after hydrostatic testing
Asphalt pavers	Repave roads
Bore machine	Excavate hole for trenchless installation of pipeline
Cement truck	Mix/deliver cement for sealing decommissioned pipeline
CNG tube trailers	Supply CNG to customers while gas line out of service
Crane	Move heavy equipment
Excavator/backhoe	Dig, backfill, move heavy materials
Forklift	Lift materials
Generator	Generate portable power
Grinder	Cut asphalt
HDD rig	Bore hole for trenchless installation of pipeline
Hydro test trailer	Monitor hydrostatic testing of pipeline
Light towers	Generate light for night work
Loaders	Load, clear, dig
Mud recycler	Mix HDD drilling mud, recycle and pump
Roller	Repave roads
Sandblast pot	Sandblast pipe at location of weld
Sweeper	Clean road
Telehandler	Lift materials
Trucks (3/4 and 1 ton)	Transport workers, materials, and equipment
Trucks (dump, end dump transfer)	Transfer spoil/imported material
Trucks (semi, flatbed trailer, low boy)	Transport equipment and materials
Vacuum truck	Collect/remove fluids or soils
Vaporizers, cross compressors	Inject LNG to pipeline as alternate supply of gas

Equipment	Use
Water trucks	Control dust, haul water for hydrostatic testing
Welding rig	Cut and weld pipe

Note: CNG = compressed natural gas, HDD = horizontal directional drilling; LNGt= liquid natural gas

2.12 ANTICIPATED PERMITS AND ENVIRONMENTAL REVIEW

The California Environmental Quality Act requires that environmental review of a Project occur before the issuance of discretionary approvals by government agencies to inform decision makers of potential environmental impacts.

Table 2.12-1 lists the potential permits and approvals that may be required for Project construction. Authorization under Section 10 of the Endangered Species Act (ESA) is generally a discretionary approval; however, the work is a covered activity under PG&E's existing Bay Area Habitat Conservation Plan (HCP) for operations and maintenance activities and no additional authorization will be required. Therefore, it is anticipated that Caltrans will be the only discretionary approval required for the Project.

PG&E's gas pipeline facilities are regulated under the California Public Utilities Commission's (CPUC) General Order ("GO") 112-E, which contains the CPUC's requirements governing the design, construction, testing, operation, and maintenance of gas pipeline systems. Because the California Constitution vests in the CPUC exclusive power and authority with respect to "all matters cognate and germane to the regulation of public utilities" (California Constitution, article XII, § 5), the Project is not subject to local discretionary regulations. PG&E will secure ministerial permits, as required. No federal authorizations are required for the Project.

Table 2.12-1: Permits and Approvals That May Be Required

Agency	Permit/Authorization	Type of Permit
Caltrans	Encroachment Permits	Discretionary
San Francisco Regional Water Quality Board	National Pollutant Discharge Elimination System—General Construction Storm Water Permit	Ministerial
City of St. Helena	Encroachment Permits	Ministerial
County of Napa	Encroachment Permits	Ministerial

2.13 AVOIDANCE AND MINIMIZATION MEASURES

PG&E has incorporated the avoidance and minimization measures (AMMs) and mitigation measures (MMs) in Table 2.13-1 into the Project. These measures include PG&E standard construction practices, as well as those measures that are proposed to

comply with applicable regulations or minimize particular Project impacts such that no significant impacts will result from construction or operation of this Project.

Table 2.13-1: Avoidance and Minimization Measures

AMM Number	Description
AMM AE-1	***Nighttime Lighting to Minimize Potential Visual Impacts of Construction Activity.*** Lighting used for nighttime construction and for security during construction shall be shielded or otherwise directed away from sensitive receptors. Measures, such as use of non-glare or hooded fixtures and directional lighting, may be used to reduce light spillover into areas outside the construction site and minimize the visibility of lighting from offsite locations wherever feasible.
AMM AE-2	***Construction Cleanup.*** Construction debris will be picked up daily from construction areas. The appearance of disturbed land areas will be restored through implementation of re-contouring and/or re-vegetation, depending on pre-existing conditions.
AMM AE-3	***Design and Operation of Staging Areas to Minimize Potential Visual Impacts.*** Staging areas will be located in open areas to avoid the removal of trees. Where vegetative cover is removed to enable use of staging areas, it will be restored at the end of construction activities. Security lighting may be installed at staging areas located within the Project Area. If nighttime security lighting is required in proximity to sensitive locations, such as existing residences, it will be focused to minimize potential spillover or glare with respect to areas outside the staging area, and non-glare or hooded fixtures will be utilized.
AMM AE-4	***Litter and Trash Management.*** All food scraps, wrappers, food containers, cans, bottles, and other trash will be removed from the site daily.
AMM AE-5	***Parking.*** Vehicles and equipment will be parked on pavement, existing roads, developed areas, or approved construction work areas. Vehicles will be prohibited from parking in sensitive areas, including the dripline of trees.
AMM AF-1	***Minimize Impacts on Active Agricultural Lands.*** Crop removal will be avoided to the greatest extent feasible. If crops cannot be avoided, impacts will be limited to the minimum necessary to construct the Project. If grading or excavations occur in active agricultural areas, topsoil will be salvaged and replaced once construction is complete.
AMM AQ-1	***Minimize Fugitive Dust.*** PG&E will minimize fugitive dust during construction by implementing the following measures: • Reduce the amount of the disturbed area within approved construction areas where possible. • Use water trucks or sprinkler systems in dry weather in sufficient quantity to prevent airborne dust from leaving the site. • All construction vehicles will not exceed 15 miles per hour on any unpaved surface. • Water all active construction areas (including storage piles) as needed to suppress dust. Base the frequency on the type of operation and the soil and

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	wind exposure. • Cover or maintain at least 2 feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. • Sweep adjacent public roads at least once a day if visible soil material is carried out from a work site.
Mitigation Measure AQ-2	***Use of Tier 4 Equipment.*** All off-road diesel-powered heavy equipment used to construct the Project will be equipped with Tier 4 engines, except for specialized equipment or when Tier 4 engines are not available. Retrofits that achieve or exceed emission reductions equivalent to that of a Tier 4 engine may be used in lieu of Tier 4 engines.
AMM 810-1	***Development and Implementation of a Worker Environmental Awareness Program.*** A qualified biologist will conduct an environmental awareness program for all on-site construction personnel before they begin work on the Project. Training will include a discussion of the avoidance and minimization measures that are being implemented to protect biological resources as well as the terms and conditions of Project permits. Training will include information about the federal and state Endangered Species Acts and the consequences of noncompliance with these acts. Under this program, workers shall be informed of the presence, life history, and habitat requirements of all special-status species that may be affected in the Project footprint, and about state and federal laws protecting nesting birds, wetlands, and other water resources. An educational brochure will be produced for construction crews working on the Project. Color photos of special-status species will be included, as well as a discussion of relevant AMMs and specific avoidance or minimization measures for special-status species and habitats.
AMM 810-2	***Nesting Bird Impact Avoidance and Protection.*** If construction is to occur during the avian nesting season (February 1 through September 30), a preconstruction migratory bird and raptor nesting survey will be performed by a qualified biologist. Surveys will only occur in publicly accessible areas and areas where PG&E has existing access. Private property will not be accessed and will instead be observed from adjacent accessible areas. Preconstruction nesting bird surveys will be performed in accordance with PG&E's Nesting Bird Management Plan. The preconstruction survey will cover a radius of 300 feet for non-listed raptors and 100 feet for non-listed passerines at all locations. The survey will cover all affected areas where ground disturbance or vegetation clearing is required. If any active nests containing eggs or young are found, an appropriate nest exclusion zone will be established by the PG&E Biologist; the biologist will evaluate whether sufficient screening buffers (such as trees or intervening topography) exist that work may proceed in the area and will determine what level of nest monitoring is needed. To the extent practicable, no Project vehicles, chain saws, or heavy equipment will be operated in this exclusion zone until the biologist has determined that the nest is no longer active and or the young have fledged. If it is not practicable to avoid work in an exclusion zone around an active nest, work activities will be modified to minimize disturbance of nesting birds but may proceed in these zones at the discretion of the biologist. The biologist will monitor all work activities in these zones daily when construction is occurring and assess their effect on the nesting birds. If the biologist determines that particular activities

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	pose a high risk of disturbing an active nest, the biologist will recommend additional, feasible measures to minimize the risk of nest disturbance. If work cannot proceed without disturbing the nesting birds, or signs of disturbance are observed by the monitor, work will be halted or redirected to other areas until the nesting and fledging is completed or the nest has otherwise failed for non-construction-related reasons.
AMM 810-3	***Conduct Preconstruction Survey(s) for Special-Status Species and Sensitive Biological Resource Areas.*** A qualified biologist will conduct preconstruction survey(s) in areas having the potential for habitat for special-status species and sensitive biological resource areas, either during the appropriate phenological period for plants or within 48 hours prior to construction activities for wildlife. If any special-status species is encountered during the preconstruction survey(s), the PG&E Biologist will be contacted immediately. Records of observations of special-status species will be submitted to the California Natural Diversity Database.
AMM 810-4	***Identification and Marking of Sensitive Biological Resource Areas.*** Sensitive biological resources (e.g., special-status plants, wetlands) in or adjacent to construction work areas identified during the preconstruction surveys will be clearly marked in the field and on Project maps. Such areas will be avoided during construction to the extent practicable.
AMM 810-5	***Exclusion Fencing.*** At the discretion of the PG&E Biologist, prior to any ground-disturbing work in proximity to suitable habitat for special-status species or adjacent to wetlands or waters, exclusion fence will be installed around work spaces as appropriate. Exclusion fencing will be routinely inspected during Project activities; any damage, such as holes or gaps, will be promptly repaired.
AMM 810-6	***Biological Monitor On-Site during Construction Activities in Sensitive Biological Resource Areas.*** At the discretion of the PG&E Biologist, a qualified biologist will be on-site during ground-disturbing construction activities in sensitive biological resource areas identified in AMM 810-4 above unless the area has been protected by barrier fencing to protect sensitive biological resources and previously cleared by the qualified biologist and the PG&E Biologist. The qualified biologist will ensure implementation and compliance with all avoidance and mitigation measures and have the authority to stop or redirect work if construction activities are likely to affect sensitive biological resources.
AMM 810-7	***Special-Status Plant Impact Avoidance and Protection.*** Prior to the start of construction and in conjunction with AMM 810-3, a qualified botanist will resurvey mapped populations of special-status plants and flag or otherwise mark (e.g., stake, fence) all special-status plant populations documented adjacent to construction work areas for avoidance. After Project activities have been completed at a given worksite, all staking, fencing, or flagging will be removed.
AMM 810-8	***Special-Status Amphibian and Reptile Impact Avoidance and Protection.*** During wet weather or the rainy season, all open holes, pits, and trenches will be protected to ensure that frogs, salamanders, and/or turtles do not become entrapped. Protective fencing, coverings, or ramps will be installed to either prevent wildlife from falling into excavations or to allow for escape. At the end of each work day, steep-walled holes or trenches more than 6 inches deep will be

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	covered or provided with one or more escape ramps and/or fenced. Open excavations will be inspected each day, prior to the start of construction activities, to ensure that no wildlife are trapped. Construction personnel will also check underneath vehicles and within materials to be moved (e.g., tires, tracks, pipes, etc.) for the presence of frogs, salamanders, and/or turtles when parked or placed near suitable aquatic or upland dispersal habitat. Any species found will be captured and relocated to an approved location as approved by the resource agencies, if required, and in compliance with any regulatory permits issued for the Project.
AMM 810-9	***Implement General Protection Measures for Wetlands and Other Waters.*** PG&E will implement the following general measures to minimize or avoid impacts on wetlands and other waters: • Avoid wetlands and other waters during construction activities. • Conduct all fueling of vehicles at least 100 feet from wetlands and other water bodies unless approved by a qualified biologist. • Implement a Storm Water Pollution Prevention Plan (SWPPP) to minimize construction-related erosion and sediments from entering nearby waterways (see AMM WQ-1).
AMM 810-10	***General Resource Protection Measures.*** This AMM consists of the following components: • ***Hazardous materials spills.*** Emergency spill response and cleanup kits will be readily available for immediate containment and cleanup of an accidental spill. Construction crews will be trained in safe handling of hazardous materials and cleanup responsibilities. Any spills into aquatic habitat will be reported to the applicable resource agencies within 24 hours. • ***Reporting and communication.*** The PG&E Biologist will be responsible for immediately reporting any capture and relocation, or inadvertent harm, entrapment, or death of a federally listed or state-listed species under FESA or CESA to the applicable resource agencies. • ***Restore temporarily disturbed habitats.*** All habitat areas for special-status species that are temporarily disturbed as a result of Project activities will be restored upon completion of construction. Disturbed areas will be restored to pre-Project conditions in coordination with land owners. • ***Erosion control materials.*** Only tightly woven netting or similar material will be used for all geo-synthetic erosion control materials, such as coir rolls and geo-textiles. No plastic monofilament matting will be used. Sod may be used when restoring landscaped areas. • ***Minimize grading and vegetation within approved construction work areas to the extent feasible.*** PG&E will only clear or remove vegetation as necessary to establish the access routes, allow equipment use, and enable safe operation of the facilities. Trees will be directionally felled away from sensitive biological resource areas and, if that is not possible, removed in sections. Tree protection measures that will be implemented to avoid damaging trees during pipeline construction include installing tree protection zone fencing, and when excavation within a dripline cannot be avoided, using a hydrovac truck to excavate without severing major roots and having a Certified Consulting Arborist with stop-work authority on-site to monitor for

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	root damage. Should the Certified Consulting Arborist determine that construction activities may significantly impact a tree, the work will cease in that location until the PG&E designated arborist in concert with the designated Caltrans construction field contact/construction monitor determines work can continue. • ***Weed management.*** Vehicles and construction equipment will be cleaned of mud and dirt on site at a PG&E wash facility or otherwise approved wash-down location as needed to minimize transport of weed plant parts or seed. Vehicles will also be cleaned at the completion of the Project or when off-road use for that vehicle has been completed. • ***Work Hours.*** To the maximum extent feasible, in sensitive areas all construction activities will cease 0.5 hour before sunset and will not begin prior to 0.5 hour after sunrise to maximize the potential for visual identification and avoidance of special-status species.
PG&E Bay Area HCP Required Measures	***AMM BIO-FP-01:*** Hold annual training on habitat conservation plan requirements for employees and contractors performing covered activities in the Plan Area that are applicable to their job duties and work. ***AMM BIO-FP-02:*** Park vehicles and equipment on pavement, existing roads, or other disturbed or designated areas (barren, gravel, and compacted dirt). ***AMM BIO-FP-03:*** Use existing access and rights-of-way (ROW) roads. Minimize the development of new access and ROW roads, including clearing and blading for temporary vehicle access in areas of natural vegetation. ***AMM BIO-FP-04:*** Locate off-road access roads and work sites to minimize impacts on plants, shrubs, and trees, small mammal burrows, and unique natural features (e.g., rock outcrops). ***AMM BIO-FP-05:*** Notify conservation land owner at least 2 business days prior to conducting covered activities on protected lands (state-owned and federally owned wildlife areas, ecological reserves, or conservation areas); more notice will be provided if possible or if required by other permits. If the work is an emergency, as defined in PG&E's Utility Procedures ENV-8003P-01, PG&E will notify the conservation land owner within 48 hours after initiating emergency work. While this notification is intended only to inform the conservation land owner, PG&E will attempt to work with the conservation land owner to address landowner concerns. ***AMM BIO-FP-06:*** Minimize potential for covered species to seek refuge or shelter in pipes and culverts. Inspect pipes and culverts, of diameter wide enough to be entered by a covered species that could inhabit the area where pipes are stored, for wildlife species prior to moving pipes and culverts. Immediately contact a biologist if a covered species is suspected or discovered. ***AMM BIO-FP-07:*** Vehicle speeds on unpaved roads will not exceed 15 miles per hour.

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	AMM BJO-FP-08: Prohibit trash dumping, firearms, open fires (such as barbecues), hunting, and pets (except for safety in remote locations) at work sites. ***AMM BJO-FP-09:*** Equip all motorized equipment with federally approved or state-approved spark arrestors. Use a backpack pump filled with water, a shovel, fire-resistant mats, and/or windscreens when welding. During fire "red flag" conditions as determined by Cal Fire, curtail welding. Each fuel truck will carry a large fire extinguisher with a minimum rating of 40 B:C. Clear parking and storage areas of all flammable materials. ***AMM BJO-FP-10:*** Minimize the activity footprint and minimize the amount of time spent at a work location to reduce the potential for take of species. ***AMM BJO-FP-11:*** Use standard erosion and sediment control BMPs (pursuant to the most current version of PG&E's Stormwater Field Manual for Construction Best Management Practices) to prevent construction site runoff into waterways. FP-12: Stockpile soil within established work area boundaries and locate stockpiles so as not to enter water bodies, stormwater inlets, other standing bodies of water. Cover stockpiled soil prior to precipitation events. ***AMM BJO-FP-12:*** Stockpile soil within established work area boundaries and locate stockpiles so as not to enter water bodies, stormwater inlets, other standing bodies of water. Cover stockpiled soil prior to precipitation events. ***AMM BJO-FP-13:*** Fit open trenches or steep-walled holes with escape ramps of plywood boards or sloped earthen ramps at each end if left open overnight. Field crews will search open trenches or steep-walled holes every morning prior to initiating daily activities to ensure wildlife are not trapped. If any wildlife are found, a biologist will be notified and will relocate the species to an adjacent habitat or the species will be allowed to naturally disperse, as determined by a biologist. ***AMM BJO-FP-14:*** If the covered activity disturbs 0.1 acre or more of habitat for a covered species in grasslands, the field crew will revegetate the area with a commercial "weed free" seed mix. ***AMM BJO-FP-15:*** Prohibit vehicular and equipment refueling 250 feet from the edge of vernal pools, and 100 feet from the edge of other wetlands, streams, or waterways. If refueling must be conducted closer to wetlands, construct a secondary containment area subject to review by an environmental field specialist and/or biologist. Maintain spill prevention and cleanup equipment in refueling areas. ***AMM BJO-FP-16:*** Maintain a buffer of 250 feet from the edge of vernal pools and 50 feet from the edge of wetlands, ponds, or riparian areas. If maintaining the buffer is not possible because the areas are either in or adjacent to facilities, the field crew will implement other measures as prescribed by the land planner, biologist, or HCP administrator to minimize impacts by flagging access, requiring foot access, restricting work until dry season, or requiring a biological monitor during the activity.

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	AMM BJO-Wetland-2: Identify wetlands, ponds, and riparian areas and establish buffers. Maintain a buffer of 50 feet around wetlands, ponds, and riparian areas. If maintaining the buffer is not possible because the areas are either in or adjacent to facilities, the field crew will implement other measures as prescribed by the biologist or HCP administrator to minimize impacts. These measures include flagging access, requiring foot access, restricting work until the dry season, requiring a biological monitor during the activity, or excavating burrows in ROWs where trenching will occur. Activities must maintain the downstream hydrology to the wetland, pond, or riparian area. Additional minimization measures may be implemented with prior concurrence from USFWS.
AMM CUL-1	***Worker Education Training.*** The following procedures will be implemented prior to commencement of any Project-related construction activities: • All PG&E, contractor, and subcontractor Project personnel will receive training regarding: – appropriate work practices necessary to effectively implement the APMs and to comply with the applicable environmental laws and regulations; – the potential for exposing subsurface cultural resources; – how to recognize possible buried cultural resources; and – identification of historic period built environment historical resources and contributing landscape features. • This training will include a presentation of: – procedures to be followed upon discovery cr suspected discovery of historic cr archaeological materials, including Native American remains and their treatment; – procedures to be followed upon discovery cr suspected discovery of paleontological resources; - procedures to avoid any historic period built environment historical resources; and – actions that may be taken in the case of violation of applicable laws.
AMM CUL-2	***Inadvertent Discovery of Previously Unidentified Cultural Resources.*** The following procedure will be employed if a previously undocumented resource is encountered during construction: • All work within 100 feet (30 meters) of the find will be halted or redirected by the construction foreman and protective barriers cr flagging will be installed along with signage identifying the area as an "environmentally sensitive area." Entry into the area will be limited to PG&E approved/qualified cultural resources specialists, PG&E, and other authorized personnel. • PG&E will be notified immediately. • A qualified archaeologist will document the resource and coordinate with PG&E (and Caltrans and SHPO as appropriate) on the appropriate steps for evaluation of find. The level of effort will be based on the size and nature of the resource.

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	• No work will occur within the ESA until clearance has been granted by the archaeologist or PG&E. ESA flagging and signage will only be removed when authorized by PG&E CRS.
AMM CUl.:-3	***Discovery*** of ***Human Remains.*** The following procedures will be implemented in the event of the discovery of human remains, in compliance with California law, induding, but not limited to, the following provisions: CEQA Guidelines Section 15064.5(e); PRC Sections 5097.94, 5097.98, and 5097.99; and California Health and Safety Code Section 7050.5: Work in the immediate area of the find will be halted and the PG&E archaeologist and County Coroner will be notified immediately. Work will remain suspended until the Coroner can assess the remains. In the event the remains are determined to be prehistoric in origin, the Coroner will notify the NAHC, who will then identify a Most Likely Descendent. The Most Likely Descendent will consult with either the land owner and the PG&E archaeologist or Caltrans, depending on if the find is identified in Caltrans' right of way, within 48 hours of notification to determine further treatment of the remains
AMM CUL-4	***Undiscovered Potential Tribal Cultural Resources.*** The following procedure will be employed (after stopping work and following the procedure for determining eligibility in APM CUL2) if a resource is encountered and determined by the Project's qualified archaeologist to be potentially eligible for the CRHR or a local register of historic resources and is associated with a California Native American Tribe(s) with a traditional and cultural affiliation with the geographic area of the proposed Project: • The Project's qualified archaeologist will notify Caltrans for appropriate action. PG&E will assist Caltrans if needed to identify the lead contact person for the California Native American Tribe(s) potentially associated with the cultural resource and with a traditional and cultural affiliation with the geographic area of the proposed Project. Caltrans will contact the lead contact person to set up a meeting with PG&E and Caltrans. • The Project's qualified archaeologist will participate with Caltrans in discussions with the California Native American Tribe(s) to determine whether the resource is a "tribal cultural resource" as defined by PRC section 21074, and the tribe(s)' preferred method of mitigation, if the resource is determined to be a TCR. In consultation with Caltrans, PG&E and the California Native American Tribe(s), appropriate avoidance, protection, a- mitigation will be determined based on examples listed in PRC section 21084.3(b) or to the extent permitted by law.
AMM CUl.:-5a	***Archaeological Monitoring in Areas Identified*** as ***Possessing Highest Buried Site Sensitivity.*** An archeological monitor will facilitate and ensure the identification of buried archaeological deposits in locations identified as possessing highest buried site sensitivity. These locations indude work locations between Pope Street and Charter Oak Avenue within the City of St. Helena, an area near Pratt Avenue, an area near Ritchie Creek, an area near Nash Creek, and two areas west of Heitz Way, all of which are specifically depicted on Figures 3.5-1-3.5-3. Should such deposits be uncovered in the course of Project implementation, the procedures outlined in APM CUL-2 will be followed.

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AMM CUL-5b	***Archaeological Monitoring in Boundaries of Archaeological Sites Determined*** to ***be Eligible per California and National Register Criteria.*** An archaeological and tribal monitor will be required in the course of construction excavation and associated ground disturbance within the boundaries of six archaeological sites that are significant: CA-NAP-58, CA-NAP-328, CA-NAP-482, CA-NAP-582, and CA-NAP-360/H.
Mitigation Measure CUL-6	***Data Recovery at Archaeological Sites Determined*** to ***be Eligible per California and National Register Criteria in ADJ.*** At archeological sites that are identified as being historical resources, data recovery will be implemented prior to Project commencement. Data recovery will be guided by a data recovery plan produced by PG&E in coordination with state Parks, interested parties (i.e., the Mishewal-Wappo Tribe of Alexander Valley and Middletown Rancheria), and Caltrans PQS.
AMM CUL-7	***Full-time, On-Site Arborist and Architectural Historian Monitors during Project Implementation In and Adjacent*** to ***the Elm Tunnel.*** A Certified Consulting Arborist and an Architectural Historical Monitor will be on-site during all construction activities in and adjacent to the Elm Tunnel to ensure that protection measures defined in APM CUL-8 are correctly implemented.
APM CUL-8	***Implementation of Protective Measures that will Avoid Impacts*** to ***the Elm Tunnel***
AMM CUL-8a	***An Environmentally Sensitive Areas (ESA) and Monitoring Area (AMA) within the Dripline of the Elm Tunnel.*** Within the Elm Tunnel two types of ESAs (delineated with orange, plastic, barrier netting/fencing and t-posts) will be established: **(1)** no access and (2) limited access. The Elm Tunnel and its dripline will generally be delineated as a no access ESA (i.e., ESA#1). In ESA#1, no construction access or activities will be permitted. In the limited access ESAs (i.e., ESA#2), controlled access will be permitted. This ESA will be a vertical ESA given that it is necessary to perform circumscribed construction activities within the dripline of the elm to allow for new pipeline activation and service. In ESA#2, access will be allowed only on foot. ESAs will be depicted on construction plans. The AMA will be established at Location 1 (SO 6745AQ). Within the AMA all activities will be monitored by the qualified arborist. The AMA will be depicted on Project plans. The fencing (both ESA and AMA) will be installed by PG&E vegetation management contractor (i.e., the qualified arborist) prior to construction arriving on-site.
AMM CUL-8b	At all times when completing work in or adjacent to the Elm Tunnel AMA or ESAs both an arborist and an architectural historian must be present.
AMM CUL-8c	At Location 1 AMA (SO 6745AQ), excavation shall not occur within 2 feet of Tree 4. At Location 1 AMA, the size of excavation will be limited to the greatest extent feasible. Excavation shall be completed by hand. Mechanical excavation is not permitted.
AMM CUL-8d	If the excavations at Location 1 (SO 6745AQ) require pruning any more than one 4-inch diameter root or four 2-inch diameter roots, construction activities will

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	cease in that location until the PG&E designated arborist in concert with designated Caltrans construction field contact/construction monitor determines work can continue.
AMM CUL-Be	Roots of elm trees at Location 1 or at any other locations shall not be pruned without the guidance of the designated on-site arborist monitor.
AMM CUL-Bf	Roots 1 inch in diameter or larger will be left in place where possible. If roots of this size are damaged or obstruct the work to be performed, they will be cut cleanly to the edge of the excavation and documented by the arborist.
AMM CUL-Bg	***No Ground Disturbance at HPR Removal Locations 2-4.*** HPR removal at Locations 2-4 shall not involve ground disturbance and shall be accomplished by construction personnel approaching the location on foot. HPR removal shall occur by lifting off the lid, cutting off and manually removing the equipment, and manually backfilling the open valve box with imported soil.
AMM CUL-Bh	***Soft Digging Required at Elm Tunnel Location 5.*** Removal of the HPR and any other construction activity at Location 5 shall avoid Tree 72, and activities will stay outside of the Elm Tunnel footprint and established ESA. Excavation of the HPR at this location may be accomplished with use of soft digging techniques, such as hydrovac; however, machinery must stay on the pavement and avoid elm trees and the associated driplines.
AMM CUL-9	***Establishment of ESA for Additional Historic Period Built Environment Landscape Features adjacent*** to ***Project Activities.*** PG&E will establish ESAs at the following four historic period built environment features that are adjacent to or in the work area for customer service line installation: • MR6: Beringer Winery NRHP Historic District, inclusive of the contributing resources of the elm tunnel (see APM-8) and the stone wall • MR7: Greystone Cellars NRHP listed property, inclusive of stone wall and entry arch • MRB: 2803 Saint Helena Highway NRHP-eligible property, stone columns contributing resource • MR10: 3199 Saint Helena Highway NRHP-eligible property, stone columns and stone wall contributing resource The ESAs will be established with fencing or flagging to prevent heavy construction vehicles and equipment from inadvertently damaging the resource. Worker Education Training conducted as part of APM CUL-1 will include information regarding the ESAs and the status of the features as historical resources. No construction activities will be permitted in ESA boundaries. ESA locations will be depicted on construction plans.
AMM CUL-10	***Establishment of Vertical ESA for P-28-002616.*** Impacts to P-28-002616 will be avoided via establishment of a vertical ESA in this location to ensure that this resource is not impacted. The site is a buried deposit, located 1.1-2.6 meters below ground surface. No subsurface disturbance will be permitted with the ESA and thus impacts to this resource will be avoided.

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AMM PALE0-1	***Unanticipated Potential Paleontological Resources.*** If significant paleontological resources are discovered during construction activities, the following procedures will be followed: • Stop work immediately within 100 feet. • Contact the designated Project inspector and PG&E Cultural Resource Specialist (CRS) immediately; • Protect the site from further impacts, including looting, erosion, or other human or natural damage; • The PG&E CRS in tandem with Caltrans will arrange for a Principal Paleontologist to evaluate the discovery. If the discovery is determined to be significant, PG&E will implement measures to protect and document the paleontological resource; • Work may not resume within 100 feet of the find until approval by the paleontologist and PG&E CRS.
AMM PALE02	***Worker's Environmental Awareness Training.*** Moderate and potentially high sensitivity formations are identified within the Project area; therefore, PG&E (or contractor) will provide environmental awareness training on paleontological resources protection. This training may be administered as a stand-alone training or included as part of the overall environmental awareness training as required by the Project. The training will include, at minimum, the following: • The types of fossils that could occur at the Project site. • The types of lithologies in which the fossils could be preserved. • The procedures that should be taken in the event of a fossil discovery. • Penalties for disturbing paleontological resources.
AMM PALEOt-3	***Monitoring.*** Given that a high sensitivity formation has been identified within the Project area, construction monitoring is required in those spot locations. Monitoring may be reduced to part time, spot checking, or none if no significant fossils are uncovered after 50 percent completion of construction in sensitive areas. Conversely, in areas where fossils are identified, monitoring activity may be increased as necessary. Any change in frequency will be determined by the Principal Paleontologist in consultation with PG&E. All monitoring activities will be documented on daily logs; frequency of reporting the daily activities will be determined on a project-by project basis. Monitoring logs and reports should include the activities observed, geology encountered, description of any resources encountered, and measures taken to protect or recover discoveries. Photographs and other supplemental information should be included as necessary.
AMM PALEOt- 4	***Design and Implementation of*** a ***Paleontological Resources Monitoring and Mitigation Plan (PRMMP).*** Project proponent shall design and implement a Paleontological Resources Monitoring and Mitigation Plan (PRMMP). The PRMMP will include the key information gathered in the preconstruction research, including the regulatory context, results of the paleontological resources inventory, identification of sensitive formations or fossil localities in the

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	Project area, and proposed treatment measures. In addition, the PRMMP will outline specific procedures to follow, personnel to contact and repositories for curation in the event of fossil discovery. Important research questions pertaining to the types of fossils that may be encountered in the sensitive formations should also be identified.
AMM PALEOt- 5	***Fossil Recovery.*** In the event that significant paleontological resources are encountered during the Project, protection and recovery of those resources may be required. On public lands, treatment and curation of fossils will follow procedures outlined by the land managing agency. On private property, treatment and curation of fossils will be conducted in consultation with the landowner. Procedures for recovering significant fossils are typically outlined in the PRMMP. A Principal Paleontologist is responsible for developing the recovery strategy and will lead the recovery effort, which will include establishing recovery standards, preparing specimens for identification and preservation, documenting and reporting, and securing a curation agreement from the approved agency. A Paleontological Monitor or other qualified individual may conduct the recovery of fossil discoveries under the direction of the Principal Paleontologist.
AMM GEO-1	***Incorporation of Geotechnical Report Conclusions and Design Considerations.*** Geotechnical data presented in Geotechnical Investigation Reports will be incorporated into design and construction of the Project. This includes recommendations for trenching methods based on local soil conditions; measures to implement when encountering cohesionless soils (such as avoiding, replacing, or improving such soils); recommendations for trench side slope configurations for local soil types and appropriate shoring, where necessary; and pipeline design considerations, including imported excavation backfill requirements. Any required shoring should be designed by a professional engineer registered in the State of California.
AMM GHG-1	***Minimize GHG Emissions.*** • Minimize unnecessary construction vehicle idling time. The Project will apply a "common sense" approach to vehicle use, so that idling is reduced as far as possible below the maximum of 5 consecutive minutes allowed by California law; if a vehicle is not required for use immediately or continuously for construction activities, its engine will be shut off. Construction foremen will include briefings to crews on vehicle use as part of preconstruction conferences. Those briefings will include discussion of a "common sense" approach to vehicle use. • Maintain construction equipment in proper working conditions in accordance with PG&E standards. • Minimize construction equipment exhaust by using low-emission or electric construction equipment where feasible. Portable, diesel-fueled construction equipment with engines **50** horsepower or larger and manufactured in **2000** or later will be registered under the CARS Statewide Portable Equipment Registration Program. • Minimize welding and cutting by using compression of mechanical applications where practical and within standards.

AMM Number	Description
	• Encourage the recycling of construction waste where feasible.
AMM HAZ-1	***Hazardous-Substance Control and Emergency Response.*** PG&E will implement its hazardous substance control and emergency response procedures to ensure the safety of the public and site workers during construction. The procedures identify methods and techniques to minimize the exposure of the public and site workers to potentially hazardous materials during all phases from Project construction through operation. They address worker training appropriate to the site worker's role in hazardous substance control and emergency response. The procedures also require implementing appropriate control methods and approved containment and spill-control practices for construction and materials stored on site. If necessary to store chemicals on site, they will be managed in accordance with all applicable regulations. Material safety data sheets will be maintained and kept available on site, as applicable. No known soil contamination was identified within the Project Area. In the event that soils suspected of being contaminated (on the basis of visual, olfactory, or other evidence) are unearthed during site grading or excavation activities, the excavated soil will be tested, and if contaminated above hazardous waste levels, will be contained and disposed of at a licensed waste facility. The presence of known or suspected contaminated soil will require testing and investigation procedures to be supervised by a qualified person, as appropriate, to meet state and federal regulations. All hazardous materials and hazardous wastes will be handled, stored, and disposed of in accordance with all applicable regulations, by personnel qualified to handle hazardous materials. The hazardous substance control and emergency response procedures include, but are not limited to, the following: • Proper disposal of potentially contaminated soils; • Establishing site-specific buffers for construction vehicles and equipment located near sensitive resources; • Emergency response and reporting procedures to address hazardous material spills; and • Stopping work at that location and contacting the County Fire Department Hazardous Materials Unit immediately if visual contamination or chemical odors are detected. Work will be resumed at this location after any necessary consultation with and approval by the Hazardous Materials Unit. PG&E will complete a standard Emergency Action Plan Form as part of Project tailboard meetings. The purpose of the form is to gather emergency contact numbers, first aid location, work site location, and tailboard information.
AMM HAZ-2	***Worker Environmental Awareness Program (WEAPJ for Health, Safety, and Environment.*** The WEAP will include the following components related to hazards and hazardous materials: • PG&E health, safety, and environmental expectations and management structure; • Applicable regulations;

AMM Number	Description
	• Summary of the hazardous substances and materials that may be handled and/or to which workers may be exposed; • Summary of the primary workplace hazards to which workers may be exposed; • Overview of the measures identified in AMM HAZ-1t and • Overview of the controls identified in the Stormwater Pollution Prevention Plan under AMM WQ-1t This measure will be coordinated with worker training required under AMM BIO-1 and AMM WQ-3.
AMM HAZ-3	***Fire Risk Management.*** PG&E will follow its standard fire risk management procedures, including safe work practices, work permit programs, training, and fire response. Project personnel will be directed to park away from dry vegetation. During fire season, all motorized equipment driving *off* paved or maintained gravel/dirt roads will have federal- or state-approved spark arrestors. All off-road vehicles will be equipped with a shovel and a backpack pump filled with water and all fuel trucks will carry a large fire extinguisher with a minimum rating of 40 B:C.
AMM WQ-1	***Drilling Fluid Migration Contingency Plan.*** An Inadvertent Drilling Fluid Release Contingency Plan will be prepared and implemented in the unlikely event of release of drilling fluids during horizontal directional drilling or jack and bore activities. This plan will include applicable cleanup measures and notification criteria. Appropriate materials to clean up inadvertent drilling fluid releases will be kept on site during drilling activities.
AMM WQ-2	***Develop and Implement a SWPPP.*** Following Project approval, PG&E will prepare and implement a SWPPP to minimize construction impacts on surface water and groundwater quality. The SWPPP will be designed specifically for the hydrologic setting of the proposed Project (e.g., surface topography). The SWPPP will include procedures and standards to stabilize graded areas, reduce erosion, avoid release of hazardous materials and sediment to surface waters, and manage dewatering effluents. The SWPPP will identify BMPs and erosion and sediment control measures, such as straw wattles, water bars, covers, silt fences, storm drain inlet protection, mud trackout controls, and sensitive area access restrictions (e.g., flagging) that will be installed before the onset of winter rains or anticipated storm events to minimize impacts on surface water and groundwater. Mulching, seeding, or other suitable stabilization measures will be used to protect exposed areas during construction activities, as necessary. Identified erosion and control measures will be installed prior to the start of construction activities and will be inspected and improved as needed as required by the Construction General Permit and stated in the SWPPP. The SWPPP will specify that temporary sediment control measures intended to minimize sediment transport from temporarily disturbed areas, such as silt fences or wattles, will remain in place until disturbed areas are stabilized. In areas where soil is temporarily stockpiled, soil will be placed in a controlled area and will be managed using industry standard stockpile management techniques. Where construction activities occur near a surface water body or drainage channel, the staging of construction materials and equipment and excavation spoil stockpiles will be

AMM Number	Description
	placed and managed in a manner that minimizes the risk of sediment transport to the drainage. The SWPPP will identify areas where refueling and vehicle-maintenance activities and storage of hazardous materials will be permitted, if necessary. The plan will be maintained and updated during construction as required by the Construction General Permit.
AMM WQ-3	***Worker Environmental Awareness Training Development and Implementation.*** Worker environmental awareness training will communicate environmental issues and appropriate work practices specific to the Project. The WEAP will include applicable portions of the SWPPP, including spill prevention and response measures, groundwater handling measures, and proper BMP implementation. The training will emphasize safe handling of hazardous materials, site-specific physical conditions to improve hazard prevention (e.g., identification of flow paths to the nearest water bodies), and a review of all site-specific water quality requirements.
AMM NOI-1	***Employ Noise-Reducing Construction Practices during Temporary Construction Activities.*** PG&E will employ standard noise-reducing construction practices, such as the following: • Construction equipment will use noise-reduction devices that are no less effective than those originally installed by the manufacturer. • Stationary equipment will be located as far as practical from noise-sensitive receptors. • Unnecessary engine idling will be limited.
AMM NOI-2	***Notify Residents of Nighttime Construction.*** Residents within 500 feet of the construction site(s) will be notified at least 7 days in advance by mail, personal visit, door hanger, or email and informed of the expected work schedule.
AMM NOI-3	***Notify Residents of LNG Injection Site Activity.*** Residents within 600 feet of the LNG injection site will be notified at least 7 days in advance by mail, personal visit, door hanger, or email and informed of the expected work schedule.
AMM REC-1	***Notify Bothe-Napa Valley State Park of Nighttime Work.*** Prior to the start of construction, PG&E will provide Bothe-Napa Valley State Park advanced notification of scheduled nighttime work in the vicinity of the Park.
AMM TT-1	***Temporary Traffic Controls.*** PG&E will obtain any necessary encroachment permits from local jurisdictions as required, and will comply with permit requirements designed to prevent excessive congestion or traffic hazards during construction. PG&E will develop road and lane closures or width reduction or traffic diversion plans as required by the encroachment permits. Construction activities that are in, along, or cross local roadways will follow best management practices and local jurisdictional encroachment permit requirements, which may include traffic controls, such as signs, cones, and flaggers to minimize impacts on traffic in the Project Area. PG&E will coordinate with the Napa Valley Transportation Authority regarding the schedule and scope of construction activities that could impact bus routes and will coordinate temporary relocation of bus stops if necessary.

AMM Number	Description
AMM TT-2	***Avoidance of Peak Traffiic.*** All construction that may impact traffic will be performed at nonpeak traffic times to minimize impact. When feasible, PG&E will schedule work Sunday through Friday from 8:00 p.m. to 6:00 a.m. It is anticipated that all impacts will be resolved prior to the completion of work shifts.
AMM TT-3	***Coordinate Road Closures with Emergency Service Providers and School Districts.*** At least 24 hours prior to implementing any road or lane closure, PG&E will coordinate with applicable emergency service providers and school districts in the Project vicinity. PG&E will provide information regarding the road or lanes to be closed, the anticipated date, time, and duration of closures, and a contact telephone number.
AMM TCR-1	***Umiscovered Potential Tribal Cultural Resources.*** The following procedure shall be employed if a resource is encountered and determined by the lead agency in tandem with the culturally affiliated tribe and the Project's archaeologist to be potentially eligible for the California Register of Historical Resources or a local register of historic resources and is associated with a California Native American Tribe(s) with a traditional and cultural affiliation with the geographic area of the proposed Project: • The Project's qualified archaeologist shall notify Caltrans for appropriate action. PG&E will assist Caltrans if needed to identify the lead contact person for the California Native American Tribe(s) potentially associated with the tribal cultural resource and with a traditional and cultural affiliation with the geographic area of the proposed Project. The Caltrans will contact the lead contact person to set up a meeting with PG&E and Caltrans. • In consultation with Caltrans, PG&E and the California Native American Tribe(s), appropriate avoidance, protection, or mitigation will be determined based on examples listed in PRC section 21084.3(b) or to the extent permitted by law.
AMM WF-1	***Smoking and Fire Rules.*** Smoking will not be permitted on site, except in barren areas that measure a minimum of 20 feet in diameter and are cleared to mineral soil. Under no circumstances will smoking be permitted during the fire season (approximately July through October) while employees are operating equipment, or while walking or working in grass and woodlands.
AMM WF-2	***Carry Emergency Fire Suppression Equipment.*** PG&E construction crew trucks and large equipment shall have, at a minimum, a standard round-point shovel and fire extinguisher. If construction activities likely to cause sparks (e.g., welding, grinding, or grading in rocky terrain) are conducted, emergency fire tool boxes shall be readily available to crews. The emergency fire tool boxes shall contain firefighting items, such as shovels, axes, and water.
AMM WF-3	***Construction Fire Prevention Plan.*** PG&E shall prepare a Construction Fire Prevention Plan consistent with the measures identified in AMM HAZ-3, Fire Risk Management that addresses procedures for fire prevention at active construction sites. The Construction Fire Prevention Plan shall include requirements for carrying emergency fire suppression equipment, conducting "tailgate meetings" that cover fire safety discussions, restricting smoking, idling vehicles, and restricting construction during red flag warnings. The Construction Fire Prevention Plan shall address the following fire risk reduction measures:

AMM Number	Description
	• Training and briefing all personnel working on the Project in fire prevention and suppression methods. • Conducting a fire prevention discussion at each morning's safety meeting. • Storage of prescribed fire tools and backpack pumps with water within 50 feet of work activities. • Assigning personnel to conduct a "fire watch" or "fire patrol" to ensure that risk mitigation and fire preparedness measures are implemented, fires are immediately detected, and to coordinate with emergency response personnel in the event of a fire.

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CHAPTER 3 — CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) EVALUATION

3.0 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

According to Section 15002(g) of the CEQA Guidelines, "a significant effect on the environment is defined as a substantial adverse change in the physical conditions which exist in the area affected by the proposed Project." As stated in Section 15064(b) of the CEQA Guidelines, the significance of an activity may vary with the setting. The potential significance of Project-related impacts on the factors listed below were evaluated per Appendix G of the CEQA Guidelines. The operation and maintenance activities required for the replacement transmission line and new distribution line would not change from those currently required for the existing system; thus, no operation-related impacts would occur. Therefore, the impact analysis is focused only on the temporary construction activities associated with installing the new gas distribution main and replacement transmission pipeline and establishing required access and work areas, as described in Section 2.0, Project Description.

Please see the CEQA checklist on the following pages for additional information.

Potential Impact Area	Impacted: Yes/No
Aesthetics	**Yes – Less than significant**
Agricultural and Forest Resources	**Yes – Less than significant**
Air Quality	**Yes – Less than significant with Mitigation**
Biological Resources	**Yes – Less than significant**
Cultural Resources	**Yes – Less than significant with Mitigation**
Energy	**Yes – Less than significant**
Geology and Soils	**Yes – Less than significant**
Greenhouse Gas Emissions	**Yes – Less than significant**
Hazards and Hazardous Materials	**Yes – Less than significant**
Hydrology and Water Quality	**Yes – Less than significant**
Land Use and Planning	No Impact
Mineral Resources	No Impact
Noise	**Yes – Less than significant**
Population and Housing	No Impact
Public Services	No Impact
Recreation	**Yes – Less than significant**
Transportation	**Yes – Less than significant**
Tribal Cultural Resources	**Yes – Less than significant**
Utilities and Service Systems	No Impact
Wildfire	**Yes – Less than significant**

The CEQA Environmental Checklist identifies physical, biological, social, and economic factors that might be affected by the proposed Project. In many cases, background studies performed in connection with the proposed Project will indicate there are no impacts to a particular resource. A NO IMPACT answer in the last column of the checklist reflects this determination. The words “significant” and “significance” used throughout the checklist and this document are only related to potential impacts pursuant to CEQA. The questions in the CEQA Checklist are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

DETERMINATION

On the basis of this initial evaluation:

	I find that the proposed Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
X	I find that although the proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the Project have been made by or agreed to by the Project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
	I find that the proposed Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
	I find that the proposed Project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, butt must analyze only the effects that remain to be addressed.
	I find that although the proposed Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed Project, nothing further is required

Signature: Lindsay Vivian	**Date:** 07/06/2021
Printed Name: Lindsay Vivian	

3.1 AESTHETICS

3.1.1 Introduction

This section describes existing conditions and potential impacts on aesthetic resources as a result of construction, operation, and maintenance of the Project. The analysis concludes that impacts on aesthetic resources will be less than significant; the Avoidance and Minimization Measures **(AMMs)** described in Section 3.1.4.2 will further reduce the Project's less-than-significant impacts on aesthetic resources. The Project's potential effects on aesthetic resources were evaluated using Appendix G of the CEQA Guidelines (California Natural Resources Agency 2019). The conclusions are summarized in Table 3.1-1 and discussed in more detail in Section 3.1.4.

Table 3.1-1: CEQA Checklist for Aesthetics

Except as provided in Public Resources Code Section 21099, would the Project:	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a) Have a substantial adverse effect a, a scenic vista?	☐	☐	☒	☐
b) Substantially degrade scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the Project is in an urbanized area, would the Project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

3.1.2 Regulatory Background and Methodology

3.1.2.1 Regulatory Background

Federal

No federal regulations related to aesthetic or visual resources are applicable to the Project.

State

California Scenic Highway Program

California's Scenic Highway Program, a provision of the Streets and Highways Code, was established by the Legislature in 1963 to preserve and enhance the natural beauty of California. The State Scenic Highway Program includes highways that are either eligible for designation as scenic highways or have been designated as such. The status of a state scenic highway changes from eligible to officially designated when the local jurisdiction adopts a scenic corridor protection program, applies to the California Department of Transportation (Caltrans) for scenic highway approval, and receives the designation from Caltrans (Caltrans 2008). A city or county may propose to add routes with outstanding scenic elements to the list of eligible highways; however, state legislation is required for a highway to be officially designated a State Scenic Highway.

The approximately 7 miles of pipeline, between Caltrans postmiles PM 28.36 and PM 35.43 (PG&E milepost 20.61–26.12), is generally adjacent to California SR 29 (St. Helena Highway). SR 29 between milepost PM 28.36 and PM 35.43 is not designated as a State or County Scenic Highway. However, SR 29 from the intersection of Trancas Street in the City of Napa to the Lake County border, which encompasses the length of the Project, is identified as eligible for official scenic highway designation (Napa County 2008).

Local

PG&E's gas pipeline facilities are regulated under the California Public Utilities Commission's (CPUC) General Order ("GO") 112-E, which contains the CPUC's requirements governing the design, construction, testing, operation, and maintenance of gas pipeline systems. Because the California Constitution vests in the CPUC exclusive power and authority with respect to "all matters cognate and germane to the regulation of public utilities" (California Constitution, article XII, § 5), the Project is not subject to local discretionary regulations. PG&E would secure ministerial permits, as required. The following reviews of the county's and city's visual resource-related policies and regulations is provided for informational purposes and to assist with CEQA review.

PG&E has considered local plans and policies as part of the environmental review process. Additional information regarding these plans and policies is available in Section 3.11, Land Use.

Napa County General Plan

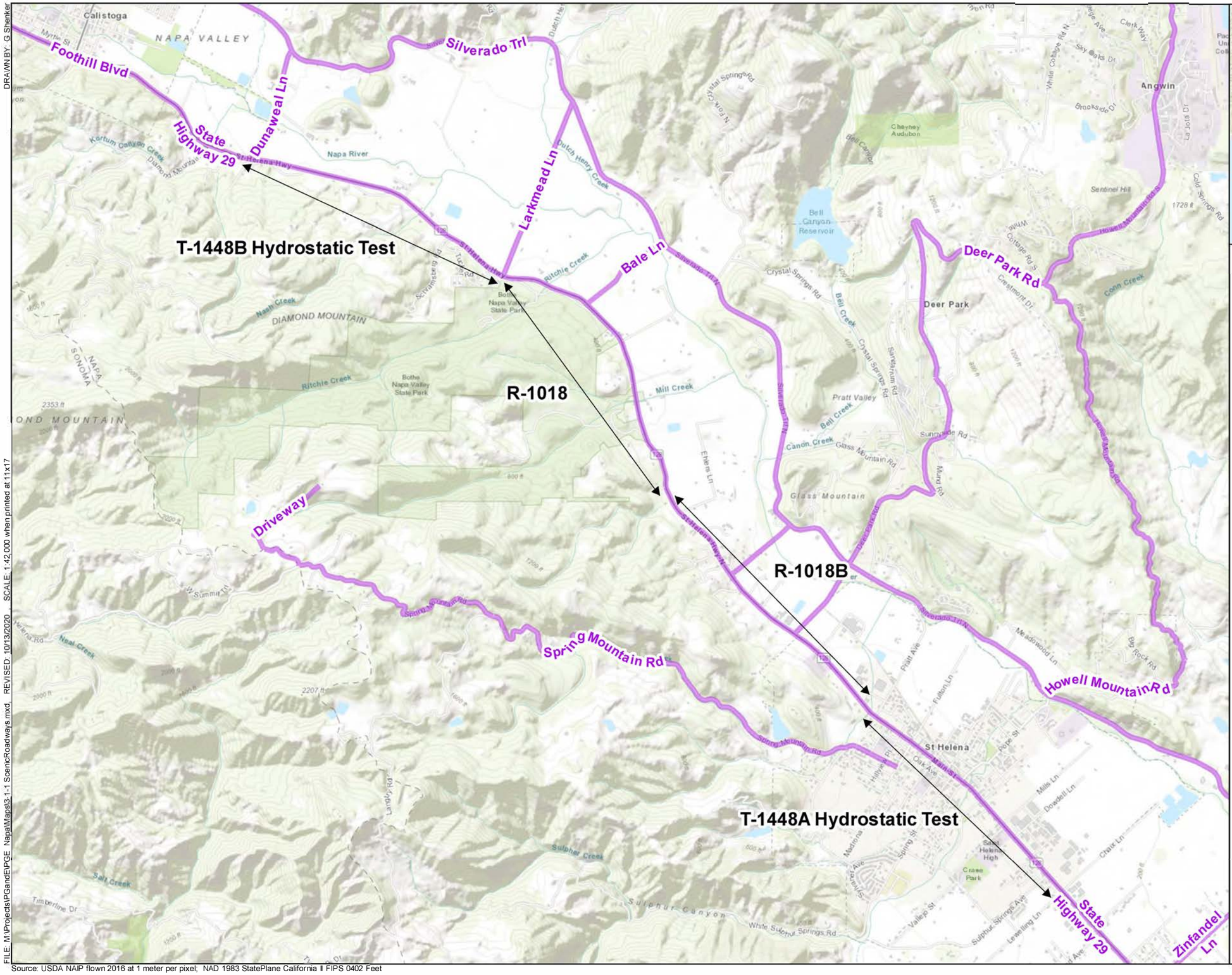
The Project alignment is located in unincorporated areas of Napa County and in the City of St. Helena. According to the Napa County General Plan (Napa County 2008), Napa Valley is world-famous for its scenic beauty and natural areas and the county is committed to preserving these views from designated scenic roadways. SR 29, among other roads in the Project area, is designated by the County as a scenic road. Figure 3.1-1 provides a map of the county-designated scenic roads in the vicinity of the Project. Table 3.1-2 provides a summary of state and local scenic resources in the Project area.

Napa County Viewshed Protection Program

The Napa County Viewshed Protection Program (Napa County 2001, Chapter 18.106) is a zoning ordinance applicable to new structures or improvements to existing structures on slopes of 15 percent or more or on ridgelines in order to protect and preserve views.

City of St. Helena Municipal Code

The City of St. Helena Municipal Code (City of St. Helena, 2020) includes provisions for the protection and preservation of scenic resources in scenic areas and of certain trees including trees designated as heritage trees growing in city limits. Any public utility subject to the jurisdiction of the State Public Utilities Commission must first obtain a permit from the director permitting the utility to prune or remove any protected trees or trees growing on private property to the extent that they encroach upon the utilities.



Source: USDA NAIP flown 2016 at 1 meter per pixel; NAD 1983 StatePlane California II FIPS 0402 Feet

Figure 3.1-1
Scenic Roadways in Project Vicinity
PG&E Napa Bundle Northern Corridor
Gas Pipeline Maintenance Program
Napa, Ca

Environmental Resources Management
www.erm.com

DRAWN BY: G.Shenker
FILE: M:\Projects\PGandE\PGE_NapaMaps\3-1-1 ScenicRoadways.mxd REVISED: 10/13/2020 SCALE: 1:42,000 when printed at 11x17

Table 3.1-2: Summary of Designated Scenic Resources in the Project Area

Scenic Resource (Location Relative to Project Alignment)	Designation	Appendix C Photograph(s)[1]
State Route 29 (from Trancas Street in the City of Napa to the Lake County border)	State Eligible Scenic Highway	A-1 to A-22
State Route 29 (from American Canyon to Lake County Line)	County-Designated Scenic Road	A-1 to A-22
Dunaweal Lane (between SR 29 and Silverado Trail)	County-Designated Scenic Road	A-4, 6, 7, 8
Larkmead Lane (between SR 29 and Silverado Trail)	County-Designated Scenic Road	A-9, 10, 11
Bale Lane (between SR 29 and Silverado Trail)	County-Designated Scenic Road	A-12, 13, 14
Lodi Lane (between SR 29 and Silverado Trail)	County-Designated Scenic Road	A-15, 16, 17
Deer Park Road (between SR 29 and Howell Mountain Road)	County-Designated Scenic Road	A-18
Sulphur Creek Bridge (on SR 29 in St. Helena)	Historic Resource	A-19, 20
Silverado Trail (from Monticello Road to SR 29)	County-Designated Scenic Road	Project route not visible
Howell Mountain Road (between Silverado Trail and Pope Valley Road)	County-Designated Scenic Road	Project route not visible
Spring Mountain Road	County-Designated Scenic Road	Project route not visible

Notes:
[1] Photographs along the pipeline right-of-way are provided in Appendix C.
Source: Photographs taken by Environmental Resources Management in March 2020 and PG&E in April and May 2020.

3.1.2.2 Methodology

The visual analysis is based on review of technical data, including Project maps and drawings provided by PG&E, aerial and ground level photographs of the Project Area, local planning documents. Field observations were conducted in February, April, and March 2020 to document existing visual conditions in the Project Area and to identify potentially affected sensitive viewing locations.

This visual study employs assessment methods based, in part, on the U.S. Department of Transportation, Federal Highway Administration (FHWA) and other accepted visual analysis techniques as summarized by Smardon et al. (1986). This study also addresses the CEQA Guidelines for visual impact analysis. Included are systematic documentation of the visual setting and an evaluation of visual changes associated with the Project. To convey a sense of existing visual conditions, a set of photographs are included that show representative public views of the Project Area. Photographs of the existing property are provided in Appendix C.

Consistent with FHWA methods, this impact analysis describes changes to existing visual resources and assesses viewer response to that change. Central to this assessment is an evaluation of representative views from which the aboveground portions of the Project would be visible to the public. The majority of the Project would be below ground following completion of construction activities, and the views would be similar to existing conditions prior to the Project being constructed. The visual impact assessment is based on evaluation of the changes to the existing visual resources that will result from construction and operation of the Project.

3.1.3 Environmental Setting

Appendix A includes a map book and an annotated aerial photograph that show the Project location within a regional and local landscape context. The site is located in or adjacent to approximately 7 miles of Caltrans' ROW along SR 29 between the cities of St. Helena and Calistoga, in Napa County. The Project consists of hydrostatic testing and pipe replacements on an existing section of natural gas pipeline. The Project extends for approximately 1 mile through the City of St. Helena, then along SR 29 through a mostly rural and agricultural portion of Napa Valley and terminates at the Dunaweal Lane LNG injection site approximately 1.25 miles south of the City of Calistoga.

3.1.3.1 Regional and Local Landscape Setting

Situated in the northern Napa Valley, the Project route generally follows the existing natural gas pipeline route within or adjacent to Caltrans' ROW. The setting consists of generally flat terrain associated with the floodplain of the Napa River and alluvial fans of rivers draining from the mountains on either side of the valley. This visual setting is

characterized primarily by vineyards, wineries, agricultural fields, open space lands, residences, and urban areas such as the cities of St. Helena and Calistoga along the valley floor.

Elevations in the Project area range from 230 to 330 feet above mean sea level, with elevations gradually dropping as the route moves from north to south. The combination of relatively flat topography and agricultural fields contributes to an open landscape character. Vegetated hillsides and natural ridgelines are visible in the distance on either side of the valley from the Project route along SR 29. Vegetation along the route is mostly defined by vineyards, agricultural fields, grasslands, and riparian corridors. Throughout the Project Area, existing PG&E rights-of-way with buried natural gas pipeline and electric utility structures, including pipeline markers and overhead power lines, are established landscape features.

The Project's rural landscape setting is dominated by wineries and vineyards along either side of the route. Urbanized areas are located on either end of the Project including the cities of St. Helena to the south and Calistoga to the north. Deer Park, a residential development, is located in the valley adjacent to and on the hillside above and to the east of the City of St. Helena. The Project passes by Bale Grist Mill State Historic Park, the site of a water-powered grist mill built in 1846. The Project route also passes alongside the eastern edge of Bothe-Napa Valley State Park, an approximately 2,000-acre park with camping, hiking, historic trails, and a variety of wildlife and tree species, including coastal redwoods.

A number of drainages traverse the Project Area, flowing east from the hills to the Napa River, including Nash Creek, Ritchie Creek, Mill Creek, Hirsch Creek, York Creek, and Sulphur Creek (see the mapbook of Gas Transmission and Distribution Work Locations in Appendix A, depicting these creeks in relation to approximate proposed Project work locations).

3.1.3.2 Project Viewshed and Representative Views

A Project viewshed is defined as the general area from which a Project is visible. For purposes of describing a Project's visual setting and assessing potential visual impacts, the viewshed can be broken down into foreground, middleground, and background zones. The foreground is defined as the zone within 0.25 to 0.5 mile of the viewer; the middleground is defined as the zone that extends from the foreground to a maximum of 3 to 5 miles of the viewer; and the background zone extends from the middleground to infinity (Smardon et al. 1986).

Viewing distance is a key factor affecting the potential degree of Project visibility. Visual details generally become apparent to the viewer when they are observed in the foreground, at a distance of 0.25 to 0.5 mile or less. The primary focus of the visual

analysis included in this assessment is the foreground viewshed zone, where visual details are most apparent, up to approximately 1 mile from the Project Area, where change could be noticeable.

3.1.3.3 Landscape Units and Representative Views

Two distinct sub-areas or landscape units have been identified for purposes of documenting and describing the Project's foreground viewshed. Each landscape unit can be considered a distinct "outdoor room," with distinguishing topographic, vegetation, and/or development patterns. Representative views of the Project location are provided in Appendix C.

Landscape Unit 1 encompasses the portion of the route which runs approximately 1 mile through the City of St. Helena. This portion includes PM 28.36–29.25 (Strength Test T-1448A). Views of the Project would consist primarily of temporary construction activities as the pipeline is buried throughout this section of the route. The route is located in disturbed areas along existing pipeline rights-of-way through the streets of St. Helena. Strength testing of this section of pipe, an approximately 5,400-foot underground section, would include temporary installation of test heads at each end of the test section, minor modifications of the pipeline at two locations within the test section, and replacement and installation of pipeline at Sulphur Creek. The bridge at Sulphur Creek, at the south end of town, is a historical resource, built in 1910 (see Figure 3.1-2: Photograph of Sulphur Creek Bridge, St. Helena). The existing pipeline is visible (although not from the roadway) as it is attached to the east side of the bridge. Planning by Caltrans is in progress to expand the width of the bridge in that direction. The replacement pipeline would be installed under the creek by horizontal directional drilling, and would not be visible post construction.

Landscape Unit 2 extends north from the City of St. Helena through the North Napa Valley from the St. Helena city limits to where the route ends at the Dunaweal Lane LNG injection site. This portion includes the rest of the proposed Project route and activities. The existing pipeline is buried and not visible throughout the length of this portion of the Project. The replacement transmission pipeline would also be entirely underground and would not be visible following construction activities. Figure 3.1-3 is a photograph of a representative view within Landscape Unit 2.



Figure 3.1-2: Photograph of Sulphur Creek Bridge, St. Helena



Figure 3.1-3: Photograph of SR 29 near Bale Lane

The distribution pipeline would be installed entirely underground apart from three aerial crossings of York Creek, Mill Creek, and Hirsch Creek. The three aerial crossings span the width of the creeks (maximum 44-foot spans) adjacent to existing utilities that also span the creeks and would be mostly blocked from views along the road by the existing bridge and guardrails. The crossing at York Creek is approximately 1 foot above the road grade and blocked almost entirely from view by the existing stone wall of the bridge. The aerial crossings at Mill Creek and Hirsch Creek would be located below road grade, 2-3 feet from the bridge, and mostly blocked from view by the existing guardrails or concrete bridge.

The Landscape Unit 2 portion of the route consists of generally flat terrain along SR 29 through rural landscapes dominated by wineries and vineyards along either side of SR 29. The landscape west of SR 29 is predominately vegetated hillsides with hillside vineyards visible in the middleground and background. Agricultural fields, predominantly vineyards, are visible to the east/northeast along the gently rolling floodplain of the Napa River followed by the Silverado Trail Road that runs along Napa Valley parallel to SR 29 from the City of Napa north to the City of Calistoga where it intersects with SR 29 at Lincoln Avenue. Vegetated hillsides with open space and periodic residential developments and vineyards are visible in the background beyond (to the east and north of) Silverado Trail Road. Silverado Trail Road ranges from 0.5 mile up to 1.5 miles east/northeast of the Project route along SR 29. Distant mountains are visible in the background on either side of the Project route. The tallest peaks visible from SR 29 are the Palisades, located around 4 miles northeast of the Project, and Mount St. Helena 8 miles due north of the Project.

The Project route is visible from Caltrans' ROW with the exception of two 0.75-mile sections at the north end of the Project that jog south from SR 29 along Heitz Way and Azalea Springs Way. Views of the Project route from public locations outside of the SR 29 corridor are mostly screened by a combination of topography, mature vegetation, and structures.

The LNG injection site, at the intersection of SR 29 and Dunaweal Lane, is visible from nearby locations including: up to 0.1 mile away from both directions of SR 29; from up to 0.1 mile north along Dunaweal Lane; from the nearby residences directly across SR 29 along Scott Way; and from the adjacent Twomey Calistoga winery to the northeast. Views of the Dunaweal Lane site are mostly screened or completely blocked beyond 0.1 mile by a combination of topography, mature vegetation, and existing structures. The LNG injection site was established in May 2020 for pipeline maintenance activities occurring in 2020. Previously a fallow field, the location was stripped of topsoil, graveled, and fenced.

The Napa Valley Vine Trail is a partially completed 47-mile long trail proposed from the Ferry Terminal in Vallejo north to Calistoga. The majority of the completed trail is located south of Yountville, about 10 miles south of the Project. There is a 0.25-mile long section of existing trail along the east side of SR 29 just north of the City of St. Helena and another 1-mile-long section of existing trail running north from Dunaweal Lane, 0.3 mile east of the LNG injection site. Planning is underway for construction of the section of trail between Pratt Avenue in St. Helena and Dunaweal Lane north of the LNG injection site. This 6.8-mile-long segment of trail would mostly be along SR 29 within Caltrans and rights-of-way, and on State Park land and private property easements.

3.1.3.4 Potentially Affected Viewers

Accepted visual assessment methods, including those adopted by FHWA, establish sensitivity levels as a measure of public concern for changes to scenic quality. Viewer sensitivity, one of the criteria for evaluating visual impact significance, can be divided into high, moderate, and low categories. Factors considered in assigning a sensitivity level include viewer activity, view duration, viewing distance, adjacent land use, and special management or planning designation. According to the U.S. Department of Transportation's *Guidelines for the Visual Impact Assessment of Highway Projects* (USDOT, 2015), research on the subject suggests that certain activities tend to heighten viewer awareness of visual and scenic resources, while others tend to be distracting. The Project viewshed includes several types of concerned viewer groups including motorists, tourists, recreational users, and residents.

Motorists, the largest viewer group, include people traveling on SR 29 and local roads in St. Helena. SR 29 travelers are by far the largest part of the motorist viewer group. According to the Napa Valley County Plan (Napa County 2013), daily traffic volumes along SR 29 north of Zinfandel were almost 20,000 trips and are projected to reach almost 30,000 daily trips by 2030. The Project route is 7 miles long and is within or adjacent to the Caltrans ROW along SR 29. With a posted speed limit of 50 miles per hour along most of the route and 15 to 25 miles per hour within the City of St. Helena, view duration for motorists is estimated at 10 minutes or less for the entire route. View duration is estimated at 1 minute or less for temporary construction activities and for the temporary LNG injection site a Dunaweal Lane. Views of the aerial crossings at York Creek, Mill Creek, and Hirsch Creek would be mostly blocked from view by the existing bridge or guardrails. Viewer sensitivity of motorists is considered moderate due to the limited and short duration of the view by passing motorists.

Tourists compose the next largest viewer group and include people visiting the wineries along SR 29 and throughout Napa Valley. According to the Napa Valley County Plan (Napa County 2008), the number of tourist visits to Napa County totals approximately

4.7 million person-trips each year with wine-related visitors making up around 80 percent of this total (3.2 million persons per year). View duration for this group could range from several minutes to several hours depending on the activity and the location. This represents the second largest viewer group and viewer sensitivity of this group is considered moderate to high.

Recreational users compose another viewer group. The most popular recreational activities in Napa Valley are walking for fitness and fun, walking pets, sightseeing (including while driving), wildlife viewing, jogging/running, and bicycling (Napa County 2008). Unique recreational areas in the vicinity of the Project route include amenities in the City of St. Helena (streets, sidewalks and sports fields), SR 29, wineries and vineyards, Bale Grist Mill Historic State Park, Bothe-Napa Valley State Park, and bike paths. Silverado Trail road has a dedicated bike lane the entire length of the road from Napa to Calistoga.

The proposed Napa Valley Vine Trail would pass 700 feet of the temporary LNG injection site on Dunaweal Lane and then head south along SR 29 for the length of the route to St. Helena. The southern portion of the trail passes just north of York Creek where the distribution pipeline would be visible for a 44-foot span across the creek. Views of the aerial crossing of the distribution line would be possible from the trail; however, they would be mostly obscured by the existing vegetation along the north side of the creek and by the existing utility crossing on the east side of the bridge. The distribution line would be located between the existing exposed utility line and the bridge. View duration for this group could range from several minutes to several hours depending on the activity. This viewer group is relatively small in the vicinity of the proposed route, and viewer sensitivity of this group is considered moderate to high.

The fourth viewer group includes owners and employees at commercial businesses, primarily at the wineries, and a limited number of residents with views of the Project. These include people working and living in St. Helena near the southern end of the Project route and along either side of SR 29 along the approximately 6-mile-long Project route north of St. Helena. Partially due to longer duration of views, the sensitivity of this viewer group is considered moderate to high.

3.1.4 Avoidance and Minimization Measures and Potential Impacts

The following sections describe AMMs and assess potential Project-related construction and operational aesthetic impacts.

3.1.4.1 Avoidance and Minimization Measures

PG&E would implement the following AMMs:

AMM AE-1: Nighttime lighting to minimize potential visual impacts of construction activity. Lighting utilized for nighttime construction and for security during construction shall be shielded or otherwise directed oriented away from sensitive receptors. Measures such as use of non-glare or hooded fixtures and directional lighting may be used to reduce light spillover into areas outside the construction site and minimize the visibility of lighting from offsite locations wherever feasible.

AMM AE-2: Construction Cleanup*.* Construction debris will be picked up daily from construction areas. The appearance of disturbed land areas will be restored through implementation of re-contouring and/or re-vegetation, depending on pre-existing conditions.

AMM AE-3: Design and operation of staging areas to minimize potential visual impacts*.* Staging areas will be located in open areas to avoid the removal of trees. Where vegetative cover is removed to enable use of staging areas, it will be restored at the end of construction activities. Security lighting may be installed at staging areas located within the Project Area. If nighttime security lighting is required in close proximity to sensitive locations such as existing residences, it will be focused to minimize potential spillover or glare with respect to areas outside the staging area, and non-glare or hooded fixtures may be utilized.

AMM AE-4: Litter and trash management*.* All food scraps, wrappers, food containers, cans, bottles, and other trash will be removed from the site daily.

AMM AE-5: Parking*.* Vehicles and equipment will be parked on pavement, existing roads, developed areas, or approved construction work areas. Vehicles will be prohibited from parking in sensitive areas including the dripline of trees.

3.1.4.2 Potential Impacts

Project impacts related to aesthetics and visual resources were evaluated using Appendix G of the CEQA Guidelines and are discussed below.

a) Would the Project have a substantial adverse effect on a scenic vista? *Less-than-Significant Impact*

For purposes of this evaluation, a scenic vista is defined as a distant public view along or through an opening or corridor that is recognized and valued for its scenic quality. The SR 29 corridor, including the section between St. Helena and Calistoga, is recognized as a county-designated scenic roadway, and the county is committed to preserving views from designated scenic roadways (Napa County 2008).

Construction of the Project would be temporary, lasting up to 10 months in 2022, would not obscure the landscape permanently or significantly, and would be limited to select

portions of the pipeline route at any given time. The approximate 1-acre LNG injection site at Dunaweal Lane and SR 29 would be temporarily visible for the duration of construction activities. Prior to May 2020, this parcel of land was an open field. The site was graded, graveled, and fenced in May 2020 for use as an LNG injection site for pipeline construction activities in 2020. Following 2022 pipeline construction activities, all LNG injection equipment and the graveled surface would be removed, returning the ground surface to approximate pre-existing conditions.

Following construction, the Project would be entirely buried and not visible to the public apart from pipeline markers for the mains and aboveground valves for the customer service lines and the three new aerial crossings at York Creek, Mill Creek and Hirsch Creek. Most of the pipeline markers and aboveground valves currently exist and are not new features of the pipeline. The new distribution line would be installed in the same trench as the replacement transmission line, or alongside or in close proximity to the existing transmission pipeline, and would not be visible above ground except for the three new creek crossings. The three aerial crossings would be less than 44 feet each, located adjacent to existing utility lines spanning the creek, and mostly blocked from view by the existing bridge, guardrails and aerial utility lines. In addition, each of the three aerial crossings is located on the east side of the bridge where pedestrian access is not provided to cross the bridge. As such, any change to aboveground features of the Project visible to the public would be negligible.

As outlined above, the Project would not substantially alter views of the valley, hillsides, and ridgelines that are currently experienced by the public. While an estimated 37 trees would need to be removed to enable the completion of the work, the trees are located intermittently along the SR 29 corridor and the views of these trees to passing motorists are brief and mostly screened by other trees or features in the viewshed. Ornamental trees removed on Main Street in St. Helena would be replaced in situ. Due to the temporary nature of Project construction and the minimal visible changes resulting from the replacement and installation of underground pipeline in the existing highway and utility corridor, there would be no substantial adverse effect from the Project on a scenic vista. The temporary impacts of construction activities on a scenic vista would be less-than-significant.

b) Would the Project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? *Less-than-Significant Impact*

As documented in Section 3.1.2, there are no designated State Scenic Highways within the Project viewshed; therefore, the Project would not substantially damage scenic resources within an officially designated State Scenic Highway. SR 29 is identified as eligible for official scenic highway designation and is also designated a county scenic

route in the Napa County General Plan (Napa County 2008). In addition, several other nearby roads are designated as county-designated scenic roads as listed in Table 3.1-2.

In total, up to 37 trees would need to be removed in order to safely install the replacement pipeline. Apart from the 10 ornamental trees on the corner of Main Street and Mitchell Drive in St. Helena, the trees that need to be removed in order to complete the work are located intermittently over the length of the Project and as such removal of the trees would not substantially degrade scenic resources in the general vicinity and visual impacts would be less than significant. Furthermore, the encroachment permit issued by Caltrans will address planting of trees due to tree removal within the state ROW, thereby further reducing less-than-significant impacts. As a result of the temporary nature of Project construction and the minimal visible changes following construction due to limited vegetation removal and the pipeline being underground apart from four creek crossings, the Project would not have a significant visual effect on views from these roads nor preclude this section of SR 29 from becoming officially designated as a scenic highway. Therefore, the impact would be less-than-significant.

c) In nonurbanized areas, would the Project substantially degrade the existing visual character or quality of public views of the site and its surroundings? *Less-than-Significant Impact*

The Project would not substantially degrade the existing visual character or quality of the site and its surroundings. In general, the Project vicinity is a busy roadway and working landscape, heavily modified for agricultural production activity and associated winery tourism. The entire Project follows public roadways where buried pipelines currently exist and is in an area where mechanized agricultural production activities typically employ the use of trucks and other equipment. The Project requires minimal grading and vegetation removal along an existing utility corridor within or adjacent to SR 29, resulting in a visual change that would be minor and not particularly noticeable to the public. In addition, nearby residences, wineries, and public places are generally screened by vegetation, topography, or existing structures.

During construction, visual impacts would include the presence of workers, temporary, and construction equipment. Construction is expected to take up to 10 months to complete, and apart from the temporary LNG injection site at Dunaweal Lane, considerably less time at any one location along the Project route. Additionally, most construction activities are scheduled to occur at night. The visual change at the Dunaweal Lane injection site would be moderate, but would only impact a small segment of the public for a short duration of time. Close-range, unobstructed views of the graveled lot at the LNG injection site would occur along public roads, from the nearby winery, and from nearby residences. However, as described in Section 3.1.3.3,

the Project represents an incremental visual change to the overall visual landscape setting. The Project would not obstruct views of the surrounding Napa Valley and nearby mountains.

Overall, due to the temporary construction activity and limited nature of visual changes from the removal of 27 trees intermittently spaced along SR 29 over a distance of several miles and 10 ornamental trees within St. Helena that would be replaced in-situ, Project-related visual effects would not substantially degrade the existing visual character or quality of the landscape setting and would be less than significant.

d) Would the Project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? ***Less-than-Significant Impact***

The Project is mostly in a rural setting with little roadway lighting adjacent to the site, with the exception of the approximately 1.5 miles within and around St. Helena. Rural lighting sources tend to be localized and associated with agricultural processing facilities, wineries, residences, and some roadway intersections including interchanges along SR 29. The City of St. Helena has street lighting.

No permanent lighting is proposed as part of the Project. During construction, which would primarily occur at night, portable temporary lighting would be used to illuminate the immediate work area. Each crew would have two portable lighting equipment—one in use and a second on standby for emergencies. Additional lighting equipment may be added if deemed necessary from a safety standpoint. Lighting equipment would also be used for nighttime lighting at laydown and staging areas, including at the injection site at Dunaweal Lane.

Glare exists when a high degree of contrast between bright and dark areas in a field of view make it difficult for the human eye to adjust to differences in brightness. At high levels, glare can make it difficult to see, such as when driving westward at sunset. AMM AE-1 and AE-3, which call for the use of non-glare or hooded fixtures and directional lighting, would minimize the potential effect of glare. Removal of trees could increase daylight glare along SR 29, but as the locations of the trees are intermittent and mostly screened to passing motorists by other trees and features of the landscape, the contribution to daylight glare on the road would be negligible. Therefore, the Project would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

3.2 AGRICULTURE AND FORESTRY RESOURCES

3.2.1 Introduction

This section describes existing conditions and potential impacts on agricultural and forest resources as a result of construction, operation, and maintenance of the Project. The analysis concludes that impacts on agricultural and forest resources would be less than significant; the Avoidance and Minimization Measure(s) (AMMs) described in Section 3.2.4.2 would further reduce the Project's less-than-significant impacts. The Project's potential effects on agricultural and forest resources were evaluated using Appendix G of the CEQA Guidelines. The conclusions are summarized in Table 3.2-1 and discussed in more detail in Section 3.2.4.

Table 3.2-1 : CEQA Checklist for Agricultural and Forest Resources

Would the Project:	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural land?	☐	☐	☒	☐
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☒	☐
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined by Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest uses?	☐	☐	☐	☒
e) Involve other changes in the existing environment, which, due to their location or nature, could result in the conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

3.2.2 Regulatory Background and Methodology

3.2.2.1 Regulatory Background

Federal

No federal regulations related to agricultural or forest resources are applicable to the Project.

State

Williamson Act

The California Land Conservation Act, better known as the Williamson Act (California Government Code Section 51200 et seq.), is designed to preserve agricultural and open space land. It establishes a program of private landowner contracts that voluntarily restrict land to agricultural and open space uses. In return, Williamson Act parcels receive a lower property tax rate consistent with their actual use instead of their market rate value. Lands under contract may also support uses that are "compatible with the agricultural, recreational, or open-space use of [the] land" subject to the contract (California Government Code Section 51201[e]). Napa County currently contains 69,500 acres of land under Williamson Act contract. Under Government Code Section 51238, gas facilities are compatible uses within an Agricultural Preserve.

Farmland Mapping and Monitoring Program

The California Department of Conservation (CDC), under the Division of Land Resource Protection, has established the Farmland Mapping and Monitoring Program (FMMP) to monitor the conversion of the state's farmland to and from agricultural use. The FMMP maps agriculturally viable lands and designates specific categories, including Prime, Unique, Farmland of Statewide Importance, Farmland of Local Importance, or Grazing Land.

California Public Resources Code

The California Public Resources Code contains the following definitions:

- Forest Land: Section 12220(g) defines "forest land" as land that can support 10 percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits.

- Timberland: Section 4526 defines timberland as land—other than land owned by the federal government and land designated by the State Board of Forestry and Fire Protection as experimental forest land—that is available for, and capable of, growing

a crop of trees of a commercial species used to produce lumber and other forest products, including Christmas trees.

- Agricultural Land: Section 21060.1 defines agricultural land as Prime, Unique, or Farmland of Statewide Importance, as defined by the U.S. Department of Agriculture land inventory and monitoring criteria.

Local

The following reviews of the county's and city's agriculture and forestry resource-related policies and regulations is provided for informational purposes and to assist with CEQA review.

Napa County General Plan

The Napa County General Plan (Napa County 2008) includes goals and policies pertaining to agricultural preservation and land use and forest resource conservation.

Napa County Land Trust

A 10.1-acre conservation easement—bounded by SR 29 on the west side, Mill Creek on the north side, and known as the Olive House—is held in favor of the Napa County Land Trust. The conservation values are identified as agricultural, scenic, and open space.

City of St. Helena General Plan

The City of St. Helena General Plan (City of St. Helena 2019) includes policies and implementing actions pertaining to agricultural uses, discouraging conversion of existing farmland to non-agricultural uses.

3.2.2.2 Methodology

Various sources were consulted to complete the analysis for agricultural and forestry resources, including CDC FMMP data and maps; Williamson Act contract maps; aerial photographs; and county general plans, zoning ordinances, and maps. The mapped agricultural and forestry designations and contracted lands were compared with the Project route. A qualitative analysis is provided to determine whether the Project would have a substantial impact on farmland or forest land.

3.2.3 Environmental Setting

3.2.3.1 Regional

A total of 259,236 acres in Napa County (approximately 51 percent) is FMMP-designated Farmland, of which 32,447 is designated Prime Farmland (CDC 2017). Outside of St. Helena, the Project is located within or generally adjacent to California State Route 29 (SR 29) in an area dominated by viticulture.

3.2.3.2 Local

Important Farmland

As shown on Figure 3.2-1, most of the Project Area is within FMMP-designated Prime Farmland. The Project work area also includes Farmland of Statewide Importance, Unique Farmland, and Urban and Built-Up Land (CDC 2017).

Zoning Districts

The following agriculture-related zoning districts are crossed by the Project.

Napa County

Agricultural Preserve. Agricultural Preserve includes fertile valley and foothill areas in which agriculture is and should continue to be the primary land use.

Agricultural Watershed. The Agricultural Watershed designation includes areas where watersheds, reservoirs, and floodplains are located on land used for primarily agricultural purposes.

Apart from a few small locations, the unincorporated areas of Napa County within the Project Area between the cities of St. Helena and Calistoga are zoned Agricultural Preserve east of Caltrans' ROW, and zoned Agricultural Watershed west of SR 29. The exceptions are on the east side of the SR 29 where parcels of land—between Maple Lane and Heitz Way, and between approximately Ehlers Lane and Lodi Lane—are zoned as Agricultural Watershed. Additionally, there are four small areas zoned as Commercial Limited between approximately Ehlers Lane and Lodi Lane.

City of St. Helena

Agriculture (A-20). The 20-acre agricultural district provides for agricultural and residential land use. This zoning classification does not include hillsides considered woodlands and watersheds, nor wineries. The purpose of the A-20 district is to preserve land for agricultural use and provide for orderly development accommodating urban growth.

Winery. Areas within the winery district provide for winery-related uses within the agriculture general plan land-use designation.

Within St. Helena, the Project crosses a small parcel of land zone as Agricultural (A-20) at the corner of Pratt Avenue and SR 29, beyond which the Project is within an area zoned as Winery, along the east side of SR 29.

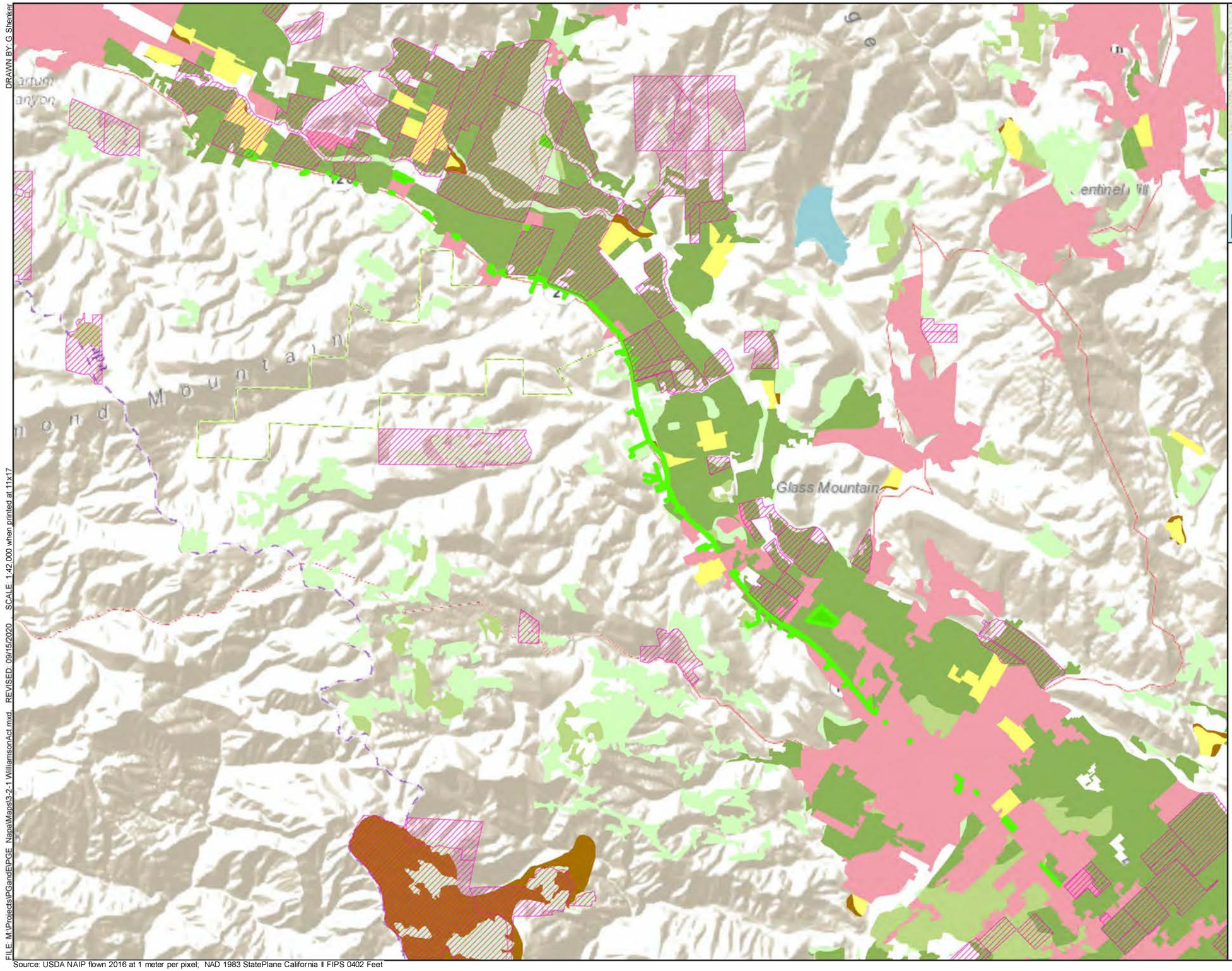


Figure 3.2-1
Williamson Act Program Lands and Important Farmland
PG&E Napa Bundle Northern Corridor Gas Pipeline Maintenance Program
Napa, Ca

Environmental Resources Management
www.erm.com

Source: USDA NAIP flown 2016 at 1 meter per pixel; NAD 1983 StatePlane California II FIPS 0402 Feet

FILE: M:\Projects\PGandE\PGE_NapaMaps\3-2-1 WilliamsonAct.mxd REVISED: 09/15/2020 SCALE: 1:42,000 when printed at 11x17

DRAWN BY: G Shenkar

3.2.4 Avoidance and Minimization Measures and Potential Impacts

The following sections describe provide AMMs and assess potential Project-related construction and operational impacts on agricultural and forest resources.

3.2.4.1 Avoidance and Minimization Measures

PG&E would implement the following AMMs:

AMM AF-1: Minimize Impacts on Active Agricultural Lands. Crop removal will be avoided to the greatest extent feasible. If crops cannot be avoided, impacts will be limited to the minimum necessary to construct the Project. If grading or excavations occur in active agricultural areas, topsoil will be salvaged and replaced once construction is complete.

3.2.4.2 Potential Impacts

Project impacts on agriculture and forest resources were evaluated using Appendix G of the CEQA Guidelines, as discussed below.

a) Would the Project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the FMMP, to non-agricultural use? *Less-Than-Significant Impact*

The Project would not convert designated Farmland to a non-agricultural use, as all facilities would be installed underground. Construction of the Project would temporarily impact 24.8 acres of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Vineyards are the predominant form of agriculture in close proximity to the Project Area. Up to 1,900 vines on nine parcels (5.9 acres) would need to be removed to enable construction activities. Vines can be replanted post-construction, although not within 10 feet of the pipeline. While the land would not be converted to non-agricultural use, this may result in some vines not being replanted, in particular where vine rows are parallel to the pipeline. A summary of impacts by Project component is provided in Table 3.2-2.

Construction activities have the potential to temporarily interfere with agricultural operations by temporarily restricting landowner access to the agricultural areas where active construction is taking place. However, because the pipeline installation does not bisect fields and construction would progress relatively quickly at any one place, agricultural impacts would be temporary and less than significant.

Table 3.2-2. Estimated Temporary Impacts on Farmland

Project Component	Prime Farmland	Unique Farmland	Farmland of Statewide Importance
Transmission Pipeline	12.0 acres	2.0 acres	5.9 acres
Distribution (only) Pipeline	1.7 acres	0.1 acres	0.2 acres
Customer Service Lines	0 acres	0.1 acres	0.5 acres
T-1448A	0.2 acres	0 acres	0 acres
T-1448B	0.4 acres	1.7 acres	0 acres
Total Acres	14.3 acres	3.9 acres	6.6 acres

Source: CDC 2017

b) Would the Project conflict with existing zoning for agricultural use, or a Williamson Act contract? *Less-Than-Significant Impact*

Portions of the Project would occur on lands zoned for agriculture, on Williamson Act contracted prime agricultural land, and on Prime Farmland, Unique Farmland, and Farmland of Statewide Importance. Because gas facilities are considered a compatible use of contracted Williamson Act lands consistent with the requirements of Government Code Section 51290 et seq., and because the Project would only cause temporary impacts due to pipeline replacement and installation, the impacts would be less than significant.

c) Would the Project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))? *No Impact*

No areas of protected timberland or commercial timberland are located within the Project Area. Therefore, the Project would not conflict with the zoning of forest lands or the conversion of timberland, and no impact would occur.

d) Would the Project result in the loss of forest land or conversion of forest land to non-forest use? *No Impact*

No areas of protected timber lands or commercial timberland are located within the Project Area. The Project would not result in the loss of forest land or conversion of forest land to non-forest use. Therefore, no impact would occur.

e) Would the Project involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use? *No Impact*

The Project is needed to meet increased consumer demand and perform safety testing of an existing pipeline. Implementation of the Project would not create changes in the existing environment that could result in conversion of forest or farmland to non-agricultural or non-forest use. Therefore, there would be no impact.

3.3 AIR QUALITY

3.3.1 Introduction

This section discusses potential air quality issues associated with Project construction, operation, and maintenance, including both regional and site-specific concerns, and concludes that impacts would be less than significant with mitigation incorporated in these areas. Air quality emissions would occur within the Bay Area Air Quality Management District (BAAQMD). Emission evaluations follow CEQA guidelines provided by BAAQMD for activities within its jurisdiction. Primary air emissions from the Project include construction emissions associated with fugitive dust, heavy construction equipment, and construction workers commuting to and from the Project site as well as emissions from transporting LNG by tanker to the injection site. Air emissions evaluated include reactive organic gases (ROG), nitrogen oxides (NOx), inhalable and fine particulate matter (particulate matter with diameters 10 microns and smaller [PM10] and particulate matter with diameters 2.5 microns and smaller [PM2.s]), and diesel particulate matter. Greenhouse gas (GHG) emissions are discussed separately in Section 3.7.

Emission calculations in this document were based on worst-case estimates of pollutant emissions to confirm a conservative environmental analysis. This analysis may be revised, as needed, to reflect changes to the Project plans. The Project's potential effects on air quality were evaluated using the criteria set forth in Appendix G of the CEQA Guidelines. The conclusions are summarized in Table 3.3-1 and discussed in more detail in Section 3.3.4.

Table 3.3-1: CEQA Checklist for Air Quality

Would the Project:	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☑	☐	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☑	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☑	☐

Would the Project:	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

3.3.2 Regulatory Background and Methodology

3.3.2.1 Regulatory Background

Federal

The federal Clean Air Act (CAA) establishes the statutory framework for regulation of air quality in the United States. Pursuant to this act, the U.S. Environmental Protection Agency (EPA) has established various regulations to achieve and maintain acceptable air quality, including the adoption of National Ambient Air Quality Standards (NAAQS), mandatory state implementation plans (SIPs) or maintenance plan requirements to achieve and maintain NAAQS, and emission standards for both stationary and mobile sources of air pollution. NAAQS were established in 1970 for six pollutants: carbon monoxide, ozone, particulate matter (PM_{10} and $PM_{2.5}$), nitrogen dioxide, sulfur dioxide (SO_2), and lead. These pollutants are commonly referred to as criteria pollutants because they are considered the most prevalent air pollutants known to be hazardous to human health. The Environmental Protection Agency (EPA) designates a region that is meeting the air quality standard for a given pollutant as being in "attainment" for that pollutant; regions not meeting the federal standard are designated as being in "non-attainment" for that pollutant. If a region is designated as non-attainment for a NAAQS, the federal CAA requires the state to develop a state implementation plan to demonstrate how the standard would be attained, including the establishment of specific requirements for review and approval of new or modified stationary sources of air pollution. The CAA Amendments of 1990 directed the EPA to set standards for toxic air contaminants and required facilities to sharply reduce emissions. Table 3.3-2 summarizes state and federal ambient air quality standards.

State

The California Air Resources Board (CARB) is the state agency responsible for California air quality management. It establishes California Ambient Air Quality Standards (CAAQS), mobile source emission standards, and GHG regulations, as well as oversight of regional air quality districts and preparation of implementation plans, including regulations for stationary sources of air pollution. The CAAQS are generally more stringent, except for the 1-hour nitrogen dioxide and SO_2 standards, and include

more pollutants than the NAAQS (see Table 3.3-2). California specifies four additional criteria pollutants: visibility reducing particles; sulfates and hydrogen sulfide; and vinyl chloride. Similar to EPA, CARB designates counties in California as being in attainment or non-attainment for the CAAQS.

The Air Toxic "Hot Spots" Information and Assessment Act identifies toxic air contaminant hot spots where emissions from specific sources may expose individuals to an elevated risk of adverse health effects, particularly cancer or reproductive harm. Toxic air contaminants are also referred to as hazardous air pollutants. The Act requires that a business or other establishment identified as a significant source of toxic emissions provide the affected population with information about health risks posed by the emissions.

Table 3.3-2: Ambient Air Quality Standards and Attainment Status for the Bay Area Air Basin

Pollutant	Averaging Time	CAAQS[1] Concentration	CAAQS[1] Status	NAAQS[2] Concentration[3]	NAAQS[2] Status
Ozone	8 hour	0.070 ppm	N[8]	0.07 ppm	Ma-N[4]
	1 hour	0.09 ppm	N	--	See Below[5]
Carbon Monoxide	8 hour	9 ppm	A	9 ppm	M
	1 hour	20 ppm	A	35 ppm	A
Nitrogen Dioxide	1 hour	0.18 ppm	A	0.1 ppm	See Below[9]
	Annual Arithmetic Mean	0.03 ppm	--	0.053 ppm	U/A
Sulfur Dioxide[12]	24 hour	0.04 ppm	A	0.14 ppm	See Below[10]
	1 hour	0.25 ppm	A	0.075 ppm	See Below[10]
	Annual Arithmetic Mean	--	--	0.03 ppm	U/A[10]
Particulate Matter (PM_{10})	Annual Arithmetic Mean	20 µg/m^3	N[6]	--	--
	24 hour	50 µg/m^3	N	150 µg/m^3	U/A
Particulate Matter - Fine ($PM_{2.5}$)	Annual Arithmetic Mean	12 µg/m^3	N[6]	12 µg/m^3 (See Below[13])	U/A
	24 hour	--	--	35 µg/m^3	Mo-N
Sulfates	24 hour	25 µg/m^3	A	--	-
Lead[13]	30 day Average	1.5 µg/m^3	--	--	U/A
	Calendar Quarter	--	--	1.5 µg/m^3	U/A
	Rolling 3-Month Average[12]	--	--	0.15 µg/m^3	See Below[12]
Hydrogen Sulfide	1 hour	0.03 ppm	U	--	--

Pollutant	Averaging Time	CAAQS[1] Concentration	CAAQS[1] Status	NAAQS[2] Concentration[3]	NAAQS[2] Status
Vinyl Chloride (chloroethene)[13]	24 hour	0.01 ppm	No information available	--	--
Visibility Reducing Particles	8 hour (10:00 to 18:00 PST)	See Below[7]	U	--	--

Notes:
A=Attainment N=Non-attainment U=Unclassified Ma-N=Marginal-Nonattainment Mo-N=Moderate-Nonattainment M=Maintenance
ppm = parts per million
µg/m3 = micrograms per cubic meter
-- = No standard has been adopted for this averaging time
See BAAQMD Air Quality Standards and Attainment Status (baaqmd.gov) for footnotes.

Regional

The Project is located within the jurisdiction of the BAAQMD. The BAAQMD is the regional agency charged with preparing, adopting, and implementing emission control measures and standards for stationary sources of air pollution pursuant to delegated state and federal authority. Because the Project would not involve construction of new stationary sources, there are no permitting regulations relevant to the Project. The BAAQMD has published guidelines for analysis and mitigation of impacts from projects within its jurisdiction, and also established thresholds of significance for construction impacts (BAAQMD 2017).

Under the California Clean Air Act, the BAAQMD is required to develop an air quality plan to achieve and/or maintain compliance with federal and state non-attainment criteria pollutants within its air district. The BAAQMD has taken action and developed plans to achieve and/or maintain compliance with the federal and state ozone and $PM_{2.5}$ standards.

In addition, the BAAQMD adopted the 2017 Bay Area Clean Air Plan, *Spare the Air, Cool the Climate* on April 19, 2017. The 2017 Bay Area Clean Air Plan provides a comprehensive strategy to improve air quality, protect public health, and protect the climate. The proposed control strategy would reduce emissions of the air pollutants that pose the greatest health risk to Bay Area residents (ozone, particulate matter, and toxic air contaminants) and would reduce emissions of GHG with the intent of setting the Bay Area on the pathway for the long-term transformation to a post-carbon future (BAAQMD 2017a).

Local

No local (city and county) air quality regulations are applicable to this Project.

3.3.2.2 Methodology

Air quality impacts were analyzed using the California Emissions Estimator Model (CalEEMod) version 2016.3.1. CalEEMod was developed for the California Air Pollution Officers Association in collaboration with California air districts to calculate air and GHG emissions associated with land use projects. The program analyzes construction (short-term) emissions by utilizing both default values for specific geographic areas and typical land use projects as well as Project-specific values such as construction schedules and equipment rosters. The estimated use of construction equipment and the CalEEMod output can be provided upon request.

3.3.3 Environmental Setting

3.3.3.1 Regional Setting

The Project site is located in Napa Valley and is bordered by relatively high mountains. With an average ridgeline height of about 2,000 feet, with some peaks approaching 3,000 to 4,000 feet, these mountains are effective barriers to the prevailing northwesterly winds. Napa Valley is widest at its southern end and narrows in the north.

During the day, the prevailing winds flow upvalley from the south about half of the time. A strong upvalley wind frequently develops during warm summer afternoons, drawing air in from the San Pablo Bay. Daytime winds sometimes flow downvalley from the north. During the evening, especially in the winter, downvalley drainage often occurs. Wind speeds are generally low, with almost 50 percent of the winds less than 4 miles per hour. Only 5 percent of the winds are between 16 and 18 miles per hour, representing strong summertime upvalley winds and winter storms.

Summer average maximum temperatures are in the low-80s at the southern end of the valley and in the low-90s at the northern end. Winter average maximum temperatures are in the high-50s and low-60s, and minimum temperatures are in the high to mid-30s with the slightly cooler temperatures in the northern end.

The air pollution potential in Napa Valley can be high if there are sufficient sources of air contaminants nearby. Summer and fall prevailing winds can transport ozone precursors northward from the Carquinez Strait Region to Napa Valley, effectively trapping and concentrating the pollutants when stable conditions are present. The local upslope and downslope flows created by the surrounding mountains may also recirculate pollutants already present, contributing to a buildup of air pollution. High ozone concentrations are a potential problem for sensitive crops such as wine grapes, as well as a potential hazard to human health. The high frequency of light winds and stable conditions during the late fall and winter contribute to the buildup of particulate matter from motor vehicles, agriculture, and wood burning in fireplaces and stoves (BAAQMD 2017).

3.3.3.2 Ambient Air Quality

The BAAQMD falls within the San Francisco Bay Area Air Basin (SFBAAB). The SFBAAB is designated by CARB as being in non-attainment with CAAQS for ozone, $PM_{2.5}$, and PM_{10}. The EPA has designated the SFBAAB as being in non-attainment with NAAQS for ozone and $PM_{2.5}$ (CARB 2014).

3.3.4 Avoidance and Minimization Measures and Potential Impacts

The following sections describe significance criteria for air quality impacts, provide AMMs, and assess potential Project-related construction and operational air quality impacts.

3.3.4.1 Significance Criteria

The BAAQMD significance thresholds for daily criteria air pollutant emissions for construction projects are listed below. The thresholds are average daily emissions. Thus, even if certain peak days have emissions over the identified thresholds, as long as the average daily emissions are below these thresholds, the impacts are considered less than significant. As the project is occurring for less than one year, per the BAAQMD in Table 2-4, annual average emissions do not need to be considered.

- PM_{10} from exhaust = 82 pounds per day (lbs/day);
- $PM_{2.5}$ from exhaust = 54 lbs/day;
- ROG = 54 lbs/day;
- NO_x = 54 lbs/day;
- PM_{10} and $PM_{2.5}$ from fugitive dust: Best Management Practices.

3.3.4.2 Avoidance and Minimization Measures and Mitigation Measures

PG&E would implement the following measures:

AMM AQ-1: Minimize Fugitive Dust. PG&E will minimize fugitive dust during construction by implementing the following measures:

- Reduce the amount of disturbed area where possible.
- Use water trucks or sprinkler systems in dry weather in sufficient quantity to prevent airborne dust from leaving the site.
- Implement dust control measures as soon as possible following completion of any soil-disturbing activities.

- Establish a policy that vehicle speed for all construction vehicles is not to exceed 15 miles per hour on any unpaved surface.
- Water all active construction areas (including storage piles) as needed to suppress dust. Base the frequency on the type of operation and the soil and wind exposure.
- Cover or maintain at least 2 feet of free board space on haul trucks transporting soil, sand, or other loose material on the site.
- Sweep adjacent public roads if visible soil material is carried out from a work site.

Mitigation Measure (MM) AQ-2: Use of Tier 4 Equipment. All off-road diesel-powered heavy equipment used to construct the Project will be equipped with Tier 4 engines, except for specialized equipment or when Tier 4 engines are not available. Retrofits that achieve or exceed emission reductions equivalent to that of a Tier 4 engine may be used in lieu of Tier 4 engines.

3.3.4.3 Potential Impacts

Project impacts on air quality were evaluated using Appendix G of the CEQA Guidelines, as discussed below.

a) Would the Project conflict with or obstruct implementation of the applicable air quality plan? *Less-than-Significant Impact with Mitigation Incorporated*

The Project would not conflict with or obstruct implementation of the applicable air quality regulations. As previously discussed in Section 3.3.2.2, the average daily emissions for a range of pollutants for off- and on-road vehicle and fugitive dust use were calculated using CalEEMod. AMM AQ-1 and AMM AQ-2 were factored into the calculations to reduce impacts from fugitive dust emissions and NOx. The average emissions per day and per year are presented in Table 3.3-3 below along with the thresholds of significance BAAQMD has established. BAAQMD does not have thresholds of significance for fugitive dust. Instead, they recommend the implementation of Basic Construction Mitigation Measures for all proposed projects, which is AMM AQ-1.

Table 3.3-3: Average Annual and Daily Construction Emissions

Pollutant	Unmitigated (lbs/day)	Mitigated (lbs/day)	Threshold (lbs/day)	Above Threshold After Mitigation? (Yes/No)
PM_{10} exhaust	4.36	0.83	82	No
$PM_{2.5}$ exhaust	4.12	0.83	54	No

Pollutant	Unmitigated (lbs/day)	Mitigated (lbs/day)	Threshold (lbs/day)	Above Threshold After Mitigation? (Yes/No)
ROG	16.91	6.47	54	No
NO_x	138.87	34.55	54	No

PM and NO_x are generally the primary air pollutants resulting from construction activities. The simulated PM emissions are the composite of two types of sources—fugitive dust and exhaust emissions. Typical fugitive dust sources include earth-moving activities (such as grading and trenching) and vehicle travel across unpaved roads. Exhaust emissions result from the combustion of fossil fuels in both off-road construction equipment and on-road vehicles. The results of the CalEEMod simulations included in Appendix D indicate that the average PM_{10} emissions would be approximately 5.90 lbs/day—composed of approximately 1.92 lbs/day from fugitive dust emissions and approximately 4.36 lbs/day from exhaust. This average emission rate assumes a worst-case scenario where grading activities and all on-road traffic will coincide with the peak off-road construction equipment use. This worst-case PM emission rate from exhaust emissions would be significantly below the BAAQMD significance threshold of 82 lbs/day and would be further reduced by the implementation of MM AQ-2, as indicated by Table 3.3-3. AMM AQ-1 is consistent with the proposed district control measures included in the Bay Area 2017 Clean Air Plan and therefore meets the threshold requirements for fugitive PM emissions (BAAQMD 2017). With implementation of AMM AQ-1 and MM AQ-2, the PM emissions due to construction would be consistent with this plan, and thus, PM emissions impacts would be less than significant with mitigation incorporated.

As indicated by Table 3.3-3, unmitigated average daily NO_x emissions are estimated to be approximately 138.87 lbs/day, which exceeds the BAAQMD CEQA significance threshold of 54 lbs/day. MM AQ-2 requires the use of Tier 4 equipment in order to reduce NO_x emissions from off- and on-road vehicles. After the implementation of MM AQ-2, the average daily NOx emissions are anticipated to be approximately 34.55 lbs/day, which is below the BAAQMD CEQA significance thresholds. As a result, these emissions would not conflict with any applicable air quality plans, and NO_x emissions would be less than significant with mitigation incorporated.

Emissions of volatile organic compounds (VOC) are captured in the CalEEMod estimate for ROG and are anticipated to be below the BAAQMD significance threshold for ROG emissions before implementation of AMM AQ-1 and MM AQ-2. These measures would further reduce VOC emissions, as indicated by Table 3.3-3.

Overall, the estimate average daily emissions of PM and ROG are anticipated to be below the respective BAAQMD CEQA significance thresholds. Fugitive dust emissions of PM would be minimized by the implementation of AMM AQ-1, while exhaust PM emissions and ROG would be minimized by the implementation of MM AQ-2. The estimated average daily emissions of NO_x are anticipated to exceed the BAAQMD CEQA significance threshold without mitigation. MM AQ-2 reduces NO_x emissions to a level below the threshold. As a result, impacts are anticipated to be less than significant with mitigation incorporated.

b) Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard? *Less-than-Significant Impact*

As described previously, the Project is located in the SFBAAB, which is designated by CARB and EPA as being in non-attainment with the state and federal standards for ozone, $PM_{2.5}$, and PM_{10}. Ozone is not emitted directly as a result of off- and on-road vehicle use; however, NO_x is a precursor to ozone formation. As such, impacts resulting from NO_x emissions are examined here. As shown in Table 3.3-3, construction of the Project would lead to a temporary increase in criteria air pollutants, including PM and NO_x, but would not result in a cumulative considerable net increase. As described previously in Impact A, PM emissions are anticipated to be below the BAAQMD significance thresholds without minimization or mitigation. To further reduce fugitive dust emissions, PG&E would implement AMM AQ-1, which includes applying water to exposed areas and reducing vehicle speeds on unpaved areas. To reduce NO_x emissions, which require incorporation of mitigation to be below the BAAQMD CEQA significance thresholds, PG&E would implement MM AQ-2, which includes the use of Tier 4 equipment. With implementation of AMM AQ-1 and MM AQ-2, all criteria air pollutant emissions would be below the applicable BAAQMD thresholds and impacts would be less than significant.

c) Would the Project expose sensitive receptors to substantial pollutant concentrations? *Less-than-Significant Impact*

The nearest sensitive receptors to the pipeline are residences. Customer service lines would extend to individual residences; however, minimal construction activity is needed to install these service lines and sensitive receptors would not be exposed to substantial pollutant concentrations. Other than residences, additional sensitive receptors are located within St. Helena, and comprise churches and schools. The nearest churches and schools to the pipeline include the St. Helena Catholic Church and St. Helena Catholic schools, located approximately 100 feet from the route. No construction activity is proposed where these most proximate, non-residential uses are located. The Bothe-Napa Valley and Bale Grist Mill State Parks are located adjacent to northern portions of

the Project. No hospitals are located within 0.25 mile of the Project. No public airports and private air strips were identified within 2 miles of the Project.

Implementation of AMM AQ-1 and MM AQ-2, which include controlling fugitive dust and using Tier 4 equipment, would reduce exposure of sensitive receptors. Impacts on sensitive receptors would be less than significant.

d) Would the Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people? *Less-than-Significant Impact*

Typical odor nuisances include hydrogen sulfide, ammonia, chlorine, and other sulfide-related emissions. No significant sources of these pollutants or other emissions would exist during construction. An additional potential source of Project-related odor is diesel engine emissions. As previously described, residences are located adjacent to the Project alignment. However, because few sources of odor would exist and construction would not be long-term, the Project would not adversely affect a substantial number of people and impacts due to odor would be less than significant.

PG&E adds odor to natural gas as a safety precaution. If an odor is detected from the natural gas, it should be reported immediately so that the issue can be resolved making any impacts short term in nature. Additionally, this odorized gas would not be a new source as the existing pipeline contains odorized gas. Therefore, operational impacts due to odor would be less than significant.

3.4 BIOLOGICAL RESOURCES

3.4.1 Introduction

This section describes biological resources (vegetation, fish, wildlife, habitat, and wetlands) in the biological study area (BSA), identifies potential impacts on sensitive biological resources that could result from implementation of the Project, and concludes that impacts on biological resources would be less than significant. The Project footprint is defined as the areas that may be directly affected by the proposed Project and represents the maximum extent of ground-disturbing activities (pipeline replacements, strength tests, and staging). The BSA covers approximately 237 acres and consists of a 200-foot radius buffer around the Project footprint and includes work areas and adjacent jurisdictional waters of the United States that extend past the 200-foot radius buffer.

Incorporation of the Avoidance and Minimization Measures **(AMM)** described in Section 3.4.6 would be implemented to minimize potential less-than-significant Project impacts on biological resources. The Project's potential effects on biological resources were evaluated using Appendix G of the CEQA Guidelines. The conclusions are summarized in Table 3.4-1 and are discussed in more detail in Section 3.4.5. Appendix D identifies the BSA for the Project.

Table 3.4-1: CEQA Checklist for Biological Resources

Would the Project:	Potentially Significant Impact	Less-than-Significant Impact with Mitigation In corporated	Less-than-Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?	☐	☐	☒	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?	☐	☐	☒	☐
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐

Would the Project:	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incomorated	Less-than-Significant Impact	No Impact
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

3.4.2 Regulatory Background and Methodology

3.4.2.1 Regulatory Background

Federal Endangered Species Act

The ***Federal Endangered Species Act (FESA) of 1973*** (16 USC 1531-1544), ***as amended,*** protects plants, fish, and wildlife that are listed as endangered or threatened by the U.S. Fish and Wildlife Service (USFWS) or the National Oceanic and Atmospheric Administration's National Marine Fisheries Service **(NMFS).** Section 9 of the FESA prohibits the "take" of listed fish and wildlife, where "take" is defined as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct" (50 Code of Federal Regulations [CFR] 17.3). For plants, this statute prohibits removing, possessing, maliciously damaging, or destroying any listed plant *under federaljurisdiction* and removing, cutting, digging-up, damaging, or destroying any listed plant in knowing violation of state law (16 United States Code [USC] 1538).

FESA allows for issuance of incidental take permits to private parties either in conjunction with a Habitat Conservation Plan (HCP) or as part of a Section 7 consultation (which applies to interagency consultation between federal agencies and does not apply to this Project but is described below). Under Section 10 of the ESA, a private party may obtain incidental take coverage by preparing an HCP to cover target
species within the Project footprint, identifying impacts to the covered species, and

presenting the measures that would be undertaken to avoid, minimize, and mitigate such impacts.

Under Section 7 of the ESA, federal agencies are required to consult with USFWS and/or NMFS, as applicable, if their actions—including permit approvals or funding—may affect a federally listed species (including plants) or designated critical habitat. If the Project is likely to adversely affect a species, the federal agency would initiate formal consultation with the USFWS and/or NMFS, which would issue a biological opinion as to whether the proposed agency action(s) is likely to jeopardize the continued existence of a listed species (jeopardy) or adversely modify critical habitat (adverse modification). As part of the biological opinion, the USFWS may issue an incidental take statement allowing take of the species that is incidental to an otherwise authorized activity, provided that the action would not jeopardize the continued existence of the species or adversely modify designated critical habitat.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) of 1918 (16 USC Sections 703–711) protects all migratory birds, including active nests and eggs. Birds protected under the MBTA include all native waterfowl, shorebirds, hawks, eagles, owls, doves, and other common birds such as ravens, crows, sparrows, finches, swallows, and others, including their body parts (for example feathers and plumes), active nests, and eggs. A complete list of protected species can be found in 50 CFR 10.13. Enforcement of the provisions of the federal MBTA is the responsibility of USFWS.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (BGEPA) of 1940 (*16 USC Section 668*) prohibits anyone, without a permit issued by the Secretary of the Interior, from “taking” bald eagles, including their parts, nests, or eggs. The Act provides criminal and civil penalties for persons who “take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof.” The Act defines “take” as “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb.” “Disturb” is defined as “to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior."

Waters and Wetlands: Clean Water Act Sections 401 and 404

The purpose of the Clean Water Act (CWA) (*33 USC Section 1251 et seq.*) is to “restore and maintain the chemical, physical, and biological integrity of the nation’s waters.”

Waters of the United States include rivers, streams, estuaries, the territorial seas, ponds, lakes, and wetlands. Wetlands are defined as those areas "that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3).

The U.S. Army Corps of Engineers (USACE) issues permits for work in wetlands and other waters of the United States based on guidelines established under Section 404 of the CWA. Section 404 of the CWA prohibits the discharge of dredged or fill material into waters of the United States, including wetlands, without a permit from USACE. EPA also has authority over wetlands and may, under Section 404, subdivision (c), veto a USACE permit.

Section 401 of the CWA requires all Section 404 permit actions to obtain a state Water Quality Certification or waiver, as described in more detail in Section 3.9, Hydrology and Water Quality. In 2015, USACE and EPA issued the Clean Water Rule (2015 Rule), intended to clarify areas under the jurisdiction of the CWA. The 2015 Rule was stayed in court rulings soon afterwards. On February 17, 2017, an Executive Order was issued regarding the 2015 Rule. The Executive Order and the subsequent EPA and USACE Proposed Rule called for the 2015 Rule to be reviewed and rescinded or revised in accordance with the Executive Order. On August 16, 2018, the U.S. Court of Appeals for the Sixth Circuit stay was enjoined by the U.S. District Court for South Carolina. USACE and EPA are reviewing the August 16, 2018, District Court order enjoining the suspension to determine next steps; however, the 2015 Rule is currently in effect in 26 states, including the State of California.

State

California Endangered Species Act

Sections 2050–2098 of the California Fish and Game Code (the California Endangered Species Act [CESA]) prohibit the take of state-listed endangered, threatened, or candidate species unless specifically authorized by the California Department of Fish and Wildlife (CDFW). The state definition of "take" is to hunt, pursue, catch, capture, or kill a member of a listed species or attempt to do so. CDFW administers CESA and authorizes take through permits or memorandums of understanding issued under Section 2081 of CESA, or through a consistency determination issued under section 2080.1. Section 2090 of CESA requires state agencies to comply with threatened and endangered species protection and recovery and to promote conservation of these species.

Protection for Lakes and Streams: Fish and Game Code

CDFW requires a Lake or Streambed Alteration (LSA) Notification, pursuant to Fish and Game Code section 1600 et. seq., for project activities affecting lakes or streams and associated riparian habitat. Notification is required for any activity that may substantially divert or obstruct the natural flow; change or use material from the bed, channel, or bank including associated riparian or wetland resources; or deposit or dispose of material where it may pass into a river, lake or stream.

Fully Protected Species Under the Fish and Game Code

Fish and Game Code designates certain fish and wildlife species as "fully protected" under sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fish). Fully protected species may not be taken or possessed at any time, and no permits may be issued for the project for incidental take of these species. [1]

Protection for Birds: Fish and Game Code

Fish and Game Code section 3503 et seq. state that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Section 3503.5 makes it unlawful to take, possess, or destroy any birds in the orders of Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird.

Native Plant Protection Act of 1973

The Native Plant Protection Act of 1973 (Fish and Game Code Sections 1900–1913) includes provisions that prohibit the taking of endangered or rare native plants. CDFW administers the Native Plant Protection Act which applies to plants listed as "rare" under California Code of Regulations, title 14, section 670.2, subdivision (c). CDFW may issue permits, agreements, plans, or programs that authorize rare plant impacts pursuant to California Code of Regulations, title 14, section 786.9.

Fish and Game Code section 1913, subdivision (b) includes a specific provision to allow for the incidental removal of endangered or rare plant species, if not otherwise salvaged by CDFW, within a right-of-way to allow a public utility to fulfill its obligation to provide service to the public.

California Species of Special Concern

Species of Special Concern (SSC) is a category conferred by CDFW to fish and wildlife species that satisfies one or more of the following (not necessarily mutually exclusive) criteria: is extirpated from the state or, in the case of birds, is extirpated in its primary season or breeding role; is listed as Federally- but not state threatened or endangered; meets the state definition of threatened or endangered but has not formally been listed;

[1] While take of fully protected species may be authorized by CDFW under a Natural Community Conservation Plan (NCCP), the PG&E project is not covered by an NCCP so this permitting option is not available.

is experiencing, or formerly experienced, serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for State threatened or endangered status; or has naturally small populations exhibiting high susceptibility to risk from any factor(s), that if realized, could lead to declines that would qualify it for state threatened or endangered status. SSC is an administrative classification only, but these species should be considered "special-status" for the purposes of the CEQA analysis.

Porter-Cologne Water Quality Control Act

The State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCB) have jurisdiction over all surface water and groundwater in California, including wetlands, headwaters, and riparian areas. The SWRCB or applicable RWQCB must issue waste discharge requirements for any activity that discharges waste that could affect the quality of waters of the state, as described in more detail in Section 3.9, Hydrology and Water Quality.

Local

The following reviews of the county's and city's biological resource-related policies and regulations is provided for informational purposes and to assist with CEQA review.

Napa County General Plan

The Conservation Element of the General Plan for Napa County outlines objectives and policies related to the conservation of natural resources in Napa County, including aquatic resources, soils, wildlife, plants, and sensitive habitats. The goals contained in document intend to address environmental health issues related to water quality degradation, energy consumption, pollution, greenhouse gas emissions, and renewable energy among others.

In the 2005-2008 General Plan Update, the Environmental Impact Report (EIR) described practical mitigation measures in an attempt to address cumulative impacts of development described in the Agricultural Preservation and Land Use Elements. Additionally, the Board of Supervisors approved Napa County's Conservation Regulations in 1991, establishing procedures for reviewing projects with the potential to impact water quality and other natural resources with the goal of balancing environmental and agricultural sustainability.

Napa County Water Quality and Tree Protection Ordinance

Chapter 18.108 of the Napa County Municipal Code includes conservation regulations intended to protect public health, safety and natural resources. These conservation regulations also promote the sustained viability of the county's agricultural resources. In an effort to accomplish these goals, the Municipal Code describes measures related to

erosion and sediment management, riparian and wetland area preservation, vegetation cover retention and water quality improvement.

City of St. Helena Municipal Code – Title 17

The stated purpose of the open space district in Chapter 17.76 of the St. Helena Municipal Code is to provide natural open-space areas for the conservation of natural resources, regulation production of resources, and outdoor recreation or public health and safety. This section established permitted and conditional uses and development standards including, access, lighting and noise requirements.

3.4.2.2 Methodology

This section summarizes the methods used to identify biological resources and analyze potential impacts, including waters, wetlands, and special-status plants and wildlife.

As used here, the term "special-status species" is defined as including plants and animals meeting the criteria defined below.

Special-status plants included species that met one or more of the following criteria:

- Listed, proposed for listing, or candidate for listing, as threatened or endangered under the Federal Endangered Species Act (FESA; 50 CFR 17.11 for wildlife; 50 CFR 17.12 for plants; 67 Federal Register 40658 for candidates) and various notices in the *Federal Register* for proposed species).
- Listed under CESA as threatened or endangered, or proposed or candidates for listing.
- Designated as rare under the Native Plant Protection Act.
- Species that otherwise meet the definition of rare, threatened, or endangered species under CEQA Guidelines section 15380. This includes species listed by CNPS in the online version of its *Inventory of Rare and Endangered Plants of California* (CNPS, 2020) as List 1A, 1B, 2A, or 2B.

Special-status wildlife included species that met one or more of the following criteria:

- Listed, proposed for listing, or candidate for listing as threatened or endangered under FESA
- Listed or candidates for listing as threatened or endangered under CESA
- Designated as Species of Special Concern or a Fully Protected Species by CDFW

- Species that otherwise meet the definition of rare, threatened, or endangered species under CEQA Guidelines section 15380.

Natural communities were considered to be special-status if they are identified on the CDFW List of Vegetation Alliances and Associations as being highly imperiled, also classified by CDFW as ranks S1 to S3 in the California Natural Diversity Database (CNDDB; CDFW, 2020) and natural communities of special concern.

Database and Literature Review

The following biological databases were queried for records of special-status plants, natural communities, and wildlife that might have potential to occur in the Project footprint:

- USFWS list of federally listed and proposed endangered, threatened, and candidate species and their designated critical habitat (USFWS, 2020)
- NMFS list of federally listed and proposed endangered, threatened, and candidate species and their designated critical habitat (NMFS, 2020)
- CNPS online Inventory of Rare and Endangered Vascular Plants of California (CNPS, 2020)
- California Natural Diversity Database (CNDDB; CDFW, 2020)

A CNDDB database search for special-status species typically includes nine U.S. Geological Survey (USGS) 7.5-minute quadrangle maps for a project located within a single quadrangle—the quadrangle that covers the footprint, and the eight quadrangles that surround the project quadrangle. However, in this case, the Project footprint spanned two quadrangles; therefore, additional quadrangles were searched to account for all the areas surrounding the two Project quadrangles, including Aetna Springs, Calistoga, Chiles Valley, Detert Reservoir, Kenwood, Mark West Springs, Mount Saint Helena, Rutherford, Saint Helena, Santa Rosa, Walter Springs, and Yountville.

The CNPS online inventory was also queried for the aforementioned quadrangles.

Other information sources consulted to determine which special-status species could potentially occur in the Project footprint included:

- Results of Botanical Survey for R-1018, T-1448A and T-1448B Projects/Napa County (Swaim, 2019a)
- Site Assessment for the Foothill Yellow-Legged Frog at R-1018 Bundled Project, Napa County, CA (Swaim, 2019b)

- Preliminary Delineation of Waters of the United States, Including Wetlands, for the PG&E R-1018 Pipeline Replacement Project (ATS, 2019)
- Natural Resources Conservation Service (NRCS) Web Soil Survey was utilized to obtain information about soils in the BSA (NRCS, 2020);
- CDFW's List of Vegetation Alliances and Associations (CDFW, 2010);
- eBird, an online citizen science database of bird distribution and abundance;
- Aerial photographs;
- Data from nearby projects including the Napa Valley Vine Trail from St. Helena to Calistoga and Caltrans Fish Passage Barrier Removal and Ritchie Creek Bridge Replacement Project; and,
- Jepson Manual: Vascular Plants of California (Baldwin et al., 2012).

Field Surveys

Botanical Surveys

Botanical surveys using CDFW and CNPS protocols were conducted on May 10, May 22, and July 18, 2019, and May 1, 2020, within the BSA. The survey timing was suitable to identify special-status plant species that had a potential to occur in the BSA. The surveys consisted of driving the Project alignment and walking meandering transects in the Project component locations and buffer areas with potential habitat (excluding developed and residential/commercial landscaped areas).

Prior to conducting these surveys, a desktop review of special-status species' occurrences in the vicinity of the BSA was conducted using CNDDB and the CNPS's Online Inventory of Rare and Endangered Vascular Plants of California. Habitat types were identified in the BSA and evaluated for special-status plant suitability.

Foothill Yellow-Legged Frog Survey

A focused survey was conducted for suitable foothill yellow-legged frog (*Rana boylii*) habitat in the BSA in May 2019.

Aquatic Resources Delineation

Water and wetland features in the BSA were surveyed and delineated in accordance with U.S. Army Corps of Engineers methods by a team of wetland specialists and botanists on March 18, May 10, and 22, 2019. Wetland surveys were conducted for the T-1448A and T-1448B locations and a jurisdictional delineation of wetlands and waters was conducted for the R-1018 and R-1018B locations. The methods used and detailed results of the wetland delineation for R-1018 are reported in the Project's *Preliminary Delineation of Waters of the United States, Including Wetlands, for the PG&E R-1018 Pipeline Replacement Project*. Desktop reviews were conducted for areas that were outside of the aquatic resource delineation survey area but within the BSA using the National Wetlands Inventory, National Hydrography Dataset, and California Aquatic Resource Inventory mapping, and review of current and historic aerial imagery (NWI, 2020c; USGS, 2020; SFEI, 2020).

Likelihood of Presence for Special-Status Species

Using the information generated from literature reviews and field surveys, the list of special-status species with the potential to occur was further refined to reflect the species that may occur within the Project footprint or be affected by Project activities if occurring outside of the Project footprint. The likelihood of special-status species occurrence was determined based on natural history parameters, including but not limited to, the species' range, habitat, foraging needs, migration routes, and reproductive requirements, using the following general categories:

- *Present* – Reconnaissance-level, focused, or protocol-level surveys documented the occurrence or observation of a species in the Project footprint.

- *Seasonally present* – Individuals were observed in the Project footprint only during certain times of the year.

- *Likely to occur (on site, or offsite where the species may be affected by the Project (e.g., from noise, dust, lighting, hydrological modifications, etc.)* – The species has a strong likelihood to be found in the Project footprint or offsite and potentially subject to Project impacts prior to or during construction but has not been directly observed to date during Project surveys. The likelihood that a species may occur is based on the following considerations: suitable habitat that meets the life history requirements of the species is present on or near the Project footprint; migration routes or corridors are near or within the Project footprint; records of sighting are documented on or near the Project footprint; and there is an absence of invasive predators (e.g., bullfrogs). The main assumption is that records of occurrence have been documented within or near the Project footprint, the Project footprint falls within the

range of the species, suitable habitat is present, but it is undetermined whether the habitat is currently occupied.

- *Potential to occur*: There is a possibility that the species can be found in the Project footprint or offsite and potentially subject to Project impacts prior to or during construction but has not been directly observed to date. The likelihood that a species may occur is based on the following conditions: suitable habitat that meets the life history requirements of the species is present on or near the Project footprint; migration routes or corridors are near or within the Project footprint; and there is an absence of invasive predators (e.g., bullfrogs). The main assumption is that the Project footprint falls within the range of the species, suitable habitat is present, but no records of sighting are located within or near the Project footprint and it is undetermined whether the habitat is currently occupied.

- *Unlikely to occur* – The species is not likely to occur in the Project footprint or offsite and potentially subject to Project impacts based on the following considerations: lack of suitable habitat and features that are required to satisfy the life history requirements of the species (e.g., absence of foraging habitat; lack of reproductive areas, and lack of sheltering areas); presence of barriers to migration/dispersal; presence of predators or invasive species that inhibit survival or occupation (e.g., the presence of bullfrogs or invasive fishes); lack of hibernacula, hibernation areas, or estivation areas on site.

- *Absent* – Suitable habitat does not exist in the Project footprint or offsite and potentially subject to Project impacts the species is restricted to or known to be present only within a specific area outside of the Project footprint, or focused or protocol-level surveys did not detect the species.

Unless otherwise noted, the methodology and environmental information presented in this section are summarized from the Natural Environment Study for the Napa Bundle Northern Corridor Gas Pipeline Maintenance Program, which would be provided separately to Caltrans staff.

3.4.3 Environmental Setting

3.4.3.1 Regional Setting

The Project is located in the Napa-Sonoma-Russian River Valleys Ecological subsection of the Central California Foothills and Coastal Mountains Ecological Subregion. Quaternary alluvium covers large parts of the region, along with some other areas of older, loosely consolidated sedimentary material. Elevations range from about 20 feet near the river deltas and bay flats to more than 500 feet in the northern hilly margins. Southern low elevation parts of the valleys have more marine influence and

fog than the high elevation northern parts. (Miles and Goudey, 1997). The Project is located in Napa County, which is in the nine-county San Francisco Bay Area region. Agriculture and residential areas largely make up the landscape within the county.

3.4.3.2 Local Setting

The Project is located between the cities of St. Helena and Calistoga and is within or adjacent to the Caltrans ROW along SR 29. The BSA is primarily in agricultural land, disturbed grasslands, and on road shoulders in areas that are surrounded by a mosaic of developed areas. Surrounding these work areas are pastureland, hayfields, and rural residential areas.

3.4.3.3 Landcover, Vegetation, and Wildlife Habitats

The following plant communities are based on CDFW's List of California Terrestrial Natural Communities. Eight different plant communities were identified in the BSA, all of which are present in the Project footprint: 1) Eucalyptus – Tree of Heaven – Black Locust Groves, 2) Blue Oak Woodland, 3) Mixed Oak Forest 4) Douglas Fir Forest, 5) Oregon White Oak Woodland 6) Coast Live Oak, 7) California Annual Grassland, and 8) Orchard-Vineyard. The plant communities also provide habitat for wildlife species. The following discussion focuses on the presence of these plant communities and habitat types within the Project footprint.

Eucalyptus – Tree of Heaven – Black Locust Groves

This nonnative plant community is characterized by mostly tree species including black locust (*Robinia pseudoacacia*), tree of heaven (*Ailanthus altissima*), and eucalyptus (*Eucalyptus* spp.). Dominant tree species are each said to contribute to greater than 80 percent cover in an open to continuous canopy layer. These species can reach up to 200 feet in height. The shrub and herbaceous layers are considered sparse to intermittent.

The Eucalyptus – Tree of Heaven – Black Locust Groves plant community occurs in horticultural settings, as ornamentals, in groves or as windbreaks. Naturally, they occur on uplands or lowlands from sea level to 6,200 feet in elevation and commonly adjacent to waterbodies.

Little regional variability is known to occur among black locust and tree of heaven and they are known to be hardy when faced with disturbance. Eucalyptus are considered "fire-hardy" and are characterized by a substantial epidermal layer.

Blue Oak Woodland

The Blue Oak Woodland plant community consists of predominantly tree species with blue oak (*Quercus douglasii*) or hybrid oak (*Quercus eplingii*) dominant or codominant

with California buckeye (*Aesculus californica*), California juniper (*Juniperus californica*), bull pine (*Pinus sabiniana*), coast live oak (*Quercus agrifolia*), valley oak (*Quercus lobata*) and/or interior live oak (*Quercus wislizeni*). Dominant deciduous tree species can reach heights up to 65 feet and conifers up to 115 feet. Blue oak contribute to over half of an intermittent to continuous canopy that may consist of multiple layers. The shrub layer of Blue Oak Woodland communities is considered sparse to intermittent and the herbaceous layer is sparse or grassy. Grasses typically make up 90 percent of the understory layer. Additionally, forbs are present seasonally.

Blue Oak Woodland plant communities are endemic to California and occur in valley bottomlands, foothills and rocky outcroppings. Soils are often shallow and moderately to excessively drained with widespread rock fragmentation. Blue Oak Woodlands occur between 100 feet and 6,200 feet in elevation.

Resilience to disturbance is highly variable among dominant tree species and populations within these species. Grazing and reoccurring wildfire pose significant threats to blue oak. Additionally, seedling mortality is high in areas with significant annual grass cover, characteristic of Blue Oak Woodland communities.

Mixed Oak Forest

These endemic plant communities are primarily composed of trees including coast live oak, interior live oak, valley oak, blue oak, Oregon white oak (*Quercus garryana*) and/or black oak (*Quercus kelloggii*) dominant or codominant with California buckeye, bull pine, Pacific madrone (*Arbutus menziesii*), Douglas fir (*Pseudotsuga menziesii*) and/or California bay (*Umbellularia californica*). Generally, an intermittent to continuous canopy, with a height of up to 100 feet, consists of three or more *Quercus* species at over 30 percent cover each. The tree canopy can be two tiered. A shrub layer in Mixed Oak Forest communities can be from infrequent to common. Herbaceous layers, possible grasses, occur from sparsely to abundantly.

Mixed Oak Forests can be found in valleys on gentle to steep, often rocky, slopes where cold temperatures occur. Moderately deep soils are associated with this community. Mixed Oak Forest plant communities are known from 820 feet to 6,500 feet in elevation.

Although seed longevity is short, the dominant *Quercus* species are known for successful sprouts. Seed dispersal for these species occurs by gravity and/or animals.

Douglas Fir Forest

Douglas fir dominate these nonnative plant communities with white silver fir (*Abies concolor*), bigleaf maple (*Acer macrophyllum*), white alder (*Alnus rhombifolia*), incense cedar (*Calocedrus decurrens*), Port Orford cedar (*Chamaecyparis lawsoniana*), golden chinquapin (*Chrysolepis chrysophylla*), mountain dogwood (*Cornus nuttallii*), lodgepole

pine (*Pinus contorta*), Jeffrey pine (*Pinus jeffreyi*), sugar pine (*Pinus lambertiana*), canyon live oak (*Quercus chrysolepis*), coast redwood (*Sequoia sempervirens*), coast live oak, Pacific madron, Oregon white oak, and/or black oak. Douglas fir dominate intermittent to continuous canopies accounting for more than 50 percent relative cover. Dominant tree species can reach heights of up 250 feet Other hardwoods may dominate or co-dominate the subcanopy and regeneration layers. Shrub layers occur infrequently to commonly and herbaceous may be sparse or abundant.

Douglas Fir Forests occur at various topographic positions and aspects, and may be found in a variety of substrates. Dominant species are resistant to disturbance and characterized by a thick epidermis. This plant community can be found from 2,300 feet to 4,600 feet in elevation.

Douglas fir are highly susceptible to low-intensity fires, with survivability increasing with age. In addition to significant wildfire threat, fungi, insects and wind disrupt this community's development and composition.

Oregon White Oak Woodland

A nonnative plant community dominated by Oregon white oak with subspecies including western juniper (*Juniperus occidentalis*), Ponderosa pine (*Pinus ponderosa*), Jeffrey pine, bull pine, Douglas fir, canyon live oak, black oak and/or California bay. Oregon White Oak Woodland canopies can be open to continuous and dominant tree species can reach a height of up to 100 feet. Oregon white oak account for over 30 percent tree canopy cover. The shrub layer is generally open, and the herbaceous stratum can be open to intermittent and dominated by grasses.

Oregon White Oak Woodland communities may occur on a wide variety of terrain adjacent to waterbodies, including banks, slopes, terraces and benches. These plant communities can occur from 200 feet to 6,000 feet in elevation.

Seed longevity is short with high sprout success. Oregon White Oak Woodlands are threatened by fire exclusion, relying on low-intensity understory wildfires to maintain stand composition.

Coast Live Oak

Coast Live Oak is dominant or co-dominant in the tree canopy with bigleaf maple, boxelder maple (*Acer negundo*), Pacific madrone, California black walnut (*Juglans californica*), western sycamore (*Platanus racemosa*), Fremont cottonwood (*Populus fremontii*), blue oak, Engelmann oak (*Quercus engelmannii*), black oak, valley oak, arroyo willow (*Salix lasiolepis*), and California bay. Coast Live Oak accounts for over 50 percent tree canopy cover.

Coast Live Oak plant communities are not endemic to California and occur in alluvial terraces, canyon bottoms, stream banks, slopes, and flats. Soils are often deep and are sandy or loamy with high organic matter. Coast Live Oak communities occur between 0 feet and 3,937 feet in elevation.

California Annual Grassland

The herbaceous stratum characterizes this nonnative plant community dominated by bristly dogstail grass (*Cynosurus echinatus*) and other codominant nonnative grasses. California Annual Grasslands grow to just under two feet tall. Herbaceous cover associated with this plant community can be intermittent to continuous, comprised of over 50 percent bristly dogstail grass or tall oat grass (*Arrhenatherum elatius*). Emergent shrub and tree species may occur sparsely. California Annual Grasslands are known to occur across variable terrain in valleys and meadows.

The presence of this community's dominant herb, bristly dogstail grass, is often an indicator of deteriorating native rangeland. Some California Annual Grassland stands contain known noxious weeds, yellow star-thistle (*Centaurea solstitialis*), common St. John's wort (*Hypericum perforatum)* and medusahead (*Taeniatherum caput-medusae*). *C. echinatus* matures later than most annual grasses, tolerates heavy grazing and develops denser relative cover.

Orchard-Vineyard

Agricultural areas, including row crops, field crops, orchards and vineyards are widespread throughout Napa County. The production of grapes accounts for the greatest contribution to the county's economy from the agricultural sector. The General Plan for Napa County describes the Farmland Mapping and Monitoring Program (FMMP) administered by the California Department of Conservation. Most of the agricultural areas along the Project alignment are classified as Prime Farmland under the FMMP. Prime Farmland areas are characterized by optimal physical and chemical conditions for crop production, including soil characteristics, length of the growing season and precipitation. When Prime Farmland is managed in accordance with current farming methods, these Farmlands are known to produce sustained and high crop yields.

3.4.3.4 Wetlands and Aquatic Resources

The features mapped within the BSA include one jurisdictional wetland and five jurisdictional waterbodies. Additionally, seventeen non-jurisdictional ditches were mapped within the BSA.

Wetlands

One Palustrine Emergent Persistent Seasonally Flooded (PEM1C) wetland totaling 2.70 acres was delineated within the aquatic resources survey area. The wetland is

associated with a drainage swale and occurs near the center of the work area on the east side of the pipeline alignment.

Palustrine Emergent Wetlands lack a restrictive layer, such as a hardpan or claypan; therefore, the hydrologic regime in these features is dominated by long periods of saturated soil conditions rather than inundation. The plant species found growing in these features are adapted to withstand long periods of saturation, but not prolonged periods of inundation. Douglas meadowfoam (*Limnanthes douglasii*), spearmint (*Mentha spicata*), common yampah (*Perideridia gairdneri*) and brown-head rush (*Juncus phaeocephalus*) were the dominant wetland plant species observed during the field survey. The soil matrix toward the surface ranged from black to dark gray and redoximorphic features were observed at some locations. The reported soil textures include fine sandy clay loam, silty clay loam and clay. For the hydrology indicator, surveyed locations ranged from very wet to inundated.

Waterbodies

Five waterbodies were delineated within the BSA, two intermittent and two perennial streams, all tributaries to the Napa River and one irrigated pond. The total acreage for these waterbodies within the BSA is 0.46 acre. Both intermittent tributaries, York and Hirsch Creeks, are about 0.8 mile from the Napa River with average width at the ordinary high water mark (OHWM) of 12 feet within the BSA. Mill Creek, a perennial tributary to the Napa River is 0.7 mile from the confluence with the Napa River, and has an average width at the OHWM of 18 feet within the BSA. Ritchie Creek is 0.7 mile from the Napa River and has an average width at the OHWM of 15 feet within the BSA. The constructed irrigation pond within the BSA is located in the northern portion of the Project footprint, just east of Ritchie Creek.

Other Aquatic Features

Seventeen features within the BSA, nine roadside ditches and eight drainage ditches, were determined to not be jurisdictional under the Clean Water Act or Fish and Game Code. These features have a total acreage of 0.23 acre within the BSA. These features are considered non-jurisdictional under the Clean Water Act and Fish and Game Code because they are ditches excavated wholly in uplands and at no point along their length are excavated in a jurisdictional wetland (or other water), they drain only uplands, and have less than perennial flow.

3.4.3.5 Special-Status Species

This section describes special-status species observed (present) during Project field surveys and any species considered likely to occur, have the potential to occur, or that are seasonally present in the BSA. Special-status species that are unlikely to be found

in the Project footprint or otherwise be affected by the Project are not discussed in this section.

The CNDDB, USFWS, and CNPS database searches identified 95 special-status species within the vicinity of the Project including 66 special-status plant species, and 29 special-status wildlife species (Section 3.4.3, Methods). Critical habitat for federally listed species is available by request.

Special-status Plant Species

Sixty-six special-status plant species were identified in the CNDDB, USFWS, and CNPS records searches. Five species—Pappose tarplant (*Centromadia parryi ssp. parryi*), Jepson's leptosiphon (*Leptosiphon jepsonii*), Sebastopol meadowfoam, Baker's navarretia (*Navarretia leucocephala ssp. bakeri*), and Napa bluecurls (*Trichostema ruygtii*)—have the potential to occur in and adjacent to the Project footprint due to the presence of potentially suitable habitat and known occurrences. These species are described in further detail in Table 3.4-2. None of these species or other special-status plant species were observed or detected in the Project footprint during 2019, and 2020 surveys. The remaining species identified from the database queries were determined absent because the Project footprint and adjacent potentially indirectly impacted areas lack suitable habitat, and they were not observed during botanical surveys within the BSA.

Table 3A-2: Special-Status Plant Species

Scientific Name/ Common Name	Federal	state	CNPS	Habitat	Blooming Period	Potential for Occurrence within the BSA
Centromadia parryi ssp. *parryi* / pappose tarplant	-	-	1B.2	Found in a variety of habitats, including mesic grasslands/meadows, chaparral, coastal prairie, and salt marshes, with a preference for alkalinity.	May-Nov	**Potential to occur.** Mesic habitats are present in the BSA. There are multiple CNDDB occurrences within 5 miles of the BSA. Not observed during appropriately timed botanical surveys.
Leptosiphon jepsoniil Jepson's leptosiphon	-	-	1B.2	Distributed primarily throughout Napa and Sonoma counties, occupying open or partially shaded grassy slopes in woodland and chaparral. Typically found on volcanic soils, < 1640 feet.	Mar-May	**Potential to occur.** Woodlands and volcanic soils are present in the BSA. Additionally, there are eleven CNDDB occurrences within 5 miles of the BSA. Not observed during appropriately timed botanical surveys.
Umnanthes vinculansl Sebastopol meadowfoam	E	E	1B.1	This species inhibits areas that are vernally mesic, including meadows and seeps, valley and foothill grasslands, and vernal pools. This is an annual herb with white flowers occurring between 50 feet and 1,000 feet in elevation.	Apr-May	**Present.** A population of Sebastopol meadowfoam has been previously reported in the BSA. However, this population is not within the Project footprint.
Navarretia leucocepha/a ssp. bakeril Baker's navarretia	-	-	1B.1	Endemic to California woodlands and grasslands from San Francisco Bay north to the Oregon border. Grows at a range of elevations in mesic areas, including meadows, seeps, and vernal pools.	Apr-Jul	**Potential to occur.** Woodland and mesic habitats present. One CNDDB occurrence within 5 miles of the BSA, although this occurrence is considered extirpated in CNDDB. Not observed during appropriately timed botanical surveys.

Scientific Name/ Common Name	Federal	State	CNPS	Habitat	Blooming Period	Potential for Occurrence within the BSA
Trichostema ruygtii / Napa bluecurls	-	-	1B.2	Limited to moist open habitats, often with thin clay soils, in chaparral, woodland, and mixed evergreen forest in the southern Mayacamas Mountains, 95-1970 feet	Jun-Oct	**Potential to occur.** BSA has clay soils and woodlands present. There are CNDDB occurrences within 5 miles of the BSA. Not observed during appropriately timed botanical surveys.

[a]Status designations are as follows:
CNPS California Rare Plant Rank (CRPR):
(1B) Rare, threatened, or endangered in California and elsewhere

Threat Rank:
0.1 Seriously threatened in California (more than 80 percent of occurrences threatened/high degree and immediacy of threat) 0.2 Fairly threatened in California (20 to 80 percent of occurrences threatened/moderate degree and immediacy of threat)

Sources:
USFWS, 2020; CDFW, 2020; CNPS, 2020

Pappose Tarplant

Pappose tarplant is a CNPS 1B.2 plant that blooms from May-November. It is endemic to California, with most occurrences between San Francisco and Sacramento under 1,380 feet. It is found in a variety of habitats, including mesic grasslands/meadows, chaparral, coastal prairie, and salt marshes, with a preference for alkalinity.

There are three CNDDB occurrences within 5 miles of the BSA. Although coastal prairies, salt marshes, or chaparral habitats are not present in the BSA, potentially suitable mesic habitat is present. Mesic habitat is present within the palustrine emergent wetland and could provide suitable habitat. However, this species was not observed within the BSA during appropriately timed botanical surveys.

Jepson's Leptosiphon

Jepson's leptosiphon is a CNPS 1B.2 plant which blooms from March-May. This species is distributed primarily throughout Napa and Sonoma counties, and occupies open or partially shaded grassy slopes in woodland and chaparral. It is typically found on volcanic soils, below 1,640 feet.

There are eleven CNDDB occurrences within 5 miles of the BSA. Volcanically-derived soils, in the form of clay-loams, are present in the BSA. Additionally, woodland habitat is present throughout much of the Project footprint in the form of oak woodland. However, this species was not observed within the BSA during appropriately timed botanical surveys.

Sebastopol Meadowfoam

Sebastopol meadowfoam is an annual herb that blooms from April through May and is listed as Endangered under the FESA and CESA, and has a CNPS Rare Plant Rank of 1B.1. The species is limited to Lake, Mendocino, Napa, and Sonoma counties (Calflora, 2020), from approximately 50 to 1,000 feet in elevation. This species typically occurs on vernally mesic soils in meadows and seeps, valley and foothill grasslands, and vernal pools (CNPS, 2020). This species is threatened by urbanization, agriculture, grazing, non-native plants, and vehicles.

This species is considered extant because a population of Sebastopol meadowfoam was observed during rare plant surveys that took place in 2020. However, this population is not within the Project footprint and suitable habitat for the species would be avoided during Project activities.

Baker's Navarretia

Baker's navarretia is a CNPS 1B.1 plant that blooms from April-July. This species is endemic to California woodlands and grasslands from San Francisco Bay north to the

Oregon border. It grows at a range of elevations in mesic areas, including meadows, seeps, and vernal pools.

There is one CNDDB occurrence within 5 miles of the BSA, although this occurrence is considered extirpated in the CNDDB. This species has potential to occur as woodland, grassland, and mesic habitats are present in the BSA and this species grows in a variety of elevations and habitats. However, this species was not observed within the BSA during appropriately timed botanical surveys.

Napa Bluecurls

Napa bluecurls is a CNPS 1B.2 plant that blooms from June-October. This species is limited to moist open habitats, often with thin clay soils, in chaparral, woodland, and mixed evergreen forest in the southern Mayacamas Mountains, between 95-1970 feet. It can also be found in portions of Napa County and into western Solano County.

There is one CNDDB occurrences within 5 miles of the BSA. This species has potential to occur as there is suitable habitat in the form of clay soils and mesic and woodland habitat in the BSA. However, this species was not observed within the BSA during appropriately timed botanical surveys.

Special-status Wildlife Species

Twenty-nine special-status wildlife species were identified in the records search. Suitable habitat for 15 of the 29 species was identified in the Project footprint. These species are described further in Table 3.4-3 and the section below.

Table 3.4-3: Special-Status Wildlife Species

Scientific Name/Common Name	Federal	state	CDFW	Habitat	Potential for Occurrence within the BSA
Bombus occidentalis / western bumble bee	-	CE	-	Once common and widespread, species has declined precipitously from central California to southern British Columbia, perhaps from disease. Eusocial generalist pollinator, visiting a wide range of plant species that provide nectar and pollen during the colony's life cycle of February to November.	**Potential to occur.** A variety of flowering plants grow within the BSA; species could forage and nest in the BSA. One CNDDB occurrence is less than 1 mile of the Project footprint; the species was collected in Calistoga (exact location unknown) in 1953.
Syncaris pacifica / California freshwater shrimp	E	E	-	Endemic to Marin, Napa, and Sonoma counties. Found in low elevation, bw gradient streams where riparian cover is moderate to heavy. Shallow pools away from main streamflow. Winter: undercut banks with exposed roots. Summer: leafy branches touching water.	**Potential to occur.** Suitable aquatic habitat is present within the BSA at Ritchie Creek, Mill Creek, and York Creek. One CNDDB occurrence is within 5 miles of the BSA. It is over a mile northwest in the Napa River.
Oncorhynchus mykiss irideus / steelhead - central California coast DPS	T	-	-	DPS includes all naturally spawned populations of steelhead (and their progeny) in streams from the Russian River to Aptos Creek, Santa Cruz County, California (inclusive). Also includes the drainages of San Francisco and San Pablo Bays.	**Potential to occur.** Creeks in the BSA provide suitable habitat and are designated as critical habitat. The only CNDDB occurrence within 5 miles of the BSA is an observation from 2004 in York Creek approximately 1 mile upstream of the BSA.
Dicamptodon ensatus /California giant salamander	-	-	SSC	Known from wet coastal forests near streams and seeps from Mendocino County south to Monterey County, and east to Napa County. Aquatic larvae found in cold, clear streams, occasionally in lakes and ponds. Adults known from wet forests under rocks and logs near streams and lakes.	**Potential to occur.** The perennial and intermittent creeks may be suitable aquatic habitat necessary for California giant salamander larvae. The contiguous woodland may provide upland habitat. There are three CNDDB occurrences within 5 miles of the BSA. Occurrence Number 186 was last observed in 2016 in Sulpur Creek less than 2 miles upstream from the Project footprint.
Rana boyiii /foothill yellow-legged frog	-	CT	SSC	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats.	**Potential to occur.** Suitable aquatic habitat is present within the BSA at Ritchie Creek, Mill Creek, and York Creek. Multiple CNDDB occurrences within 5 miles of the BSA.

Scientific Name/Common Name	Federal	state	CDFW	Habitat	Potential for Occurrence within the BSA
Rana draytonii / California red-legged frog	T	-	SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11 20 weeks of permanent water for larval development. Must have access to estivation habitat.	**Potential to occur.** Suitable upland dispersal habitat is present and marginal aquatic breeding habitat is present within discrete portions of the BSA, but not within the Project footprint. One CNDDB occurrence is within 5 miles of the BSA but is considered to be extirpated.
Emys marmorata / western pond turtle	-	-	FP	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation.	**Potential to occur.** Creeks in the Project footprint provide suitable habitat, and adjacent upland areas are low quality dispersal habitat. Six CNDDB occurrences within 5 miles of the BSA.
Agelaius tricolor / tricolored blackbird	-	T	SSC	Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California. Gregarious year-long resident of California's Central Valley and southern and central coast with limited distribution. Prefers to nest in large freshwater marshes with dense stands of cattails and rushes, but will also build nests concealed in vegetation in grasslands and agricultural pastures near freshwater. Breeding may occur in spring and fall. Feeds mainly on insects and seeds, foraging in open habitats, such as agricultural fields, wetlands, and qrasslands.	**Potential to occur.** Potential suitable nesting's sites include vegetation near York Creek, Hirsch Creek, Mill Creek, Ritchie Creek, and some of the ditches that contain cattails and rushes. Suitable foraging habitat within the BSA includes agriculture, wetland, and grassland. CNDDB occurrences are 8 miles northeast of the BSA. No CNDDB occurrences within 5 miles of the BSA.
Aquila chrysaetos / golden eagle	-	-	FP	Rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	**Potential to occur.** Presence within the BSA would likely be limited to foraging. Suitable nesting habitat in cliff-walled canyons is not present. The closest observation is CNDDB Occurrence Number 46 which was a nest observed in 1992 located 16 miles northwest of the BSA.

Scientific Name/Common Name	Federal	state	CDFW	Habitat	Potential for Occurrence within the BSA
Buteo swainsoni I Swainson's hawk	-	T	-	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural cr ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	**Potential to occur.** Presence within the Project footprint would likely be limited to foraging. Nesting within the biological study area is unlikely to occur. Per CNDDB (Occurrence Number 2668) one nest was observed in 2012 approximately 4.3 miles southeast of the BSA. However, most observations of this species are not in the vicinity of the BSA.
Elanus /eucurus I white-tailed kite	-	-	FP	Rolling foothills and valley margins with scattered oaks and river bottom lands or marshes next to deciduous woodland.	**Potential to occur.** Potential foraging and nesting habitat present in and around the Project footprint. No CNDDB occurrences within 5 miles of the BSA; however, this species is often not reported to CNDDB.
Falco peregrinus anatum I American peregrine falcon	D	D	FP	Very wide distribution, found throughout most of North America across a range of habitats. Year-round resident in much of California west of the Central Valley. Prefers open areas for foraging, typically preying on other birds and sometimes small reptiles and mammals. Often found near water, especially along the coast. Typical nesting sites are on cliff ledges and in hollows of dead or broken trees; in cities, may use ledges of buildings and bridges. Does not build nests, instead laying eggs in a scrape or sometimes usino the old nests of other birds.	**Potential to occur.** Presence within the Project footprint would likely be limited to foraging or flyovers. Suitable nesting sites on cliffs or ledges are not present within the BSA. Suitable foraging habitat is present in and adjacent to the Project footprint. Three CNDDB occurrence within 5 miles of the BSA.
Progne subis I purple martin	-	-	SSC	Inhabits woodlands, low elevation coniferous forest of Douglas-fir, ponderosa pine, and Monterey pine. Nests in old woodpecker cavities mostly; also in human-made structures. Nest often located in tall, isolated tree/snaq.	**Potential** to **occur.** Suitable woodland habitat is within the BSA. CNDDB has documented three occurrences within 5 miles of the BSA.

Scientific Name/ Common Name	Federal	state	CDFW	Habitat	Potential for Occurrence within the BSA
Antrozous pallidus / pallid bat	-	-	SSC	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. Typically use three types of roosts - day roosts may be a warm, horizontal opening in attics or crevices; night roosts are in the open (such as open porches or under bridges) with nearby foliage, usually near foraging grounds; hibernation roosts may be in canyon wall crevices, caves, buildings, or cracks in rocks. Feeds on a wide variety of insects and arachnids.	**Likely to occur.** Night roosting is likely to occur under bridges in the BSA. Suitable day roosts may occur in bridges or other structures in the BSA. Numerous CNDDB occurrences within five miles of the BSA.
Corynorhinus townsendii / Townsend's big-eared bat	-	-	SSC	Occurs throughout much of the western U.S., except alpine and sub-alpine habitats. Requires large cavities for roosting, including basal tree cavities, caves, mines, tunnels, buildings, or other man-made structures; hibernation roosts are in similar locations. In summer, females form maternity colonies to raise pups, while males are generally solitary. Hibernates in tight clusters in winter. Nocturnal predator of insects, especially (and potentially almost exclusively) moths. Prefers mesic habitats.	**Likely to occur.** Suitable habitat within the BSA includes bridges. Seven CNDDB occurrences are within 5 miles of the BSA.

[a]Status designations are as follows:
Federal Designations:
(E) Federally Endangered, (T) Federally Threatened, (D) Federally Delisted
State Designations:
(E) State Endangered, (T) State Threatened, (D) State Delisted, (CE) Candidate Endangered, (CT) Candidate Threatened

California Department of Fish and Wildlife (CDFW) Designations:
(SSC) Species of Special Concern (FP) Fully Protected

Sources:
CDFW, 2019; CDFW, 2020; USFWS, 2020

Western Bumble Bee

The western bumble bee is listed as Candidate Endangered under the CESA. This species was once common and widespread but has declined precipitously from central California to southern British Columbia, perhaps from disease. This species is a eusocial generalist pollinator, visiting a wide range of plant species that provide nectar and pollen during the colony's life cycle of February to November. Prior to 1998, this species was considered widespread and common throughout its historic range of northwestern North America. This species forms annual colonies; the queen emerges from hibernation in late winter to early spring to select a nest site, typically an underground cavity such as an old animal burrow or nest. The queen lays 8-16 eggs to start the new colony; and over the season the colony can grow to 1600 individuals. At the end of the season, young females leave the hive to mate. After mating, gynes dig a hole to hibernate for the winter; the rest of the colony dies out.

There is one CNDDB occurrence within 5 miles of the BSA, which was observed in 2004. Suitable aquatic habitat is present within the BSA at Mill Creek, York Creek, and Ritchie Creek; however, these creeks would not be impacted by Project activities and they are outside of the Project footprint.

California Freshwater Shrimp

The California freshwater shrimp is listed as endangered under the FESA and CESA. This species is endemic to Marin, Napa, and Sonoma counties and is found in low elevation, low gradient streams where riparian cover is moderate to heavy. Suitable aquatic habitat is present within the BSA at Mill Creek, York Creek, and Ritchie Creek.

This species has potential to occur within the BSA because of the suitable habitat in the creeks mentioned above; however these creeks would not be impacted by Project activities and they are outside of the Project footprint. There is one CNDDB occurrence is within 5 miles of the BSA, which is over a mile northwest in the Napa River.

Central California Coast DPS Steelhead

The Central California DPS steelhead is listed as threatened under the ESA. This DPS includes all naturally spawned populations of steelhead (and their progeny) in streams from the Russian River to Aptos Creek, Santa Cruz County, California (inclusive). It also includes the drainages of San Francisco and San Pablo Bays.

There is one CNDDB occurrence within 5 miles of the BSA, which was observed in 2004. Suitable aquatic habitat is present within the BSA at Mill Creek, York Creek, and Ritchie Creek; however, these creeks would not be impacted by Project activities and they are outside of the Project footprint.

California Giant Salamander

The California giant salamander is a CDFW Species of Special Concern. This species is known from wet coastal forests near streams and seeps from Mendocino County south to Monterey County, and east to Napa County. Aquatic larvae are found in cold, clear streams, occasionally in lakes and ponds. This species often inhibits wet forests under rocks and logs near streams and lakes. The perennial and intermittent creeks in the BSA may be suitable aquatic habitat for California giant salamander larvae. Riparian vegetation may provide upland habitat; however riparian habitat is not present within the Project footprint and no suitable habitat for this species would be impacted. There are three CNDDB occurrences within 5 miles of the Project footprint.

Foothill Yellow-legged Frog

The foothill yellow-legged frog is listed as Candidate threatened under CESA, and is also a CDFW Species of Special Concern. This species inhabits partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats and has potential to occur in the BSA. The perennial creeks and contiguous riparian vegetation in the BSA provide suitable habitat. Suitable aquatic habitat is present within the BSA at Mill Creek, York Creek, and Ritchie Creek; however, these creeks would not be impacted by Project activities. Additionally, riparian vegetation that may provide upland habitat is not present within the Project footprint. There are fifteen CNDDB occurrences within 5 miles of the BSA.

This species was not observed during focused surveys.

California Red-legged Frog

The California red-legged frog is listed as threatened under the FESA and is a CDFW Species of Special Concern. Critical habitat was designated in 2010 (USFWS, 2010). California red-legged frog breed in wetlands, lakes, ponds, and other still or slow-moving sources of water that remain inundated long enough for larvae to complete metamorphosis, which typically occurs from 11 to 20 weeks after hatching (Storer, 1925). During summer months, CRLF use available aquatic habitats such as springs and plunge pools within seasonal drainages and may take refuge in rodent burrows and soil crevices within a few hundred feet of aquatic habitats. During the rainy season, individual CRLF have been known to achieve dispersal distances of up to 2 miles, however these events are expected to be rare (USFWS, 2002; Bulger et al., 2003). Adult CRLF tend to be most active at night during wet weather, but they may make forays through upland areas at any time during the year (USFWS, 2002).

This species has potential to occur within discrete wetlands within the BSA, and if those areas are occupied, adjacent sites including limited portions of the Project footprint would be within upland dispersal range. Riparian vegetation that may provide upland

habitat is present in the BSA but is not present within the Project footprint. One CNDDB occurrence is within 5 miles of the BSA but is considered to be extirpated.

Western Pond Turtle

The western pond turtle is a CDFW Species of Special Concern. Western pond turtle occurs in both permanent and intermittent waters, including marshes, streams, rivers, ponds, and lakes. It favors habitats with large numbers of emergent logs or boulders, where individuals aggregate to bask. They also bask on top of aquatic vegetation. Females of the western pond turtle produce 5 to 13 eggs per clutch, once or twice a year. They may travel from water for egg-laying, most nests are within 90 meters (300 feet) of water but may use upland habitats up to 500 meters (1,640 feet) from aquatic habitat for overwintering and nesting (Rhodin et al., 2010, Pilliod et al., 2011).

The perennial and intermittent creeks within the BSA provide suitable habitat for the western pond turtle and it has potential to occur. There are six CNDDB occurrences within five miles of the Project footprint.

Tricolored Blackbird

Tricolored blackbird (*Agelaius tricolor*) is threatened under the CESA and are a CDFW Species of Special Concern. They nest in wetlands, triticale fields, near stock ponds, and irrigated pastures. Foraging habitats include cultivated fields, feedlots associated with dairy farms, and wetlands. They now nest almost exclusively in triticale fields, especially those with invasive mustard or mallow plants. Females select the nesting site within a male's territory, typically close to freshwater with plenty of concealing vegetation. Females build nests in vegetation from just above ground level up to about 8 feet. Tricolored blackbirds typically have a 3-4 egg clutch size and 1-2 broods each breeding season. They form dense breeding colonies and defend only their nesting patch (Beedy et al., 2017).

A significant decline in breeding populations is largely attributed to habitat loss and degradation (Zeiner et. al. 1988-1990). Although no documented occurrences for the tricolored blackbird are reported within the Project footprint, potentially suitable foraging habitat may be located in or adjacent to work areas with proximity to agricultural fields, wetland habitat, and grasslands. Suitable nesting habitat is present in vegetation near York Creek, Hirsch Creek, Mill Creek, Ritchie Creek, and some of the ditches that contain cattails and rushes.

Golden Eagle

The golden eagle is a fully protected species under the California Fish and Game Code. Golden eagles inhabit open habitats, including grasslands and marshes, with low ground cover for foraging and scattered trees or cliffs for nesting. They may also build

nests on human-made structures, and nests often allow a wide view of their surroundings. Presence within the Project footprint would likely be limited to foraging as there is low ground cover within grasslands and agricultural fields that could provide suitable foraging habitat. Suitable nesting habitat in cliff-walled canyons is not present. The closest observation is a CNDDB occurrence which was a nest observed in 1992 located 16 miles northwest of the Project footprint.

Swainson's Hawk

The Swainson's hawk is listed as threatened under the CESA. This species breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. This species requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations. Swainson's hawks nest within solitary trees or small groves of trees within grasslands or in proximity to agricultural fields where they forage. These trees are often tall trees, and they nest in the upper canopy. Presence within the Project footprint would likely be limited to foraging. Nesting within the Project footprint is not expected due as suitable trees are not present, but they may nest in the vicinity of the BSA. Per CNDDB, one nest was observed in 2012 within 5 miles of the BSA.

White-tailed Kite

The white-tailed kite is a fully protected species under the California Fish and Game Code. This species inhabits rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. This species forages in grasslands, marshes, riparian edges, and cultivated fields where prey species (mainly small mammals) are relatively abundant (Kaufman, 1996). Kites typically nest on the tops of trees close to good foraging locations.

There is suitable habitat for the species in the vicinity of the Project as it is surrounded by grasslands and cultivated fields. There is potential for them to forage in the vicinity of all work locations. There is no suitable nesting habitat for this species within the Project footprint, but there is suitable nesting habitat in the form of dense top trees within and near the BSA. There are no CNDDB occurrences within 5 miles of the Project footprint; however, this species is often not reported to CNDDB.

American Peregrine falcon

The American peregrine falcon is a fully protected species under the California Fish and Game Code. This species prefers open areas for foraging, typically preying on other birds and sometimes small reptiles and mammals. This species is often found near water, especially along the coast. They typically nest on cliff ledges and in hollows of dead or broken trees; in cities they may use ledges of buildings and bridges. This

species does not build nests, instead laying eggs in a scrape or sometimes using the old nests of other birds.

Presence within the BSA would likely be limited to foraging or flyovers. Suitable nesting sites on cliffs or ledges are not present within the BSA. Suitable foraging habitat is present in and adjacent to the BSA. There are three CNDDB occurrence within 5 miles of the BSA.

Purple Martin

The purple martin is a CDFW Species of Special Concern. This species inhabits woodlands, low elevation coniferous forest of Douglas-fir, ponderosa pine, and Monterey pine. It nests in old woodpecker cavities mostly; also in human-made structures. Nests are often located in tall, isolated tree/snag.

There is potential for this species to occur in the BSA as there is suitable habitat in the form of woodland habitat and Douglas-fir habitat, but no suitable nesting habitat is present in the Project footprint. CNDDB has documented three occurrences within 5 miles of the BSA.

Pallid Bat

The pallid bat is a CDFW Species of Special Concern. This species inhabits deserts, grasslands, shrublands, woodlands and forests. It is most common in open, dry habitats with rocky areas for roosting. They typically use three types of roosts – day roosts may be a warm, horizontal opening in attics or crevices; night roosts are in the open (such as open porches or under bridges) with nearby foliage, usually near foraging grounds; hibernation roosts may be in canyon wall crevices, caves, buildings, or cracks in rocks. Pallid bats feed on a wide variety of insects and arachnids.

Night roosting may occur under bridges in the BSA, but there is no suitable roosting habitat within the Project footprint. Suitable day roosts may occur in bridges or other structures in the BSA. There are eight CNDDB occurrences within 5 miles of the BSA.

Townsend's Big-Eared Bat

Townsend's big-eared bat is a CDFW Species of Special Concern (CDFW, 2019). This species occupies a variety of habitats, from arid deserts to grasslands, conifer forests, and riparian areas. Although roosts (including day, night, and maternity roosts) typically are in rock crevices and cliffs, day roosts also can be found in tree hollows and caves. In more urban settings, roosts frequently are associated with human structures, such as abandoned buildings, abandoned mines, and bridges. Overwintering roosts require relatively cool and stable temperatures, out of direct sunlight. While once considered

common, this species is particularly sensitive to the degradation or loss of roosting sites (Zeiner et. al., 1988-1990).

Night roosting may occur under bridges in the BSA, but there is no suitable roosting habitat within the Project footprint. Suitable day roosts may occur in bridges or other structures in the BSA. Seven CNDDB records of Townsend's bat were documented within five miles of the BSA, including one occurrence intersecting the Project footprint.

Other Migratory Birds and Nesting Raptors

Non-listed migratory bird species or raptors can establish nests in suitable habitat in the Project footprint. The nesting season for migratory birds and raptors generally is between February 15 and August 31. Because of the large number of trees and other nesting substrate present, it is likely for numerous common migratory birds to nest in or near the Project footprint.

3.4.3.6 Habitat Conservation Plans

The Project is within the area covered by the PG&E Bay Area Habitat Conservation Plan (HCP), and the Project qualifies as an activity which is covered by the HCP (PG&E, 2017). The Project would be covered under this HCP and all relevant measures from this document have been included as AMMs in Section 3.4.6.

3.4.4 Avoidance and Minimization Measures and Potential Impacts

PG&E would implement the following AMMs. These include AMM BIO-FP-01 through AMM BIO-FP-16 and AMM BIO Wetland-2, which are required measures under the PG&E Bay Area HCP. The PG&E Biologist would assign qualified biological monitors to the Project. A qualified biologist is defined as an individual with a biology degree, a minimum of five years of experience, and demonstrated knowledge of the biological resources that occur or have the potential to occur in or near the Project area.

AMM BIO-1: Development and implementation of a Worker Environmental Awareness Program. A qualified biologist will conduct an environmental awareness program for all on-site construction personnel before they begin work on the Project. Training will include a discussion of the avoidance and minimization measures that are being implemented to protect biological resources as well as the terms and conditions of Project permits. Training will include information about the federal and state Endangered Species Acts and the consequences of noncompliance with these acts. Under this program, workers shall be informed of the presence, life history, and habitat requirements of all special-status species that may be affected in the Project footprint, and about state and federal laws protecting nesting birds, wetlands, and other water resources. An educational brochure will be produced for construction crews working on the Project. Color photos of special-status species will be included, as well as a

discussion of relevant AMMs and specific avoidance or minimization measures for special-status species and habitats.

AMM BIO-2: Nesting Bird Impact Avoidance and Protection. If construction is to occur during the avian nesting season (February 1 through September 30), a preconstruction migratory bird and raptor nesting survey will be performed by a qualified biologist. Surveys will only occur in publicly accessible areas and areas where PG&E has existing access, private property will not be accessed and will instead be observed from adjacent accessible areas.

Preconstruction nesting bird surveys will be performed in accordance with PG&E's Nesting Bird Management Plan. The preconstruction survey will cover a radius of 300 feet for non-listed raptors and 100 feet for non-listed passerines at all locations. The survey will cover all affected areas where ground disturbance or vegetation clearing is required. If any active nests containing eggs or young are found, an appropriate nest exclusion zone will be established by the PG&E Biologist; the biologist will evaluate whether sufficient screening buffers (such as trees or intervening topography) exist that work may proceed in the area and will determine what level of nest monitoring is needed. To the extent practicable, no Project vehicles, chain saws, or heavy equipment will be operated in this exclusion zone until the biologist has determined that the nest is no longer active and or the young have fledged. If it is not practicable to avoid work in an exclusion zone around an active nest, work activities will be modified to minimize disturbance of nesting birds but may proceed in these zones at the discretion of the biologist. The biologist will monitor all work activities in these zones daily when construction is occurring and assess their effect on the nesting birds. If the biologist determines that particular activities pose a high risk of disturbing an active nest, the biologist will recommend additional, feasible measures to minimize the risk of nest disturbance. If work cannot proceed without disturbing the nesting birds, or signs of disturbance are observed by the monitor, work may need to be halted or redirected to other areas until the nesting and fledging is completed or the nest has otherwise failed for non-construction-related reasons.

AMM BIO-3: Conduct Preconstruction Survey(s) for Special-Status Species and Sensitive Biological Resource Areas. A qualified biologist will conduct preconstruction survey(s) in areas having habitat for special-status species and sensitive biological resource areas, either during the appropriate phenological period for plants or within 48 hours prior to construction activities for wildlife. If any special-status species is encountered during the preconstruction survey(s), the PG&E Biologist will be contacted immediately.

AMM BIO-4: Identification and Marking of Sensitive Biological Resource Areas. Sensitive biological resources (e.g., special-status plants, wetlands) in or adjacent to construction work areas identified during the preconstruction surveys, will be clearly marked in the field and on Project maps. Such areas will be avoided during construction to the extent practicable.

AMM BIO-5: Exclusion Fencing. At the discretion of the PG&E Biologist, prior to any ground-disturbing work in proximity to suitable habitat for special-status species or adjacent to wetlands or waters, exclusion fence will be installed around work spaces as appropriate. Exclusion fencing will be routinely inspected during Project activities; any damage, such as holes or gaps, will be promptly repaired.

AMM BIO-6: Biological Monitor On-Site during Construction Activities in Sensitive Biological Resource Areas. At the discretion of the PG&E Biologist, a qualified biologist will be on-site during ground-disturbing construction activities in sensitive biological resource areas identified in AMM BIO-4 above unless the area has been protected by barrier fencing to protect sensitive biological resources and previously cleared by the qualified biologist and the PG&E Biologist. The qualified biologist will ensure implementation and compliance with all avoidance and mitigation measures and have the authority to stop or redirect work if construction activities are likely to affect sensitive biological resources.

AMM BIO-7: Special-Status Plant Impact Avoidance and Protection. Prior to the start of construction and in conjunction with AMM BIO-3, a qualified botanist will resurvey mapped populations of special-status plants and flag or otherwise mark (e.g., stake, fence) all special-status plant populations documented adjacent to construction work areas for avoidance. After Project activities have been completed at a given worksite, all staking, fencing, or flagging will be removed.

AMM BIO-8: Special-Status Amphibian and Reptile Impact Avoidance and Protection. During wet weather or the rainy season, all open holes, pits, and trenches will be protected to ensure that frogs, salamanders, and/or turtles do not become entrapped. Protective fencing, coverings, or ramps will be installed to either prevent wildlife from falling into excavations or to allow for escape. At the end of each work day, steep-walled holes or trenches more than six inches deep will be covered or provided with one or more escape ramps and/or fenced. Open excavations will be inspected each day, prior to the start of construction activities, to ensure that no wildlife are trapped. Construction personnel will also check underneath vehicles and within materials to be moved (i.e., tires, tracks, pipes, etc.) for the presence of frogs, salamanders, and/or turtles when parked or placed near suitable aquatic or upland dispersal habitat. Any species found will be captured and relocated to an approved

location as approved by the resource agencies, if required, and in compliance with any regulatory permits issued for the Project.

AMM BIO-9: Implement General Protection Measures for Wetlands and Other Waters. PG&E will implement the following general measures to minimize or avoid impacts on wetlands and other waters:

- Avoid wetlands and other waters during construction activities.
- Conduct all fueling of vehicles at least 100 feet from wetlands and other water bodies unless approved by a qualified biologist.
- Implement a Storm Water Pollution Prevention Plan (SWPPP) to minimize construction-related erosion and sediments from entering nearby waterways (see AMM WQ-1).

AMM BIO-10: General Resource Protection Measures. This AMM consists of the following components:

- ***Hazardous materials spills****.* Emergency spill response and cleanup kits will be readily available for immediate containment and cleanup of an accidental spill. Construction crews will be trained in safe handling of hazardous materials and cleanup responsibilities. Any spills into aquatic habitat will be reported to the applicable resource agencies within 24 hours.
- ***Reporting and communication*****.** The PG&E Biologist will be responsible for immediately reporting any capture and relocation, or inadvertent harm, entrapment, or death of a federally or state listed species under FESA or CESA to the applicable resource agencies.
- ***Restore temporarily disturbed habitats****.* All habitat areas for special-status species that are temporarily disturbed as a result of Project activities will be restored upon completion of construction. Disturbed areas will be restored to pre-Project conditions in coordination with land owners.
- ***Erosion control materials.*** Only tightly woven netting or similar material will be used for all geo-synthetic erosion control materials such as coir rolls and geo-textiles. No plastic monofilament matting will be used. Sod may be used when restoring landscaped areas.
- ***Minimize grading and vegetation removal along access roads and construction work areas, to the extent feasible.*** PG&E will only trim, clear, or

remove vegetation as necessary to establish the access routes and allow equipment use. Trees will be directionally felled away from sensitive biological resource areas, and if that is not possible, removed in sections. Damage to adjacent trees will be avoided to the extent possible.

- ***Weed management.*** Vehicles and construction equipment will be cleaned of mud and dirt on site at a PG&E wash facility or otherwise approved wash-down location as needed to minimize transport of weed plant parts or seed. Vehicles will also be cleaned at the completion of the Project or when off-road use for that vehicle has been completed.

- ***Work Hours.*** To the maximum extent feasible, in sensitive areas all construction activities will cease 0.5 hour before sunset and will not begin prior to 0.5 hour after sunrise to maximize the potential for visual identification and avoidance of special-status species.

PG&E Bay Area HCP Required Measures

AMM BIO-FP-01: Hold annual training on habitat conservation plan requirements for employees and contractors performing covered activities in the Plan Area that are applicable to their job duties and work.

AMM BIO-FP-02: Park vehicles and equipment on pavement, existing roads, or other disturbed or designated areas (barren, gravel, and compacted dirt).

AMM BIO-FP-03: Use existing access and rights of way (ROW) roads. Minimize the development of new access and ROW roads, including clearing and blading for temporary vehicle access in areas of natural vegetation.

AMM BIO-FP-04: Locate off road access roads and work sites to minimize impacts on plants, shrubs, and trees, small mammal burrows, and unique natural features (e.g., rock outcrops).

AMM BIO-FP-05: Notify conservation land owner at least 2 business days prior to conducting covered activities on protected lands (state and federally owned wildlife areas, ecological reserves, or conservation areas); more notice will be provided if possible or if required by other permits. If the work is an emergency, as defined in PG&E's Utility Procedures ENV-8003P-01, PG&E will notify the conservation land owner within 48 hours after initiating emergency work. While this notification is intended only to inform conservation land owner, PG&E will attempt to work with the conservation land owner to address landowner concerns.

AMM BIO-FP-06: Minimize potential for covered species to seek refuge or shelter in pipes and culverts. Inspect pipes and culverts, of diameter wide enough to be entered by a covered species that could inhabit the area where pipes are stored, for wildlife species prior to moving pipes and culverts. Immediately contact a biologist if a covered species is suspected or discovered.

AMM BIO-FP-07: Vehicle speeds on unpaved roads will not exceed 15 miles per hour.

AMM BIO-FP-08: Prohibit trash dumping, firearms, open fires (such as barbecues), hunting, and pets (except for safety in remote locations) at work sites.

AMM BIO-FP-09: Equip all motorized equipment with federally approved or state-approved spark arrestors. Use a backpack pump filled with water and a shovel and fire-resistant mats and/or windscreens when welding. During fire “red flag” conditions as determined by Cal Fire, curtail welding. Each fuel truck will carry a large fire extinguisher with a minimum rating of 40 B:C. Clear parking and storage areas of all flammable materials.

AMM BIO-FP-10: Minimize the activity footprint and minimize the amount of time spent at a work location to reduce the potential for take of species.

AMM BIO-FP-11: Utilize standard erosion and sediment control BMPs (pursuant to the most current version of PG&E’s Stormwater Field Manual for Construction Best Management Practices) to prevent construction site runoff into waterways. FP-12: Stockpile soil within established work area boundaries and locate stockpiles so as not to enter water bodies, stormwater inlets, other standing bodies of water. Cover stockpiled soil prior to precipitation events.

AMM BIO-FP-12: Stockpile soil within established work area boundaries and locate stockpiles so as not to enter water bodies, stormwater inlets, other standing bodies of water. Cover stockpiled soil prior to precipitation events.

AMM BIO-FP-13: Fit open trenches or steep-walled holes with escape ramps of plywood boards or sloped earthen ramps at each end if left open overnight. Field crews will search open trenches or steep-walled holes every morning prior to initiating daily activities to ensure wildlife are not trapped. If any wildlife are found, a biologist will be notified and will relocate the species to adjacent habitat or the species will be allowed to naturally disperse, as determined by a biologist.

AMM BIO-FP-14: If the covered activity disturbs 0.1 acre or more of habitat for a covered species in grasslands, the field crew will revegetate the area with a commercial “weed free” seed mix.

AMM BIO-FP-15: Prohibit vehicular and equipment refueling 250 feet from the edge of vernal pools, and 100 feet from the edge of other wetlands, streams, or waterways. If refueling must be conducted closer to wetlands, construct a secondary containment area subject to review by an environmental field specialist and/or biologist. Maintain spill prevention and cleanup equipment in refueling areas.

AMM BIO-FP-16: Maintain a buffer of 250 feet from the edge of vernal pools and 50 feet from the edge of wetlands, ponds, or riparian areas. If maintaining the buffer is not possible because the areas are either in or adjacent to facilities, the field crew will implement other measures as prescribed by the land planner, biologist, or HCP administrator to minimize impacts by flagging access, requiring foot access, restricting work until dry season, or requiring a biological monitor during the activity.

AMM BIO-Wetland-2: Identify wetlands, ponds, and riparian areas and establish buffers. Maintain a buffer of 50 feet around wetlands, ponds, and riparian areas. If maintaining the buffer is not possible because the areas are either in or adjacent to facilities, the field crew will implement other measures as prescribed by the biologist or HCP administrator to minimize impacts. These measures include flagging access, requiring foot access, restricting work until the dry season, requiring a biological monitor during the activity, or excavating burrows in ROWs where trenching will occur. Activities must maintain the downstream hydrology to the wetland, pond, or riparian area. Additional minimization measures may be implemented with prior concurrence from USFWS.

3.4.4.1 Impacts

Project impacts on biological resources were evaluated using Appendix G of the CEQA Guidelines, as discussed below.

a) Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service? *Less-Than-Significant Impact*

As described below, the Project would have a less than significant impact on any candidate, sensitive, or special-status species populations with incorporation of AMMs.

Although there is low potential for direct and indirect effects to occur during Project implementation, the Project would not result in significant impacts to candidate, sensitive, or special-status species, and no reduction in the distribution of these species would occur. All habitat impacts would be temporary and areas subject to ground

disturbance would be restored to approximate pre-existing conditions following Project activities.

Special-status Plant Species

Special-status plants can be damaged or destroyed as a result of vegetation removal or trimming activities before construction by Project vehicles traveling on access roads and/or by staging Project vehicles and equipment in construction work areas. Special-status plants also can be indirectly affected by soil compaction and the spread of nonnative invasive species from Project vehicle and equipment travel and staging.

While pappose tarplant, Jepson's leptosiphon, Baker's navarretia, and Napa bluecurls were determined to have the potential to occur within the BSA, they were not observed during appropriately timed botanical surveys. As such, they are not expected to be present or adversely affected directly or indirectly during Project activities.

Sebastopol meadowfoam was determined to be nearby but not present within the Project footprint. There would be no direct impacts to Sebastopol meadowfoam from Project activities as the population and suitable habitat for this species would not be disturbed. Indirect impacts to Sebastopol meadowfoam would be avoided by construction activities remaining within approved work areas and implementation of stormwater runoff measures in accordance with the SWPPP.

Even though special-status plants are not anticipated to be adversely affected, AMM BIO-7: Special-Status Plant Impact Avoidance and Protection would be implemented. With implementation of this measure, prior to the start of construction in sensitive areas, barrier fencing would be installed to avoid impacts to rare plant populations.

Special-Status Wildlife Species

Western bumble bee

Western bumble bee has potential to forage and nest in the Project footprint however this potential is limited due to the disturbed nature of the surroundings and presence of adjacent regularly traveled roads. Per AMM BIO-1: Development and Implementation of a Worker Environmental Awareness Program, AMM BIO-3: Conduct Preconstruction Surveys for Special-Status Species and Sensitive Biological Resources Areas, AMM BIO-4: Identification and Marking of Sensitive Areas, and AMM BIO-10: General Resource Protection Measures, workers would be briefed on special-status species and measures to avoid them, potentially suitable habitat would be avoided to the extent feasible, and measures would be implemented to restore disturbed habitat post-construction. Positive identification of this species is only possible in the laboratory on deceased specimens or by catching the species with a hand net and identifying it in a specimen jar, so bumble bees in general would be avoided to the extent feasible.

Impacts to suitable nectar plants are expected to be temporary within implementation of AMMs.

California freshwater shrimp, Central California DPS steelhead, California giant salamander, California red-legged frog, Foothill yellow legged frog, and western pond turtle

California freshwater shrimp, Central California DPS steelhead, California giant salamander, and Foothill yellow-legged frog have potential to occur in aquatic habitats within creeks in the BSA, however these habitats are not within the Project footprint. Project activities would not impact aquatic habitats and therefore impacts would not occur to these species. Foothill yellow-legged frog was not observed during focused surveys for the species.

California red-legged frog and western pond turtle have potential to occur in wetlands in the vicinity of the BSA and along Hirsch, Mill, Ritchie and York Creeks and may also be present in adjacent upland areas. All potentially suitable aquatic habitats for these species would be avoided. However, due to the known dispersal distances for these species, they could potentially occur within non-developed upland portions of the Project footprint. Blading/grading of access routes and workspace areas and vegetation clearing have the greatest potential to adversely impact suitable upland dispersal habitats. In areas that do not require grading or blading, vegetation would be removed or killed by foot traffic and/or construction equipment. Onsite restoration would be conducted to return suitable habitat to its pre-Project condition. There would be no permanent impacts associated with this Project.

With implementation of the following AMMs, potential impacts to these species and their habitats would be avoided:

- AMM BIO-1: Development and Implementation of a Worker Environmental Awareness Program;
- AMM BIO-3: Conduct Preconstruction Surveys for Special-Status Species and Sensitive Biological Resources Areas;
- AMM BIO-4: Identification and Marking of Sensitive Areas;
- AMM BIO-5: Exclusion Fencing;
- AMM BIO-6: Biological Monitor On-Site during Construction Activities in Sensitive Biological Resource Areas;
- AMM BIO-8: Special-Status Amphibian and Reptile Impact Avoidance and Protection;

- AMM BIO-9: Implement General Protection Measures for Wetlands and Other Waters; and,
- AMM BIO-10: General Resource Protection.
- AMM WQ-1: Inadvertent Drilling Fluid Release Contingency Plan

These measures include preconstruction surveys and avoiding suitable habitat to the extent feasible, measures to minimize potential impacts to these species and their habitats during wet weather, installation of exclusion fencing, and biological monitoring. These measures would minimize the potential for impacts to these species in both aquatic and upland dispersal habitats through habitat avoidance, minimize the potential for individuals to enter work areas through exclusion fencing, educate workers on these species and measures that would be implemented to minimize the potential to impact them, and cleanup measures in the unlikely event of inadvertent release of drilling fluids during HDD and jack-and-bore activities.

Tricolored blackbird, golden eagle, Swainson's hawk, white-tailed kite, American peregrine falcon, purple martin, and birds protected under the Migratory Bird Treaty Act and Fish and Game Code Section 3503

The vicinity of all of the work locations is suitable foraging habitat for these species and there is suitable nesting habitat for tricolored blackbird, Swainson's hawk, white-tailed kite, and purple martin in the vicinity of the BSA. Project activities have the potential to impact nesting individuals of these and other species protected under the Migratory Bird Treaty Act. This could cause nest abandonment and may temporarily degrade foraging habitat. AMM BIO-2: Nesting Bird Impact Avoidance and Prevention would be implemented to minimize the potential to adversely affect these species and other nesting birds. Given the limited size of the work areas relative to adjacent areas, and disturbed nature of these sites, the temporary loss of foraging habitat is not expected to adversely affect these or other bird species.

Pallid bat and Townsend's big-eared bat

Pallid bat and Townsend's big-eared bat have potential to roost on bridges within the BSA, however there is not suitable roosting habitat for these species within the Project footprint. Any disturbance from Project construction activities occurring near bridges, if any, would be equivalent to the existing ambient noise and vibration from traffic. In addition, with implementation of AMM BIO-10: General Resource Protection Measures, these species would not be expected to be impacted by Project activities.

b) Would the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies,

regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service? *Less-Than-Significant Impact*

Riparian vegetation exists within the BSA; however, it is not present within the Project footprint. The majority of impacts associated with the Project would occur within annual grasslands, agricultural land, and existing disturbed or developed areas, and no impacts to riparian habitat or other sensitive natural communities would occur. Apart from the aerial crossing of creeks, all pipeline will be installed underground, and all temporarily disturbed natural vegetation would be restored to pre-Project or better conditions following construction.

There are work activities in proximity to riparian habitats including free spans over several creeks, however with implementation of the following AMMs, impacts to riparian corridors and other sensitive natural communities would not occur. Therefore, the impact to these features would be less than significant.

- AMM BIO-1: Development and Implementation of a Worker Environmental Awareness Program;
- AMM BIO-4: Identification and Marking of Sensitive Areas;
- AMM BIO-5: Exclusion Fencing;
- AMM BIO-6: Biological Monitor On-Site during Construction Activities in Sensitive Biological Resource Areas;
- AMM BIO-9: Implement General Protection Measures for Wetlands and Other Waters;
- AMM BIO-10: General Resource Protection; and,
- AMM WQ-1: Inadvertent Drilling Fluid Release Contingency Plan

c) Would the Project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? *Less-Than-Significant Impact*

There is one wetland within the BSA that is 2.70 acres and classified as a Palustrine Emergent Persistent Seasonally Flooded (PEM1C) wetland; however, this feature is not within the Project footprint and it would not be impacted. There is the unlikely potential for inadvertent release of drilling fluids during HDD and jack-and-bore activities, however any potential release is anticipated to be very minor, and would be cleaned up

immediately. With implementation of the following AMMs, this feature and other waters within the BSA would be avoided during all work activities.

- AMM BIO-4: Identification and Marking of Sensitive Areas;
- AMM BIO-5: Exclusion Fencing;
- AMM BIO-6: Biological Monitor On-Site during Construction Activities in Sensitive Biological Resource Areas;
- AMM BIO-9: Implement General Protection Measures for Wetlands and Other Waters;
- AMM BIO-10: General Resource Protection; and,
- AMM WQ-1: Inadvertent Drilling Fluid Release Contingency Plan.

d) Would the Project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? ***Less-Than-Significant Impact***

Discrete portions of the Project footprint are located within dispersal range for CRLF and upland habitat for western pond turtle and if work activities occur during migratory movement for these species it may impede their movements. However, work activities are not anticipated to take place during the wet season, so are not expected to impede movements of these species. In addition, the portions of the work area in the vicinity of habitat for these species are surrounded by upland dispersal habitat, so in the unlikely event that individuals from these species make overland movements during construction activities, fenced work areas, per AMM BIO-5: Exclusion Fencing, would not impede their movements between the nearest breeding habitat and upland habitat. As all Project activities are temporary and disturbed areas would be restored to approximate pre-existing conditions, there would be no migratory barriers present after completion of the Project. Therefore, potential impacts would be less than significant.

Migratory birds may move through the BSA during work activities and may nest in the vicinity. Construction activities may temporarily degrade nesting habitat within the immediate vicinity of the work locations, however any potential effect is expected to be minimal due to the disturbed nature of the work locations, and large amount of surrounding habitat. AMM BIO-2: Preconstruction Nesting Bird Surveys would also be implemented to minimize any potential impacts to nesting birds.

e) Would the Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? ***No Impact***

The Project is located within the County of Napa. Although not subject to local regulation, PG&E strives to be consistent with local requirements for the protection of biological resources, where feasible, while remaining consistent with safety considerations. Project activities are not anticipated to conflict with any local policies or ordinances protecting biological resources. In addition, AMMs (Section 3.4.6) would be implemented as part of the Project in accordance with agency permit conditions, and no impacts are anticipated.

f) Would the Project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? *No Impact*

The Project is located within the boundaries of the PG&E Bay Area HCP, and AMMs BIO FP-1 through BIO FP-16 and BIO Wetland-2, and Mitigation Measure BIO-1 are consistent with the measures in the HCP. Therefore, there would be no impact.

3.5 CULTURAL RESOURCES

3.5.1 Introduction

This section describes existing conditions and potential impacts on cultural resources as a result of construction, operation, and maintenance of the Project. It presents the methods and results of cultural resources studies of the Project Area. Cultural resources within the Project Area Limits include 15 archaeological resources (10 in the Area of Direct Impact) and 18 historic period built environment resources for a total of 33 resources. The analysis concludes that impacts on cultural resources would be less than significant with the mitigation described in the Avoidance and Minimization Measures **(AMMs)** and Mitigation Measure in Section 3.5.6.2.

The Project's potential effects on cultural resources were evaluated using Appendix G of the CEQA Guidelines. The conclusions are summarized in Table 3.5-1 and discussed in more detail in Section 3.5.8.3. The following summary concerning cultural resources is derived from the confidential Archaeological Survey Report (Higgins and Wohlgemuth 2020a) and Survey Addendum reports (Higgins and Wohlgemuth 2020b), as well as the Phase II evaluation report (Wohlgemuth 2020b) in press and the Historic Architectural Survey Report (Allen and Walker 2020), Historical Resources Evaluation Report (Allen 2021), and Finding of Effect Report (Allen and Sakowicz 2021) in press. These reports have been submitted separately to lead-agency staff.

Table 3.5-1: CEQA Checklist for Cultural Resources

Would the Project:	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant tot§ 15064.5?	☐	☒	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	☐	☒	☐	☐
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☐	☒	☐

3.5.2 Regulatory Background and Methodology

3.5.2.1 Regulatory Background

State

California Register of Historical Resources

Under Section 21083.2 of CEQA, an important archaeological or historical resource is an object, artifact, structure, or site that is listed on, or eligible for listing on, the California Register of Historical Resources (CRHR). Eligible resources are those that can be clearly shown to meet any of the following criteria:

- Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- Is associated with the lives of persons important in our past;
- Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic value; or
- Has yielded, or may be likely to yield, information important in prehistory or history.

Automatic listings include properties that are listed on the National Register of Historic Places (NRHP). In addition, Points of Historical Interest nominated from January 1998 onward are to be jointly listed as Points of Historical Interest and in the CRHR.

Resources listed in a local historic register or deemed significant in a historical resources survey, as provided under Public Resources Code (PRC) Section 5024.1(g), are presumed to be historically or culturally significant unless the preponderance of evidence demonstrates that they are not. A resource that is not listed on or determined to be ineligible for listing on the CRHR, not included in a local register of historical resources, or not deemed significant in a historical resources survey may nonetheless be historically significant, as determined by the lead agency (PRC Section 21084.1 and Section 21098.1).

Tribal Cultural Resources

Assembly Bill (AB) 52 established that tribal cultural resources (TCR) must be considered by the lead agency under CEQA and also provided for additional Native American consultation requirements to be undertaken by the lead agency. A TCR is a site, feature, place, cultural landscape, sacred place, or object that is considered of cultural value to a California Native American tribe, and that is:

- Listed or eligible for listing in the CRHR, or in a local register of historical resources as defined in PRC Section 5020.1(k),ţ or

- A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

A Project that has potential to impact a TCR such that it would cause a substantial adverse change constitutes a significant effect on the environment unless mitigation reduces such effects to a less-than-significant level. The Governor's Office of Planning and Research has issued revised CEQA Guidelines to incorporate AB 52 requirements.

Under AB 52, Caltrans will conduct consultations with eligible tribes regarding TCRs once the application is deemed complete and Caltrans begins CEQA review of the Project.

California Health and Safety Code and Public Resources Code

Broad provisions for the protection of Native American cultural resources are contained in the California Health and Safety Code, Division 7, Part 2, Chapter 5 (Sections 8010 through 8030).

Several provisions of the Public Resources Code also govern archaeological finds of human remains and associated objects. Procedures are detailed under PRC Section 5097.98 through 5097.996 for actions to be taken whenever Native American remains are discovered. Furthermore, Section 7050.5 of the California Health and Safety Code states that any person who knowingly mutilates or disinters, wantonly disturbs, or willfully removes human remains in or from any location other than a dedicated cemetery without authority of law is guilty of a misdemeanor, except as provided in Section 5097.99 of the PRC. Any person removing human remains without authority of law or written permission of the person or persons having the right to control the remains under PRC Section 7100 has committed a public offense that is punishable by imprisonment.

PRC Section 5024 requires state agencies to identify and protect state-owned historical resources that meet the NRHP listing criteria. It further requires state agencies to inventory state-owned structures in its rights-of-way. Sections 5024(f) and 5024.5 require state agencies to provide notice to and consult with the State Historic Preservation Officer (SHPO) before altering, transferring, relocating, or demolishing state-owned historical resources that are listed on or are eligible for inclusion in the NRHP or are registered or eligible for registration as California Historical Landmarks.

California Department of Transportation (Caltrans) roles and responsibilities regarding compliance with PRC Section 5024 are outlined in a Memorandum of Understanding (MOU) between Caltrans and SHPO, effective January 1, 2015.

NRHP criteria are as follows:

Title 36 Code of Federal Regulations (CFR) § 60.4 [a-d] presents criteria for determining the significance and eligibility of sites for inclusion in the NRHP. The criteria at 36 CFR § 60.4 [a-d] include the following:

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and

a) that are associated with events that have made significant contributions to the broad patterns of our history; or
b) that are associated with the lives of persons significant in our past; or
c) that embody the distinctive characteristics of type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction; or
d) that have yielded, or may likely yield, information important in prehistory or history.

3.5.3 Study Area, Project Area Limits, and Area of Direct Impact

3.5.3.1 Archaeological

The Project Area Limits (PAL) for the pipeline replacement Project were established in consultation with Project experts and encompass the Area of Direct Impact (ADI) and an additional 100-foot buffer beyond the ADI to accommodate potential staging areas and workspace needs for the pipeline replacement. The PAL for the customer service distribution pipeline installation encompasses the ADI and a 50-foot buffer. The PAL for the hydrotest component is composed of all the hydrotest work locations without buffers, as all work would occur within proposed work footprints. In accordance with Stipulation VI.C.3 and Attachment 3 of the PRC 5024 MOU, the PAL encompasses the recorded boundaries of previously recorded archaeological sites that are within or intersect the PAL. PAL figures are confidential due to the presence of archaeological sites.

The Project ADI includes all subsurface disturbance that would result from both the R-1018/R-1018B and T-1448A/T-1448B Project components. For the R-1018/R-1018B portion, this includes the pipeline replacement trenches, bores and horizontal direction

drilling (HDD), and bore pits; the vertical ADI is a maximum depth of 5 feet (1.5 meters), or 10 feet within the highway. For the T-1448A and T-1448B work, the ADI includes the bell holes, workspaces, staging areas, and high-pressure regulator station replacements, with a maximum vertical ADI of 10 feet (3.0 meters).

3.5.3.2 Built Environment PAL and Study Area

The Architectural PAL for the Project is defined as the Caltrans right-of-way (ROW) along State Route (SR) 29 through the entirety of the approximately 7-mile pipeline replacement area as well as all those areas outside of Caltrans' ROW where Project activities are proposed to occur and have the potential to impact historical resources. The PAL includes all areas proposed for Project-related access, staging, and construction-related activities and includes consideration of both direct and indirect impacts. Where Project activities have the potential to have an indirect impact on adjacent historic period built environment resources or where activities have the potential to directly impact only a portion of a resource, the PAL was delineated to encompass the entirety of the built environment resource or complex that may be subject to indirect impacts.

The PAL includes 18 built environment historic period properties, some of which are multi-component properties including previously identified NRHP historic districts and complexes. All properties in the PAL were analyzed as historical resources in conformance with CEQA and documented in the Historical Resources Evaluation Report (Allen 2021).

The majority of Project activities would be confined to Caltrans' ROW, including trenching, boring, strength testing, and associated temporary staging activities. These Project activities are considered unlikely to have any impact upon adjacent historic period built environment resources. The work would be temporary and confined to the ROW. It would not have any direct or indirect material impacts on adjacent built environment resources flanking the ROW, and would not cause any atmospheric or visual changes in condition to adjacent resources following construction activities as the ROW would be returned to preconstruction conditions. As such, for Project activities that are confined to the Caltrans ROW, the PAL encompasses the ROW only. Additionally, while direct Project activities only occur in discontiguous portions of the ROW, the defined PAL includes the entirety of the Project's linear extent to accommodate construction-related traffic, signage, and other temporary Project activities that may occur along the roadway but are ancillary to ground-disturbing activities.

In some areas, Project activities including trenching, boring, strength testing, and associated temporary construction staging activities would occur outside of Caltrans'

ROW on existing easements held by PG&E or on newly acquired temporary or permanent easements acquired by PG&E as part of this Project. In these cases the PAL encompasses the entirety of those areas to account for any direct impacts that may occur. Generally, Project activities that follow existing or newly acquired utility easements do not have a potential to indirectly impact any historic period built environment resources as the work is confined to existing or newly acquired undeveloped utility easements and would not cause any material impacts or post-construction changes in condition or atmospheric conditions to any adjacent built environment resources. As such, the PAL does not extend beyond the Project Area to account for any indirect impacts that may occur to adjacent built environment resources and is generally confined to the Project footprint itself.

In some identified areas, Project activities may have the potential to directly impact built environment resources that are located in and/or directly adjacent to Project activities and work areas. These potential impacts stem from a number of small-scale landscape features and vegetative features associated with historic period built environment complexes that are located in and/or adjacent to the Project Area (Project footprint), primarily stone walls, pillars, and landscape features that are adjacent to, or on top of, areas that are required for customer distribution line replacement and/or transmission or distribution line development. Because of these resources' proximity to Project activities the PAL includes the resources and the entirety of any associated built environment complexes in order to account for all potential direct or indirect impacts that may occur because of Project activities. In this manner, the extent of the PAL is commensurate with the nature of the resources that may be impacted and the nature of the potential impacts identified. For a visual depiction of the PAL and the built environment survey population, please refer to the mapping in the HRER.

The development of the PAL for built environment resources was supported by field inventory of a broader Study area that included Caltrans' ROW through the Project limits plus a 100-foot buffer on both the east and west sides of the road from the edge of pavement. This area encompassed the entirety of the linear gas transmission line that would be subject to replacement as well as a sufficient area to account for all potential Project-related access, staging, and construction activities. The 100-foot buffer accounts for all areas where PG&E would be conducting associated Project activities, including strength testing, associated staging, and customer service line replacement. The study area was developed to assist PG&E in identifying built environment constraints and to support development of the final engineering approach that is addressed by the PAL. All properties in the study area were inventoried in the Historic Architectural Survey Report (Allen and Walker 2020).

3.5.4 Methodology

3.5.4.1 Records Search and Historical Research

A records search was conducted at the Northwest Information Center (NWIC) on October 23, 2018. Built environment components of this records search were shared with Project team members, who conducted built environment components of the cultural resource studies. This initial records search encompassed the R-1018/R-1018B Project footprint. A supplemental records search was conducted for the T-1448A/T-1448B footprint on February 14, 2019, at the NWIC by their staff. In December 2019, the PG&E team confirmed that these two records searches included all current material for the entire PAL by reviewing PG&E's confidential MapGuide Database cultural layer, which includes the NWIC current files (subscription updated February 27, 2019; Agreement No. C13520). Concurrently, team members also reviewed online databases and consulted the following online inventories:

- NRHP;
- CRHR;
- California Inventory of Historic Resources (1976 and updates);
- California State Historical Landmarks (1996 and updates);
- California State Points of Historical Interest (1992 and updates); and
- Office of Historic Preservation's (OHP's) Historical Property Data File.

The records search and in-house literature review identified 98 studies within the 1/8-mile records search radius, 71 of which intersect the PAL. The 98 studies include 52 survey reports, four historic building survey reports, and seven testing or evaluation studies; the remaining 35 studies are various desktop reports (e.g., regional overviews, records search reports, management plans). There are 37 survey reports that intersect the PAL that demonstrate that most of the PAL has been previously surveyed for archaeological resources and that several built environment properties have been subject to previous inventory and/or evaluation.

The following inventories were reviewed for cultural resources within 1/8 mile of the PAL: OHP's Properties Archaeological Determinations of Eligibility list, National Register, California Inventory of Historic Resources (1976), California Register, California Historic Landmarks, and the California Points of Historical Interest, as well as the OHP Built Environment Resource Directory (BERD). The team also visited the Napa County Historical Society to view additional locally-held cultural resource records including Napa County Historic Resource Inventories (HRI) and to develop broad

contextual themes for the study area. Research also queried the records of the Napa County Recorder and Assessor, Saint Helena Historical Society, and Parcel Quest to determine property development and dates of construction of properties.

For archaeological resources, only one resource, CA-NAP-328/H, is listed on the NRHP, three resources (NAP-58/H, -482, and -582) have been determined eligible, receiving concurrence from the SHPO on June 15, 2020 (Wohlgemuth 2020a). Three sites (NAP-571/H, -831, and -832) were determined not eligible (Ferneau et al. 2000; Wohlgemuth 2018); the SHPO concurred June 9, 2002 for NAP-831 and -832, and March 7, 2018 for NAP-571/H.

For built environment resources, three properties in the PAL are listed in the NRHP: Beringer Winery Historic District, Greystone Cellars, and Bale Grist Mill.

Five properties have been identified as eligible for listing in the NRHP as a result of analysis undertaken for this Project, with concurrence by the SHPO received on June 9, 2021 (Allen 2021): Main Street Electroliers, 2803 Saint Helena Highway, 3199 Saint Helena Highway, Kellogg-Lyman Residence and Wall, and 1201 Tucker Road/Tucker Farm Center. An additional five properties have been identified as ineligible for listing in the NRHP as a result of analysis undertaken for this Project, with concurrence by the SHPO received on June 9, 2021 (Allen 2021): 1080 Main Street, a multi-building complex that includes 1189 Lodi Lane/1199 York Lane/3000 Saint Helena Highway, 3358 Saint Helena Highway, 3475 Saint Helena Highway, and 1103 Larkmead Lane. Four bridges have been previously given a Category 5 rating (ineligible for the NRHP) in the Caltrans Structure Maintenance and Investigations Bridge Log: Sulphur Creek Bridge (Bridge 21-0016), York Creek Bridge (Bridge 21-0017), Mill Creek Bridge (Bridge 21-0056), and Ritchie Creek Bridge (Bridge 21-0057). While Sulphur Creek Bridge and York Creek Bridge are also Category 5 Bridges, they hold local historical resource status under CEQA as a result of listing in the Saint Helena Historic Resources Master List. The previously discussed Main Street Electroliers were also previously listed in the Saint Helena Historic Resources Master List. All of these built environment resources are discussed in detail in the Historical Resources Evaluation Report (Allen 2021).

3.5.4.2 Buried Site Sensitivity

The highest potential for buried sites occurs where young surface deposits (Late Holocene-age or less) are located on level landforms at low elevation adjacent to a water source. Buried site potential diminishes with greater distance from a water source, and increasing surface slope, elevation, and landform age. Using a Geographic Information System database, buried site potential within the PAL was assessed based on four factors: distance to water, elevation, slope, and landform age. The positions of springs and natural stream or river channels were plotted using the National

Hydrography dataset. For modeling, larger streams (second order or higher) are given more predictive value than smaller first-order streams, as are the confluences of second-order or larger streams. Elevation and surface slope were assessed based on a Digital Elevation Model acquired from the United States Geological Survey Seamless Server (Gesch 2007; Gesch et al. 2002); lower-angle slopes are favored over steeper slopes, as is lower elevation. Landform age was assessed based on soil survey and geologic mapping (Natural Resources Conservation Service 2019; Witter et al. 2006) in combination with Far Western's extensive radiocarbon database (with dates from both natural and cultural contexts), specifically dates that are associated with those soil units when available, as well as relative degree of soil development as described for the mapped soil unit, cut-and-fill relationships, and geomorphic position.

3.5.4.3 Archaeological and Architectural Survey Methods

Archaeological Survey

The field survey was conducted as three separate efforts in 2019 based on availability of Project plans. Since the ADI for the R-1018 and R-1018B work had not been defined prior to the pedestrian inventory, the entire PAL was surveyed for this portion of the Project. The entire PAL for T-1448 was also surveyed. The survey of T-1448A was based on the ADI.

The R-1018 and R-108B portion of the PAL extends north from Pratt Avenue at the northern end of St. Helena, to just beyond Larkmead Lane, south of Calistoga. Caltrans' ROW along SR 29 has been surveyed multiple times (Pape 1993; Leach-Palm et al. 2007). Per consultation with the District 4 Environmental Branch Chief, these surveys were deemed adequate for the current Project, and the portion of the PAL within Caltrans' ROW was not re-surveyed as part of this investigation (Caltrans 2019).

The survey of the R-1018/R-1018B portion of the PAL was completed in two phases in August and December 2019. In the first phase, the team completed an intensive pedestrian survey between August 5 and 9, 2019. The PAL, defined as a 100-foot buffer beyond Caltrans' ROW, was systematically surveyed in transects spaced no greater than 20 meters apart. Some portions of the Project could not be surveyed due to dense stands of vegetation dominated by poison oak, notably along the southwest/northeast trending drainages that intersect the PAL, such as York Creek, Hirsch Creek, Mill Creek, Ritchie Creek, and Nash Creek. Ground visibility varied greatly throughout the PAL. Much of the PAL is covered by active vineyards with very good ground visibility (about 80 percent) from periodic disking. In contrast, ground visibility was poor outside of vineyards (between 0 and 20 percent). The majority of the PAL is developed, mostly by wineries and associated facilities. In undeveloped areas, seasonal grasses cover much of the ground surface.

In vineyard plow zones, naturally occurring obsidian nodules are ubiquitous throughout the PAL. The long history of grape cultivation in Napa Valley has resulted in significant disturbance of the near-surface plow zone. Naturally occurring obsidian has been broken and battered, resulting in a scatter of obsidian throughout the PAL. In areas with high surface obsidian density, the Far Western team took extra time to inspect obsidian fragments for characteristics of prehistoric tool production. Obsidian lacking definitive characteristics of prehistoric flaking was not recorded. Areas with higher densities of naturally occurring obsidian were noted on field maps, but not recorded as archaeological resources.

The subsequent survey phase was conducted between December 9 and 10, 2019. The team surveyed customer service lines that extend beyond the 100-foot buffer of the original PAL that were not part of the Project at the time the original R-1018/R-1018B PAL survey. Many service lines were identified by regulators, meters, or compression stations. In instances where no evidence of the line could be identified, archaeologists relied on GPS data provided by PG&E. Most service lines are in developed areas, often running underneath paved driveways. A 10-meter-wide buffer was surveyed either side of the centerline of each service line. Conditions were similar to the August survey; much of the service line corridors are in vineyards with excellent ground visibility, while ground visibility was generally poor outside the vineyards. Portions of the service line corridors are in developed wineries.

Additional spot checks of specific prehistoric resources were performed on December 10, 2018, and on October 31, 2019.

For the T-1448 work, the ADI for 19 locations was defined to include bell holes, workspace, and staging areas along DFM 0405-01; the PAL for this portion of the Project encompassed all these locations. The team completed an intensive pedestrian survey on October 22, 2019. Several work locations, especially those located in the City of St. Helena proper, are located on paved surfaces and were excluded from the survey based on lack of native ground exposure. Additionally, Location J, near the west end of Azalea Spring Way, was not surveyed due to landowner access restrictions. The remaining 10 locations were systematically surveyed in transect intervals that did not exceed 20 meters. Ground visibility was generally high (80 percent) within many of the survey parcels, with seasonal grasses obscuring ground visibility at several locations. All of the parcels are heavily disturbed by the construction of SR 29, the existing natural gas pipeline, and developed lots and driveways. A number of the bell hole locations map very closely to small concrete vaults built to facilitate access to the gas line below.

Table 3.5-2: Surveyed Area for T-1448 Locations

T-1448	Location	Surveyed	Notes
T-1448A	A and B	No	Located in paved area
T-1448A	C	No	Located in paved area
T-1448A	D	No	Located in paved area
T-1448A	E	No	Located in paved area
T-1448A	F	No	Located in paved area
T-1448A	G	Yes	-
T-1448A	S	No	Located in paved area
T-1448B	A and B	Yes	-
T-1448B	C	Yes	-
T-1448B	D	Yes	-
T-1448B	E	Yes	-
T-1448B	F	Yes	-
T-1448B	G	Yes	-
T-1448B	H	Yes	-
T-1448B	I	Yes	-
T-1448B	J	No	Landowner access denied
T-1448B	K	Yes	-

Architectural Survey

Field surveys undertaken in support of the Project included a preliminary windshield survey in April 2019 to identify the types of properties in the Project area and to identity properties exempt from review. Following this, an intensive field inventory of the broader study and the subsequently refined PAL took place in July and December of 2019, and in February of 2020. The survey was performed in coordination with PG&E land management specialists to ensure access to all private and state-owned properties in the study area to allow for comprehensive documentation of all built environment features. Access was granted to all properties in the PAL. Documentation included written data and photography that recorded the property's major physical characteristics, character defining features, and contextual relationships. For parcels with previous recordation on file, any notable alterations since the last recordation were

documented. In order to ensure comprehensive contextual understanding of all built environment resources and to account for potential indirect impacts, DPR 523 documentation included all associated built environment resources on the parcel. This included where historic period built environment resources were only partially located in the PAL, and not only those portions of the parcel that were in the PAL.

Native American Coordination

PG&E contacted the Native American Heritage Commission (Commission) on April 19, 2019, informing them of the Project and requesting a review of their Sacred Lands File and list of groups and individuals who might have knowledge concerning cultural and tribal resources within the PAL. The Commission responded that the Sacred Lands File identified Native American resources in the PAL and gave direction to contact the Mishewal-Wappo Tribe of Alexander Valley for information about resources in the PAL. A list of four potentially interested Native American individuals and organizations was provided by the Commission, including the contact for the Mishewal-Wappo Tribe of Alexander Valley. PG&E sent the letters by mail and email on May 28, 2019, to the contacts on the Commission list, initiating outreach under the MOU and informing them of the Project and background and inviting their participation in the consultation process. Follow up phone calls were made to each of the individuals contacted in June 2019, and an updated letter was sent in November 2019.

In February 2021, Caltrans, as CEQA lead agency, initiated AB 52 consultation with the identified Native American individuals and organizations. Caltrans sent letters by email and mail on February 17, 2021. Consultation remains ongoing.

3.5.5 Context

3.5.5.1 Environmental Setting

Napa Valley is a narrow fault basin (2 miles wide at St. Helena), one of many in the Coast Ranges trending northwest to southeast. Here the “upper” Napa Valley refers to the area north of the Yountville Hills to about 3 miles north of Calistoga. Broad alluvial plains and coalescing fans on the valley floor are bordered by the slopes of the Mayacamas Mountains on the west and the Vaca Range on the east. Much of the valley floor is mapped as late Pleistocene to Holocene-age alluvial fan deposits (Sowers et al. 1998). Younger Holocene-age alluvial-terrace deposits are found along sloughs and tributary streams of the Napa River (Sowers et al. 1998).

Far Western geoarchaeological files recently developed for Caltrans show the distribution of surface soils and the potential for buried archaeological sites around the San Francisco Bay Area, including Napa Valley (Byrd and Whitaker 2015). Much of the PAL is located in the Forward soil series, with stream gravels and cobbles lacking potential for buried archaeology. Other areas, however, are situated in the Bale clay

loam, where buried A horizons have been documented at depths of 61 and 84 centimeters below surface that could contain archaeological materials.

Volcanic activity in the region produced an abundance of obsidian, found primarily on the eastern slopes of the valley, but dispersed in secondary alluvial deposits throughout the basin. A major prehistoric obsidian quarry is located just northeast of St. Helena. Napa Valley obsidian was the premier toolstone in the North Coast Ranges (White 2002), and because of its purity and lack of flaws, was a highly valued material traded throughout central California during the entire Holocene.

Native plant and animal diversity were high in the valley and surrounding mountains, providing ample food for prehistoric hunter-gatherers. The bottomlands were dominated by mixed-hardwood woodlands. Today, the nearby slopes east of the valley floor are mainly covered in gray pine-blue oak woodland and chaparral-scrub communities, while the more shaded slopes west of the valley floor support denser tree cover supporting a mixed hardwood community (Küchler 1977). Key native plant foods from these local habitats included acorns from a variety of oaks, pine nuts, bay nuts, manzanita berries, bulbs and corms, and several small-seeded grasses and annuals. Terrestrial animals hunted by native peoples included elk, deer, rabbits, and squirrels, as were birds such as ducks, geese, quail, and doves. Prehistorically, the river and larger tributaries were home to Sacramento splittail, California steelhead, Delta smelt, and several other native fish species.

Recent modifications to Napa Valley are highlighted by extensive vineyard plantings, which have largely replaced valley bottom native vegetation. Urban, suburban, and commercial development has modified additional areas, principally in the modern towns.

3.5.5.2 Archaeological Context

A brief review of the cultural-historical scheme for the North Coast Ranges is followed by more a detailed discussion highlighting important recent investigations at archaeological sites in upper Napa Valley.

Prehistoric Cultural-Historical Units in the North Coast Ranges

The southern North Coast Ranges have been the subject of archaeological research for more than 60 years (e.g., Baumhoff 1985; Fredrickson 1984; Heizer 1953; Meighan 1955; Stewart 1982; White 2002). Several integrative culture-historical schemes have been developed (Bennyhoff 1994a; Fredrickson 1973, 1984; Heizer 1953; Meighan 1955; White 2002; White and Fredrickson 1992; see Groza et al. 2011 for the most recent update centered on the San Francisco Bay region). The most widely used organizing framework is that of Bennyhoff and Fredrickson (1994), who define six broad temporal periods based on obsidian hydration, radiocarbon dating, and the distribution

of diagnostic artifacts. These periods include the Paleoindian (pre-10,000 Before Present [BP]), Lower Archaic (10,000–7500 BP), Middle Archaic (7500–4000 BP), Upper Archaic (4000–1000 BP), Lower Emergent (1000–500 BP), and Upper Emergent (500–100 BP). Within this chronological framework, five broad adaptive patterns are identified for the southern North Coast Ranges: Post, Borax Lake, Berkeley, Mendocino, and Augustine (White 2002).

As defined by Bennyhoff and Fredrickson (1994), archaeological "patterns" are represented by a suite of shared adaptive traits including similar material culture, economic modes (production and distribution), and burial/ceremonial practices. These broad adaptive patterns are recognized locally as "aspects," reflecting unique regional variations of the primary adaptive pattern. Archaeological manifestations of regional patterns and their local aspects are discussed briefly below. An understanding of these cultural-historical units is important for discussing regional land-use strategies, as there is good evidence of distinctive coeval patterns for at least the Upper Archaic.

Paleoindian Period (pre-10,000 BP)

The Post Pattern represents the earliest known occupation of the North Coast Ranges (White 2002). Little is known about Paleoindian people due to the scarcity of regional sites dating to this time period. Most think that the earliest inhabitants were highly mobile foragers focused on hunting and gathering in a lacustrine setting. Artifacts characteristic of Post Pattern sites include Clovis-like fluted points and chipped-stone crescents (White 2002). No sites dating to this period have been documented in Napa Valley.

Lower Archaic Period (10,000–7500 BP)

At least three aspects of the Lower Archaic Borax Lake Pattern have been identified in the southern North Coast Ranges. The earliest (Borax Lake Aspect) is found in the Clear Lake basin and is represented by large square-stemmed projectile points and millingstones with handstones. Two other aspects, represented archaeologically by wide-stemmed projectile points with indented bases, occur much farther north. No Borax Lake Pattern sites have been identified in Napa Valley, although occasional wide-stem points have been reported (Carpenter and Mikkelsen 2005).

Middle Archaic Period (7500–4000 BP)

The Mendocino Pattern is believed to be the antecedent Middle Archaic cultural stratum in the southern North Coast Ranges, but it spans a long period that also overlaps temporally and (to a degree) spatially with Upper Archaic Berkeley Pattern sites. The Hultman Aspect of the Mendocino Pattern has been defined for the southern portion of the North Coast Ranges (White 2002).

Upper Archaic Period (4000–1000 BP)

White has convincingly demonstrated that the North Coast Ranges were occupied simultaneously by Mendocino Pattern and Berkeley Pattern groups during the Upper Archaic (White 2002).

Hultman Aspect of the Mendocino Pattern (4000–930 BP)

Upper Archaic sites of the Mendocino Pattern appear to show continuity with Middle Archaic assemblages antedating 4000 BP. Archaeological studies indicate that the Mendocino Pattern is centered in the uplands of central California and represents a residentially mobile adaptation (White 2002). Mendocino Pattern populations are thought to have been small family groups who used a wide range of plant and animal foods from spatially and seasonally divergent locations.

Mendocino Pattern sites often include a variety of heavy cobble-based pounding, chopping, and scraping tools; minimally modified flake tools; leaf-shaped, side-notched, and concave-based projectile points; and handstones and millingslabs. Regionally, the Mendocino Pattern is manifested by the Hultman Aspect, which continues through the Upper Archaic with technological shifts, such as the introduction of mortars and pestles. Despite differences in adaptive approaches, Berkeley and Mendocino pattern peoples co-existed in the southern North Coast Ranges, interacting on some level, but maintaining their unique lifestyles (Stewart 1989; White 2002). In Napa Valley, Berkeley Pattern people are thought to have been year-round residents, while Mendocino Pattern groups are thought to have visited the valley as part of a seasonal round over an extensive territorial range (Wohlgemuth et al. 2006).

Berkeley Pattern (4000–930 BP)

To date, no Berkeley Pattern sites older than about 4,000 years have been discovered in Napa Valley (Bennyhoff 1994b). Berkeley Pattern sites are found throughout the well-watered lowlands of central California and are commonly represented by village mounds containing a diverse array of residential features, human graves, and various non-local manufactured goods (e.g., shell beads and ornaments, obsidian bifaces). These appear to be fixed settlements occupied throughout most, if not all, of the year. Subsistence practices are thought to have been logistically organized, with important resources collected in distant locations and returned to the central village for processing and consumption.

In Napa Valley and the wider North Coast Ranges, Berkeley Pattern assemblages commonly include lanceolate-shaped Excelsior and contracting-stemmed points, Olivella Saucer and Saddle beads (G and F series, respectively), Macoma shell beads, charmstones, and bowl mortars and pestles (Fredrickson 1973; White 2002). The Berkeley Pattern is distinguished by highly specialized bone tools and other

implements, including ulna awls, serrated scapula saws, fishhooks and gorges, fish spears, decorative tubes, and hairpins. The Berkeley Pattern is distinguished by the heightened importance of resources that can be harvested and stored in bulk, including acorn and fish. This is indexed by mortars and pestles and abundant acorn hulls in these assemblages, as well as the common remains of resident and anadromous fishes. Evidence of regularized exchange and established territorial boundaries are noticeable at this time (e.g., Fredrickson 1980; Rosenthal 1996).

Emergent Period (930–200 BP)

The Lower Emergent Period (930 to 450 BP) in the Napa area is represented by the St. Helena Aspect of the Augustine Pattern and is distinguished by replacement of the atlatl and dart with the bow-and-arrow. Like the Berkeley Pattern, Augustine Pattern groups are thought to have been residentially stable, as indicated by the numerous large mound sites found throughout Napa and Pope Valleys. The presence of hopper mortars in late components suggests a continued and substantial reliance on acorns, although small-seeded resources appear to have taken on new importance (Wohlgemuth 2004). Regularized exchange systems (e.g., clam shell disk-bead money), territorial boundaries, and levels of social complexity observed during the early historic period are evident beginning in the Emergent Period.

Augustine Pattern assemblages include steatite ear spools, Haliotis pendants with scored edge-decoration, collared stone pipes, steatite ring beads, and several specialized bone tools including reamers, and for the Lower Emergent, thin rectangular Olivella beads (M series), and serrated arrow points with straight or slightly expanding stems (Fredrickson 1984). Artifacts associated with the latter part of the St. Helena aspect (Upper Emergent, 450–200 BP) include painted stone tablets, corner-notched arrow points (Rattlesnake series), bird-bone ear tubes, clamshell disk beads, and magnesite beads and pipes.

3.5.5.3 Ethnographic Context

Ethnolinguistic data place the Project Area within the territory of the Wappo, who at the time of Euro-American contact populated lands within Napa Valley as well as adjacent areas in the Russian River and Putah Creek drainages. Earliest ethnographic discussions of the Wappo are by Powers (1877) and Barrett (1908), with later works by Kroeber (1925, 1932), Driver (1936), Heizer (1953), Sawyer (1978), and Milliken (1978). Although the Wappo language is one of four identified within the Yukian linguistic family, its speakers were geographically separated from the three northern groups of Yukian speakers (Yuki, Coast Yuki, and Huchnom [Barrett 1908; Golla 2011; Shipley 1978]). At the time of contact, they occupied lands from the modern city of Napa north to the foot of Cobb Mountain, with a small enclave situated on the southern end of Clear Lake. Patwin speakers occupied lands to the south and southeast, with the Pomo holding

lands to the north and west, surrounding the Wappo at Clear Lake. The Coast Miwok lands abutted Wappo territory at the extreme southwest, and Lake Miwok territories lay to the north and east (White 2002).

Ethnographic works on the Wappo offer an array of often-conflicting information on Native American tribelet locations, language boundaries, and lifeways. Some of what is reported comes from biased and poorly documented historical records and a handful of Native American informants somewhat removed from their original way of life. There is also the common practice of applying cultural traits (e.g., socio-political structure) from one linguistic group to other nearby groups, based solely on proximity. Milliken's (1978, 1995) study of mission records has provided information on patterns of inter-marriage, languages, and village locations. Results of this research suggest that many of the territorial boundaries and village locations (i.e., in Clear Lake) are a post-contact manifestation. The various syntheses (Barrett 1908; Heizer 1953; Milliken 1978) attempt to sort out these data, but still offer only general statements about the Wappo of Napa Valley.

Considering the broad area and time depth of trade in Napa obsidian, surprisingly little is documented of Wappo obsidian use. Driver (1936), their principal ethnographer, describes obsidian acquisition and production for the Alexander Valley people, some 15 miles northwest of the quarries (unfortunately, Driver did not work with Napa Valley Wappo groups): "Flint nodules got at St. Helena, carried home whole, worked there. Such trips not necessarily tribal affairs. Chief did not always go, but expeditions could not be made without his permission" (195). From this statement it appears that obsidian access was not unrestricted but was, to some extent, controlled by chiefs in villages at some distance from the primary quarries. Under this system, obsidian stone working would not be concentrated at quarry locations; instead, a full range of activities, from initial reduction of cobbles to finished artifacts, seems to have taken place at distant off-quarry village communities.

In a census of the Alexander Valley village of Unutsawaholma, arrowhead-making was restricted to only three of 38 males, leading Driver (1936) to call these three men "professionals." The only other mention of obsidian use among the Wappo is that an arrowhead was worth 100 clamshell disk beads, while a large spear point was worth 1,500 to 2,000 beads. Driver notes that these values were probably too high but reported them for their relative value compared to prices of other native commodities.

The Wappo descendant community is centered around the Mishewal Wappo Tribe of Alexander Valley. The Mishewal Wappo Tribe claims more than 300 members; it is not federally recognized, despite recent attempts to gain recognition (Napa Valley Register

2017), and also lacks a rancheria or reservation. Despite this, the Tribe is active in the community and keenly interested in cultural preservation.

3.5.5.4 Historical Context

Three distinct cultural influences can be seen in the historical development of Napa Valley: the Mission Period (circa 1792 to 1833), the Mexican Period (1833 to 1848), and the American Period (1848 to present). Comparatively little use was made of Napa Valley in the Mission Period until 1823, when Mission San Francisco de Solano was established in nearby Sonoma.

In the 1830s, the Mexican government allowed land grants to white settlers on the condition they become Mexican citizens. Enticed by the free and fertile soil, Captain George C. Yount was the first white settler to the region in 1831. Five years later the Mexican government granted Yount the Rancho Caymus in the central Napa Valley. This land grant encompassed about 11,800 acres, including the present Project area (Wright 1991). Though not an enthusiastic farmer, Yount did cultivate some crops on his ranch, including grapes (Heintz 1990). Edward Turner Bale was another early land-grant recipient, settling on the Rancho Carne Humana in the upper Napa Valley near present-day St. Helena in 1841. Most rancho owners ran cattle or leased their holdings to other cattle ranchers, and livestock and some truck crops were the principal exports of the valley during the late Mexican and early American Periods (Wright 1991).

California Historical Landmark Bale Grist Mill State Historic Park lies within the PAL and warrants more detailed discussion. The 18,000-acre Rancho Carne Humana land grant was granted to Edward Turner Bale in 1841 by the Mexican government. Bale and his wife, a Californio named Doña María Ignacia Soberanes and the niece of Mariano Vallejo, built a house south of St. Helena, and ran cattle on their vast property. The majority of the grant consisted of forested hillsides, with more limited valley lands for pasturage and grain crops. The northern of the two creeks was named Mill Creek, where Bale's mill was completed by 1846 (Dunwoody 1860; Woodward 1974). Bale died after a short illness in 1849. His will divided his property between his wife and six children. The boys received the cattle, while his daughters and wife received the land (Lyman 1975). The land that includes the State Historic Park was known as the Flour Mill Tract. This 1,169-acre parcel was left to his daughter, Isadora, who married Louis Bruck in 1859. Isadora Bale Bruck divided her property into different parcels. She sold off the mill and land immediately around it in parcels of varying size, which eventually passed through many hands in the 20th century (Woodward 1974).

California became a state in 1850, just after the Mexican War and the beginning of the Gold Rush, and the number of settlers increased in Napa Valley. The region experienced rapid growth in the next few decades as towns like St. Helena and

Yountville were established, along with local wagon roads. The roadway alignment now known as SR 29 began as one of these early roads (although it did not come into the new State Highway system until the late 1920s). Rail service (the Napa Valley Railroad) entered the valley in 1869, running from San Pablo Bay northward through the valley to Calistoga (California State Highway Commission 1922, 1934; Heintz 1990; Menefee 1994).

Viticulture proved well suited to the soil and climate of Napa Valley, and in 1858, J. M. Patchett and Charles Krug made the first commercial wine near Napa, producing 1,200 gallons. Winemaking in the valley increased exponentially in succeeding years, and by the mid-1860s, there were more than 1,000 acres of grapes and 750,000 vines. Expansion continued into the 1870s, with Krug and the Beringer Brothers building large wineries (Verardo and Verardo 1986). Napa Valley viticulture suffered several decades of decline following the early boom years. In the late 1870s and continuing into the 1890s, the valley suffered from an invasion of phylloxera, a parasite that kills grape vines. Adding to this problem were the economic depressions of 1873 and 1893, and an overproduction of wine. By 1900, many growers gave up on grapes and replanted their fields in prunes and olives. Prohibition caused the complete collapse of the already suffering wine industry. It was not until after World War II that the valley began to recover and regain its prominence as a wine-producing region (Verardo and Verardo 1986). Throughout its history, winemaking has been the dominant activity in Napa Valley, but the area has long been a leader in production of fruit and nut crops as well.

3.5.6 Results

3.5.6.1 Record Search Results

The records search and in-house literature review identified 16 previously recorded archaeological resources intersecting the PAL and an additional 14 archaeological resources within the 1/8-mile records search radius. Of the 16 resources intersecting the PAL, eight are prehistoric, six have both prehistoric and historic-era components, and two are historic-era resources. The prehistoric resources are either midden deposits or lithic scatters. The historic-era components documented are historic-era debris and remnants of structures.

Table 3.5-3: Previously Recorded Archaeological Resources in the PAL

No.	Primary No. (P-28-)	Trinomial (CA-NAP-)	Age	Description	National Register Eligibility
1	000062	58/H	P/H	Prehistoric midden deposit and several historic-era structural features	Determined eligible through the consensus process
2	0001t14	115	P	Lithic scatter	Unevaluated
3	000240	328/H	P/H	Prehistoric midden deposit with several historic-era features associated with the Bale Grist Mill	Listed in the National Register
4	000369	482	P	Lithic scatter with tools and ground stone	Determined eligible through the consensus process
5	000454	571/H	P/H	Prehistoric midden deposit and a scatter of historic-era glass and ceramics.	Determined ineligible
6	000464	582	P	Lithic scatter with fire-affected rock and possible midden	Determined eligible through the consensus process
7	000503	625/H	P/H	Prehistoric midden deposit with historic-era debris	Determined eligible through the consensus process
8	000560	683	P	Lithic scatter	Unevaluated
9	000923	360/H	P/H	Prehistoric midden deposit and historic-era (c. 1889) farm complex with associated trash scatter and structural remains.	Determined eligible through the consensus process
10	000951	831	P	Lithic scatter with tools	Determined ineligible

No.	Primary No. (P-28-)	Trinomial (CA-NAP-)	Age	Description	National Register Eligibility
11	000952	832	P	Lithic scatter	Determined ineligible
12	001287	1016/H	P/H	Pioneer Cemetery and Prehistoric lithic scatter	Unevaluated
13	001346	-	P	Obsidian scatter possibly non-cultural	Unevaluated
14	001349	-	H	Possible stone foundation, a depression, a slightly mounded area, and a possible trench. Associated timber and sheet metal debris.	Unevaluated
15	001558	-	H	Historic-era domestic type refuse, fruit trees and a small rock retaining wall	Unevaluated
16	002616	-	P	Buried lithic scatter	Unevaluated

For architectural resources, the records search and literature review identified 35 resources previously documented in prior cultural resources studies in the Study Area radius, of which 12 are located in the PAL. Of the 12 previously documented properties in the PAL, three properties are listed in the NRHP: Beringer Winery Historic District, Greystone Cellars, and Bale Grist Mill. Three properties have been previously been identified as locally significant and are listed in the Saint Helena Historic Resources Master List: Sulphur Creek Bridge, Main Street Electroliers, and York Creek Bridge. One property was previously evaluated through survey as ineligible for listing in the NRHP: an assemblage at 1189 Lodi Lane/1199 York Lane/3000 Saint Helena Highway (JRP 2020) although no concurrence had been received prior to this study (SHPO concurrence received June 9, 2021 as part of the study for this Project). Four bridges have been previously given a Category 5 rating (ineligible for the NRHP) in the Caltrans Structure Maintenance and Investigations Bridge Log: Sulphur Creek Bridge (Bridge 21-0016), York Creek Bridge (Bridge 21-0017), Mill Creek Bridge (Bridge 21-0056), and Ritchie Creek Bridge (Bridge 21-0057). Sulphur Creek Bridge and York Creek Bridge are Category 5 Bridges, however, they hold local historical resource status under CEQA as a result of listing in the Saint Helena Historic Resources Master List. Two previously recorded stone walls are located in the PAL: Mill Creek Wall East, and Mill Creek Wall West; however, neither of these walls held any prior evaluation status and had been subject to only recordation prior to this study. As part of this study, the walls were documented as a single resource as part of the Kellogg-Lyman Residence and Wall property, with the residence and a portion of the wall determined eligible for listing in the NRHP (SHPO concurrence received on June 9, 2021). Lastly, a portion of the Napa

Valley Railroad runs through the PAL. The railroad has been previously determined ineligible for the NRHP because of a lack of integrity prior to the study undertaken for this Project.

Of the properties eligible for the NRHP, one property and a portion of three additional properties are state-owned historic resources for the purposes of compliance with Public Resource Code 5024. The one state-owned property is the Bale Grist Mill, a State Historic Park and historical resource under CEQA. Three additional properties are partially state-owned, including the Elm Tunnel, a contributing element of the Beringer Winery NRHP Historic District that is located in the State Route 29 ROW, the Main Street Electroliers, and portions of the walls associated with the Kellogg-Lyman Residence and Wall, which is partially located on state-owned lands.

Results of Buried Site Sensitivity Analysis

The PAL is situated at elevations between approximately 230 and 330 feet, generally sloping down to the southeast, following the trend of Napa Valley. The floor of Napa Valley is composed of youthful Holocene-age alluvial deposits. The PAL and SR 29 skirt the western margin of the valley and the adjacent Mayacamas Mountains (bedrock hills) to the southwest, with remnant older Holocene- and Pleistocene-age fans extending from the adjacent hills to the valley floor. Napa River flows down the valley east of the PAL, with several tributaries flowing across the PAL toward it from the Mayacamas, including Nash Creek, Ritchie Creek, Mill Creek, and Sulphur Creek. Based on these factors the potential for buried archaeological resources to be located in the ADI varies between lowest and highest as shown on Figures 3.5-1 through 3.5-3.

There are six places of highest buried Native American archaeological site sensitivity within the ADI. Three are at the north end of the Project Area, in hydrotest T-1448B work locations E and F, while a third is in T-1448A work locations A-D and S at the Project southern terminus in St. Helena. The other two highest sensitivity areas are along service lines to customers along and north of Pratt Avenue.

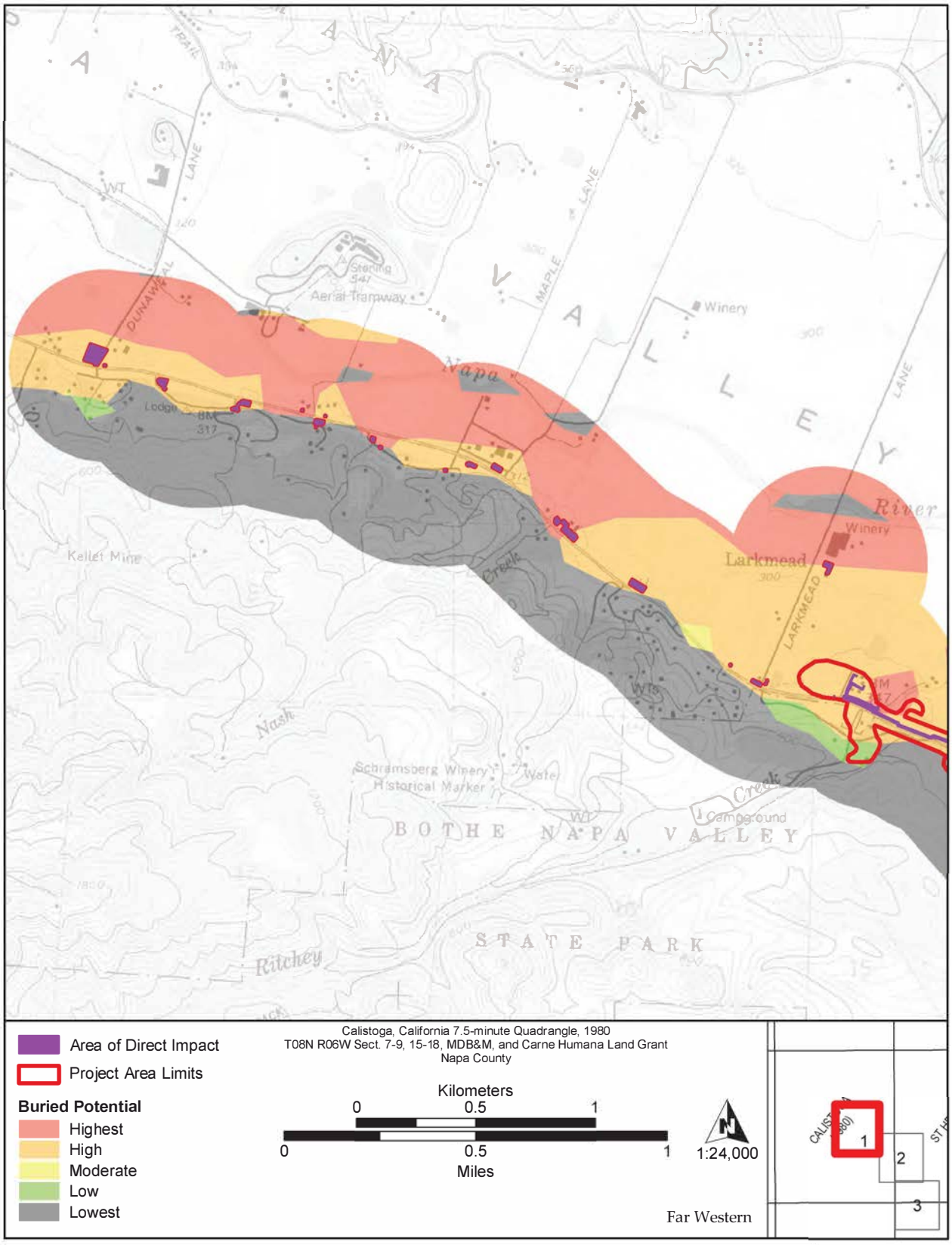


Figure 3.5-1: Buried Sensitivity Map (1 of 3).

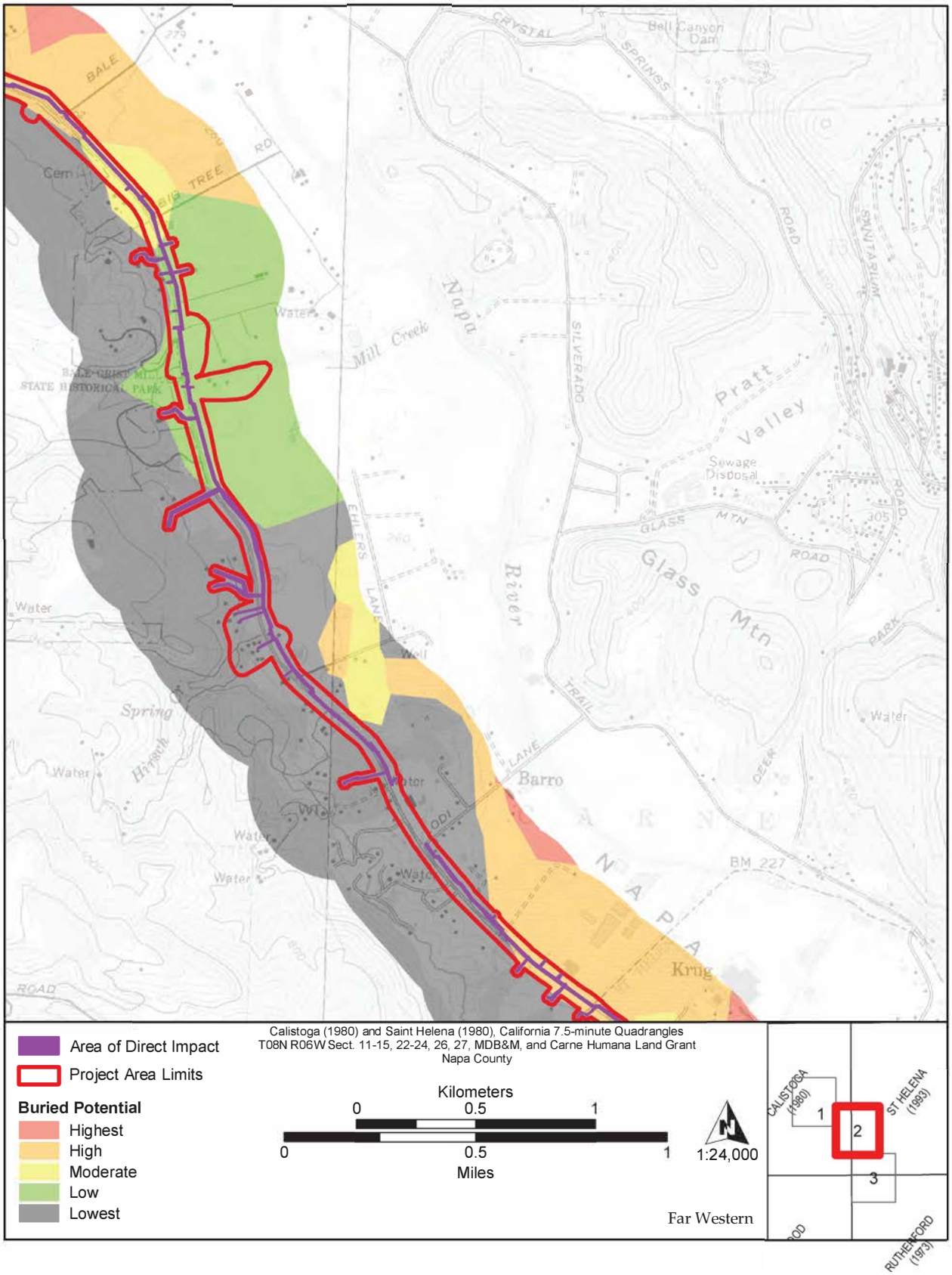


Figure 3.5-2: Buried Sensitivity Map (2 of 3).

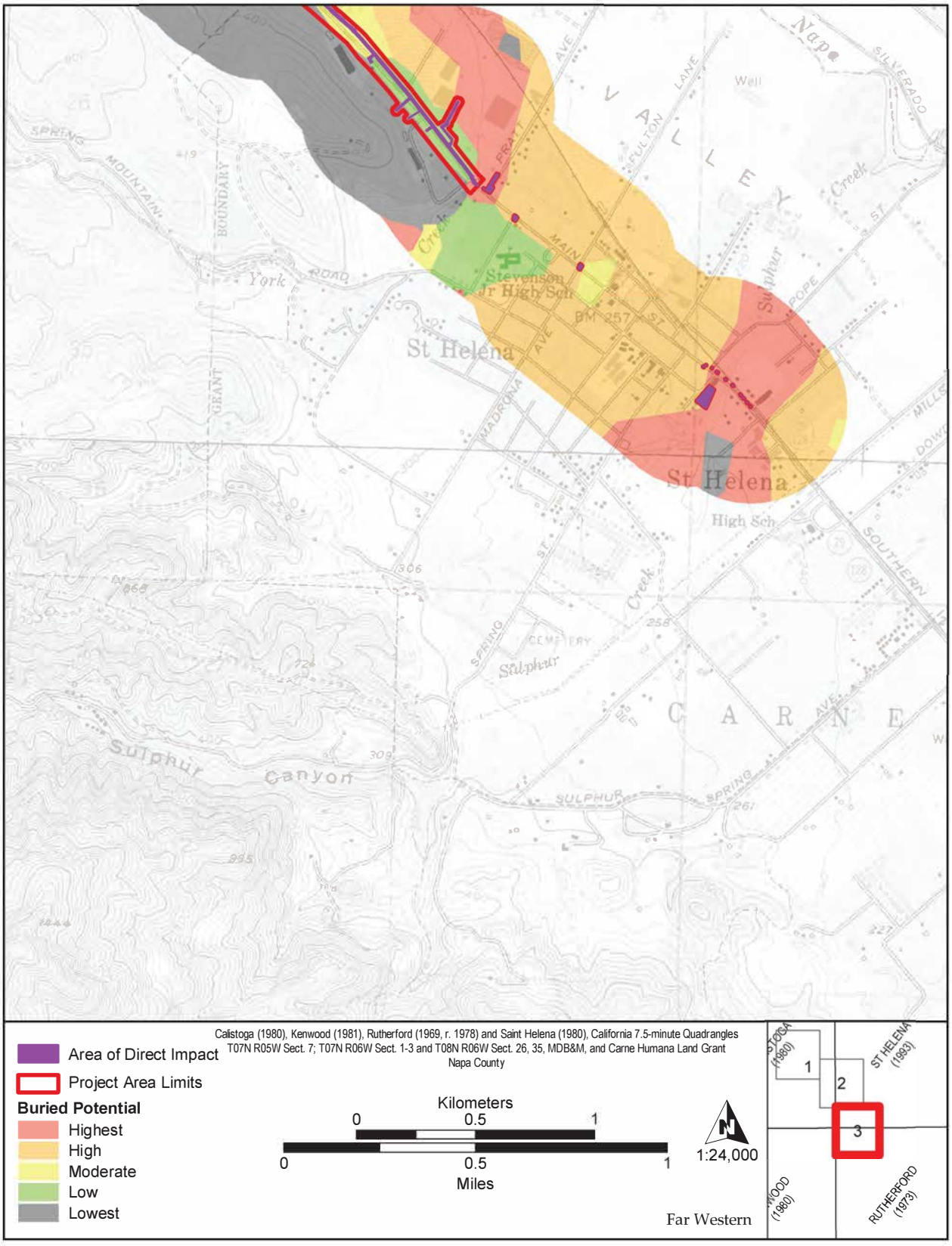


Figure 3.5-3: Buried Sensitivity Map (3 of 3).

3.5.6.2 Results of Native American Coordination

Native American coordination was commenced by PG&E Senior Cultural Resources Specialist (CRS) Leslie Sakowicz. Ms. Sakowicz contacted the Commission on April 19, 2019, informing them of the Project and requesting a review of their Sacred Lands File and a list of groups and individuals who might have knowledge concerning cultural and tribal resources within the PAL. The Commission responded that the Sacred Lands File identified Native American resources in the PAL and gave direction to contact the Mishewal-Wappo Tribe of Alexander Valley for information about those resources. A list of four potentially interested Native American individuals and organizations was provided by the Commission, including the contact for the Mishewal-Wappo Tribe of Alexander Valley. Ms. Sakowicz sent the letters via mail and email on May 28, 2019, to the contacts on the Commission list to initiate outreach, informing them of the Project and background and inviting their participation in the consultation process. Follow-up phone calls were made to each of the individuals contacted in June 2019, and an updated letter was sent in November 2019. Additionally, Caltrans commenced Assembly Bill 52 (AB 52) consultation in February 2021.

This correspondence timeline is detailed in Appendix C. Ms. Sakowicz contacted Mishewal-Wappo Tribe of Alexander Valley Tribal Chair Scott Gabaldon, and coordination is ongoing. Mr. Gabaldon expressed an interest in having tribal representation during this Project, and that Tribal representation could be defined as the Project tasks move forward. During this discussion, Mr. Gabaldon said he was not aware of sacred sites within the PAL but requested Project maps to confirm. Mr. Gabaldon participated in field work related to the evaluation of the sites discussed herein, and when he was not available to be in the field, he was provided daily updates as to findings and progress. Additionally, Mr. Gabaldon reviewed the findings of this Project. He continues to assert his request and need for involvement in field work and monitoring needs. In support of AB 52 compliance, Caltrans reached out to Mr. Gabaldon via email and letter February 17, 2021. No response has been received to date. In general, coordination with Mr. Gabaldon is ongoing.

Ms. Peterson from the Middletown Rancheria responded with a request for additional consultation and acknowledged the presence of Native American resources in the PAL. Upon further coordination, Ms. Peterson and her assistant Mr. Peterson did not have additional archaeological site concerns and offered to check their internal confidential database to determine if additional archaeological resources or other resource types are in the Project footprint. Middletown Rancheria followed up regarding their database search and no sites were identified which were not already known to be in the Project footprint. The Middletown representative asserted that as long as the Mishewal-Wappo Tribe have the staff to cover the Native American monitoring at all excavations, they would not be providing a monitor. If there is need for additional monitors, they would

provide Native American monitors. In January 2021, the cultural resources representatives for the Middletown Rancheria were updated. As such, Ms. Sakowicz reached out to Michael Rivera Jr. on February 9, 2021, and provided an electronic copy of the Phase II evaluation report. A follow-up call was made February 25, 2021. No response has been received to date. In support of AB 52 compliance, Caltrans reached out to the Middletown Rancheria via email and letter February 17, 2021. On February 24, Caltrans received a response from Mr. Rivera which asserted that he was catching up on the status of the Project as he wasn't involved with the early consultation and wasn't fully aware of what went on. He also wanted to clarify that Middletown is ok with letting the Wappo take the lead, but they want to ensure that there is a tribal monitor present during testing and construction. Middletown is willing to provide monitors if Wappo cannot commit to covering everything. They want to work with the Wappo to negotiate that if necessary. They would like to continue consulting on the Project, even if the Wappo are taking the lead with monitoring. Mr. Rivera also asserted that Middletown will work to provide any comments on the Phase II report by late February. No comments have been received as the time of report production.

Neither Mr. Wright (Cortina Rancheria-Kletsel Dehe Band of Wintun Indians) nor Mr. Roberts (Yocha Dehe Wintun Nation) expressed any concerns regarding work in Calistoga or St. Helena. Caltrans reached out to the Yocha Dehe via email and letter in February 2021. No response has been received to date.

Table 3.5-4: Summary of the Native American Outreach Efforts.

Native American Tribes Contacted	Date Letters Sent	Response and Date
Cortina Rancheria – Kletsel Dehe Band of Wintun Indians	May 2019 and November 2019	Office of Cultural Resources Studies (OCRS) spoke with Mr. Charlie Wright, Chairperson, and there is no interest in that area.
Middletown Rancheria	May 2019 and November 2019 January-February 2021	Email received November 2019 from Sally Peterson, Tribal Council ViceChairwoman, requesting additional consultation and copies of studies. Confirmed known or acknowledged presence of a resource. OCRS responded to the request and consultation is ongoing. In January 2021t the cultural resources representatives for the Middletown Rancheria were updated. As such, Ms. Sakowicz reached out to Michael Rivera Jr. February 9, 2021 and provided an electronic copy of the Phase II evaluation report. A follow up call was made February 25, 2021t No response has been received to date. In support of AB 52 compliance, Caltrans reached out to the Middletown Rancheria via email and letter February 17, 2021t On February 24 Caltrans received a response from Mr. Rivera which asserted that he was catching up on the status of the Project as he wasn't involved with

Native American Tribes Contacted	Date Letters Sent	Response and Date
		the early consultation and wasn't fully aware of what went on. He also wanted to clarify that Middletown is ok with letting the Wappo take the lead but they want to ensure that there is a tribal monitor presence during testing and construction. Middletown is willing to provide monitors if Wappo cannot commit to covering everything. They want to work with the Wappo to negotiate that if necessary. They would like to continue consulting on the Project, even if the Wappo are taking the lead with monitoring. Mr. Rivera also asserted that Middletown will work to provide any comments on the Phase II report by late February. No comments have been received as the time of report production.
Mishewal-Wappo Tribe of Alexander Valley	May 2019 -- present	Mr. Scott Gabaldon, Chairperson, spoke with the OCRS in May 2019. Additional information was provided to confirm if there are known sites in the PAL. Consultation is ongoing and likely will include tribal representation during archaeological testing and future studies. Mr. Gabaldon participated in field work related to the evaluation of the sites discussed herein, and when he was not available to be in the field, he was provided daily updates as to findings and progress. Additionally, Mr. Gabaldon reviewed the findings of this report and has asserted that he does not have any objections or additions. He continues to assert his requests and need for involvement in field work and monitoring. In support of AB 52 compliance, Caltrans reached out to Mr. Gabaldon via email and letter February 17, 2021t No response has been received to date.
Yocha Dehe Wintun Nation	May 2019 and November 2019 February 2021	OCRS spoke with Ms. Laverne Bill (Cultural Resources Department Manager) in June 2019 and Isaac Bojorquez (Cultural Director) in December 2019, and both asserted the tribe's lack of interest in the area. Caltrans reached out to the Yocha Dehe via email and letter in February 2021t No response has been received to date.

3.5.6.3 Results of Inventory

Archaeology

A total of 14 previously recorded and one newly recorded archaeological resource (given the field designation of TH-01) were identified within the PAL. Resources identified include six prehistoric, five multi-component (prehistoric and historic-era), and three historic-era sites. One of the 16 archaeological resources identified in the records search was determined to be incorrectly plotted and was located outside of the PAL (P-28-001558), and another, CA-NAP-683, was not relocated in the course of the current inventory and survey effort and is presumed to also be incorrectly plotted. P-28 001346 was determined to not be cultural in origin. Subsurface archaeological investigations showed that there is no archaeological site at the reported location of NAP-115. In actuality, 10 of the previously recorded 16 resources within the PAL are within the ADI. These resources are described in Table 3.5-5. Each resource description also states whether the resource is in the ADI and its National Register eligibility status.

Table 3.5-5: Archaeological Resources Identified in PAL/ADI

	Primary No. (P-28-)	Trinomial (CA-NAP-)	Other designation	Age	Description	National Register Eligibility	Within PAL	Within ADI
1	002616	-	-	P	Buried lithic scatter	Unevaluated	Yes	Yes
2	000062	58/H	-	P/H	Prehistoric midden deposit and several historic-era structural features	Determined eligible through the consensus process	Yes	Yes
3	000114	115	-	P	Lithic scatter	Unevaluated	Yes	No
4	000240	328/H	-	P/H	Prehistoric midden deposit with several historic-era features associated with the Bale Grist Mill	Listed in the National Register	Yes	Yes
5	000369	482	-	P	Lithic scatter with tools and ground stone	Determined eligible through the consensus process	Yes	Yes
6	000454	571/H	-	P/H	Prehistoric midden deposit and a scatter of historic-era glass and ceramics.	Determined ineligible	Yes	Yes
7	000464	582	-	P	Lithic scatter with fireaffected rock and possible midden	Determined eligible through the	Yes	Yes

	Primary No. (P-28-)	Trinomial (CA-NAP-)	Other designation	Age	Description	National Register Eligibility	Within PAL	Within ADI
						consensus process		
8	000503	625/H	-	P/H	Prehistoric midden deposit with historic-era debris	Pending	Yes	Yes
9	000560	683	-	P	Lithic scatter	Unevaluated	No	No
10	000923	360/H	-	P/H	Prehistoric midden deposit and historic-era (c. 1889) farm complex with associated trash scatter and structural remains.	Pending	Yes	Yes
11	000951	831	-	P	Lithic scatter with tools	Determined ineligible	Yes	Yes
12	000952	832	-	P	Lithic scatter	Determined ineligible	Yes	Yes
13	001287	1016/H	-	P/H	Pioneer Cemetery and Prehistoric lithic scatter	Unevaluated	Yes	No
14	001346	-	-	P	Obsidian scatter possibly non-cultural	Ineligible (not cultural)	No; not an archaeological resource	No
15	001349	-	-	H	Possible stone foundation, a depression, a slightly mounded area, and a possible trench. Associated timber and sheet metal debris.	Unevaluated	Yes	No
16	001558	-	-	H	Historic-era domestic type refuse, fruit trees and a small rock retaining wall	Unevaluated	No	No
17	-	-	TH-01	H	Sacked field stone retaining wall and associated artifact scatter	Unevaluated	Yes	No

TH-01

Site TH-01 is the one newly discovered resource in the PAL. Hildebrandt and Fuchs found a stacked field stone retaining wall and associated artifact scatter. The artifacts

appear to date to the mid-20th century. The site is within 100 meters of the updated location of P-28-001558, and the two sites may actually be part of one larger site. The lack of access to the adjacent parcel where P-28-001558 is located limited the ability to ascertain whether they are separate or the same resource with artifacts spanning the area between TH-01 and P-28-001558. This site is not located within the ADI. This site has not been evaluated for its potential for listing in the NRHP or CRHR.

Resources Identified Outside of the Project Area Limits

The records search identified P-28-001558, a historic-era scatter of domestic refuse apparently dating to the early and mid-twentieth century, as within the PAL. As described by Evans in 2008, this resource consists of four fruit trees and a field stone retaining wall in the vicinity of a now-demolished structure plotted on the 1960 United States Geological Survey topographic quad map. Hildebrandt and Fuchs relocated P-28-001558 in their August 2019 visit and determined that the site was incorrectly plotted, and is actually on an adjacent parcel outside the PAL. They could not prepare a complete site record update as they lacked landowner access.

Architectural Survey Results

A total of 11 previously recorded (discussed previously) and 7 newly recorded historic period built environment resources were identified in the PAL. All were inventoried and evaluated or updated as part of survey efforts undertaken in support of this Project. All have been assigned Map Reference Numbers (MR) that correspond with their location on the mapping. All are listed in Table 3.5-6. [Note: While the Records Search identified 12 previously recorded architectural resources in the PAL, two of the resources were combined into a single resource: Mill Creek Wall East and Mill Creek Wall West, which were combined and documented as part of Kellogg-Lyman Residence and Wall (MR 12)].

Table 3.5-6: Historic Period Architectural Resources Identified in PAL

Map Reference No.	Property Name/Address	Property Type	Historical Resource Status Under CEQA; Historical Resource Status Code	PRC 5024 State-Owned Historic Resource
MR1	Napa Valley Railroad	Railroad/Transportation Infrastructure	Not a historical Resource, 6Y	No
MR2	Sulphur Creek Bridge, Bridge 21-0016	Bridge	Historical Resource 5S1t; 6YM	No

Map Reference No.	Property Name/Address	Property Type	Historical Resource Status Under CEQA; Historical Resource Status Code	PRC 5024 State-Owned Historic Resource
MR3	Main Street Electrolier	Street Infrastructure, City of Saint Helena-Owned	Historical Resource; 5S1t 3S	No
MR4	1080 Main Street	Commercial	Evaluated in this Study, Not a Historical Resource, 6Z	No
MR5	York Creek Bridge, Bridge 21-0017	Bridge	Historical Resource; 5S1t 6YM	No
MR6	Beringer Winery Historic District, 2000 Main Street	Winery	Historical Resource; 1D	Partial, contributing element of NRHP District on Caltrans ROW—Elm Tunnel
MR7	Greystone Cellars	Winery/Educational Institution	Historical Resource; 1S	No
MR8	2803 Saint Helena Highway	Residential	Historical Resource; 3S	No
MR9	1189 Lodi Lane, 1199 York Lane, 3000 Saint Helena Highway	Residential, Commercial	Not a Historical Resource; 6Z	No
MR10	3199 Saint Helena Highway	Residential, Winery	Historical Resource; 3S	No
MR1tl	3358 Saint Helena Highway	Residential, Agricultural	Not a Historical Resource, 6Z	No
MR12	Kellogg-Lyman Residence and Wall	Residential, Landscape Feature	Historical Resource, 5S1t 3S	Yes, Partial (portion of stone wall owned by State of California DPR)
MR13	Mill Creek Bridge, Bridge 21-0056	Bridge	Not a Historical Resource; 6Y, 6Z	No

Map Reference No.	Property Name/Address	Property Type	Historical Resource Status Under CEQA; Historical Resource Status Code	PRC 5024 State-Owned Historic Resource
MR14	Bale Grist Mill State Historic Park	State Historic Park, State-Owned	Historical Resource; 1S	Yes, State of California Department of Parks and Recreation
MR15	3475 Saint Helena Highway	Residential	Not a Historical Resource; 6Z	No
MR16	Ritchie Creek Bridge, Bridge 21-0057	Bridge	Not a Historical Resource; 6Y, 6Z	No
MR17	1103 Larkmead Lane	Residential	Not a Historical Resource; 6Z	No
MR18	1201 Tucker Road, Tucker Farm Center	Civic, Fraternal, Agricultural	Historical Resource; 3S	No

3.5.7 Cultural Resources Evaluations and Findings

Given the potential for direct and indirect impacts to archaeological and built environment resources, formal evaluations were completed for all resources that did not have prior evaluation status. The following section summarizes those findings.

3.5.7.1 Archaeological

Five archaeological sites in the ADI had not been evaluated for their potential eligibility for listing in the NRHP. As such, in support of the proposed Project, PG&E under the direction of Caltrans PQS completed extended phase I and phase II evaluations at three of the four sites: CA-NAP-115, CA-NAP-360/H, and CA-NAP-625/H (Wohlgemuth 2020b). The fourth site, CA-NAP-683, was not relocated in the ADI or the vicinity as a result of pedestrian survey and extended phase I efforts. Consequently, the prehistoric component of CA-NAP-625/H was found to be eligible under National Register Criterion D for its ability to yield or potential to yield information important to prehistory and history, and the historic-era Euro-American components are not eligible under any criterion; a consensus determination was received on June 9, 2021 from OHP/SHPO.

Subsurface testing investigations showed that there is no archaeological site at the reported location of CA-NAP-115. The prehistoric component of CA-NAP-360/H was found to be eligible under Criterion D; however, the historic-era portion of the site in the

ADI was found not to contribute to the overall eligibility of the historic-era component of this site. The remainder of CA-NAP-360/H (outside of the PAL/ADI) will be assumed eligible; a consensus determination was received on June 9, 2021 from OHP/SHPO. When taken with previously evaluated sites, in all there are six archaeological resources in the ADI that have been determined eligible through the consensus process and are considered historical resources: CA-NAP-58, CA-NAP-328, CA-NAP-482, CA-NAP-582, CA-NAP-360/H, and CA-NAP-625/H.

Site P-28-002616 will be assumed eligible for listing on the California and National Register and impacts to that site will be avoided via designation as an Environmentally Sensitive Area. The site is a buried deposit that will only experience staging an no ground disturbance and thus impacts to this resource would be avoided.

3.5.7.2 Architectural

As discussed in Section 3.3.5-1, of the 18 historic period built environment properties in the PAL, three properties are listed in the NRHP: Beringer Winery Historic District, Greystone Cellars, and Bale Grist Mill. Three properties have been identified as locally significant and are listed in the Saint Helena Historic Resources Master List: Sulphur Creek Bridge, Main Street Electroliers, York Creek Bridge. Four bridges have been previously given a Category 5 rating (ineligible for the NRHP) in the Caltrans Structure Maintenance and Investigations Bridge Log: Sulphur Creek Bridge (Bridge 21-0016), York Creek Bridge (Bridge 21-0017), Mill Creek Bridge (Bridge 21-0056), and Ritchie Creek Bridge (Bridge 21-0057). The remaining properties in the PAL did not hold formal evaluation status as historical resources under CEQA, which was undertaken as part of this Project (Allen 2021).

Based on the inventory, contextual research, and outreach undertaken five properties evaluated as a result of the project appear to be historical resources for the purposes of CEQA and appear eligible for listing in the NRHP: Main Street Electroliers, 2803 Saint Helena Highway, 3199 Saint Helena Highway, the Kellogg-Lyman Residence and Wall, and 1201 Tucker Road. Five properties evaluated as a result of the project do not appear to be historical resources for the purposes of CEQA because of a lack of significance and integrity related to the criteria of the NRHP or CRHR or any local listing: 1080 Main Street, a multi-building complex that includes 1189 Lodi Lane/1199 York Lane/3000 Saint Helena Highway, 3358 Saint Helena Highway, 3475 Saint Helena Highway, and 1103 Larkmead Lane (SHPO concurrence received on June 9, 2021). All of the findings regarding the properties are detailed in the Historical Resources Evaluation Report (Allen 2021).

Of the properties evaluated as a result of this project, two are state-owned: Main Street Electroliers and a portion of the Kellogg-Lyman Residence and Wall. A portion of the

wall for this property is partially located in the Bale Grist Mill State Historic Park and on California Department of Parks and Recreation Lands. The historical resource and state-ownership status of all 18 historic period built environment properties in the PAL is documented in Table 3.5-6, above.

In addition to the 18 historic period built environment properties in the PAL, one non-state owned residential property was exempt from review as Property Type 4: Buildings, structures, objects, districts, and sites 30 to 50 years old, in accordance with the policies prescribed in Caltrans SER (Section 106 PA Attachment 4): 2301 Main Street, Saint Helena (constructed 1990). Additionally, small-scale state owned and non-state-owned culverts, signage, and other ubiquitous infrastructure in the ROW was exempted as Property Type 1: Minor, Ubiquitous, or Fragmentary Infrastructural Element. Lastly, the existing buried PG&E gas transmission line and associated customer distribution service lines and appurtenant features were exempted from review under the Section 106 PA Attachment 4 as Property Type 1.

3.5.8 Avoidance and Minimization Measures and Potential Impacts

The following sections describe AMMs and assess potential Project-related construction and operational impacts on cultural resources.

3.5.8.1 Avoidance and Minimization Measures

PG&E would implement the following AMMs and mitigation measure:

AMM CUL-1: Worker Education Training. The following procedures will be implemented prior to commencement of any Project-related construction activities:

- All PG&E, contractor, and subcontractor Project personnel will receive training regarding:
    - appropriate work practices necessary to effectively implement the AMMs and to comply with the applicable environmental laws and regulations;
    - the potential for exposing subsurface cultural resources;
    - how to recognize possible buried cultural resources; and
    - identification of historic period built environment historical resources and contributing landscape features.
- This training will include a presentation of:
    - procedures to be followed upon discovery or suspected discovery of historic or archaeological materials, including Native American remains and their treatment;

- procedures to be followed upon discovery or suspected discovery of paleontological resources;
- procedures to avoid any historic period built environment historical resources;
- actions that may be taken in the case of violation of applicable laws.

AMM CUL-2: Inadvertent Discovery of Previously Unidentified Cultural Resources. The following procedure will be employed if a previously undocumented resource is encountered during construction:

- All work within 100 feet (30 meters) of the find will be halted or redirected by the construction foreman and protective barriers or flagging will be installed along with signage identifying the area as an "environmentally sensitive area." Entry into the area will be limited to PG&E-approved/qualified cultural resources specialists, PG&E, and other authorized personnel.

- PG&E will be notified immediately.

- A qualified archaeologist will document the resource and coordinate with PG&E (and Caltrans and SHPO as appropriate) on the appropriate steps for evaluation of find. The level of effort will be based on the size and nature of the resource.

- No work will occur within the ESA until clearance has been granted by the archaeologist or PG&E. ESA flagging and signage will only be removed when authorized by PG&E CRS.

AMM CUL-3: Discovery of Human Remains. The following procedures will be implemented in the event of the discovery of human remains, in compliance with California law, including, but not limited to, the following provisions: CEQA Guidelines Section 15064.5(e)t, PRC Sections 5097.94, 5097.98, and 5097.99; and California Health and Safety Code Section 7050.5:

- Work in the immediate area of the find will be halted and the PG&E archaeologist and County Coroner will be notified immediately. Work will remain suspended until the Coroner can assess the remains. In the event the remains are determined to be prehistoric in origin, the Coroner will notify the NAHC, who will then identify a Most Likely Descendent. The Most Likely Descendent will consult with either the land owner and the PG&E archaeologist or Caltrans, depending on if the find is identified in the Caltrans right of way, within 48 hours of notification to determine further treatment of the remains.

AMM CUL-4: Undiscovered Potential Tribal Cultural Resources. The following procedure will be employed (after stopping work and following the procedure for

determining eligibility in AMM CUL-2) if a resource is encountered and determined by the Project's qualified archaeologist to be potentially eligible for the CRHR or a local register of historic resources and is associated with a California Native American Tribe(s) with a traditional and cultural affiliation with the geographic area of the proposed Project:

- The Project's qualified archaeologist will notify Caltrans for appropriate action. PG&E will assist Caltrans if needed to identify the lead contact person for the California Native American Tribe(s) potentially associated with the cultural resource and with a traditional and cultural affiliation with the geographic area of the proposed Project. Caltrans will contact the lead contact person to set up a meeting with PG&E and Caltrans.

- The Project's qualified archaeologist will participate with Caltrans in discussions with the California Native American Tribe(s) to determine whether the resource is a "tribal cultural resource" as defined by PRC section 21074, and the tribe(s)' preferred method of mitigation, if the resource is determined to be a TCR.

In consultation with Caltrans, PG&E and the California Native American Tribe(s), appropriate avoidance, protection or mitigation will be determined based on examples listed in PRC section 21084.3(b) or to the extent permitted by law.

AMM CUL-5a: Archaeological Monitoring in Areas Identified as Possessing Highest Buried Site Sensitivity. An archeological monitor will facilitate and ensure the identification of buried archaeological deposits in locations identified as possessing highest buried site sensitivity. These locations include work locations between Pope Street and Charter Oak Avenue within the City of St. Helena, an area near Pratt Avenue, an area near Ritchie Creek, an area near Nash Creek, and two areas west of Heitz Way, all of which are specifically depicted on Figures 3.5-1–3.5-3. Should such deposits be uncovered in the course of Project implementation, the procedures outlined in AMM CUL-2 will be followed.

AMM CUL-5b: Archaeological Monitoring in Boundaries of Archaeological Sites Determined to be Eligible per California and National Register Criteria. An archaeological and tribal monitor will be required in the course of construction excavation and associated ground disturbance within the boundaries of six archaeological sites that are significant: CA-NAP-58, CA-NAP-328, CA-NAP-482, CA-NAP-582, CA-NAP-625/H, and CA-NAP-360/H.

Mitigation Measure CUL-6: Data Recovery at Archaeological Sites Determined to be Eligible per California and National Register Criteria in ADI. At archeological sites that are identified as being historical resources, data recovery will be implemented

prior to Project commencement. Data recovery will be guided by a data recovery plan produced by PG&E in coordination with State Parks, interested parties (i.e., the Mishewal-Wappo Tribe of Alexander Valley and Middletown Rancheria), and Caltrans PQS.

AMM CUL-7: Full-time, On-Site Arborist and Architectural Historian Monitors During Project Implementation In and Adjacent to the Elm Tunnel. A Certified Consulting Arborist and an Architectural Historian Monitor will be on-site during all construction activities in and adjacent to the Elm Tunnel to ensure that protection measures defined in AMM CUL-8 are correctly implemented.

AMM CUL-8 Implementation of Protective Measures that will Avoid Impacts to the Elm Tunnel

AMM CUL-8a: An Environmentally Sensitive Areas (ESA) and Monitoring Area (AMA) within the Dripline of the Elm Tunnel. Within the Elm Tunnel two types of ESAs (delineated with orange, plastic, barrier netting/fencing and t-posts) will be established: (1) no access and (2) limited access. The Elm Tunnel and its dripline will generally be delineated as a no access ESA (i.e., ESA #1). In ESA #1 no construction access or activities will be permitted. In the limited access ESAs (i.e., ESA #2), controlled access will be permitted. This ESA will be a vertical ESA given that it is necessary to perform circumscribed construction activities within the dripline of the elm in order to allow for new pipeline activation and service. In ESA #2, access will be allowed only on foot. ESAs will be depicted on construction plans.

The AMA will be established at Location 1 (SO 6745AQ). Within the AMA all activities will be monitored by the qualified arborist and architectural historian. The AMA will be depicted on Project plans.

The fencing (both ESA and AMA) will be installed by PG&E vegetation management contractor (i.e., the qualified arborist) prior to construction arriving on-site.

AMM CUL-8b: At all times when completing work in or adjacent to the Elm Tunnel AMA or ESAs both an arborist and an architectural historian must be present.

AMM CUL-8c: At Location 1 AMA (SO 6745AQ), excavation shall not occur within 2 feet of Tree 4. At Location 1 AMA, the size of excavation will be limited to the greatest extent feasible. Excavation shall be completed by hand. Mechanical excavation is not permitted.

AMM CUL-8d: If the excavations at Location 1 (SO 6745AQ) require pruning any more than one 4-inch diameter root or four 2-inch diameter roots, construction activities will

cease in that location until the PG&E designated arborist in concert with designated Caltrans construction field contact/construction monitor determines work can continue.

AMM CUL-8e: Roots of elm trees at Location 1 or at any other locations shall not be pruned without the guidance of the designated on-site arborist monitor.

AMM CUL-8f: Roots 1 inch in diameter or larger will be left in place where possible. If roots of this size are damaged or obstruct the work to be performed, they will be cut cleanly to the edge of the excavation and documented by the arborist.

AMM CUL-8g: No ground disturbance at HPR removal locations 2-4. HPR removal at Locations 2-4 shall not involve ground disturbance and shall be accomplished by construction personnel approaching the location on foot. HPR removal shall occur by lifting off lid, cutting off and manually removing the equipment, and manually backfilling the open valve box with imported soil.

AMM CUL-8h: Soft digging required at Elm Tunnel Location 5. Removal of the HPR and any other construction activity at Location 5 shall avoid Tree 72 and activities will stay outside of the Elm Tunnel footprint and established ESA. Excavation of the HPR at this location may be accomplished with use of soft digging techniques such as hydrovac; however, machinery must stay on the pavement and avoid elm trees and the associated driplines.

AMM CUL-9: Establishment of ESA for Additional Historic Period Built Environment Landscape Features adjacent to Project Activities. PG&E will establish ESAs at the following four historic period built environment features that are adjacent to or in the work area for customer service line installation:

- MR6: Beringer Winery NRHP Historic District, inclusive of the contributing resources of the elm tunnel (see AMM-8) and the stone wall
- MR7: Greystone Cellars NRHP listed property, inclusive of stone wall and entry arch
- MR8: 2803 Saint Helena Highway NRHP-eligible property, stone columns contributing resource
- MR10: 3199 Saint Helena Highway NRHP-eligible property, stone columns and stone wall contributing resource

The ESAs will be established with fencing or flagging to prevent heavy construction vehicles and equipment from inadvertently damaging the resource. Worker Education Training conducted as part of AMM CUL-1 will include information regarding the ESAs

and the status of the features as historical resources. No construction activities will be permitted in ESA boundaries. ESA locations will be depicted on construction plans.

AMM CUL-10: Establishment of Vertical ESA for P-28-002616. Impacts to P-28-002616 will be avoided via establishment of a vertical ESA in this location to ensure that this resource is not impacted. The site is a buried deposit, located 1.1-2.6 meters below ground surface. No subsurface disturbance will be permitted within this ESA and thus impacts to this location will be avoided.

3.5.8.2 Potential Impacts

Project impacts on cultural resources are defined by CEQA as a change in the characteristics of a resource that convey its significance or justify its eligibility for inclusion in the NRHP, CRHR, or local register. Direct impacts may occur by:

1. physically damaging, destroying, or altering all or part of a resource,
2. altering characteristics of the surrounding environmental setting that contribute to the significance of a resource,
3. allowing a resource to deteriorate through neglect, or
4. incidental discovery of archaeological resources without proper notification.

Direct impacts can be assessed by determining the exact location of historical resources and assessing their significance under NRHP and CEQA criteria, identifying the types and extent of the proposed impacts and their effect on significant resources, and determining appropriate measures to reduce impacts to less-than-significant levels. Indirect impacts may include changes to the viewshed of a significant resource through introduction of a new project element.

CEQA recommends avoidance or preservation in place as the preferred treatment for eligible properties and unique or significant archaeological or historical resources (PRC 21083.2). If avoidance is not a feasible option, data recovery is a common treatment for archaeological sites. For architectural resources, if physical changes to a property—excluding demolition—can be treated following the Secretary of Interior Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings, the Project-related impact on the historical resource will generally be considered reduced below a level of significance.

a) Would the Project cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5? *Less-than-Significant Impact with Mitigation*

While the background research and documentation undertaken as part of this study determined that the PAL includes ten built environment resources that qualify as historical resources for the purposes of CEQA (14 California Code of Regulations

Section 15064.5 [a]), it does not appear that the Project has the potential to cause a significant impact to the environment by causing a substantial adverse change to any of the historical resources. The Project would not cause a change in the significance of any historical resources through physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the historical resource would be materially impaired (14 California Code of Regulations Section 15064.5 [b]).

In several cases, PG&E would implement measures to ensure that the Project avoids inadvertent damage to any historical resources in the PAL. In the case of the Beringer Winery NRHP District contributing feature, the Elm Tunnel, where avoidance is not possible because of Project activities within the dripline, PG&E would implement formal ESAs and an AMA and protective measures as defined in AMM CUL-8 to avoid adverse effects/impacts to this resource. As such, the proposed Project would not introduce adverse effects or cause a substantial adverse change to historical resources under CEQA by causing a substantial adverse change to the Beringer Winery Historic District or the contributing Elm Tunnel. Also, PG&E would establish four additional ESAs to protect and avoid historic period built environment features that are adjacent to Project work areas associated with customer service line installation as part of AMM CUL-10. The ESAs would be developed at the following historical resources: Beringer Winery NRHP District, Greystone Cellars NRHP Property, 2803 NRHP-eligible Saint Helena Highway, and NRHP-eligible 3199 Saint Helena Highway. The purpose of the ESAs is to ensure that no historical resources are inadvertently damaged by Project activities. As such, it does not appear that the Project has the potential to materially impair the significance of these resources or cause a substantial adverse change to historical resources.

There are archaeological resources that are historical resources in the ADI for the Project as well. Those are discussed below.

b) Would the Project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5? *Less-than-Significant Impact with Mitigation*

The archaeological inventory, survey, and evaluation determined that several archaeological sites that are considered historical resources would be impacted by the Project. These resources are not considered to be Unique Archaeological Resources and are as follows: (1) CA-NAP-58/H; (2) CA-NAP-328/H; (3) CA-NAP-482, (4) CA-NAP-582, (5) CA-NAP-625/H; and (6) CA-NAP-360/H. In accordance with Stipulation X.C.1 of the Caltrans 5024 MOU, potential adverse effects to a state-owned archaeological resource may be mitigated through data recovery to recover important information that would have been otherwise lost as a result of a Project or activity. A

Caltrans Principal Investigator in the appropriate discipline shall determine applicability of data recovery, and as applicable, the appropriate level of documentation for a data recovery plan.

State-owned archaeological resources are significant under any of the NRHP criteria when they: have been determined eligible for listing in the NRHP; have been determined eligible for registration as a California Historical Landmark; or are on the Master List of Historical Resources because they are included in the NRHP or listed as a California Historical Landmark. When the results of consultation with interested parties are incorporated into the data recovery plan, Caltrans District may make a finding of Adverse Effect - Standard Mitigation Measures (FAE-SMM) and consult with CSO in accordance with Stipulation X.C of the MOU.

Pursuant to California Code of Regulations Section 15064.5(3)(C), when data recovery through excavation is the only feasible mitigation, a data recovery plan, which makes provision for adequately recovering the scientifically consequential information from and about the historical resource, shall be prepared and adopted prior to any excavation being undertaken. Such studies shall be deposited with the California Historical Resources Information Center.

PG&E would implement a data recovery plan in accordance with MM CUL-6 and submit the results/findings to the California Historical Resources Information Center. Furthermore, any inadvertent discoveries during construction would be addressed through the implementation of AMMs CUL-1, AMM CUL-2, AMM CUL-4, and AMM CUL-5, which include crew training and procedures to be undertaken should an inadvertent discovery occur, thereby further reducing the potential for impacts to archeological resources. Therefore, the Project would not result in a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.

c) Disturb any human remains, including those interred outside of dedicated cemeteries? *Less-than-Significant Impact*

The Project would not impact any known graves. Project impacts on human remains are not anticipated. If human remains are discovered, PG&E would implement AMM CUL-3, which would avoid potential damage or destruction to human remains or internments from the inadvertent discovery.

3.6 ENERGY

3.6.1 Introduction

This section describes existing conditions and potential impacts on energy as a result of construction, operation, and maintenance of the Project, and concludes that there would be a less-than-significant impact to energy resources. The Project's potential effects on energy were evaluated using Appendix G of the CEQA Guidelines. The conclusions are summarized in Table 3.6-1 and discussed in more detail in Section 3.6.4.

Table 3.6-1: CEQA Checklist for Energy

Would the Project:	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local energy plan for renewable energy or energy efficiency?	☐	☐	☐	☒

3.6.2 Regulatory Background and Methodology

3.6.2.1 Regulatory Background

Federal

Energy Policy Act of 2005

The Energy Policy Act created energy-related tax incentives from 2005 to 2016 to promote energy efficiency and conservation, renewable energy, oil and gas production and transmission, coal production, and electric generation and transmission.

American Recovery Reinvestment Act of 2009

As part of a larger stimulus package, the Recovery Act authorized federal funding to the U.S Department of Energy to forward specific energy priorities, including modernizing the nation's electric transmission grid.

State

California 2008 Energy Action Plan Update

Originally developed in 2003 and updated in 2005 and 2008, the California Energy Action Plan identifies specific action areas to ensure that California's energy resources are adequate, affordable, technologically advanced, and environmentally sound. The

plan's first-priority actions to address California's increasing energy demands are energy efficiency and demand response (i.e., reduction of customer energy usage during peak periods to address system reliability and support the best use of energy infrastructure). The plan also outlines strategies to achieve adequate natural gas transmission and infrastructure to deliver a reliable supply to the state prioritizing the need for a diverse array of natural gas sources and dependable methods of transmission, as well as increasing energy efficiency and storage capacities to meet California's overall energy needs.

Warren-Alquist Act

The 1975 Warren-Alquist Act established the California Energy Resources Conservation and Development Commission, now known as the California Energy Commission (CEC). The Act established state policy to reduce wasteful, uneconomical, and unnecessary uses of energy by employing a range of measures. The California Public Utilities Commission (CPUC) regulates privately owned utilities in the energy, rail, telecommunications, and water fields. In addition, the Act creates an integrated energy policy report every 2 years including energy trends, supply, demand, reliability, efficiency, impacts of the economy, resources, and the environment regarding electricity and natural gas markets.

Assembly Bill 2076: Reducing Dependence on Petroleum

Pursuant to AB 2076 (Chapter 936, Statutes of 2000), a joint agency report, Reducing California's Petroleum Dependence, was prepared under CEC and the California Air Resources Board (CARB) direction. The report outlines recommendations to increase alternative fuel consumption, especially in the use and efficiency of motor vehicles. Furthermore, CEC developed a long-term plan to encourage alternative fuel use in response to the CEC's 2003 and 2005 Integrated Energy Policy Reports. One alternative to petroleum is the use of natural gas. A performance-based goal of AB 2076 was to reduce petroleum demand to 15 percent below 2003 demand by 2020, which may result in increased demand for natural gas.

Assembly Bill 1007: State Alternative Fuels Plan

AB 1007 (Chapter 371, Statues of 2005) required CEC to prepare a state plan to increase the use of alternative fuels in California. CEC prepared the State Alternative Fuels Plan in partnership with CARB and in consultation with other state, federal, and local agencies. The State Alternative Fuels Plan presents strategies and actions California must take to increase the use of alternative non-petroleum fuels in a manner that minimizes the costs to California and maximizes the economic benefits of in-state production. The State Alternative Fuels Plan assessed various alternative fuels, such as natural gas, and developed fuel portfolios to meet California's goals to reduce petroleum

consumption, increase alternative fuel use, reduce greenhouse gas (GHG) emissions, and increase in-state production of biofuels without causing a significant degradation of public health and environmental quality.

Senate Bill 1389 (Bowen, Chapter 568, Statutes of 2002)

SB 1389 requires the CEC to prepare a biennial integrated energy report. The report contains an integrated assessment of major energy trends and issues facing California's electricity, natural gas, and transportation fuel sectors. The report provides policy recommendations to conserve resources, protect the environment, ensure reliable, secure, and diverse energy supplies, enhance the state's economy, and protect public health and safety. The 2019 report identified that California expects a decline in demand for natural gas because of policies such as Senate Bill 250 and 100. Decarbonization strategies will reduce retail demand for natural gas. Yet, in 2017 and 2018, natural gas was still the most consumed fuel or energy source in California (CEC 2019).

Local

The following reviews of the county's and city's energy resource-related policies and regulations is provided for informational purposes and to assist with CEQA review.

Napa County General Plan

Under the Conservation Element, Napa County's General Plan (Napa County 2008) addresses climate change and sustainable practices for environmental health related to energy conservation, air pollutants, GHG emissions, clean energy generation, and similar issues. Moreover, climate protection and sustainable practices for environmental health discuss energy trends, particularly under increasing electricity and natural gas consumption and reliance.

St. Helena General Plan Update

The City of St. Helena's General Plan Update 2040 Climate Change element identifies local government operations policies to encourage the reduction of fossil fuels dependence and consumption (City of St. Helena 2019). Furthermore, the update outlines actions to improve energy efficiency by implementing alternative energy solutions such as ensuring facility renovation to incorporate cost-effective strategies to reduce GHG and conserve energy.

3.6.2.2 Methodology

Official local and state websites were reviewed for regulatory background information and information on existing energy providers and resources in Napa County.

3.6.3 Environmental Setting

3.6.3.1 Natural Gas

PG&E provides natural gas to communities within Napa County, importing it from outside the county. An alternative for petroleum-based fuel, natural gas continues to exceed electricity consumption in Napa County. A majority of the county's energy produced from natural gas is consumed by residential sources, followed by the commercial and industrial sectors.

3.6.4 Avoidance and Minimization Measures and Potential Impacts

The following sections provide AMMs and assess potential Project-related construction and operational impacts on energy.

3.6.4.1 Avoidance and Minimization Measures

No AMMs are included because Project construction, operation, and maintenance would have no impact on energy.

3.6.4.2 Potential Impacts

Project impacts on energy consumption and state and local planning were evaluated using Appendix G of the CEQA Guidelines as discussed below.

a) Would the Project result in potentially significant environmental impact due to wasteful inefficient, or unnecessary consumption of energy resources, during Project construction or operation? *Less-than-Significant Impact*

The Project would not change the location or intensity of energy consumption. Construction of the Project would require consumption of fuel to run construction vehicles and equipment. However, construction would be short-term and temporary. PG&E's engineering and construction management staff have developed an efficient construction plan and sequence, which minimizes vehicle trips and avoids wasteful, inefficient, or unnecessary consumption of energy. Implementation of AMM GHG-1, which minimizes unnecessary construction vehicle idling time, would further reduce energy consumption. Therefore, impacts would be less than significant.

b) Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency? *No Impact*

The purpose of the Project is to upgrade and test existing pipeline infrastructure to meet an increased demand for natural gas and ensure the safety of the existing pipeline. The Project has no significant impact or influence on the region's petroleum use, renewable energy development, or future energy portfolios and does not conflict with or obstruct any of the regulations described above; therefore, no impact would occur.

3.7 GEOLOGY AND SOILS

3.7.1 Introduction

This section describes the existing geological and soil conditions, and potential geologic and geotechnical hazards at the Project site and surrounding areas, and concludes that any impacts would be less than significant. Potential geologic hazards along the Project route include ground shaking, liquefaction, and other ground-failure mechanisms. The implementation of Avoidance and Minimization Measures **(AMM)** described in Section 3.7.4.2 would further reduce less-than-significant impacts on geology and soils. The Project's potential effects on geology and soils were evaluated using Appendix G of the CEQA Guidelines. The conclusions are summarized in Table 3.7-1 and discussed in more detail in Section 3.7.4.

Table 3.7-1: CEQA Checklist for Geology and Soils

Would the Project:	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐

Would the Project:	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
d) Be located on expansive soil, as defined in Table 18-1-8 of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste-water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐

3.7.2 Regulatory Background and Methodology

3.7.2.1 Regulatory Background

Federal

No federal regulations related to geology, soils, and seismicity are applicable to the Project.

State

Alquist-Priolo Earthquake Fault Zoning Act

California enacted the Alquist-Priolo Special Studies Zones Act in 1972, which was renamed the Alquist-Priolo Earthquake Fault Zoning Act in 1994. Also known as the Alquist-Priolo Act, it requires the establishment of "earthquake fault zones" along known active faults in California. Regulations on development within these zones are enforced to reduce the potential for damage resulting from fault displacement. Information on earthquake fault zones is provided for public information purposes (see Section 3.7.3.4 for further discussion).

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act of 1990 addresses earthquake hazards other than fault rupture, including liquefaction and seismically induced landslides. Seismic hazard zones are to be mapped by the State Geologist to assist local governments in land use planning. The Seismic Hazards Mapping Act states that "it is necessary to identify and map seismic hazard zones in order for cities and counties to adequately prepare the safety element of their general plans and to encourage land use management policies

and regulations to reduce and mitigate those hazards to protect public health and safety."

California Department of Transportation (Caltrans) Standards

Caltrans' jurisdiction includes state and interstate routes within California, including California SR 29. Any work within the Caltrans right-of-way is subject to Caltrans regulations governing permissible actions and modifications to the right-of-way. Caltrans standards contain regulations to protect the public from seismic-related hazards, such as ground shaking and failure, and requires that any project construction minimize potential hazards related to cut and fill operations, grading, slope instability, and expansive or corrosive soils.

California Public Resources Code

PRC Chapter 1.7, Section 5097.5/5097.9 (Stats. 1965, c. 1136, p. 2792), entitled Archaeological, Paleontological, and Historical Sites, defines any unauthorized disturbance or removal of a fossil site or remains on public land as a misdemeanor and specifies that state agencies may undertake surveys, excavations, or other operations as necessary on state lands to preserve or record paleontological resources.

Local

The Project Area is located within unincorporated Napa County and the City of St. Helena. As previously stated, the proposed Project is not subject to local discretionary regulations; however, local regulations relating to geology and soils for the Project Area were reviewed to assist with CEQA review. Local plans that were reviewed include the Napa County General Plan (Safety Element: Napa County 2008) and City of St. Helena General Plan (Public Health, Safety, and Noise Element; City of St. Helena 2019). These general plans address mitigation and response actions associated with natural disasters, including earthquakes and other geologic hazards.

3.7.2.2 Methodology

Information on the geology and soils was compiled from published literature, maps, and examination of aerial photographs. Geologic units and structural features were obtained from maps published by the California Geological Survey (CGS) and United States Geological Survey (USGS).

Soil descriptions were obtained from mapping by the United States Department of Agriculture Natural Resource Conservation Service. Seismic information was developed from several sources, including the USGS, CGS, the Napa County General Plan (Safety Element; Napa County 2008), and the City of St. Helena General Plan (Public Health, Safety, and Noise Element; City of St. Helena 2019).

3.7.3 Environmental Setting

3.7.3.1 Regional Setting

The Project Area is located in Napa County within the Coast Range Geomorphic Province, which is bounded on the west by the Pacific Ocean and on the east by the Great Valley Geomorphic Province. The Coast Range Geomorphic Province extends for approximately 600 miles from the California-Oregon border in the north to the area near Point Conception in southern California, and consists of a series of parallel, northwest-trending mountain ranges and corresponding valleys and basins. The San Francisco Bay subdivides the province into the North Coast Ranges and the South Coast Ranges. Elevations in Napa County range from near mean sea level to approximately 4,300 feet above mean sea level at Mount St. Helena, located in northwest Napa County. Elevations decrease in the southern portion of Napa County. The physiography of Napa County has influenced the climate, development of soils, and occurrence of geologic features, including hazards such as landslides.

The Project Area is located along the edge of the floor of Napa Valley. The valley floor and surrounding areas are composed primarily of unconsolidated surficial deposits including alluvium, alluvial fans, levee deposits, estuarine deposits, colluvium, stream channel and terrace deposits, and landslide deposits (PMC 2007). A number of drainages traverse the Project Area, flowing east from the hills west of Napa Valley to the Napa River, including Nash Creek, Ritchie Creek, Mill Creek, Hirsch Creek, York Creek, and Sulphur Creek. In the past, runoff from these drainages deposited sand, silt, and clay and built-up alluvial fans along each side of the valley.

The Project alignment ranges in elevation from a high of approximately 380 feet above mean sea level near the northern end in Calistoga to a low of approximately 240 feet above mean sea level near Sulphur Creek on the southern end in St. Helena. The surface topography of the Project Area is relatively flat, with the exception of locations where creek channels cross. Creek beds are typically situated approximately 2 to 10 feet below the surrounding grade, between sloped banks on either side.

3.7.3.2 Stratigraphic Units

The basement rock within the northern portion of the Coast Range Geomorphic Province consists predominantly of the igneous, sedimentary, and metamorphic rocks of the Franciscan Complex, and to the east, the volcanic ophiolite and sedimentary rocks of the Great Valley Complex. In the vicinity of the Project Area, the regional basement rock is overlain by Tertiary continental and marine sedimentary and volcanic rocks. These Tertiary deposits are locally overlain by Quaternary alluvial fan, colluvial, and landslide deposits (Kleinfelder 2019a; Kleinfelder 2019b; Kleinfelder 2019c).

The shallowest geologic units underlying the majority of the Project Area and vicinity are Holocene alluvium and terrace deposits, consisting of unconsolidated and semi-consolidated alluvium, lake, playa, and terrace deposits (City of St. Helena 2018; Graymer et al. 2007). A small portion of the Project Area near the unincorporated community of Barro overlies Tertiary volcanic deposits consisting of pumiceous ash flow tuff (Graymer et al. 2007).

Site-specific geotechnical investigations were completed at several locations along the Project alignment to evaluate subsurface conditions for trenchless construction, including the crossing at Sulphur Creek, two locations within R-1018B, and five locations within R-1018. The primary soil types encountered during the geotechnical investigations, to the maximum depth explored of approximately 51.5 feet below ground surface included: poorly graded gravel with silt and sands; medium dense clayey sands; stiff to hard lean clays; dense poorly graded sands with clay; dense clayey gravels; and medium dense to very dense sand, gravels, and cobbles, with varying amounts of clay and silt (Kleinfelder 2019a; Kleinfelder 2019b; Kleinfelder 2019c). The results of the site-specific geotechnical investigations and associated geophysical surveys completed as part of this work indicate that compression wave (P-wave) velocities calculated for the subsurface along surveyed sections of R-1018B and R-1018 can be indicative of highly consolidated soil or bedrock (Kleinfelder 2019a; Kleinfelder 2019b).

3.7.3.3 Soils

The Project Area surface soils are mapped as Aiken loam, 2 to 15 percent slopes; Bale loam, 0 to 2 percent slopes; Bale clay loam, 0 to 2 percent slopes; Bale clay loam, 2 to 5 percent slopes; Boomer-Forward-Felta complex, 30 to 50 percent slopes; Cortina very gravelly loam, 0 to 5 percent slopes; Perkins gravelly loam, 1 to 10 percent slopes; Perkins gravelly loam, 5 to 9 percent slopes; Pleasanton loam, 0 to 2 percent slopes; and Pleasanton loam, 2 to 5 percent slopes. The portion of the Project Area within the City of St. Helena is predominantly mapped as Cortina series soils, with a smaller area mapped as Bale series soils. The portion of the Project Area within unincorporated Napa County is predominantly mapped as Bale, Perkins, Pleasanton, series soils, with smaller areas of Aiken series and Boomer-Forward-Felta complex soils (NRCS 2020). Figure 3.7-1 presents a soil map for the Project Area.

The Aiken series consists of very deep, well-drained soils formed in material weathered from basic volcanic rocks. These soils are on broad gently sloping tabular ridges and moderately steep to steep side slopes (NRCS 1997). The Bale series consists of very deep, somewhat poorly drained soils formed in stratified, gravelly and sandy alluvium from mixed sources. Bale soils are on nearly level to gently sloping alluvial fans and terraces (NRCS 1997). The Cortina series consists of very deep, somewhat excessively drained soils on alluvial fans and floodplains. These soils formed in gravelly alluvium

from mixed rock sources (NRCS 1997). The Perkins series consists of very deep, well-drained soils that formed in alluvium derived from mixed rock sources, and are found on terraces (NRCS 2018). The Pleasanton series is a member of the fine-loamy, mixed, thermic family of Mollic Haploxeralfs. Pleasanton soils typically have grayish brown, slightly acid or neutral, gravelly fine sandy loam A horizons; brown, neutral, gravelly sandy clay loam B2t horizons; and gravelly fine sandy loam C horizons (NRCS 2003).

The Boomer-Forward-Felta complex is composed of soils of the Boomer, Forward, and Felta series. The Boomer series consists of deep and very deep, well-drained soils that formed in material weathered from metavolcanic and basic igneous rocks. These soils are on foothills and mountains and are typically at the transition between these landscapes. The Forward series consists of moderately deep, well-drained soils formed in material weathered from rhyolithic tuff, and are found on hills and mountains. The Felta series is a member of the loamy-skeletal, mixed, thermic family of Pachic Argixerolls. Felta soils typically have grayish brown, slightly acid, very gravelly heavy loam A horizons and grayish brown, slightly acid, very gravelly clay loam B2t horizons underlain by gravelly old alluvium at a depth of about 24 inches (NRCS 2003, 2018).

Expansive soils are those that contain significant amounts of clays that expand when wet and can cause damage to foundations if moisture collects beneath structures. Soils within the Project site have a low to moderate shrink-swell potential (Lambert. and Kashiwagi 1978).

DRAWN BY: G Shenker

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St Helena Hwy
Larkmead Ln
128
Bothe-Napa State Park
St Helena Hwy
Bothe-Napa State Park
St Helena Hwy N
128
Spring Mountain Rd
Spring Mountain Rd
Silverado Trl
Bell Canyon Reservoir
Crystal Springs Rd
Silverado Trl N
Cheyney Audubon
Deer Park Rd
Deer Park
Cottage Rd S
Sunnyside Rd
Santa Rosa Rd
Deer Park Rd
St Helena Hwy N
128
Main St
St Helena
Hillview Pl
Adams St

Legend

Project Work Areas

Soil Types in Project Vicinity

- Aiken loam
- Bale clay loam
- Bale loam
- Boomer gravelly loam
- Boomer-Forward-Felta complex
- Clear Lake clay
- Cole silt loam
- Cortina very gravelly loam
- Cortina very stony loam
- Forward silt loam
- Hambright rock-Outcrop complex
- Kidd loam
- Perkins gravelly loam
- Pleasanton loam
- Riverwash
- Yolo loam

N

0 1,250 2,500 5,000

Feet

Figure 3.7-1
Soil Types
PG&E Napa Bundle Northern Corridor
Gas Pipeline Maintenance Program
Napa, Ca

Environmental Resources Management
www.erm.com

Source: USDA NAIP flown 2016 at 1 meter per pixel; NAD 1983 StatePlane California I FIPS 0402 Feet

3.7.3.4 Seismicity

Fault Zones

The Alquist-Priolo Act requires the establishment of "earthquake fault zones" along known active faults in California. A fault is considered active if it has generated earthquakes accompanied by surface rupture during historic time (approximately the last 200 years) or has shown evidence of fault displacement during the Holocene period (active within the last 11,700 years) (Bryant and Hart 2007). A fault is considered potentially active if there is evidence of fault displacement during the Quaternary period (approximately the last 1.6 million years). A fault is considered inactive if the most recent documented fault displacement pre-dates the Quaternary period. For the purposes of this report, multiple sources were used to identify nearby faults that may potentially affect the site, including sources from the USGS, CGS, and Napa County (see references in Section 3.7.5). A regional map of the fault zones in proximity to the site is included as Figure 3.7-2.

No known active faults cross the Project Area. The closest known earthquake faults to the Project site with Holocene displacement (active within the last 11,700 years) are as follows:

- The Maacama Fault, located approximately 8 miles to the northwest of the northern end of the Project alignment;
- The Rodgers Creek Fault, located approximately 12 miles to the southwest of the Project alignment;
- A segment of the West Napa Fault, located approximately 15 miles to the southeast of the southern end of the Project alignment;
- A segment of the Green Valley Fault, located approximately 18 miles to the southeast of the southern end of the Project alignment; and
- The Hunting Creek Fault, located approximately 18 miles to the northeast of the Project alignment.

Additionally, several unnamed Quaternary faults (active within the last 1.6 million years) are located in the Project vicinity; the closest of these to the Project Area is a segment of the West Napa Fault Zone, located approximately 1 mile to the southwest of the southern end of the Project alignment (California Department of Conservation 2010). All of the faults identified above are north-northwest-striking, right-lateral strike-slip faults associated with the San Andreas Fault system.

DRAWN BY: G Shenker

FILE: M:\Projects\PGandE\PGE_NapaMaps\3-7-2 Faults.mxd REVISED: 09/15/2020 SCALE: 1:253,440 when printed at 11x17

Chianti fault
Cobb Mountain fault
Hunting Creek fault
Healdsburg fault
Alexander fault
Maacama fault
Redwood Hill fault
Bennett Valley fault
Pope Creek fault
Putah Creek fault
Maxwell Creek fault
West Napa fault
Mill Valley fault
Soda Creek fault
Green Valley fault
Cordelia fault
Woods fault
Bloomfield fault
Americano Creek fault
Tolay fault
Rodgers Creek fault

Hidden Valley Lake
Middletown
Geyserville
Healdsburg
Windsor
Calistoga
Pope Valley
Angwin
Deer Park
St Helena
Rutherford
Kenwood
Santa Rosa
Sebastopol
Occidental
Rohnert Park
Cotati
Penngrove
Boyes Hot Springs
El Verano
Sonoma
Napa
Fairfield
Tomales
Bodega Bay
Petaluma
Charles M Schulz Sonoma Co Airport

MAYACMAS MOUNTAINS
HOWELL MOUNTAIN
BLUE RIDGE
CAPAY HILLS
CAPAY VALLEY
ROCKY RIDGE
NAPA VALLEY
VACA MOUNTAINS
SONOMA
NAPA
YOLO
SOLANO

Knoxville Recreation Area
Knoxville Wildlife Area
Lake Berryessa
Cedar Roughs Wilderness
Lake Berryessa Wildlife Area
Robert Louis Stevenson State Park
Bothe Napa Valley State Park
Las Posadas State Forest
Sugarloaf Ridge State Park
Trione Annadel State Park
Foxtail Golf Club
Skyline Park
Napa River
Ellucuma Creek
Capay
2818 ft



Legend

Project Work Areas

Quaternary Faults
- fault, approx. located
- fault, certain
- fault, concealed
- dextral fault, certain
- thrust fault, certain (2)

Pre-Quaternary Faults
- fault, certain
- fault, approx. located
- fault, concealed
- thrust fault, certain
- fault, approx. located (ball and bar)
- fault, concealed (ball and bar)

Fault Classification
- Holocene
- Late Quaternary
- Quaternary

Source: Department of Conservation, California Geological Survey

N

0 2 4 8
Miles

3.7-2
Active Faults
PG&E Napa Bundle Northern Corridor Gas Pipeline Maintenance Program
Napa, Ca

Environmental Resources Management
www.erm.com

Source: USDA NAIP flown 2016 at 1 meter per pixel; NAD 1983 StatePlane California II FIPS 0402 Feet

San Andreas Fault System

The nearest faults of major historical significance (displacement within the last 200 years) are the San Andreas Fault, which passes within approximately 35 miles of the Project Area, and a segment of the associated Green Valley Fault, which passes within approximately 25 miles of the Project Area. These active right-lateral, strike-slip faults extend in a northwest-southeastdirection to the northwest, west, and southwest (San Andreas Fault) and southeast (Green Valley Fault) of Napa County.

The San Andreas Fault extends from the Gulf of California in Mexico to the Mendocino coast in northern California and accommodates the majority of movement between the Pacific and North American plates. Several active faults in closest proximity to the Project Area are not generally considered to be independent seismic sources, but rather to experience movement triggered by seismic events on the San Andreas Fault.

Strong Ground Motion

While the Project Area is not located within an active earthquake zone as defined by the Alquist-Priolo Act, it is in a region that is subject to ground shaking from earthquakes generated on faults associated with the San Andreas Fault. The USGS's Working Group on California Earthquake Probabilities estimates there is a 98 percent chance of at least one 6.0 magnitude earthquake occurring in the San Francisco Bay Area region between 2014 and 2044 (Working Group on California Earthquake Probabilities 2015). Seismic ground shaking could occur throughout the Project Area due to displacement on active faults within the region. Shaking from an earthquake can result in structural damage and can trigger other geologic hazards such as liquefaction. Ground shaking is controlled by the earthquake magnitude, duration, and distance from the source. Ground conditions will also influence impacts from strong ground motions. Seismic waves attenuate with distance from their sources, so estimated bedrock accelerations are highest in areas closest to the source. Local soil conditions may amplify or dampen seismic waves as they travel from the underlying bedrock to the ground surface.

3.7.3.5 Landslides

A landslide is a mass of rock, soil, or debris that has been displaced downslope by sliding, flowing, or falling. The potential for material to detach and move downslope depends on a variety of factors including the type of material, water content, and steepness of terrain. There is a low probability for landslides in the Project Area because of the relatively flat topography along the majority of the Project alignment and adjacent areas to the east. The Napa Valley floor, including the majority of the City of St. Helena, is mapped as areas of less than 5 percent slope and not underlain by landslide deposits (City of St. Helena 2018). The Project alignment is not located within an area where landslides have been mapped, as indicated by the California Geological Survey (California Department of Conservation 2015). The foothills to the west of the

Project Area include slopes of 5 to 15 percent and are mapped as having few landslides (City of St. Helena 2019; California Department of Conservation 2015).

A number of drainages traverse the Project Area, flowing east from the hills west of Napa Valley to the Napa River, including Nash Creek, Ritchie Creek, Mill Creek, Hirsch Creek, York Creek, and Sulphur Creek. There is potential for localized sloughs, slumps, or other failures to occur along the creek banks resulting from seismic events, weather, or high water.

3.7.1.1 Subsidence

Subsidence is the downward displacement of a large portion of land caused by a variety of factors. Subsidence is typically related to groundwater pumping and subsequent consolidation of loose aquifer sediments, and can also occur due to decomposition of highly organic soils and seasonal drying of expansive clay soils. The northern portion of Napa Valley, where the Project Area is located, is not typically susceptible to subsidence (Jones & Stokes and EDAW, Inc. 2005).

Tectonic subsidence can also occur as a result of soil compaction due to strong ground shaking during earthquakes. Tectonic subsidence results in the compaction of loose, non-cohesive soils, and could occur in parts of Napa County where the groundwater surface is deep. Loose to medium dense, uniformly graded sands are most susceptible. In areas with shallow groundwater, liquefaction is more likely in the event of significant seismic shaking. The potential for ground subsidence due to earthquake motion is largely dependent on the magnitude, duration, and frequency of the earthquake waves.

3.7.3.6 Erosion

Erosion is the process by which rocks, soil, and other land materials are abraded or worn away from the Earth's surface over time. The rate of erosion depends on many factors, including soil type and geologic parent materials, slope and placement of soils, and human activity. The potential for erosion is highest in loose, unconsolidated soils. The steepness of slopes and absence of vegetation are also factors that increase the natural rates of erosion. Thus, erosion potential is high in steep, unvegetated areas, especially those disturbed by grading or other construction activities.

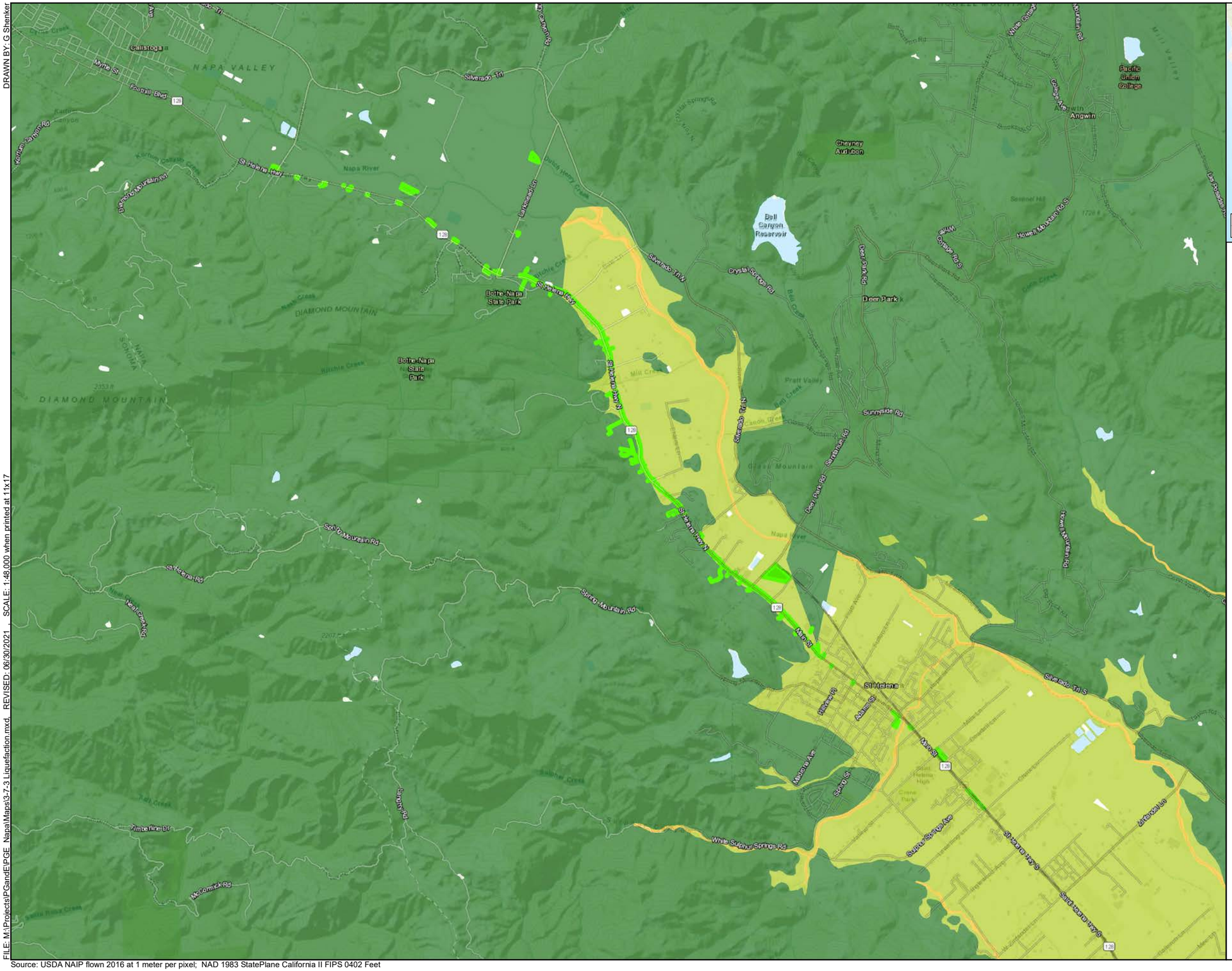
A soil's susceptibility to erosion varies and is a function of its characteristics, such as soil texture, soil structure, topography, amount of vegetative cover, and climate. Erosion from water mainly occurs in loose soils on moderate to steep slopes, particularly during high-intensity storm events. Because the topography along the Project alignment is relatively flat, erosion potential is low.

3.7.3.7 Liquefaction

Liquefaction is a phenomenon in which saturated, cohesion-less soils, such as sand and silt, temporarily lose their strength and liquefy when subjected to dynamic forces, such as intense and prolonged ground shaking. The vast majority of liquefaction hazards are associated with sandy soils and silty soils of low plasticity (CGS 2008). In order to be susceptible to liquefaction, potentially liquefiable soils must be saturated or nearly saturated. In general, liquefaction hazards are most severe in saturated soils within the upper 50 feet of the ground surface. The potential for liquefaction increases with shallower groundwater.

Regional groundwater data from nearby wells collected from the Department of Water Resources and the California State Water Resources Control Board websites indicate that the groundwater table along the Project alignment is on the order of 8 to 25 feet below ground surface. During the geotechnical field investigations completed for the Project Area, groundwater was encountered between 16 and 25 feet below ground surface along portions of the Project alignment (Kleinfelder 2019a; Kleinfelder 2019b; Kleinfelder 2019c). Liquefaction potential within Napa Valley increases in the vicinity of the Napa River and locally near creeks where loose granular sediments have accumulated as a result of stream processes. Liquefaction potential is very low to moderately low along the majority of the Project route, with moderate liquefaction potential where Sulphur Creek crosses the Project route. The approximate boundaries and hazard levels for liquefaction risk along the Project alignment, as defined by the USGS and CGS, are shown on Figure 3.7-3. The potential for liquefaction also depends on soil conditions and groundwater levels, which may fluctuate. The site-specific geotechnical investigations concluded that based on the relative density, soil type, and groundwater levels encountered, the potential for liquefaction and seismically induced ground failure along the investigated segments of the Project Area is low (Kleinfelder 2019a; Kleinfelder 2019b; Kleinfelder 2019c).

DRAWN BY: G Shenker



Legend

- Project Work Areas

Liquefaction Risk

- Moderate
- Moderately Low
- Very Low

Source:
USGS in cooperation with the California Geological Survey

N

0 2,000 4,000 8,000
Feet

Figure 3.7-3
Liquefaction Susceptibility
PG&E Napa Bundle Northern Corridor
Gas Pipeline Maintenance Program
Napa, Ca

Environmental Resources Management
www.erm.com

FILE: M:\Projects\PGandE\PGE_NapaMaps\3-7-3 Liquefaction.mxd REVISED: 06/30/2021 , SCALE: 1:48,000 when printed at 11x17

Source: USDA NAIP flown 2016 at 1 meter per pixel; NAD 1983 StatePlane California II FIPS 0402 Feet

3.7.3.8 Paleontology

A Paleontological Technical Study was completed for the Project on August 26, 2020 (Paleo Solutions, 2020). The report is based on an analysis of existing data, which included a geologic map review, literature and database searches, and record search at the University of California Museum of Paleontology (UCMP), and a pedestrian field survey.

Mapping by Delattre and Gutierrez (2013) and Graymer et al. (2007) was used to define the geological units. The bedrock is primarily units of the Somona Volcanics. The northern Project Area crosses the Rhyolite of Calistoga but the majority of the Project is in the Tuff of Petrified Forest (Delattre and Gutierrez, 2013) or the pumiceous ash-flow tuff as listed in Graymer et al. (2007). The northern part of the Project also borders a mapped deposit of "unnamed sediments" that was formerly mapped as the Glen Ellen Formation. The Glen Ellen Formation is composed of a mix of fluvial and lacustrine units with abundant gravel, often containing clasts of obsidian. Quaternary units include alluvial fan deposits, landslides, alluvial deposits, and terrace deposits. The distributions of the geologic units in the Project Area and the immediate vicinity is illustrated in Figure 2 of the Paleontological Technical Study.

The UCMP records search was negative for fossils within the Project Area (Holroyd, 2020), and no fossils were observed during the pedestrian survey (Paleo Solutions, 2020). However, the results of the literature and database reviews indicate that significant fossils have been recovered elsewhere from the same geologic units within the Project Area. The geologic units within the Project Area, and their paleontological potentials, are described below.

Alluvial Fan Deposits (Qhf, Qf)

For the purposes of this report, the Holocene and Holocene to late Pleistocene fan deposits are lumped together. The fan deposits are clearly recognized by their lobate structure and position at the heads of the canyons emanating from the valleys to the west. In Napa Valley, the fans are rarely dissected (older is more dissected) and are composed of moderately- to poorly-sorted sand, gravel, and silt. Because of their coarse nature and assumed thinness, alluvial fan deposits in this part of the Project are not likely to contain paleontological resources, and are considered to have low paleontological potential.

Landslides (Qls)

Landslides at a mappable scale occur predominantly in the higher elevations, rooted in weakly lithified tuffaceous units of the Sonoma Volcanics. A few smaller landslides are mapped along the base of the mountain front bordering and crossing the Project. Landslide deposits of this scale rarely contain fossil remains and the young age (likely

historical) negates the possibility of hosting significant resources, therefore, the unit has low paleontological potential.

Alluvial Deposits (Qha) and Terrace Deposits (Qht, Qt)

Deposits associated with the ancestral and modern Napa River dominated the valley floor. Constructional terraces of both recent and Holocene to Pleistocene age are found where Ritchie Creek enters the valley, near the Bothe State Park. Smaller deposits also occur at the mouth of the canyon near the Bale Grist Mill State Historic Park. Throughout the valley, basal alluvium and terrace deposits consist of poorly to moderately sorted sand, silt, and gravel that underlay flat, smooth surfaces. In the Project Area, these sediments host the rich vineyards of Napa Valley. Because of their young age and lack of a known fossil record, the alluvium and terrace deposits are not likely to host fossil resources, and therefore, have a low paleontological potential.

Unnamed Fluvial and Lacustrine Deposits (QTg)

Delattre and Guiterrez (2013) identified a unit of weakly consolidated gravel, tuffaceous sand, silt, and clay in the northwestern boundary of the Project Area. The unit overlies the Sonoma Volcanics and the majority of the gravels are composed of rounded to sub-rounded volcanic clasts. Of note are clasts of obsidian up to pebble size. In previous maps, this unit was referred to the “Glen Ellen Formation”, but the authors did not feel a direct correlation was warranted. However, the unnamed fluvial and lacustrine deposits are very similar in nature and age to the Glen Ellen Formation and likely have a similar potential to host paleontological resources. Therefore, the paleontological sensitivity is potentially high based on similar exposures elsewhere in Napa and Sonoma counties.

In the literature, Pliocene to Pleistocene lacustrine and fluvial deposits of Napa and Sonoma counties, such as the Glen Ellen Formation have a similar composition (Wagner and Bortugno, 1982; Sweetkind et al., 2011; Delattre, 2011), notably the incorporation of obsidian clasts (Fox, 1983). The majority of fossils from this unit are non-marine algae and mollusks (McLaughlin et al., 2004).

Sonoma Volcanics

Rhyolite of Calistoga (Tsrc)

This Pliocene (3.2 to 2.8 million years old) unit is most noteworthy of the rhyolite to rhyodacidic domes and flows found in the upper Napa Valley as a series of domical hills (McLaughlin et al., 2005). Most of the unit is massive or flow-banded rhyolite and also includes crystal and lithic tuff and vitrophyres. The Ryolite of Calistoga has no paleontological potential.

Tuff of Petrified Forest (Tstp) or Pumiceous Ash-flow Tuff (Tst)

Much of the Project borders the Tuff of Petrified Forest, a thick section of silicic tuff, tuff breccia, and agglomerate with several andesitic to dacitic lava flows. The tuffs are pumice-rich with abundant lithic clasts. Most of the units were laid down as ash-flows but there is also evidence for minor water-lain and air-fall tuffs. McLaughlin and others (2004, 2005) dated the unit and found it contains the Petrified Forest and Putah tuffs (3.27 to 3.35 million years ago) at the base, the dacitic tuff of Pepperwood Ranch (3.22 million years ago) and the Franz Valley ash-flow tuff (2.85 million years ago).

In general, lavas very rarely contain fossils but tuffs and debris flows may preserve vertebrate, invertebrate, and plant remains. The Tuff of Petrified Forest hosts one of the world's best-preserved ancient redwood forests (Dorf, 1930; Axelrod, 1944; Lisle, 1946; Fisk et al., 2013). An extensive collection of fossil plants at UCMP comes from the Sonoma Tuffs at Mt. George, approximately 14 miles southeast of the Project.

Elsewhere, tuffs in the Sonoma Volcanics have produced invertebrates (Kunkel and Upson, 1960). Several horse fossils were recovered from Ritchie Creek near St. Helena (Woodburne, 1966). A review of the online holdings of the UCMP also yielded a mammoth tooth from the Scott Ranch which may be the same Scott Family Estate located in St. Helena. The record lists the "Tehama Formation" but that formation does not occur in the region and refers to an older classification scheme. Rather, the fossil is more likely from the tuffs or from the "Glen Ellen Formation" equivalent.

The Tuff of Petrified Forest has a high potential to yield significant fossils in the Project Area.

3.7.4 Avoidance and Minimization Measures and Potential Impacts

The following sections provide AMMs and assess potential geologic impacts related to Project construction and operation.

3.7.4.1 Avoidance and Minimization Measures

PG&E would implement the following AMM (see Section 3.10, Hydrology and Water Quality, for AMMs related to erosion control):

AMM GEO-1: Incorporation of Geotechnical Report Conclusions and Design Considerations. Geotechnical data presented in the Geotechnical Investigation Reports will be incorporated into design and construction of the Project. This includes recommendations for trenching methods based on local soil conditions; measures to implement when encountering cohesionless soils (such as avoiding, replacing, or improving such soils); recommendations for trench side slope configurations for local soil types and appropriate shoring, where necessary; and pipeline design

considerations, including imported excavation backfill requirements. Any required shoring should be designed by a professional engineer registered in the State of California.

AMM Paleo-1**: **Unanticipated Discovery. If significant paleontological resources are discovered during construction activities, the following procedures will be followed:

- Stop work immediately within 100 feet;
- Contact the designated Project inspector and PG&E Cultural Resource Specialist (CRS) immediately;
- Protect the site from further impacts, including looting, erosion or other human or natural damage;
- The PG&E CRS will arrange for a Principal Paleontologist to evaluate discovery. If the discovery is determined to be significant PG&E will implement measures to protect and document the paleontological resource;
- Work may not resume within 100 feet of the find until approval by the paleontologist and PG&E CRS.

***AMM Paleo-2: Worker Environmental Awareness Training*.** Moderate and potentially high sensitivity formations are identified within the Project area; therefore, PG&E (or contractor) will provide environmental awareness training on paleontological resources protection. This training may be administered as a stand- alone training or included as part of the overall environmental awareness training as required by the Project. The training will include, at minimum, the following:

- The types of fossils that could occur at the Project site;
- The types of lithologies in which the fossils could be preserved;
- The procedures that should be taken in the event of a fossil discovery;
- Penalties for disturbing paleontological resources.

AMM Paleo-3: Monitoring. Given that a high sensitivity formation has been identified within the Project area, construction monitoring is required in those spot locations. Monitoring may be reduced to part time, spot checking, or none if no significant fossils are uncovered after 50 percent completion of construction in sensitive areas. Conversely, in areas where fossils are identified, monitoring activity may be increased

as necessary. Any change in frequency will be determined by the Principal Paleontologist in consultation with PG&E.

All monitoring activities will be documented on daily logs; frequency of reporting the daily activities will be determined on a project-by-project basis. Monitoring logs and reports should include the activities observed, geology encountered, description of any resources encountered, and measures taken to protect or recover discoveries. Photographs and other supplemental information should be included as necessary.

AMM Paleo-4: Design and Implementation of a Paleontological Resources Monitoring and Mitigation Plan (PRMMP). PG&E will design and implement a Paleontological Resources Monitoring and Mitigation Plan (PRMMP). The PRMMP will include the key information gathered in the preconstruction research, including the regulatory context, results of the paleontological resources inventory, identification of sensitive formations or fossil localities in the Project area, and proposed treatment measures. In addition, the PRMMP will outline specific procedures to follow, personnel to contact and repositories for curation in the event of fossil discovery. Important research questions pertaining to the types of fossils that may be encountered in the sensitive formations should also be identified

AMM Paleo-5: Fossil Recovery. In the event that significant paleontological resources are encountered during the Project, protection and recovery of those resources may be required. On public lands, treatment and curation of fossils will follow procedures outlined by the land managing agency. On private property, treatment and curation of fossils will be conducted in consultation with the landowner, PG&E and the lead agency. Procedures for recovering significant fossils are typically outlined in the PRMMP. A Principal Paleontologist is responsible for developing the recovery strategy and will lead the recovery effort, which will include establishing recovery standards, preparing specimens for identification and preservation, documentation and reporting, and securing a curation agreement from the approved agency. A Paleontological Monitor or other qualified individual may conduct the recovery of fossil discoveries under the direction of the Principal Paleontologist.

3.7.4.2 Potential Impacts

a) Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. *No Impact*

Surface fault rupture is most likely to occur on active faults (i.e., faults showing evidence of displacement within the last 11,000 years). The Project alignment does not cross any faults zoned under the Alquist-Priolo Act, and none of the faults in close proximity to the Project alignment are considered active faults by CGS (see Figure 3.7.2). The Project includes replacing pipeline and performing hydrostatic testing. None of the proposed activities will increase the risk of loss, injury, or death from rupture of known earthquake faults. Therefore, there would be no impact.

ii) Strong seismic ground shaking? *Less-than-Significant Impact*

Due to the presence of major regional seismic sources, it is possible that the Project would be exposed to at least one moderate or greater earthquake, and that the earthquake would be centered close enough to the Project to produce strong ground shaking in the Project Area. Active faults in the vicinity of the Project Area that present significant potential for strong ground shaking within the region include: the Maacama Fault, the Rodgers Creek Fault, a segment of the West Napa Fault, a segment of the Green Valley Fault, and the Hunting Creek Fault (approximately 8, 12, 15, 18, and 18 miles, respectively, from the Project), which have shown Holocene displacement (active within the last 11,700 years); and a segment of the Green Valley Fault (approximately 25 miles from the Project), the closest fault that has shown displacement within the last 200 years.

Although the Project may experience strong seismic ground shaking, construction activities would not exacerbate existing, or introduce new, seismic ground shaking hazards. Construction workers would be present for a short duration during Project construction activities and therefore the potential for exposure to substantial risk of injury to people would be limited. The replacement pipeline would be located along the same general alignment as the existing pipeline, and as such, would not expose people or structures to potential adverse effects beyond current conditions. The pipeline would be designed and constructed in accordance with all applicable regulations regarding pipeline design and safety, including Code of Federal Regulations (CFR) 49 Part 192, Transportation of Natural and other Gas by Pipeline: Minimum Federal Safety Standards, and CPUC No. 112-E, which supplements CFR 49 Part 192.

Compliance with CPUC General Order No. 112-E would ensure proper pipeline design and construction to withstand seismic events, as previously described. CFR 49 Part 192 prescribes minimum safety requirements for pipeline facilities and the transportation of gas. The federal code includes specific guidelines and requirements for pipeline design; design of pipeline components such as connections, bends, and welds; general construction requirements; test requirements; pipeline operation and maintenance; and pipeline integrity and management. PG&E would comply with all federal and state regulations described in these codes. Pipelines are designed for lateral and axial stresses, and to stay together with ground movement and move with the ground during a seismic event. Therefore, the impact associated with strong seismic ground shaking would be less than significant.

iii) Seismic-related ground failure, including liquefaction? *Less-than-Significant Impact*

No portions of the Project Area are located within a current designated Alquist-Priolo Earthquake Fault Zone, and known active faults are approximately 8 to 35 miles away from the Project Area. Surface rupture is not likely to occur in the Project Area as a result of fault movement. However, nearby seismic activity can result in liquefaction of soils, typically in areas underlain by unconsolidated, saturated soils. Portions of the Project would be constructed in areas that are classified as very low to moderate potential liquefaction zones, as depicted on Figure 3.7-3.

Construction activities would not introduce new liquefiable soils or substantially increase the amount of water runoff into these areas. Therefore, Project-related activities would not cause or increase this geologic hazard. Based on the relative density, soil type, and groundwater levels encountered, the potential for liquefaction and seismically induced ground failure along the investigated segments of the Project Area is low (Kleinfelder 2019a; Kleinfelder 2019b; Kleinfelder 2019c).

To reduce the potential for seismically induced ground failure within the Project Area, all soil trenching/excavation and backfilling would take place following methodologies recommended in the site-specific geotechnical investigation reports, under AMM GEO-1, and using equipment and materials that meet the design specifications outlined above in response a)ii). Furthermore, with implementation of AMM GEO-1, PG&E would implement appropriate design measures where cohesionless soils may be encountered in order to minimize soil hazards that could be exacerbated by strong seismic ground shaking. Therefore, potential impacts associated with seismic-related ground failure, including liquefaction, would be less than significant.

iv) Landslides? *No Impact*

Based on a review of topographic maps, the majority of the Project alignment is located on either level ground or slopes less than 5 percent. No mapped landslide hazard areas exist within the Project alignment. The foothills to the west of SR 29 and the Project Area are mapped as having few landslides (City of St. Helena 2019; California Department of Conservation 2015). However, these landslide occurrences are restricted to areas of higher elevation and have not extended into the Project Area. Therefore, no impacts associated with landslides would occur.

b) Would the Project result in substantial soil erosion or the loss of topsoil? *Less-than-Significant Impact*

Construction-related soil disturbance, including clearing, grading, excavating, and stockpiling, could result in soil loss because of wind erosion. Trenchless construction methods (e.g. horizontal directional drilling, auger boring) would be used to install pipeline at water crossings and along other portions of the Project alignment to avoid surface features and sedimentation, scour, and bank erosion. The use of these trenchless methods limits the locations of ground surface disruption to the entry and exit pits. In undeveloped and agricultural areas, implementation of erosion-control measures and best management practices as outlined in the Storm Water Pollution Prevention Plan, under AMM WQ-1, and as further discussed in Section 3.10, Hydrology and Water Quality, would minimize soil erosion or the loss of topsoil from trenching, excavating activities, and travel along unpaved access. For construction work within SR 29, all spoils would be continuously off-hauled and not stored on-site. The Project would not accelerate long-term natural processes of wind and water erosion and sedimentation as there would be no permanent aboveground structures or changes in surface conditions as a result of Project activities. All earth-disturbing activities would be temporary, and the ground surface would be restored to pre-Project conditions following pipeline installation and testing. Therefore, potential impacts associated with substantial soil erosion or loss of topsoil would be less than significant.

c) Would the Project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse? *Less-than-Significant Impact*

Based on a review of topographic maps, the Project alignment is located either on level ground or on slopes less than 5 percent. No mapped landslide hazard areas exist within the Project alignment. The primary soil types encountered beneath the Project Area consist of unconsolidated and semi-consolidated alluvial deposits. Mapping by the USGS identifies liquefaction potential along the majority of the Project route to be very low to moderately low, with moderate liquefaction potential where the Project crosses Sulphur Creek (Figure 3.7-3). Project geotechnical investigations along R-1018, R-

1018B, and T-1448A determined the potential for liquefaction and seismically induced ground failure to be low, based on the relative density, soil type, and groundwater levels encountered, (Kleinfelder 2019a; Kleinfelder 2019b; Kleinfelder 2019c). Construction activities would not introduce new liquefiable soils or substantially increase the amount of water runoff into these areas. Therefore, Project-related activities would not cause or increase this geologic hazard.

Mapped soils in the Project Area are primarily unconsolidated and semi-consolidated alluvial deposits, which could be subject to subsidence. Appropriate design measures, as recommended in the site-specific geotechnical investigation reports, under AMM GEO-1, would be implemented to avoid, accommodate, replace, or improve any problematic soft or loose soils encountered during construction. The implementation of AMM GEO-1 would further reduce less-than-significant impacts associated with potentially soft or loose soils. The Project does not include extraction of groundwater, so the Project would not result in any impact from subsidence associated with groundwater withdrawal.

Unstable conditions associated with geologic units or soils are not expected within portions of the Project Area located within SR 29 or existing roadways that have previously been graded and underlain by engineered fill. Portions of the Project alignment would go through undeveloped or agricultural areas, where open trenching and excavation would occur. These activities have the potential to impact soil stability. Where necessary, shoring would be used when trenching to prevent soil collapse, as recommended in the site-specific geotechnical investigation reports, under AMM GEO-1. Therefore, the impact would be less than significant.

d) Would the Project be located on expansive soil, as defined in Section 1802.3.2 of the California Building Code (2007 or 2010), creating substantial direct or indirect risks to life or property? *Less-than-Significant Impact*

Soil units beneath the alignment primarily consist of sand, gravel, and cobbles with varying amounts of clay and silt, as well as stiff to hard lean clays (Kleinfelder 2019a; Kleinfelder 2019b; Kleinfelder 2019c). Soils within the Project site have a low to moderate shrink-swell potential (Lambert and Kashiwagi 1978). Expansive soils expand during periods of heavy rainfall and contract when moisture evaporates; the resulting volume changes in the soil can result in damage to subsurface features. Permanent Project structures would consist of subsurface pipeline and service taps, which would, for a significant portion of the Project Area, be located within existing roadways that have previously been graded and underlain by engineered fill that is not likely to contain clayey soils susceptible to shrinkage/swelling. Construction of the Project components would not introduce new expansive soils or modify soil types underlying the Project that could increase potential impacts related to expansive soils. Construction activities would

follow methodologies recommended by the results of the site-specific geotechnical investigations, using equipment and materials that meet appropriate engineering specifications. Therefore, potential impacts associated with expansive soil would be less than significant.

e) Would the Project have soils incapable of adequately supporting the use of septic tanks or alternative waste-water disposal systems where sewers are not available for the disposal of waste water? *No Impact*

The Project does not include a waste disposal system; therefore, no impact would occur.

f) Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? *Less-than-Significant Impact*

The majority of the Project lies on Holocene and Holocene to Pleistocene age alluvial deposits that are considered to have low paleontological potential due to their age. However, the proximity to the bedrock and the depth of planned excavations (up to 18 feet deep) makes it likely that the Project would encounter older, more paleontologically sensitive units, including the Tuff of Petrified Forest. Customer service lines extending to homes and businesses to the west of the main alignment are anticipated to be excavated directly into bedrock, particularly in the southern portion of the Project Area between approximately Pratt Avenue and Big Tree Road, and may encounter paleontological resources. Portions of the Project Area footprint to the north of Peterson Drive cross and are immediately adjacent to areas mapped as the paleontologically sensitive unnamed lacustrine and fluvial sediments; however, excavations in those areas are not anticipated. Therefore, no impacts to paleontological resources are expected in the northern portion of the Project Area. Additionally, no impacts to paleontological resources are expected during excavations within the Rhyolite of Calistoga.

The incorporation of AMMs Paleo-1 through Paleo-5 would reduce potential impacts to paleontological resources to less-than-significant levels.

3.8 GREENHOUSE GAS EMISSIONS

3.8.1 Introduction

This section discusses potential greenhouse gas (GHG) emissions associated with Project construction, operation, and maintenance, and concludes that impacts would be less than significant. GHG emissions were calculated and reported in CO_2 equivalents (CO_2e) for carbon dioxide (CO_2), nitrous oxide, and methane (CH_4) emissions from on-road, off-road, and heavy construction emissions. The implementation of the Avoidance and Minimization Measure(s) (AMMs) described in Section 3.7.4.2, as well as those described in Section 3.3, Air Quality, would further reduce less-than-significant impacts.

The Project's potential effects on GHG emissions were evaluated using the criteria set forth in Appendix G of the CEQA Guidelines. The conclusions are summarized in Table 3.8-1 and discussed in more detail in Section 3.7.4.

Table 3.8-1: CEQA Checklist for Greenhouse Gas Emissions

Would the Project:	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

3.8.2 Regulatory Background and Methodology

3.8.2.1 Regulatory Background

Federal

The Supreme Court decision in *Massachusetts et al. v. Environmental Protection Agency et al.* (Supreme Court Case 05-1120) found that the Environmental Protection Agency (EPA) has the authority to list GHGs as pollutants and to regulate emissions of GHGs under the federal Clean Air Act. On April 17, 2009, EPA found that CO_2, CH4, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride may contribute to air pollution and may endanger public health and welfare. EPA has established reporting regulations that require specific facilities and industries to report their GHG emissions annually. *40 Code of Federal Regulations Part 98, Mandatory Reporting of Greenhouse Gases Rule* requires mandatory reporting of GHG emissions for facilities that emit more than 25,000 metric tons of CO_2e per year.

40 Code of Federal Regulations Part 52, Proposed Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule requires application of Prevention of Significant Deterioration and Title V requirements to facilities whose stationary source CO2e emissions exceed 100,000 tons per year.

State

Executive Order S-3-05

State Executive Order S-3-05 established GHG reduction targets for the state of California. The targets called for a reduction of GHG emissions to 2000 levels by 2010; a reduction of GHG emissions to 1990 levels by 2020; and a reduction of GHG emissions to 80 percent below 1990 levels by 2050. The California Environmental Protection Agency secretary is required to coordinate development and implementation of strategies to achieve the GHG reduction targets.

Executive Order B-30-15

In April 2015, Governor Brown signed Executive Order B-30-15 that added the intermediate target of reducing GHG emissions to 40 percent below 1990 levels by 2030.

Global Warming Solutions Act of 2006

In 2006, the California State Legislature signed the Global Warming Solutions Act of 2006 (Assembly Bill [AB] 32), which provides the framework for regulating GHG emissions in California. This law requires the California Air Resources Board (CARB) to design and implement emission limits, regulations, and other measures such that statewide GHG emissions are reduced in a technologically feasible and cost-effective manner to 1990 levels by 2020. The statewide 2020 emissions limit is 427 million metric tons CO_2e.

Part of CARB's direction under AB 32 was to develop a scoping plan that outlines the main strategies California will use to reduce GHG emissions that cause climate change. The scoping plan includes a range of GHG reduction actions, including direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, market-based mechanisms such as a cap-and-trade system, and an AB 32 cost of implementation fee regulation to fund the program.

CARB published a Preliminary Draft Staff Proposal titled *Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality Act* in October 2008 that included a proposal that non-transportation-related sources with GHG emissions less than 7,000 metric tons of CO_2e per year should be presumed to have a less than significant impact (CARB 2008).

On December 30, 2009, the California Resources Agency adopted amendments to the CEQA guidelines to include analysis of GHG emissions in CEQA documents, deferring significance thresholds to the lead agency. The amendments became effective on March 18, 2010.

Senate Bill 32 and Assembly Bill 197

On September 8, 2016, Governor Brown signed Senate Bill 32 and AB 197, which codified the 2030 GHG emissions reduction target of 40 percent below 1990 levels and provided additional direction for updating the scoping plan. CARB published the California's 2017 Climate Change Scoping Plan in November 2017 to identify how California can reach the 2030 climate target set by Senate Bill 32.

Regional

The California Air Pollution Control Officer's Association has established the Greenhouse Gas Reduction Exchange for GHG emission credits in California. Credits listed on the Greenhouse Gas Reduction Exchange come from voluntary emission reduction projects and can be purchased to offset GHG emissions.

Local air districts act under state law and their discretionary requirements apply to PG&E utility projects. The Bay Area Air Quality Maintenance District (BAAQMD) regulates air quality and air quality sources for the area of the Project. BAAQMD has not yet adopted a Threshold of Significance for construction-related GHG emissions; however, the guidance states that any threshold used to evaluate GHG emissions should be linked to the AB 32 Scoping Plan, which is the plan for California to achieve its GHG emission reduction goals and the Greenhouse Gas Emissions section from CEQA Checklist Form.

Local

The following reviews of the county's and city's greenhouse gas emissions-related policies and regulations is provided for informational purposes and to assist with CEQA review.

Napa County Draft Climate Action Plan

The Napa County Department of Planning, Building, and Environmental Services created a Climate Action Plan intended to quantify and reduce GHG emissions in Napa County (County of Napa 2018). The plan outlines energy efficiency measures to reduce GHG emissions from local sources to comply with State-legislative targets. Proposed measures are focused on building requirements, agricultural operations, recreation, tree preservation, and transportation.

3.8.2.2 Methodology

Air quality impacts were analyzed using the California Emissions Estimator Model (CalEEMod) version 2016.3.1. CalEEMod was developed for the California Air Pollution Officers Association in collaboration with California air districts to calculate air and GHG emissions associated with land use projects. This program analyzes construction (short-term) and operational (long-term) emissions by using both default values for specific geographic areas and typical land use projects as well as project-specific values such as construction schedules and equipment rosters. Included with the construction emissions are emissions associated with delivering liquid natural gas to customers during the construction phase.

3.8.3 Environmental Setting

3.8.3.1 Regional Setting

GHGs are global concerns, unlike criteria air pollutants or toxic air contaminants that are of regional and/or local concern. Scientific research indicates that observed climate change is most likely a result of increased GHG emissions associated with human activity (IPCC 2007). Global climate change describes a collection of phenomena, such as increasing temperatures and rising sea levels, occurring across the globe due to increasing anthropogenic emissions of GHGs. GHGs contribute to climate change by allowing ultraviolet radiation to enter the atmosphere and warm the Earth's surface, but also prevent some infrared radiation from the earth from escaping back into space. The largest anthropogenic source of GHGs is the combustion of fossil fuels, which results primarily in CO_2 emissions.

As defined in AB 32, "greenhouse gas" or "greenhouse gases" include, but are not limited to CO_2, CH_4, nitrogen oxides, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. California is a substantial contributor to global GHG emissions. It is the second largest contributor in the United States and the 16th largest in the world (CEC 2006).

3.8.4 Avoidance and Minimization Measures and Potential Impacts

The following sections describe significance criteria for GHG emission impacts, provide AMMs, and assess potential Project-related construction and operational air quality impacts.

3.8.4.1 Significance Criteria

BAAQMD has a significance threshold of 10,000 metric tons of CO_2e per year for stationary source projects (BAAQMD 2017). This threshold was derived from emissions data from the four largest air districts in California and is based on the Executive Order S-3-05 GHG emissions reductions goal of 80 percent below 1990 levels by 2050, which

is roughly equivalent to 90 percent below current levels by 2050. This emissions reduction goal goes beyond the AB 32 emissions reduction goal established for 2020. The emissions data suggests that approximately 1 percent of all stationary sources emit more than 10,000 metric tons of CO_2e per year and are responsible for 90 percent of GHG emissions. This significance threshold represents a capture rate of 90 percent of all new and modified stationary source-related projects. A 90 percent emissions capture rate means 90 percent of the total emissions from all new or modified stationary source projects would be subject to analysis in an environmental impact report prepared pursuant to CEQA, including analysis of feasible alternatives and imposition of feasible mitigation measures (SCAQMD 2008).

As noted above, this GHG significance threshold is intended for long-term operational GHG emissions associated with stationary sources; BAAQMD has not adopted or recommended GHG significance thresholds for construction emissions. Therefore, in recent CEQA documents, the California Public Utilities Commission has elected to use an approach to the determination of significance of GHG construction emissions based on guidance developed by the South Coast Air Quality Maintenance District (SCAQMD). For construction-related GHGs, SCAQMD recommends that total emissions from construction be amortized over 30 years and added to operational emissions and then compared to the operation-based significance threshold of 10,000 metric tons of CO_2e per year (SCAQMD 2008).

Per Appendix G of the CEQA Guidelines, the potential significance of the Project's GHG emissions were evaluated for each of the criteria listed in Table 3.8-1, as discussed in Section 3.7.4.3.

3.8.4.2 Avoidance and Minimization Measures

PG&E would implement the following AMMs:

AMM GHG-1: Minimize GHG Emissions.

- Minimize unnecessary construction vehicle idling time. The Project will apply a "common sense" approach to vehicle use, so that idling is reduced as far as possible below the maximum of 5 consecutive minutes allowed by California law; if a vehicle is not required for use immediately or continuously for construction activities, its engine will be shut off. Construction foremen will include briefings to crews on vehicle use as part of preconstruction conferences. Those briefings will include discussion of a "common sense" approach to vehicle use.

- Maintain construction equipment in proper working conditions in accordance with PG&E standards.

- Minimize construction equipment exhaust by using low-emission or electric construction equipment where feasible. Portable, diesel-fueled construction equipment with engines 50 horsepower or larger and manufactured in 2000 or later will be registered under the CARB Statewide Portable Equipment Registration Program.

- Minimize welding and cutting by using compression of mechanical applications where practical and within standards.

- Encourage the recycling of construction waste where feasible.

3.8.4.3 Potential Impacts

Potential Project impacts related to GHG emissions were evaluated using the significance criteria discussed above and Appendix G of the CEQA Guidelines. Similar to the SCAQMD's recommended approach for construction emissions, this analysis amortizes the construction emissions over a 30-year Project lifetime then compares those emissions to the significance threshold of 10,000 metric tons of CO2e per year.

a) Would the Project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? *Less-than-Significant Impact*

Construction of the Project would generate GHG emissions over the 5-month construction period. Construction-related emissions would result from off-road construction equipment and machinery, and from vehicular traffic generated by commuting workers and material hauling and disposal, as well as from LNG tankers. Following Project completion, all construction emissions would cease. The Project's total estimated GHG emissions associated with construction activities are shown in Table 3.8-2.

Project construction emissions associated with the use of off-road construction equipment—such as graders, backhoes, loaders, and cranes—were estimated for the Project using CalEEMod. CalEEMod, which employs emission factors for on-road trucks and worker vehicles derived from CARB's EMFAC2011 Model, was also used to estimate offsite construction-related vehicle emissions.

Table 3.8-2 presents the total estimated GHG construction emissions generated by the Project as calculated by CalEEMod without the application of AMMs. As described in the table, approximately 2,748 metric tons of CO_2e would be generated during the Project's construction phase, which is below the BAAQMD stationary source threshold even without being amortized over the life of the Project which is defined as 30 years. Therefore, impacts would be less than significant.

Table 3.8-2: Total GHG Construction Emissions (metric tons C02e)

Pollutant	Total Construction Emissions	BAAQMD CEQA Threshold
CO2 (metric tons/year)	2,748	10,000

Note: Emissions calculated using the CalEEMod emissions estimation model.

b) Would the Project conflict with any applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? *Less-than-Significant Impact*

The Project would not conflict with an applicable plan, policy, or regulation adopted to reduce GHG emissions. The minimal short-term construction related GHG emissions would not interfere with the long-term goal of SB 32 to reduce GHG emissions to 40 percent below 1990 levels by 2030. Operation and maintenance of the Project would be incorporated into existing PG&E activities such that GHG emissions from operation and maintenance activities are not anticipated to increase as a result of this Project. Therefore, the Project would not conflict with plans, policies, or regulations intended to reduce GHGs.

3.9 HAZARDS AND HAZARDOUS MATERIALS

3.9.1 Introduction

This section describes existing conditions and potential impacts related to hazards and hazardous materials associated with construction, operation, and maintenance of the Project. The analysis concludes that any impacts related to hazards and hazardous materials would be less than significant; the implementation of Avoidance and Minimization Measures **(AMM)** described in Section 3.9.4.2 would further reduce less-than-significant impacts. The Project's potential effects associated with hazards and hazardous materials were evaluated using Appendix G of the CEQA Guidelines. The conclusions are summarized in Table 3.9-1 and discussed in more detail in Section 3.9.4.

Table 3.9-1: CEQA Checklist for Hazards and Hazardous Materials

Would the Project:	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐
e) For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard or excessive noise for people residing or working in the Project Area?	☐	☐	☐	☒

Would the Project:	Potentially Significant Impact	Less-than-Significant Impact with Mitigation In corporated	Less-than-Significant Impact	No Impact
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☒	☐

3.9.2 Regulatory Background and Methodology

3.9.2.1 Regulatory Background

The following paragraphs contain an overview of regulations related to the use of hazardous materials and the disposal of hazardous wastes.

Federal

The National Contingency Plan, enabled by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), provides the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, or contaminants. The Clean Water Act gives EPA the authority to regulate the discharge of pollutants and hazardous materials into the waters of the United States. The EPA designates hazardous substances under the Federal Water Pollution Control Act and determines quantities of designated hazardous substances that must be reported or that may be discharged into waters of the United States.

U.S. Department of Transportation Hazardous Materials Regulations

The U.S. Department of Transportation Hazardous Materials Regulations cover all aspects of hazardous materials packaging, handling, and transportation.

State

Hazardous Waste Control Law (/--MIGL)

The HWCL authorizes the Cal/EPA and the DTSC to regulate the generation, transportation, treatment, storage, and disposal of hazardous wastes. Businesses that store more than the threshold quantities of hazardous materials must prepare a Hazardous Materials Business Plan, which includes spill prevention and response provisions.

Porter-Cologne Water Quality Control Act

As discussed in more detail in Section 3.10, Hydrology and Water Quality, the Porter-Cologne Water Quality Control Act is the provision of the California Water Code that regulates water quality in California and authorizes the State and Regional Water Resources Control Boards The Project area is under the jurisdiction of the San Francisco Bay Regional Water Quality Control Board.

California Health and Safety Code

The California Health and Safety Code identifies hazardous waste control regulations related to transportation, treatment, recycling, disposal, enforcement, and permitting of hazardous waste, and regulations pertaining to hazardous materials release cleanups.

California Code of Regulations Title 22, Division 4.5

These regulations are enforced by the DTSC and include environmental health standards for the management of hazardous waste, including standards for identification and listing of hazardous waste and standards applicable to generators and transporters of hazardous waste.

CCR Title 8, Industrial Relations

Cal/OSHA is primarily responsible for developing and enforcing standards for ensuring worker safety, which would apply to the Project. CCR Title 8 includes regulations related to control of hazards, labeling, and training requirements for hazardous chemicals, prevention of hazardous exposure, management of hazardous materials, and operations involving hazardous wastes.

Local

Local plans that were reviewed include the Napa County General Plan (Safety Element) and City of St. Helena General Plan (Public Health, Safety, and Noise Element). These General Plans address general goals and policies pertaining to safety and hazardous materials safety, including limiting development in high hazard areas (floodplains, fire hazard areas, and seismic hazard zones)t facilitating safe transport, use, and storage of hazardous materials; and encouraging reduction or elimination of the use of hazardous materials. The Napa County Operational Area Hazard Mitigation Plan provides hazard mitigation and emergency response protocols in the Project area (Napa County, 2017).

3.9.2.2 Methodology

The methodology for analyzing impacts from hazards and hazardous materials includes identifying general types of hazardous materials and activities used during Project construction, operation, and maintenance. Potential impacts on the environment and public health from hazards and hazardous materials were further evaluated using information on the existing uses of the Project area and adjacent properties, historical

uses, and known contamination to determine the likelihood of encountering hazardous materials.

A report was obtained from Environmental Data Resources Inc. (EDR; EDR 2020) and reviewed to screen for hazardous waste sites in the proposed Project Area. The EDR report includes: 1) information on sites within a 1-mile radius of the Project Area that were identified in federal, state, and local databases related to hazardous materials and wastes; and 2) maps showing the locations of these sites. The database search process reviews multiple lists for historically contaminated properties and businesses that use, generate, or dispose of hazardous materials or petroleum products in their operation. In addition, the EDR search reviews lists of active contaminated sites that are currently undergoing monitoring and remediation.

As specified by CEQA significance criterion (see Table 3.9-1), the EDR report was used to identify sites along the routes that are included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 ("Cortese List"). Because the Cortese List is no longer specifically updated by the state, those requesting a copy of the Cortese List are now referred directly to the appropriate information resources contained on the websites of the boards or departments that are referenced in the statute. Therefore, the EDR report's listing of Cortese List sites was supplemented by a review of the following:

- Sites listed on DTSC's Envirostor database (DTSC 2020)
- Sites listed on the SWRCB GeoTracker database (SWRCB 2020)
- SWRCB lists of sites: 1) with reported waste constituents above hazardous waste levels outside the waste management unit; 2) with active Cease and Desist Orders and Cleanup and Abatement Orders for hazardous wastes; or, 3) identified by DTSC as subject to corrective action pursuant to Section 25187.4 of the California Health and Safety Code (Cal/EPA 2020)

The EDR report was also used to screen for nearby hazardous waste sites that could potentially affect the Project.

The potential for activities and equipment that could pose fire hazards was evaluated through review of state fire hazard maps (CAL FIRE 2019). Potential Project-related public safety issues associated with the use of hazardous materials, risk of property damage by wildfires, and an increase in accidents were identified through review of Napa County land use documents (Napa County 2008).

3.9.3 Environmental Setting

The Project area is located within unincorporated Napa County and St. Helena in or adjacent to Caltrans' ROW along SR 29. The Project alignment extends for approximately 7 miles in a general southeast-to-northwest direction beginning in St. Helena near Sulphur Creek and ending at Dunaweal Lane, near the southeastern boundary of Calistoga.

3.9.3.1 Airports

The closest public use airport to the Project Area is Angwin-Parrett Field, located 5 miles northeast of St. Helena. Two private airstrips (heliports) are located near the Project area: the St. Helena Fire Department heliport, on the east side of SR 29 at Big Tree Lane; and the River Meadow Farm heliport, located 4 miles southeast of the City of St. Helena. The Project is not within any airport land use plan footprint.

3.9.3.2 Schools

As shown on Figure 3.13-1, the Project alignment is located within 0.25 mile of two public schools operated by the St. Helena Unified School District, one private TK-8 school, four private preschools, and one private college, located within St. Helena. Table 3.9-2 lists these schools and their proximity to the Project alignment.

Table 3.9-2: Schools in the Project Vicinity

School	Education Level	Address	Distance from Project Alignment (mile)
Saint Helena Catholic School	TK-8	1255 Oak Avenue, St. Helena	0.01
Saint Helena Elementary School	3-5	1325 Adams Street, St. Helena	0.02
Sun & Stars Montessori School	Preschool-K	1310 Adams Street, St. Helena	0.02
The Culinary Institute of America at Greystone	College	2555 Main Street, St. Helena	0.06
Robert Louis Stevenson Middle School	6-8	1316 Hillview Place, St. Helena	0.08
St. Helena Children's Center	Preschool	1428 Spring Street, St. Helena	0.11
Mila's Preschool and Childcare Center Inc.	Daycare/ Preschool	957 Brown Street, St. Helena	0.12
Little Backpacks Preschool	Preschool	995 Adams Street, St. Helena	0.25

Source: Data compiled by ERM in 2020

3.9.3.3 Existing Hazardous Materials/Sites

The EDR report and GeoTracker and EnviroStor databases identified nine open contamination sites currently undergoing investigation and/or remediation, located within 1 mile of the Project route. An additional 41 closed sites are also located within 1 mile of the Project route. Most of these sites are leaking underground storage tank (LUST) sites. Historical operations at these sites may have resulted in the presence of contaminated soil or groundwater. Figure 3.9-1 depicts the location and type of hazardous materials sites in the Project vicinity with an "open" cleanup status listed in the EDR Report and GeoTracker and EnviroStor databases. Table 3.9-3 summarizes hazardous materials sites shown on Figure 3.9-1.

Table 3.9-3: Hazardous Materials Sites in the Project Vicinity

Site	Designation	Address	Distance from Project Alignment (mile)	Cleanup Status
Open Sites				
Sidewalk-Pope and Main	Napa Co. LUST	1080 Main Street, St. Helena	Adjacent	Open
St. Helena Forest Fire	Napa Co. LUST	3535 Highway 29 North, Calistoga	0.011	Open
Vintage Bank (Umpqua Bank)	Napa Co. LUST	1065 Main Street, St. Helena	0.016	Open
PG&E St. Helena	DTSC Voluntary Cleanup Site	1301-1302 Mitchell Drive, St. Helena	0.021	Open
Klass Cleaners	DTSC Voluntary Cleanup Site	1141 Main Street, St. Helena	0.031	Open
Ogletree's Machine Shop	Napa Co. LUST	1071 Pope Street, St. Helena	0.086	Open
Vineland Station	Napa Co. LUST	1282 Vidovich Avenue, St. Helena	0.136	Open
Safeway Store #0762	Napa Co. LUST	1026 Hunt Avenue, St. Helena	0.158	Open
Autometric	Napa Co. LUST	360 McCormick Street, St. Helena	0.475	Open
Closed Sites				
Patrick Flynn	Napa Co. LUST	4102 St. Helena Highway, St. Helena	0.020	Closed
St. Helena Petroleum	LUST	929 Main Street, St. Helena	0.022	Closed

Site	Designation	Address	Distance from Project Alignment (mile)	Cleanup Status
BPt/ Valley Convenience Store	LUST	1108 Main Street, St. Helena	0.035	Closed
St. Helena Petroleum	LUST	905 Main Street, St. Helena	0.035	Closed
Ben Franklin Variety / Don Westerland Center	Napa Co. LUST	1111 Main Street, St. Helena	0.038	Closed
Jackson Residence	LUST	3293 Highway 128, Napa County	0.04	Closed
Napa Valley Petroleum	LUST	1153 Main Street, St. Helena	0.051	Closed
Noble Properties	Cleanup Program Site	1132 Main Street, St. Helena	0.052	Closed
Heublein Fine Wine G	LUST	8215 St. Helena Highway, St. Helena	0.059	Closed
Saint Helena Plaza	LUST	1136 Main Street, St. Helena	0.070	Closed
Chevron	LUST	1400 Main Street, St. Helena	0.074	Closed
Union 76	LUST	1380 Main Street, St. Helena	0.074	Closed
St. Helena Police Department	LUST	1480 Main Street, St. Helena	0.074	Closed
Beringer Vineyards	LUST	2000 Main Street, St. Helena	0.077	Closed
Bellani Residence	LUST	738 Main Street, St. Helena	0.109	Closed
Karen Rector	Napa Co. LUST	1410 Adams Street, St. Helena	0.112	Closed
Helen Paschich Estate	LUST	1078 Fulton Lane, St. Helena	0.1t13	Closed
Tripoli Market	LUST	607 Highway 29, St. Helena	0.125	Closed
Caltrans	LUST	Unknown Mitchell and Pope Street, St. Helena	0.125	Closed
Pacific Bell	LUST, Napa Co. LUST	1240 Oak Street, St. Helena	0.t134	Closed
St. Helena City Corporation Yard	LUST	1405 Charter Oak, St. Helena	0.t134	Closed

Site	Designation	Address	Distance from Project Alignment (mile)	Cleanup Status
Louis M. Martini Winery	LUST	254 St. Helena Highway South, St. Helena	0.97	Closed

Note:
LUST= leaking underground storage tank
Sources: EDR 2020, SWRCB 2020, DTSC 2020, data compiled by ERM in 2020

The nature and extent of chemical occurrence associated with the nine active sites within 1 mile of the proposed Project route is summarized below.

- PG&E St. Helena (0.021 mile south of Project route): This site has an open status as a DTSC voluntary cleanup site. A manufactured gas plant operated on the site between 1883 and 1926, and the plant was dismantled in 1930. Site soil and groundwater was impacted with polycyclic aromatic hydrocarbons, petroleum hydrocarbons, arsenic, and lead. Remedial action at the site consisted of excavation in 2007, a dual-phase soil vapor and groundwater extraction system, which operated from 2007 to 2012, and additional excavation in 2014. Since 2017, the site has been in the operation and maintenance phase, which includes groundwater monitoring and site inspections. This site is subject to environmental restrictions under a land use covenant. Any soil-disturbing activities on-site are subject to DTSC approval and DTSC review and approval of the Site-Specific Safety Plan and Soil Management Plan (PG&E 2017).

- Klass Cleaners (0.031 mile southwest of Project route): This site has an open status as a DTSC voluntary cleanup site. Site soil, soil vapor, groundwater, and indoor air are impacted with volatile organic compounds. Investigation activities are currently ongoing.

- Sidewalk - Pope and Main (adjacent to the Project route)t St. Helena Forest Fire (0.011 mile southwest of Project route)t Vintage Bank (0.016 mile southwest of Project route); Ogletree's Machine Shop (0.086 mile northeast of Project route)t Vineland Station (0.136 mile southwest of Project route); Safeway Store #0762 (0.158 mile northeast of Project route); and Autometric (0.475 mile southeast of Project route): These sites have an open status in the Napa County LUST database.

The additional 43 closed sites located within 1 mile of the terrestrial conduit route include LUST and cleanup sites where contaminants such as solvents and petroleum hydrocarbons (gasoline, diesel, waste oil) were reportedly released into soil and/or groundwater. Cleanup and remediation actions, such as free product removal, were completed at several of these sites before case closure. The potential Project-related

Site	Designation	Address	Distance from Project Alignment (mile)	Cleanup Status
Louis M. Martini Winery	LUST	254 St. Helena Highway South, St. Helena	0.97	Closed

Note:
LUST= leaking underground storage tank
Sources: EDR 2020, SWRCB 2020, DTSC 2020, data compiled by ERM in 2020

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The additional 43 closed sites located within 1 mile of the terrestrial conduit route include LUST and cleanup sites where contaminants such as solvents and petroleum hydrocarbons (gasoline, diesel, waste oil) were reportedly released into soil and/or groundwater. Cleanup and remediation actions, such as free product removal, were completed at several of these sites before case closure. The potential Project-related

impacts associated with these identified hazardous materials sites are discussed below and in Section 3.10, Hydrology and Water Quality.

The EDR Report also indicated that the following small-quantity hazardous waste generators are located within 1 mile of the Project alignment:

- Cairdean Vineyards, 3125 St. Helena Highway, St. Helena
- PG&E Silverado, 1192 Maple Lane, Calistoga
- United States Postal Service, 1461 Main Street, St. Helena
- Browns Auto Parts, 1218 Main Street, St. Helena
- Jim Wheeler Painting, 1030 Fulton Avenue, St. Helena
- Epps Chevrolet, 555 Main Street, St. Helena

No large-quantity hazardous waste generators or Superfund sites are located within 0.25 mile of the Project alignment.

3.9.3.4 Wildland Fire Hazards

Within Napa valley between the cities of St. Helena and Calistoga, the area east of SR 29 is a Local Responsibility Area (LRA) and the area west of SR 29 is a State Responsibility Area (SRA) (CAL FIRE 2019). In general, the SRA between the City of St. Helena and approximately Larkmead Lane is designated as a high fire-hazard severity zone, and the SRA area between approximately Larkmead Lane and the City of Calistoga is designated as a very high fire-hazard severity zone (CAL FIRE 2007). The Project is located almost entirely east of SR 29 and thus within an LRA in an area that is not designated as a very high fire-hazard zone. The exception is the T-1448 hydrostatic test section along Heitz Way and Azalea Springs Way, which is west of SR 29 and therefore within an SRA designated as a very high fire-hazard severity zone.

Fire protection services and equipment near the Project alignment are discussed in detail in Section 3.14, Public Services, and Section 3.20 Wildfire.

3.9.4 Avoidance and Minimization Measures and Potential Impacts

The following sections provide AMMs and assess potential Project-related construction and operational impacts related to hazards and hazardous materials.

3.9.1.1 Avoidance and Minimization Measures

PG&E would implement the following AMMs:

AMM HAZ-1: Hazardous Substance Control and Emergency Response. PG&E will implement its hazardous substance control and emergency response procedures to ensure the safety of the public and site workers during construction. The procedures identify methods and techniques to minimize the exposure of the public and site workers to potentially hazardous materials during all phases from Project construction through operation. They address worker training appropriate to the site worker's role in hazardous substance control and emergency response. The procedures also require implementing appropriate control methods and approved containment and spill-control practices for construction and materials stored on site. If necessary to store chemicals on site, they will be managed in accordance with all applicable regulations. Material safety data sheets will be maintained and kept available on-site, as applicable.

No known soil contamination was identified within the Project Area. In the event that soils suspected of being contaminated (on the basis of visual, olfactory, or other evidence) are unearthed during site grading or excavation activities, the excavated soil will be tested, and if contaminated above hazardous waste levels, will be contained and disposed of at a licensed waste facility. The presence of known or suspected contaminated soil will require testing and investigation procedures to be supervised by a qualified person, as appropriate, to meet state and federal regulations.

All hazardous materials and hazardous wastes will be handled, stored, and disposed of in accordance with all applicable regulations, by personnel qualified to handle hazardous materials. The hazardous substance control and emergency response procedures include, but are not limited to, the following:

- Proper disposal of potentially contaminated soils;
- Establishing site-specific buffers for construction vehicles and equipment located near sensitive resources;
- Emergency response and reporting procedures to address hazardous material spills; and
- Stopping work at that location and contacting the County Fire Department Hazardous Materials Unit immediately if visual contamination or chemical odors are detected. Work will be resumed at this location after any necessary consultation with and approval by the Hazardous Materials Unit.

PG&E will complete a standard Emergency Action Plan Form as part of Project tailboard meetings. The purpose of the form is to gather emergency contact numbers, first aid location, work site location, and tailboard information.

AMM HAZ-2: ***Worker Environmental Awareness Program (WEAP) for Health, Safety, and Environment.*** The WEAP will include the following components related to hazards and hazardous materials:

- PG&E health, safety, and environmental expectations and management structure;
- Applicable regulations;
- Summary of the hazardous substances and materials that may be handled and/or to which workers may be exposed;
- Summary of the primary workplace hazards to which workers may be exposed;
- Overview of the measures identified in AMM HAZ-1; and
- Overview of the controls identified in the Stormwater Pollution Prevention Plan under AMM WQ-1.

This measure will be coordinated with worker training required under AMM BIO-1 and AMM WQ-2.

AMM HAZ-3: Fire Risk Management. PG&E will follow its standard fire risk management procedures, including safe work practices, work permit programs, training, and fire response. Project personnel will be directed to park away from dry vegetation. During fire season, all motorized equipment driving off paved or maintained gravel/dirt roads will have federal- or state-approved spark arrestors. All off-road vehicles will be equipped with a shovel and a backpack pump filled with water and all fuel trucks will carry a large fire extinguisher with a minimum rating of 40 B:C.

See additional AMMs related to fire risk management in Section 3.20, Wildfire.

3.9.1.2 Potential Impacts

Project impacts related to hazards and hazardous materials were evaluated using Appendix G of the CEQA Guidelines and are discussed below.

a) Would the Project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? ***Less-than-Significant Impact***

The Project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. Project construction would require the use of motorized heavy equipment, including trucks, excavators, forklifts, and air compressors. Although this equipment requires the use of hazardous materials, such as gasoline, diesel, oil, hydraulic fluid, transmission fluid,

lubricating grease, and other fluids, these materials would be transported to the construction work areas according to U.S. Department of Transportation standards and used in designated construction staging areas or other suitable locations identified prior to the onset of construction.

As outlined in AMM HAZ-1, hazardous substance control and emergency response procedures would identify methods and techniques to minimize the exposure of the public and site workers to potentially hazardous materials during Project construction. The procedures also require implementing appropriate control methods and approved containment and spill-control practices for construction and materials stored on site. AMM HAZ-2 requires construction crews to be trained in the safe handling of hazardous materials prior to the initiation of construction, which would further reduce the small risk of minor exposures of the environment, the public, or site workers to potentially hazardous materials during construction. PG&E would follow its existing worker training programs. Hazardous waste material that cannot be recycled by PG&E would be disposed of at a landfill authorized to handle such materials.

Because hazardous materials would be transported, used, and disposed of in accordance with appropriate procedures, the Project would not create a significant hazard to the public or environment. Any impacts would be less than significant, and hazardous substance control and emergency response procedures and PG&E's existing worker safety training programs described in AMMs HAZ-1 and HAZ-2 would further reduce these less-than-significant impacts.

b) Would the Project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? *Less-than-Significant Impact*

As discussed above, Project construction would require the use of motorized heavy equipment, including trucks. During construction activities, there is an increased potential for an accidental release of fluids from a vehicle or motorized piece of equipment. Relatively small quantities of hazardous materials would be stored and used within the Project Area. Fuels and hazardous material and wastes would be transported, stored, used, and disposed of in accordance with relevant regulations and PG&E's existing hazardous substance control and emergency response procedures, as described in AMM HAZ-1.

If an underground storage tank is found to be located along the Project route and the route cannot be adjusted to avoid disturbance, the tank would be removed prior to Project construction. If it is determined that removal of the tank is necessary, a separate workplan describing the proper decommissioning and removal of the tank and removal of any associated impacted soil would be prepared prior to removal.

The Project would not create a significant hazard to the public or environment through accidental release of hazardous materials and impacts would be less than significant. Implementation of AMM HAZ-1 and the worker environmental training program described in AMM HAZ-2 would further reduce these less-than-significant impacts.

c) Would the Project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? *Less-than-Significant Impact*

Eight schools are located within 0.25 mile of the Project. Project construction would not involve the use of large quantities of volatile hazardous materials on-site. However, if hazardous materials are released or encountered during construction, they would be contained and managed through implementation of the hazardous substance control and emergency response procedures under AMM HAZ-1, and the best management practices provided in the Storm Water Pollution Prevention Plan under AMM WQ-1. In addition, the Project would comply with local air quality emissions regulations, as discussed in Section 3.3, Air Quality and Section 3.7, Greenhouse Gas Emissions.

Based on known agricultural use, there is potential for pesticides and herbicides to be present in the soils within the Project alignment. The presence of known or suspected contaminated soil would require testing and investigation procedures to be supervised by a qualified person, as appropriate, to meet state and federal regulations. In the event that soils suspected of being contaminated (on the basis of visual, olfactory, or other evidence) are unearthed during excavation, the excavated soil would be tested, and if contaminated above hazardous waste levels, would be contained and disposed of at a licensed waste facility as described in AMM HAZ-1.

Due to the temporary and short-term nature of construction and the relatively small quantity of hazardous materials to be used during construction, any impacts from their use or handling would be less than significant and would be further reduced through implementation of AMM HAZ-1, and the worker environmental training program described in AMM HAZ-2. Therefore, the potential impact would be less than significant.

d) Would the Project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? *Less-than-Significant Impact*

The Project route is not located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. No Superfund or State Response sites are known to exist within 0.25 mile of the Project Area.

As shown on Figure 3.9-1 and summarized above in Table 3.9-3, the EDR Report and GeoTracker and EnviroStor databases identified nine hazardous materials sites with an

“open” status within 1 mile of the Project route. These open sites are located adjacent to the Project route to 0.475 mile away, and involve releases of polycyclic aromatic hydrocarbons, petroleum hydrocarbons, arsenic, lead, and/or volatile organic compounds into soil and groundwater. Investigation and cleanup actions have been completed at one site and are ongoing at another; the investigation and cleanup status of the other open sites is unknown. Forty-one hazardous materials sites within 1 mile of the Project route include LUST and cleanup sites where contaminants such as solvents and petroleum hydrocarbons (gasoline, diesel, waste oil) were reportedly released into soil and/or groundwater. Cleanup and remediation actions, such as free product removal, were completed at several of these sites before case closure.

Based on the data available on GeoTracker, soil contamination associated with the identified hazardous materials sites in the Project vicinity would be localized and would not be encountered beyond the footprints of those respective sites. Project excavations and trenches would be backfilled with the excavated native soil and/or clean, imported fill. Excavated soil would be tested prior to reuse as backfill and would be required to meet DSTC and Caltrans requirements for reuse (less than 80 milligrams per kilogram of lead).

The open DTSC voluntary cleanup site located at 1301-1302 Mitchell Drive in St. Helena (PG&E St. Helena site) would be used as a staging/laydown area for construction activities, including for storage of liquid storage tanks used for dewatering and hydrostatic testing, and temporary storage of excavated soil stockpiles, prior to offsite disposal. This site is subject to environmental restrictions under a land use covenant. Any soil disturbing activities on-site are subject to DTSC approval and DTSC review and approval of the Site-Specific Safety Plan and Soil Management Plan. As part of removal of excavated soil stockpiles from this staging area, PG&E would follow procedures to avoid disturbing the surface of the site, in accordance with the land use covenant.

DRAWN BY: G.Shenker

FILE: M:\Projects\PGandE\PGE_NapaMaps\3-9-1 HazSites.mxd REVISED: 04/29/2021 SCALE: 1:6,000 when printed at 11x17

Area 1

Safeway Store #0762

Ogletree's Machine Shop

Klass Cleaners

Sidewalk-Pope and Main

PG&E St. Helena

Vintage Bank (UMPQA Bank)

Vineland Station

Autometric

N

0 250 500 1,000

Feet

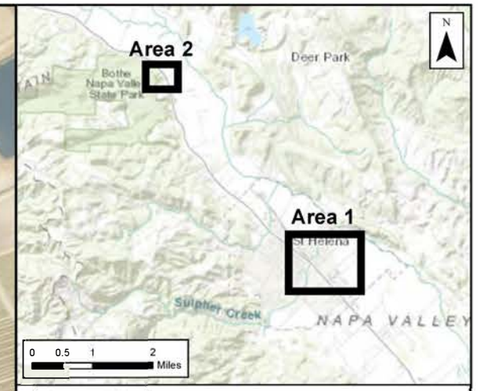
Area 2

St. Helena Forest Fire

N

0 250 500 1,000

Feet



Legend

- Hazardous Materials Site
- Work Areas

Source: USDA NAIP flown 2016 at 1 meter per pixel; NAD 1983 StatePlane California II FIPS 0402 Feet

Figure 3.9-1
Active Hazardous Materials Sites (EDR, Geotracker, Envirostor) Within 1 Mile
Napa Bundle Northern Corridor
Gas Pipeline Maintenance Program
Napa, CA

Environmental Resources Management
www.erm.com

Groundwater impacts associated with these sites may be possible but are not likely to be significant due to completion of cleanup and remediation actions and case closure by the Regional Water Quality Control Boards. Regional groundwater data from nearby wells collected from the DWR and the SWRCB websites indicate that the groundwater table along the Project alignment is encountered between approximately 8 and 25 feet below ground surface. Project activities could potentially encounter contaminated groundwater, if present, based on excavation depths (maximum of 10 feet deep). In the event that shallow groundwater is encountered during trenching and excavation activities, dewatering of the trenching or excavation site would be required. PG&E would follow procedures and standards to manage dewatering effluents in accordance with the Storm Water Pollution Prevention Plan, under AMM WQ-1.

As specified under AMM HAZ-1, hazardous substance control and emergency response procedures would outline procedures for 1) handling and disposing of potentially contaminated soils that may be encountered during construction; and 2) managing oil and other wastes associated with Project activities. With implementation of AMMs HAZ-1 and WQ-1, the potential for Project construction to create a significant hazard to the public or the environment is less than significant.

e) For a Project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the Project result in a safety hazard or excessive noise for people residing or working in the Project area? *No Impact*

There are no public airports or public use airports located within 2 miles of the proposed Project Area. Additionally, the Project Area is not located within any Airport Influence Areas as outlined in an airport land use plan. Therefore, there would be no impact.

f) Would the Project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? *No Impact*

Project-related road closures would occur in accordance with encroachment permit conditions and would not impede emergency response. The Project would not impair the implementation of or physically interfere with an adopted emergency response or evacuation plan; therefore, no impact would occur.

g) Would the Project expose people or structures, either directly or indirectly to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands? *Less-than-Significant Impact*

The majority of the Project route is located within an LRA that is not designated as a very high fire-hazard zone (CAL FIRE 2019). Two portions of the T-1448B hydrostatic test segment along Heitz Way and Azalea Springs Way west of SR 29 are located in an

SRA that is designated as a very high fire-hazard severity zone (CAL FIRE 2007). Heat or sparks from vehicles or equipment have the potential to ignite dry vegetation and cause fires. In accordance with the most recent edition of the Uniform Fire Code section 1109.5, and as part of standard construction practice, PG&E's policy of no smoking on construction sites would be enforced. With implementation of AMM-HAZ-3, AMM WF-1, the WEAP described in AMM HAZ-2, development of a Construction Fire Prevention Plan in accordance with AMM WF-3, along with PG&E's standard health and safety and fire prevention plans and programs, the risk of wildland fires associated with the Project would be minimized and potential impacts would be less than significant.

3.10 HYDROLOGY AND WATER QUALITY

3.10.1 Introduction

This section describes existing conditions and potential impacts to hydrological resources, water quality, and flood control as a result of construction, operation, and maintenance of the Project. The analysis concludes that impacts would be less than significant in these areas; the implementation of Avoidance and Minimization Measures **(AMM)** described in Section 3.10.4 would further reduce less-than-significant impacts. The Project's potential effects on hydrology, water quality, and flood control were evaluated using Appendix G of the CEQA Guidelines. The conclusions are summarized in Table 3.10-1 and discussed in more detail in Section 3.10.4.

Table 3.10-1: CEQA Checklist for Hydrology and Water Quality

Would the Project:	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	☐	☐	☒	☐
i) Result in a substantial erosion or siltation on- or off-site?				
ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?				
iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?				
v) Impede or redirect flood flows?				

Would the Project:	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation?	☐	☐	☒	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

3.10.2 Regulatory Background and Methodology

3.10.2.1 Regulatory Background

Federal

Clean Water Act Section 404

Section 404 of the federal Clean Water Act (CWA) (33 USC Section 1251 et seq.) requires a permit from the USACE for the discharge of dredged or fill material into "waters of the United States," which include rivers, streams, estuaries, the territorial seas, ponds, lakes, and wetlands. The Project does not include planned discharge of dredged or fill material into waters of the United States.

State

Clean Water Act Section 303(d)

CWA Section 303(d) requires states, territories, and authorized tribes to develop a list of waters within its boundaries that do not meet water quality standards. The law further requires that these jurisdictions establish priority rankings for water on the lists and develop action plans to improve water quality. The Regional Water Quality Control Boards (RWQCBs) and the State Water Resources Control Board (SWRCB) implement this federal regulation in California.

Clean Water Act Section 401

CWA Section 401 requires states to certify whether projects subject to federal permits meet state water quality standards. The Project is under the jurisdiction of the San Francisco Bay RWQCB.

Clean Water Act Section 402

Under CWA Section 402, the National Pollutant Discharge Elimination System (NPDES) controls water pollution by regulating point sources of pollution to waters of the United States. Projects that disturb 1 or more acres of soil are required to obtain coverage under the state NPDES General Permit for Discharges of Storm Water Associated with

Construction Activity. A Storm Water Pollution Prevention Plan (SWPPP) must be developed and implemented for each project covered by the general permit.

Porter-Cologne Water Quality Control Act (California Water Code, Division 7)

Under this state law, the SWRCB has authority over state waters and water quality. "Waters of the state" are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (Water Code Section 13050[e]). The San Francisco Bay RWQCB has authority in the Project Area.

Projects that discharge waste to waters of the state must file a report of waste discharge.

Fish and Game Code Section 5650

This section of California law makes it unlawful to deposit in, permit to pass into, or place where it can pass into waters of the state specific pollutants or any substance or material deleterious to fish, plant life, mammals, or bird life.

Local

The Project Area is located within unincorporated Napa County and the City of St. Helena. As stated above, the proposed Project is not subject to local discretionary regulations; however, local regulations relating to hydrology and water quality for the Project Area were reviewed to assist with CEQA review. The City of St. Helena Municipal Code Title 13, Chapter 13.32 includes provisions for controlling non-stormwater discharges to the storm drain system; eliminating discharges to the storm drain system from spills, dumping, or materials disposal; and reducing pollutants in stormwater discharges to the maximum extent practicable and to achieve applicable water quality objectives. The Building and Safety Division of the Napa County Department of Public Works requires and enforces standards contained in the California Building Code related to grading and construction, including those that may directly or indirectly affect surface water quality by contributing to erosion or siltation or alter existing drainage patterns.

3.10.2.2 Methodology

Information on surface water and groundwater in the Project Area was obtained from published studies prepared by state, county, and local water agencies. Potential impacts to surface water and groundwater were evaluated by considering the initial construction activities and the long-term operation of the Project. PG&E would comply with all applicable federal, state, and local regulatory requirements that protect surface water and groundwater.

3.10.3 Environmental Setting

3.10.3.1 Regional Setting

The Project Area is located within the San Francisco Bay Hydrologic Region, which covers nearly 2.88 million acres and includes all of San Francisco and portions of Marin, Sonoma, Napa, San Mateo, Santa Clara, Contra Costa, and Alameda counties (DWR 2003). The region contains 28 identified groundwater basins. The Project Area is located within the Napa-Sonoma Valley Groundwater Basin in the Napa Valley Subbasin. The topography of Napa Valley consists of a series of parallel, northwest-trending mountain ranges and corresponding valleys and basins. The parallel, northwest-trending mountain ranges subdivide Napa County into three principal watersheds: the Napa River, Putah Creek/Lake Berryessa, and Suisun Creek watersheds. The Project Area is located within the Napa River watershed, which includes a central valley floor and mountains to the east and west of both sides of the valley floor. The Napa River drains the watershed and empties into San Pablo Bay to the south.

The Project alignment ranges in elevation from a high of 380 feet above mean sea level at the northern end south of Calistoga to a low of 240 feet above mean sea level at the southern end near Sulphur Creek in St. Helena. The surface topography of the Project area is relatively flat, with the exception of creek channels. Creek beds are typically situated approximately 2 to 10 feet below the surrounding grade, between sloped banks on either side. Most of the Project alignment is within or adjacent to the Caltrans ROW along SR 29. Land use along the Project alignment within unincorporated areas of Napa County is primarily agricultural consisting of vineyards. Recreational areas, open fields, landscaping, and some commercial use (wineries, restaurants) are also located along or adjacent to the Project alignment. Within St. Helena, work would mostly occur in areas zoned for mixed residential/commercial use and in areas zoned for agricultural usage.

3.10.3.2 Climate

The Project Area is located in a Mediterranean-type climate zone typical of the San Francisco Bay Area. This zone is characterized by cool, wet winters and warm, dry summers, with winds typically blowing from the northwest. Ninety percent of the precipitation within Napa County occurs between November and April. Precipitation varies spatially throughout Napa County based on north-south direction and elevation. Rainfall greater than 50 inches per year is typical in the upper portion of the Napa River Watershed. The mean annual precipitation is 37 inches near the southern and northern ends of the Project alignment in St. Helena and Calistoga, respectively (City of St. Helena 2018; ESA 2019). Annual precipitation in Napa County can also vary significantly from year to year, with deviations as high as 200 percent from the 85-year average (PMC 2007).

3.10.3.3 Surface Water

A number of drainages traverse the Project Area, flowing east from the hills west of Napa Valley to the Napa River, including Nash Creek, Ritchie Creek, Mill Creek, Hirsch Creek, York Creek, and Sulphur Creek, as shown on Figure 3.10-1. In addition, the Napa River, Bell Canyon Reservoir, Kimball Reservoir, Lake Hennessey, and Lake Berryessa are located within the vicinity of the Project. For a description of wetlands in the Project Area, refer to Section 3.4, Biological Resources.

The Napa River. The Napa River is the largest river in Napa County and is located east to northeast of the Project alignment, running generally parallel to SR 29. Its headwaters lie at an elevation of over 3,700 feet above mean sea level just south of Mt. St. Helena. It flows south from its source and empties into San Pablo Bay. The Napa River passes within 0.1 mile of the Project alignment at its northern end near Calistoga and within 0.9 mile of the Project alignment near its southern end in St. Helena (see Figure 3.10-1). The Napa River watershed extends 45 miles from the hills north of Calistoga to San Pablo Bay and encompasses 426 square miles. The Project Area lies within the northern portion of the Napa River watershed.

Sulphur Creek. Sulphur Creek is a major western tributary to the Napa River that crosses SR 29 and the Project route in a southwest-northeast direction about 320 feet south of Pope Street in St. Helena, as shown on Figure 3.10-1. The drainage basin of Sulphur Creek has two main stems, Heath Canyon and the main stem of Sulphur Creek, which join immediately before Sulphur Creek exits the Sulphur Canyon. Sulphur Creek originates 4 miles to the west-southwest from the hills west of St. Helena. From its intersection with the Project route, it extends 0.75 mile northeast to its confluence with the Napa River. It measures over 12 miles in length and ranges in elevation from 2,720 to 200 feet above mean sea level. Sulphur Creek supplies resources to surrounding residents including habitat for wildlife and aquatic species, including habitat for steelhead, flood conveyance, and recreational areas (Pearce et al. 2003).

York Creek. York Creek is a western tributary to the Napa River that crosses SR 29 and the Project route in a southwest-north direction about 210 feet north of Pratt Avenue in St. Helena, as shown on Figure 3.10-1. York Creek runs 7 miles from its headwaters in the Mayacamas Mountains to the west of the Project Area to its confluence with the Napa River, 0.8 mile north-northeast of its intersection with the Project route. York Creek is designated as critical habitat for steelhead (Federal Register, 2005).

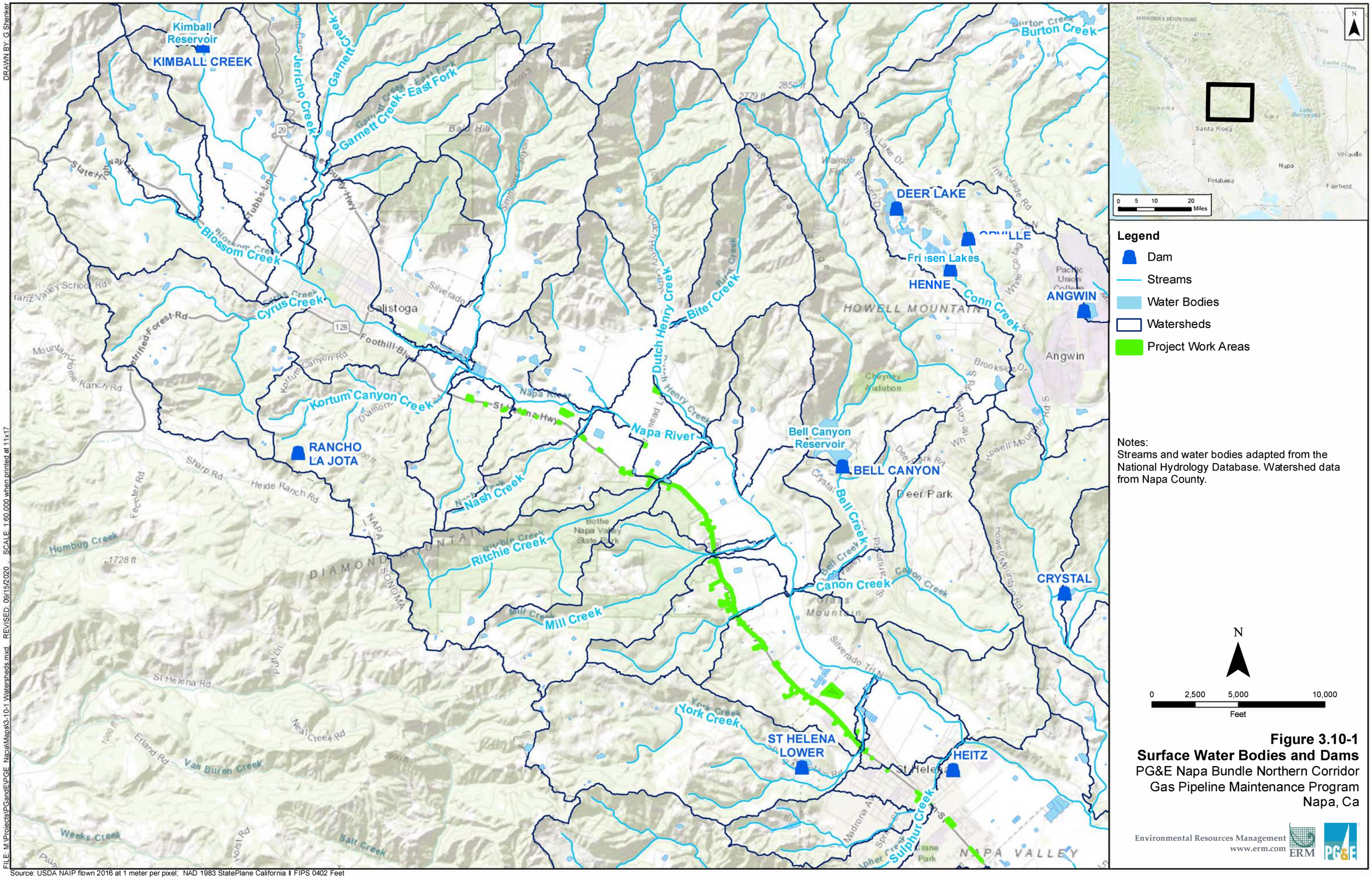


Figure 3.10-1
Surface Water Bodies and Dams
PG&E Napa Bundle Northern Corridor
Gas Pipeline Maintenance Program
Napa, Ca

Environmental Resources Management
www.erm.com

Source: USDA NAIP flown 2016 at 1 meter per pixel; NAD 1983 StatePlane California II FIPS 0402 Feet

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Other Creeks. Numerous other smaller western tributaries of the Napa River cross the Project route (see Figure 3.10-1). From the southern end of the Project Area, these include Hirsch Creek in unincorporated Napa County, which crosses SR 29 in a west-east direction near Caltrans PM 31.34; Mill Creek in unincorporated Napa County, which crosses SR 29 in a west-east direction near Caltrans PM 32.01; Ritchie Creek in unincorporated Napa County, which crosses SR 29 in a southwest-northeast direction near Caltrans PM 33.09; and Nash Creek in unincorporated Napa County, which crosses SR 29 in a southwest-northeast direction 0.16 mile southeast of Maple Lane. Mill Creek has minimal flows and extensive dry reaches during the summer months, and Nash Creek is occasionally completely dry (Napa County Resource Conservation District 2002).

3.10.3.4 Groundwater

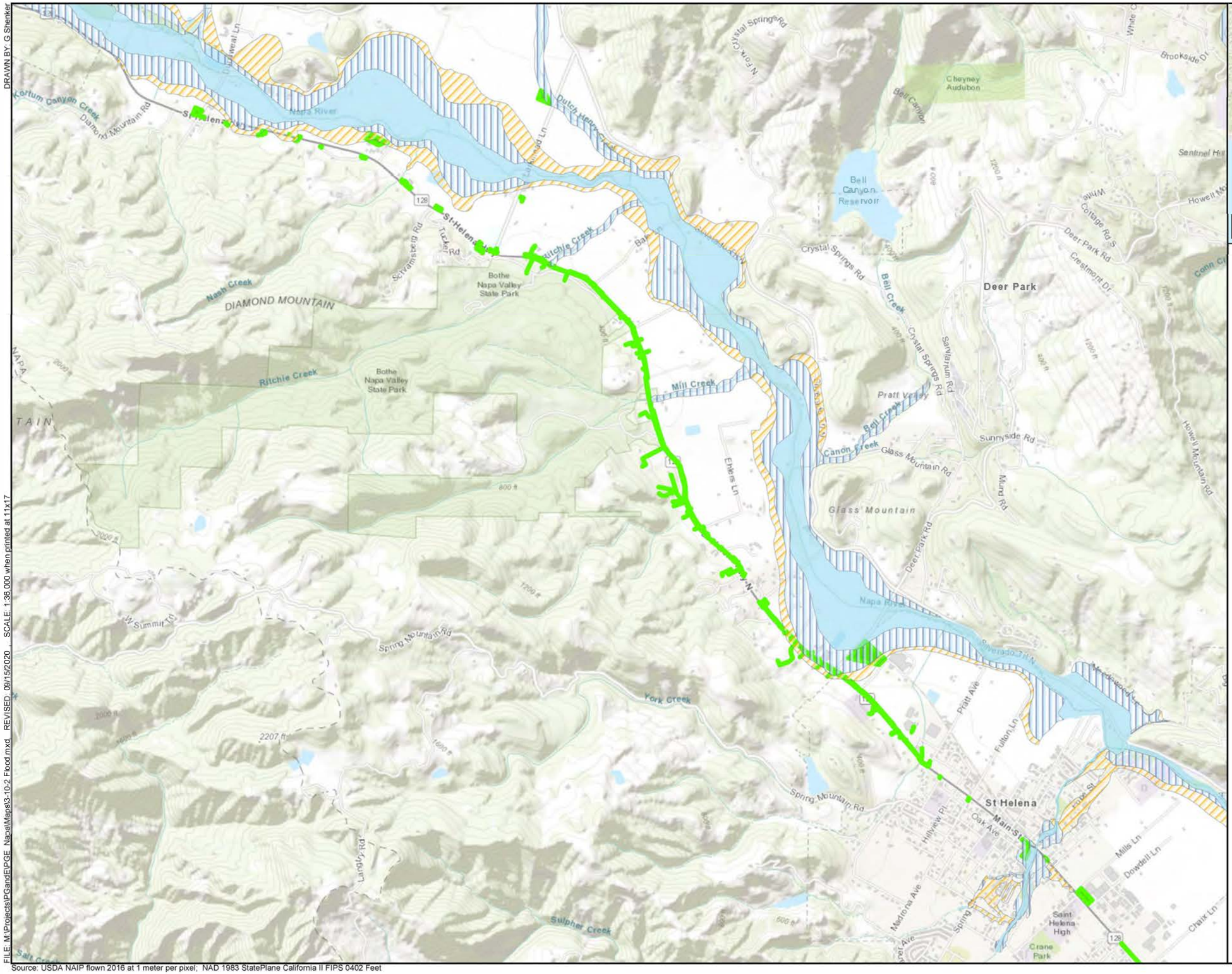
The Project area is located within the Napa Valley Subbasin of the Napa-Sonoma Valley Groundwater Basin.Municipal and irrigation wells have average depths ranging from 200 to 500 feet and average and maximum yields of approximately 223 to 3,000 gallons per minute, respectively (DWR 2003). The sustainable yield of the Napa Valley Subbasin is approximately 17,000 to 20,000 acre-feet per year (Luhdorff & Scalmanini 2016). Groundwater flow is generally from edges of the valley toward the valley axis, as well as southward toward San Pablo Bay. Regional groundwater data from nearby wells collected from the Department of Water Quality and the SWRCB websites indicate that the groundwater table along the Project alignment is encountered between approximately 8 and 25 feet below ground surface. During the site-specific geotechnical field investigations completed for the Project area, groundwater was encountered between 16 and 25 feet below ground surface along portions of the Project alignment (Kleinfelder 2019a; Kleinfelder 2019b; Kleinfelder 2019c).

3.10.3.5 Flood Potential

The Napa River is located to the east and northeast of the Project Area. FEMA Flood Insurance Rate Maps indicate that portions of the Project route lie within flood hazard areas associated with the Napa River and some of its western tributaries. The southern end of the Project route near Sulphur Creek in St. Helena is mapped within a FEMA 100-year floodplain. Other small segments of the Project Area, where the Project route crosses between Deer Park Road and York Lane, Mill Creek, and Ritchie Creek, are also mapped within a FEMA 100-year floodplain and/or 500-year floodplain. A small portion of the northern end of the Project route near Azalea Springs Way is mapped within a FEMA 500-year floodplain. The 100-year and 500-year flood hazard zones in the vicinity of the Project Area are shown on Figure 3.10-2.

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Legend

- Floodway
- 100 Year Flood Zone
- 500 Year Flood Zone
- Project Work Areas

N

0 1,500 3,000 6,000 Feet

Source: USDA NAIP flown 2016 at 1 meter per pixel; NAD 1983 StatePlane California II FIPS 0402 Feet

Figure 3.10-2
Flood Zones
PG&E Napa Bundle Northern Corridor
Gas Pipeline Maintenance Program
Napa, Ca

Environmental Resources Management
www.erm.com

The Project Area is located within a potential dam failure inundation area associated with the St. Helena Lower Dam, where it crosses SR 29 along York Creek, as identified by the Napa County General Plan (Figure SAF-5, Napa County 2008). There are 16 major dams in Napa County with known populations in their respective inundation areas. Figure 3.10-1 illustrates the location of the Project Area with respect to the major reservoirs and dams in the region, including the Bell Canyon Reservoir located north of St. Helena and Kimball Reservoir located north of Calistoga.

3.10.4 Avoidance and Minimization Measures and Potential Impacts

The following sections provide AMMs and assess potential Project-related construction and operational hydrology and water quality impacts.

3.10.4.1 Avoidance and Minimization Measures

PG&E would implement the following AMMs (see Section 3.9, Hazards and Hazardous Materials, for AMMs related to spill control and response):

AMM WQ-1: Drilling Fluid Migration Contingency Plan. An Inadvertent Drilling Fluid Release Contingency Plan will be prepared and implemented in the unlikely event of release of drilling fluids during horizontal directional drilling or jack and bore activities. This plan will include applicable cleanup measures and notification criteria. Appropriate materials to clean up inadvertent drilling fluid releases will be kept on-site during drilling activities.

AMM WQ-2: Develop and Implement a SWPPP. Following Project approval, PG&E will prepare and implement a SWPPP to minimize construction impacts on surface water and groundwater quality. The SWPPP will be designed specifically for the hydrologic setting of the proposed Project (e.g., surface topography, etc.). The SWPPP will include procedures and standards to stabilize graded areas, reduce erosion, avoid release of hazardous materials and sediment to surface waters, and manage dewatering effluents. The SWPPP will identify BMPs and erosion and sediment control measures, such as straw wattles, water bars, covers, silt fences, storm drain inlet protection, mud trackout controls, and sensitive area access restrictions (e.g., flagging) that will be installed before the onset of winter rains or anticipated storm events to minimize impacts on surface water and groundwater.

Mulching, seeding, or other suitable stabilization measures will be used to protect exposed areas during construction activities, as necessary. Identified erosion and control measures will be installed prior to the start of construction activities and will be inspected and improved as needed as required by the Construction General Permit and stated in the SWPPP. The SWPPP will specify that temporary sediment control measures intended to minimize sediment transport from temporarily disturbed areas

such as silt fences or wattles will remain in place until disturbed areas are stabilized. In areas where soil is temporarily stockpiled, soil will be placed in a controlled area and will be managed using industry standard stockpile management techniques. Where construction activities occur near a surface water body or drainage channel, the staging of construction materials and equipment and excavation spoil stockpiles will be placed and managed in a manner that minimizes the risk of sediment transport to the drainage. The SWPPP will identify areas where refueling and vehicle-maintenance activities and storage of hazardous materials will be permitted, if necessary.

The plan will be maintained and updated during construction as required by the Construction General Permit.

AMM WQ-3: Worker Environmental Awareness Training (WEAP) Development and Implementation. Worker environmental awareness training will communicate environmental issues and appropriate work practices specific to the Project. The WEAP will include applicable portions of the SWPPP, including spill prevention and response measures, groundwater handling measures, and proper BMP implementation. The training will emphasize safe handling of hazardous materials, site-specific physical conditions to improve hazard prevention (e.g., identification of flow paths to the nearest water bodies), and a review of all site-specific water quality requirements.

3.10.4.2 Potential Impacts

a) Would the Project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality? ***Less-than-Significant Impact***

The following construction activities have the potential to degrade water quality, including the potential for violating water quality standards or waste discharge requirements. With implementation of the AMMs, the Project would not violate water quality standards or waste discharge requirements or otherwise degrade surface or ground water quality.

Potential Impacts to Surface Water. Increased erosion and contaminated runoff as a result of construction activities could potentially impact surface water quality in the Project Area. Construction vehicles and equipment could accidentally release fuels, lubricants, oils, or other maintenance materials onto the ground during construction activities. These materials could enter the storm drain system or migrate in surface water overflow, which would degrade the water quality of nearby creeks, several of which cross the Project alignment, and the Napa River. Vegetation may need to be cleared or mowed to improve existing access and, in some instances, minor grading may be needed. Surface asphalt of SR 29 would be cut and removed when trenching. Exposed soils could be entrained in surface water runoff if a significant rain event

occurs during construction. However, earth disturbance activities associated with the Project would be temporary, and the ground surface would be restored to its original condition following completion of work.

At jurisdictional water crossings HDD and boring methods would be used to avoid in-water work, thereby reducing the potential for sedimentation. It is possible that a small amount of drilling fluid could be released during the HDD of Sulphur Creek. The drilling mud used to lubricate the drill cutting head for HDD would be composed of a water soluble, non-toxic bentonite and water mixture. A polymer additive may also be added to the drilling fluid in negligible concentration only if required in order to enhance the bore stability. Drilling fluid releases, if any, occurring near surface waters would not have significant impacts on water quality because the drilling fluid is water soluble and non-toxic and standard BMPs to prevent and manage accidental spills would be applied. Furthermore, due to the depth of the HDD under the creek, inadvertent releases of drilling fluids are more likely to occur at the entry and exit points of the drill when the drill path is shallower outside the creek corridor. To prevent and manage accidental spills or potential inadvertent releases of drilling fluid during HDD, PG&E would develop and implement a drilling fluid handling plan (AMM WQ-1). Implementation of AMM WQ-2 would further reduce less-than-significant impacts.

Drainages within work areas, including longitudinal drainages, would be protected using BMPs as specified in the SWPPP. For non-jurisdictional drainages such as roadside ditches crossed by the pipeline trench, if there is flow in the drainage at the time of trenching, the flow would be maintained by installation of a coffer dam. A section of high-density polyethylene (HDPE) pipe of sufficient length would be installed in the flowline of the drainage and secured with gravel bags, layered and stacked around the inlet and outlet ends. The diversion pipe would extend a minimum of 10 linear feet past the active construction zone. The drainage bottom and bank sidewalls would be cleared of vegetation, rocks, or other obstructions to provide a level, recessed surface for the gravel bag installation. Plastic would be laid across the cleared areas prior to installation of the gravel bags, and then the plastic would be wrapped back over the top of the gravel bag wall. After installation of the pipeline(s) across the drainage is complete, the gravel bags, plastic, and pipe would be removed, and the swath of disturbed ground at the drainage bottom and banks would be re-graded.

In the event that shallow groundwater is encountered during trenching and excavation activities, dewatering of the trenching or excavation site would be required. If improperly managed, dewatering activities could result in discharge of groundwater that could degrade surface water quality or violate water quality standards. Groundwater pumped from trenching or excavation sites would be temporarily stored in liquid storage tanks, such as Baker™ Tanks, and tested prior to disposal at an appropriate waste disposal

facility. If waste characterization results indicate that the extracted groundwater is not contaminated, the water may be discharged locally, in areas away from any jurisdictional waterways and/or wetlands.

PG&E would assess the risks to water quality—based on site-specific soil characteristics, slope, and the construction schedule—and would develop a SWPPP that addresses potential water quality concerns, as described in AMM WQ-2. The SWPPP would specify measures for each activity that has the potential to degrade surrounding water quality through erosion, sediment runoff, and the presence of other pollutants. Additionally, PG&E would follow procedures and standards to manage dewatering effluents in accordance with the SWPPP. With implementation of AMM WQ-1, AMM WQ-2, as well as the worker awareness program described in AMM WQ-2, PG&E would further reduce the temporary and short-term construction-related effects on water quality. Therefore, the impact would be less than significant.

Potential Groundwater Quality Degradation Caused by Construction of Underground Pipeline. As discussed in Section 3.9, Hazards and Hazardous Materials, several known contaminated sites are located along or near the proposed Project alignment. In addition, unknown sites of contaminated soil or groundwater could be present. Water quality could be affected if pre-existing contaminated groundwater is exposed and comes in contact with uncontaminated soil and/or groundwater during construction, or if contaminant mobility is enhanced as a result of the construction process (e.g., cross-contaminating soil during excavation or trenching, breaching of a confining layer, or through the transport of contaminated spoils).

HDD activities could also impact groundwater quality through loss of drilling fluids in subsurface soils that would increase suspended material in groundwater.

As discussed above, implementation of the Drilling Fluid Migration Contingency Plan described in AMM WQ-1, the SWPPP described in AMM WQ-2, the worker awareness program described in AMM WQ-3, as well as the soil, groundwater, and wastewater characterization procedures, and hazardous substance control and emergency response procedures described in AMM HAZ-1, would reduce the temporary and short-term construction-related effects on water quality, the likelihood of cross-contamination, and restrict contaminant mobility, reducing this potential impact to a less-than-significant level.

b) Would the Project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin? *Less-than-Significant Impact*

Hydrostatic testing activities are anticipated to require 106,500 gallons of water total (25,000 gallons for segment R-1018B, 27,500 gallons segment R-1018, 18,000 gallons

for segment T-1448A, and 36,000 gallons for segment T-1448B). HDD activities are expected to require a total of approximately 82,000 gallons of water for mixing of drilling fluid. Limited volumes of water would also be required to support construction activities and dust suppression. A water truck would be available to support Project construction activities and dust suppression. Water would be obtained from local municipal water supplies, which are primarily sourced from surface water reservoirs. Water use during Project construction represents a short-term demand and would not result in a significant depletion of groundwater supplies.

Dewatering activities would involve temporarily extracting groundwater from local trenching or excavation sites. Dewatering would only remove an amount of groundwater necessary to install the pipeline and would not substantially deplete groundwater supplies, as any lowering of the groundwater table level would be local and not extend beyond the dewatering site.

The Project also would not result in an increase in impervious surfaces or other areas that could substantially interfere with groundwater recharge. Construction activities would require temporarily removing paved surfaces, and then restoring them to original condition as construction proceeds along the route.

The Project's negligible water use during construction and limited sustained impact on groundwater recharge would not deplete or interfere with groundwater supply or recharge. Therefore, Project impacts to groundwater would be less than significant.

c) Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i) result in a substantial erosion or siltation on- or off-site; *Less-than-Significant Impact*

The Project has been designed to minimize impacts on waterways, as well as avoid substantially altering the drainage patterns of the Project work areas or altering the course of a stream or river. Furthermore, because major grading or contouring is not required, the Project would not result in the substantial alteration of existing drainage patterns. Minor temporary grading may be needed in select locations to improve Project access or establish work areas to accommodate equipment; however, this grading would be limited in scope and would not substantially alter site drainage or result in substantially increased erosion or siltation. The Project would not result in an increase in impervious surfaces. Therefore, the impact would be less than significant.

To further reduce this impact, appropriate measures would be implemented, per the SWPPP, as described in AMM WQ-2. After Project construction is completed, disturbed

areas would be returned to pre-Project conditions, unless otherwise requested by the landowner. Through Project design and implementation of the SWPPP under AMM WQ-2, the temporary and short-term effects of erosion or siltation from site runoff would be addressed. Therefore, the impact would be less than significant.

ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; *Less-than-Significant Impact*

The Project would not involve the creation of impervious surfaces or other means that could increase surface water run-off rates or require the substantial modification of any upland sites to an extent that could alter drainage patterns in a way that would increase the potential for any on- or offsite flooding. After Project construction is completed, disturbed areas would be returned to pre-Project conditions, unless otherwise requested by the landowner. Therefore impacts would be less than significant.

iii) create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff; *Less-than-Significant Impact; or*

Portions of the Project alignment are located within rural or undeveloped parcels where municipal or otherwise developed stormwater collection systems are not established. The stormwater conveyance systems that are present generally consist of open stormwater ditches along SR 29 and other local roads. Portions of the Project alignment crossing through St. Helena have developed stormwater systems already in place. The Project would not increase the amount of impervious surfaces, nor would it substantially modify the grade within the Project Area; therefore, the Project would not create or contribute additional runoff that could exceed the capacity of existing stormwater systems. Therefore, the impact would be less than significant.

As discussed previously, the Project has the potential to result in less-than-significant water quality impacts, typically through the flow of sediment-laden runoff or the accidental discharge of hazardous materials. As described in AMM WQ-2, these types of polluted runoff would be further controlled through implementation of a SWPPP. Therefore, the impact would be less than significant.

iv) impede or redirect flood flows? *Less-than-Significant Impact*

Portions of the Project route lie within flood hazard areas associated with the Napa River and some of its western tributaries. The southern end of the Project route near Sulphur Creek in St. Helena is mapped within a FEMA 100-year floodplain. Other small segments of the Project route (where the Project route crosses between Deer Park Road and York Lane, Mill Creek, and Ritchie Creek, and near Azalea Springs Way) are

mapped within the FEMA 100-year and/or 500-year floodplains. However, the Project does not include construction of aboveground structures that would impede or redirect flood flows, and storage of soils adjacent to trenching or other locations of excavation would be temporary. Therefore, the Project would have a less-than-significant impact on flood flows.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation? *Less-than-Significant Impact*

The risk of inundation from a tsunami is greatest along an exposed coast and greatly decreases with distance from the coast. The westernmost segment of the proposed Project is located over 30 miles from the Pacific Ocean; impacts from tsunamis would not occur. Seiches are seismically induced waves in enclosed bays or bodies of water. Although the Project route intersects several creeks, these water bodies are not subject to inundation due to seiches because of their small size and non-confined nature. A seiche could occur in one of the nearby lakes and reservoirs in Napa County. The closest of these to the Project Area are the Bell Canyon Reservoir located 1.5 miles northeast of the Project alignment and Kimball Reservoir and Lake Hennessey, both located approximately 5 miles away from the Project Area. Due to the distance of these surface water bodies, the risk of seiche affecting the Project Area is less than significant.

The Project Area is located within a potential dam failure inundation area associated with the St. Helena Lower Dam, where it crosses SR 29 along York Creek, as identified by the Napa County General Plan (Napa County 2008). Small portions of the Project route lie within 100-year and/or 500-year flood hazard areas associated with the Napa River and some of its western tributaries. Because of the implementation of the SWPPP described in AMM WQ-2 and the hazardous substance control and emergency response procedures, described in AMM HAZ-1, as well as the worker awareness program described in AM?M WQ-3, PG&E would further reduce the temporary and short-term construction-related effects on water quality. Therefore, potential impacts associated with release of pollutants due to inundation in flood hazard, tsunami, or seiche zones would be less than significant.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan? *Less-than-Significant Impact*

The proposed Project falls within the San Francisco Bay RWQCB planning and management area. The RWQCB's master water quality control planning document for the San Francisco Bay Basin is the Water Quality Control Plan (Basin Plan). The Project would be required to comply with water quality thresholds and measures as defined by the Basin Plan.

Although the Project is not subject to Napa County jurisdiction, the Project Area is covered by the Napa County General Plan (Conservation Element and Safety Element; Napa County 2008) and the St. Helena General Plan (Open Space and Conservation Element and Public Health, Safety, and Noise Element; City of St. Helena 2019). These general plans describe objectives and policies proposed to minimize risk related to flooding hazards and maintain water quality within St. Helena and other areas of Napa County. Small portions of the Project route lie within 100-year and/or 500-year flood hazard areas associated with the Napa River and some of its western tributaries. Project construction activities would involve ground disturbance, including trenching, excavation, and boring methods that could potentially increase erosion and contaminated runoff and impact surface water quality in the Project Area. However, with implementation of the SWPPP described in AMM WQ-2, the worker awareness program described in AMM WQ-3, as well as the soil, groundwater, and wastewater characterization procedures, and hazardous substance control and emergency response procedures, described in AMM HAZ-1, Project activities would not conflict with or obstruct implementation of these water quality control plans.

The Basin Analysis Report for the Napa Valley Subbasin (Luhdorff & Scalmanini 2016) concluded that the basin has operated within its sustainable yield (approximately 17,000 to 20,000 acre-feet per year, or 5.5×10^9 to 6.5×10^9 gallons) over a period of at least 10 years. The water demands for Project construction include a total of 1,800,000 gallons, which would represent a minute percentage of the total water demand for the Napa Valley Subbasin. Therefore, the Project would not conflict with or obstruct a sustainable groundwater management plan. The impacts associated with this criterion would be less than significant.

3.11 LAND USE AND PLANNING

3.11.1 Introduction

This section describes existing land use in the vicinity of the Project and assesses potential Project-related impacts on land use and planning, including an analysis of Project compatibility with land use and/or habitat plans. The analysis concludes that no impacts related to land use and planning would occur as a result of construction, operation, and maintenance of the Project and no Avoidance and Minimization Measures **(AMM)** are needed. The Project's potential effects on land use and planning were evaluated using the Appendix G of the CEQA Guidelines. The conclusions are summarized in Table 3.11-1 and discussed in more detail in Section 3.11.4.

Table 3.11-1: CEQA Checklist for Land Use and Planning

Would the Project:	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a) Physically divide an established community?	☐	☐	☐	☒
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

3.11.2 Regulatory Background and Methodology

3.11.2.1 Regulatory Background

Federal

No federal regulations related to land use and planning are applicable to the Project.

State

California Public Utilities Commission

PG&E's gas pipeline facilities are regulated under the California Public Utilities Commission's General Order 112-E, which contains the Commission's requirements governing the design, construction, testing, operation, and maintenance of gas pipeline systems.

Local

Local plans and policies are summarized in Section 3.17.3.2 below for informational purposes and to assist with CEQA review.

3.11.2.2 Methodology

Analysis of land use and planning included a review of the Napa County General Plan, City of St. Helena General Plan, the Napa County Code of Ordinances, and the City of St. Helena Municipal Code.

3.11.3 Environmental Setting

3.11.3.1 Regional Setting

The Project is located in the City of St. Helena and in unincorporated Napa County. The dominant geographic feature of the Project Area is SR 29, within which the Project is located, or runs parallel to. Within St. Helena, work would mostly occur along SR 29 in areas zoned for mixed residential/commercial use and in areas zoned for agricultural usage. In the unincorporated areas, work would largely occur in agricultural areas.

3.11.3.2 Local Land Use Setting (Existing Land Use)

The Project is located both within SR 29 and on land adjacent to SR 29. Existing land uses in the Project Area are summarized below.

T-1448A

The southernmost end of the Project is hydrostatic testing of a 1-mile section of pipeline within the City of St. Helena. The section of pipeline to be tested extends from Pratt Avenue to 500 feet south of Sulphur Creek, and is located along SR 29 (Main Street), Mitchell Drive, Oak Avenue, and Madrona Avenue. T-1448A construction activities would also include removal of unpiggable pipeline features on Madrona Avenue at SR 29, and on SR 29 at Elmhurst Avenue. Additionally, new pipeline would be installed under Sulphur Creek via horizontal directional drill (HDD) and the existing aerial crossing of Sulphur Creek would be removed.

A mix of residential and commercial buildings characterizes the Project alignment through the City of St. Helena, with residential areas primarily along the northern part of the alignment. The entry point of the HDD under Sulphur Creek would be in the parking lot of the Wells Fargo Bank and Sunshine Foods at the corner of Mitchell Land and SR 29. The exit point of the HDD would be in Caltrans' ROW along SR 29 in the vicinity of Merryvale Vineyards and Gott's Roadside Restaurant. Oak Avenue is a mixed-use street with single- and multi-family residences on the western side of the road and the rear of several commercial buildings on the east side. Three religious institutions are located on Oak Street—Grace Episcopal Church, St. Helena Catholic Church, and United Methodist Church.

R-1018B and R-1018

Transmission pipeline replacement and distribution and customer service line installation would begin at the northern end of the City of St. Helena where the T-1448A

work ends. The R-1018B work would extend 1.9 miles within and beside the Caltrans ROW along SR 29, between Pratt Avenue at the northern end of St. Helena and Hirsch Creek, 600 feet north of Ehlers Lane. All pipeline installation would either be within SR 29 or adjacent to the highway, apart from the installation of customer service lines that would extend to residences and businesses. The land use along this segment of work is primarily agriculture, along with wineries associated with the vineyards, rural residences, and recreation. Heading north out of St. Helena, Caltrans' ROW is bordered by Charles Krug vineyards on the east side, and the Beringer Estate and the Culinary Institute of America at Greystone on the west side. Beyond Deer Park Road, vineyards and associated wineries border both sides of SR 29, including William Cole, Morlet, Markham, Ballentine, Revana, Vineyard 29, Freemark Abbey, Cello & Maudru, Trinchero, Brasswood, Parallel, and Elhers Estate (Napa Valley Maps 2020).

The R-1018 work extends 1.8 miles between the end of R-1018B on the north side of Hirsch Creek (near Ehlers Lane), and the Caltrans pullout on the northwest side of Ritchie Creek (near Larkmead Lane). The land use along this segment of work is characterized by agriculture to the east of the SR 29 and mostly forested land to the west with some agriculture, rural residences, and the presence of Bale Grist Mill State Historic Park and Bothe-Napa Valley State Park. The California Department of Forestry and Fire Protection (CAL FIRE) Sonoma Lake Napa Unit Headquarters and Napa County Fire Department Station 26 St. Helena are located at the intersection of SR 29 and Big Tree Road. The Madrigal Winery is located on the east side of SR 29 at the north end of R-1018 (City of St. Helena 2018).

T-1448B

At the northern end of the Project is hydrostatic testing of an 2.4-mile section of pipeline that is located mostly in Caltrans' ROW adjacent to the north side of SR 29, with the exception of 3 sections located 1,700 feet along Heitz Way, 1,200 feet adjacent to the south side of the highway leading up to Azalea Springs Way, and 1,200 feet along Azalea Springs Way. Areas of pipeline improvements to enable strength testing include the pipeline within Caltrans' ROW along SR 29 in the vicinity of the Caltrans pullout on the west side of Ritchie Creek, and along Larkmead Lane, Summit Drive, Peterson Drive, Nash Creek, Heitz Way, Azalea Springs Way, and Dunaweal Lane. The end of the T-1448B strength test work is on the north side of the SR 29 at Dunaweal Lane.

Land use along this segment is generally vineyards to the east of SR 29 and a mix of vineyards, forested areas, and rural residences to the west of SR 29. Bothe-Napa Valley State Park is located adjacent to the west side of SR 29 at the southern end of this work segment, and several wineries are present along the route, including Madrigal, Larkmead, J. Davies Schramsberg, Checkerboard, and Twomey. The LNG injection site located at the northern end of T-1448B at the corner of Dunaweal Lane and SR 29 is

bordered by vineyards and the Twomey winery. Rural residences are present to the west of Caltrans' ROW across from Dunaweal Lane. Prior to May 2020, the location of the graveled LNG injection site was a fallow field.

3.11.3.3 Zoning and General Plan Land Use Designations

The Project is located in unincorporated Napa County and within the City of St. Helena. Figure 3.11-1 illustrates the Napa County Land Use Plan, identifying that the Project outside of the City of St. Helena is within a land use designated as Agriculture, Watershed and Open Space (Napa County General Plan 2008). Zoning within areas of unincorporated Napa County where the Project is located is agricultural preserve and agricultural watershed.

Within the City of St. Helena, work areas for T-1448A are within and beside Caltrans' ROW along SR 29 (Main Street) and along other city streets, and R-1018 work is on the east side of Caltrans' ROW along SR 29. The City of St. Helena General Plan indicates that existing land uses largely correspond to the existing and proposed General Plan land use designations. Existing land uses, as identified in the General Plan, adjacent to the city streets where the Project is located include commercial, mixed use, single-family residential, multi-family residential, educational facilities, and religious/institutional facilities (City of St. Helena 2019a). The City's zoning districts in the Project Area generally reflect the land uses and include service commercial, parks and recreation, central business, business and professional office, public and quasi-public, high-density residential, and winery (City of St. Helena 2018).

3.11.3.4 Local Plans and Policies

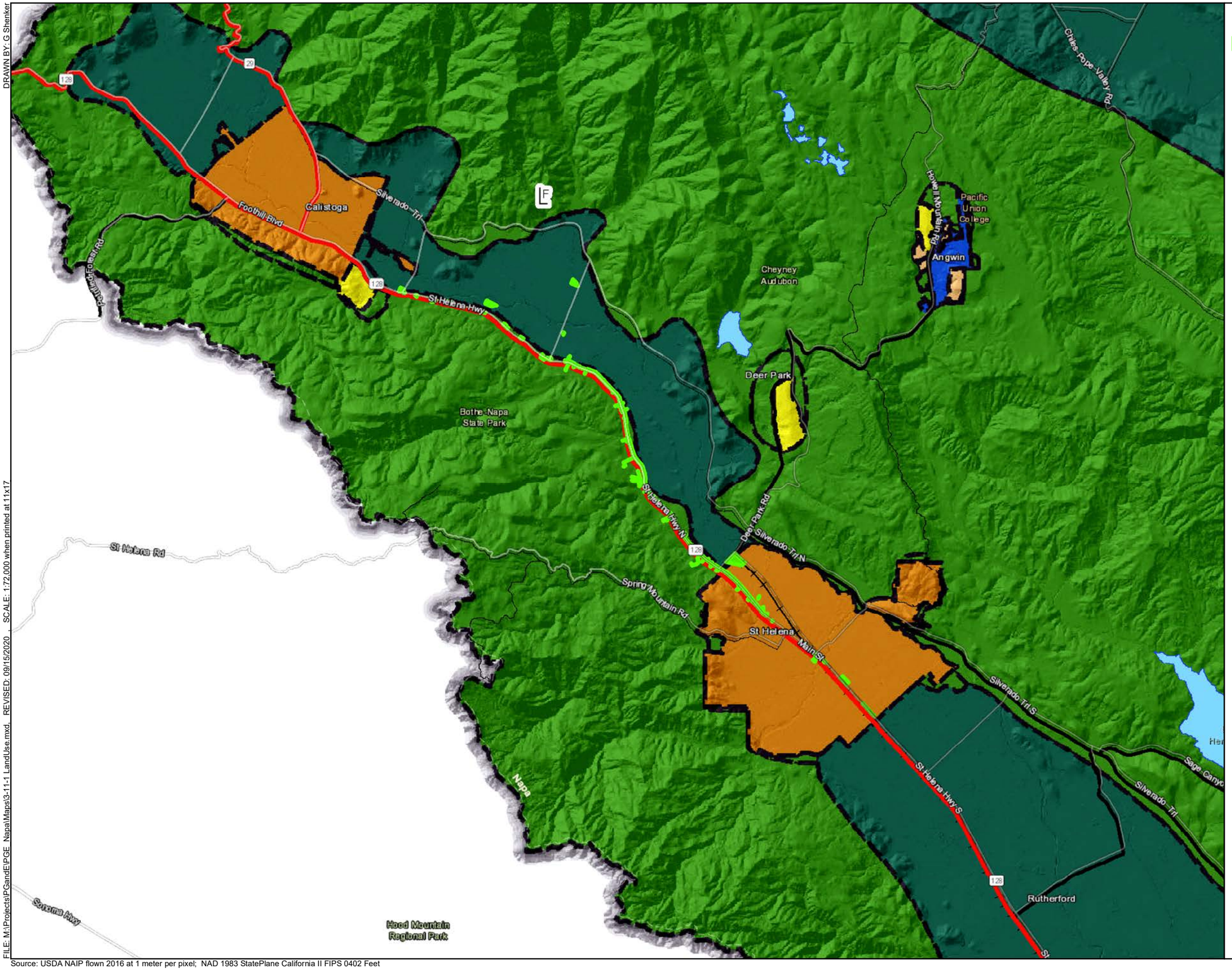
As previously stated, the Project is not subject to local agency regulations. However, PG&E has considered the following local plans and policies in its design of the Project. The Project's consistency with particular policies within these documents is discussed in Section 3.11.4.3, below.

Napa County Land Use Ordinances

Project activities in unincorporated portions of Napa County would take place within areas zoned for agricultural preserves and agricultural watershed. Agriculture is defined as the main activity within areas zoned as agricultural preserves. Uses that are incompatible to agriculture are precluded where they could be considered detrimental to the open space and agricultural character of the area. Similarly, areas zoned as agricultural watershed are defined as areas of Napa County where agriculture is the predominant use but where watershed areas, reservoirs, and floodplain tributaries are located (Napa County 2019).

DRAWN BY: G Shenker

FILE: M:\Projects\PGandE\PGE_NapaMaps\3-11-1 LandUse.mxd, REVISED: 09/15/2020 SCALE: 1:72,000 when printed at 11x17



Legend

Project Work Areas

General Plan

URBAN

- Study Area
- Cities
- Urban Residential
- Rural Residential
- Industrial
- Public-Institutional
- Napa Pipe Mixed Use

OPEN SPACE

- Agriculture, Watershed & Open Space
- Agricultural Resource

TRANSPORTATION

- Mineral Resource
- Railroad
- Limited Access Highway
- Major Road
- Secondary Road
- Airport
- Airport Clear Zone
- Landfill - General Plan
- City of Napa RUL
- American Canyon ULL

Notes:
Adapted from Napa County Land Use General Plan 2008-2030 (2016).

N

0 3,000 6,000 12,000

Feet

Figure 3.11-1
Land Use Plan
PG&E Napa Bundle Northern Corridor
Gas Pipeline Maintenance Program
Napa, Ca

Environmental Resources Management
www.erm.com

Source: USDA NAIP flown 2016 at 1 meter per pixel; NAD 1983 StatePlane California II FIPS 0402 Feet

Napa County General Plan

Because agriculture is Napa County's main economic driver, the Napa County General Plan outlines a number of goals and policies related specifically to the preservation of agricultural land. Principle goals for development within its jurisdiction include the concentration of urban uses in existing urbanized areas and, where conversion of farmlands cannot be avoided, the long-term preservation of 1 acre of existing farmland of equal or higher quality for every acre taken out of agricultural uses. Policy CC-16 of the Community Character Element states that adjacent to roadways, utilities shall be placed underground where possible (Napa County General Plan 2008).

Napa County Land Trust

A 10.1-acre conservation easement— known as the Olive House and bounded by Caltrans' ROW along SR 29 on the west side and Mill Creek on the north side—is held in favor of the Napa County Land Trust. The conservation values are identified as agricultural, scenic, and open space.

City of St. Helena Land Use Ordinances

Project activities within St. Helena would take place in a number of different zoning districts. Each district has its own definitions and requirements. While the Project is not subject to local ordinances in any event, none of them state requirements for the building and maintenance of underground utilities (City of St. Helena 2019b).

City of St. Helena General Plan

The principle land use concern of the City of St. Helena General Plan is the sustainable growth of the City and its interest in protecting its small-town, agricultural character. The Community Design element of the General Plan sets forth a vision for the form, character, and appearance of the community. A requirement within this element is to underground utilities within city jurisdiction to the extent feasible. Also, the "Tunnel of Elms" adjacent to SR 29 at the northern gateway to the city is highlighted as providing significance to the area and a sense of place (City of St. Helena 2019a).

3.11.4 Avoidance and Minimization Measures and Potential Impacts

The following sections describe provide AMMs and assess potential Project-related construction and operational land use impacts. Because the Project would have no impact on land use, AMMs have not been included for this section.

3.11.4.1 Avoidance and Minimization Measures

The Project would have no impact on land use planning and no AMMs are proposed.

3.11.4.2 Potential Impacts

a) Would the Project physically divide an established community? *No Impact*

Implementation of this Project would not physically divide an established community. No impact would occur.

b) Would the Project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect? *No Impact*

The Project performs required strength testing of existing pipeline and replaces aging transmission pipeline with new transmission and distribution pipeline, generally along the same alignment as the existing pipeline. Construction-related activities would be temporary and short term, and would not result in changes in the land use or zoning. The Project would be generally consistent with local land use plans and policies, even though they are not applicable to the Project. Accordingly, the Project would not conflict with an applicable land use plan, policy, or regulation and no impact would occur.

3.12 MINERAL RESOURCES

3.12.1 Introduction

This section describes existing conditions and potential impacts on mineral resources as a result of construction, operation, and maintenance of the Project. The analysis concludes that the Project would have no impact on mineral resources. The Project's potential effects on mineral resources were evaluated using Appendix G of the CEQA Guidelines. The conclusions are summarized in Table 3.12-1 and discussed in more detail in Section 3.12.4.

Table 3.12-1: CEQA Checklist for Mineral Resources

Would the Project:	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

3.12.2 Regulatory Background and Methodology

3.12.2.1 Regulatory Background

Federal

No federal regulations related to mineral resources are applicable to the Project.

State

The California Surface Mining and Reclamation Act of 1975 requires that the State Geologist classify land into mineral resource zones according to the known or inferred mineral potential of the land (Public Resources Code Sections 2710-2796).

Local

No local general plan, including the Napa County General Plan (2008), the City of St. Helena General Plan (2019), and the City of Calistoga General Plan (2003), designates any locally important mineral resources in the Project Area.

3.12.2.2 Methodology

To evaluate the potential effects on mineral resources, published literature and maps, the Napa County General Plan (2008), the City of St. Helena General Plan (2019), and the City of Calistoga General Plan (2003) were consulted.

3.12.3 Environmental Setting

The Project Area does not have known any mineral resources of regional or statewide value. *The California Geological Survey has not identified any* mineral resource zones (Stinson, Manson, and Plappert 1987), or any active/permitted mining or aggregate resources of regional significance (Miller and Busch 2013) within the Project Area. According to the Napa County General Plan Land Use Policy Map, no locally important mineral resource recovery sites have been designated within the Project Area (Napa County 2008).

3.12.4 Avoidance and Minimization Measures and Potential Impacts

The following sections assess potential Project-related construction and operational impacts. Because the Project would have no impact on mineral resources, avoidance and minimization measures have not been included for this section.

3.12.4.1 Avoidance and Minimization Measures

The Project would have no impact on mineral resources and no avoidance and minimization measures are proposed.

3.12.4.2 Potential Impacts

Project impacts related to mineral resources were evaluated using Appendix G of the CEQA Guidelines and are discussed below. The impact analysis evaluates potential Project impacts during the construction phase, and the operation and maintenance phase.

a) Would the Project result in the loss of availability of a known mineral resource that would be of value to the region and residents of the state? *No Impact*

No known mineral resources of regional or statewide value have been identified in the Project Area; therefore, no impact on known mineral resources would occur.

b) Would the Project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan? *No Impact*

No locally important mineral resource recovery sites have been delineated in the Project Area; therefore, no impact on locally important mineral recovery sites would occur.

3.13 NOISE

3.13.1 Introduction

This section describes potential noise impacts associated with construction, operation, and maintenance of the Project, and concludes that impacts would be less than significant in these areas with incorporation of the Avoidance and Minimization Measures (AMM) described in Section 3.13.4.2. The Project's potential noise-related effects were evaluated using Appendix G of the CEQA Guidelines. The conclusions are summarized in Table 3.13-1 and discussed in more detail in Section 3.13.4.

Table 3.13-1: CEQA Checklist for Noise

Would the Project result in:	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) For a Project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project Area to excessive noise levels?	☐	☐	☐	☒

3.13.1.1 Fundamentals of Noise

Noise is generally defined as loud, unpleasant, unexpected, or undesired sound that is typically associated with human activity and that interferes with or disrupts normal activities. Although prolonged exposure to high noise levels has been demonstrated to cause hearing loss, the principal human response to environmental noise is annoyance. The response of individuals to similar noise events is diverse and influenced by the type of noise, the perceived importance of the noise and its appropriateness in the setting, the time of day and the type of activity during which the noise occurs, and the sensitivity of the individual. Airborne sound is the fluctuation of air pressure above and below atmospheric pressure. Several ways exist to measure sound, depending on the source, receiver, and reason for the measurement.

Community sound levels are generally presented in terms of A-weighted decibels (dBA). The A-weighting network measures sound in a similar fashion to how a person perceives or hears sound, thus achieving a strong correlation with how people perceive acceptable and unacceptable sound levels. Table 3.13-2: Typical Sound Levels Measured in the Environment and Industry, presents A-weighted sound levels and the general subjective responses associated with common sources of noise in the physical environment.

A-weighted sound levels are typically measured or presented as the equivalent sound pressure level (L_{eq}), which is defined as the average noise level on an equal-energy basis for a stated period of time and commonly is used to measure steady-state sound that is usually dominant. Statistical methods are used to capture the dynamics of a changing acoustical environment. Statistical measurements are typically denoted by L_n, where “n” represents the percentile of time that the sound level is exceeded. Therefore, L_{90} represents the noise level that is exceeded during 90 percent of the measurement period, which typically represents a continuous noise source. Similarly, L_{10} represents the noise level exceeded for 10 percent of the measurement period.

Another metric used in determining the impact of environmental noise is the differences in response that people have to daytime and nighttime noise levels. During the evening and at night, exterior background noises generally are lower than daytime levels. However, most household noise also decreases at night, and exterior noise becomes more noticeable. Furthermore, most people sleep at night and are sensitive to intrusive noises. To account for human sensitivity to evening and nighttime noise levels, the day-night sound level (L_{dn}) and the community noise equivalent level (CNEL) were developed. The L_{dn} is a noise metric that accounts for the greater annoyance of noise during the nighttime hours (10 p.m. to 7 a.m.). The CNEL is a noise index that accounts for the greater annoyance of noise during both the evening hours (7 p.m. to 10 p.m.) and nighttime hours.

Table 3.13-2: Typical Sound Levels Measured in the Environment and Industry

Noise Source at a Given Distance	Sound Level (dBA)	Qualitative Description
Carrier deck jet operation	140	
	130	Pain threshold
Jet takeoff (200 feet)	120	
Auto horn (3 feet)	110	Maximum vocal effort
Jet takeoff (1,000 feet)/ Shout (0.5 foot)	100	
New York subway station Heavy truck (50 feet)	90	Very annoying; Hearing damage (8-hour, continuous exposure)
Pneumatic drill (50 feet)	80	Annoying
Freight train (50 feet) Freeway traffic (50 feet)	70 to 80 70	Intrusive (telephone use difficult)
Air conditioning unit (20 feet)	60	
Light auto traffic (50 feet)	50	Quiet
Living room/Bedroom	40	
Library/Soft whisper (5 feet)	30	Very quiet
Broadcasting/Recording studio	20	
	10	Just audible

Source: Adapted from Table E, "Assessing and Mitigating Noise Impacts" (New York Department of Environmental Conservation 2001).

L_{dn} values are calculated by averaging hourly L_{eq} sound levels for a continuous 24-hour period on an energy basis, applying a weighting factor of 10 decibels (dB) to the nighttime values. CNEL values are calculated similarly, except that a 5-dB weighting factor is also added to evening L_{eq} values. The applicable adjustments, which reflect the increased sensitivity to noise during evening and nighttime hours, are applied to each hourly L_{eq} sound level for the calculation of L_{dn} and CNEL. For the purposes of assessing noise, the 24-hour day is divided into three time periods, with the following adjustments:

- Daytime hours: 7 a.m. to 7 p.m. (12 hours)—adjustment of 0 dBA
- Evening hours (for CNEL only): 7 p.m. to 10 p.m. (3 hours)—adjustment of +5 dBA
- Nighttime hours (for both CNEL and L_{dn}): 10 p.m. to 7 a.m. (9 hours)—adjustment of +10 dBA

The hourly adjusted time-period noise levels are then averaged (on an energy basis) to compute the overall L_{dn} or CNEL value. For a continuous noise source, such as an air conditioner, the L_{dn} value can be computed by adding 6.4 dBA to the overall 24-hour noise level (L_{eq}). For example, if the expected continuous noise level from a noise source is 60 dBA, the resulting L_{dn} from the source would be 66.4 dBA. Similarly, the CNEL for a continuous noise source is computed by adding 6.7 dBA to the overall 24-hour L_{eq}.

The general human response to changes in noise levels that are similar in frequency content (such as comparing increases in continuous (L_{eq}) noise levels) are summarized as follows:

- A 3-dB change in sound level is considered to be a barely noticeable difference.
- A 5-dB change in sound level typically is noticeable.
- A 10-dB increase is considered to be a doubling in loudness.

Vibration

Generally speaking, vibration is energy transmitted in waves through the ground. Because energy is lost during the transfer of energy from one particle to another, vibratory energy is reduced with increasing distance from the source. Human perception of vibration varies with the individual and is a function of physical setting and the type of vibration. Persons exposed to elevated ambient vibration levels, such as people in an urban environment, may tolerate a higher vibration level. Ground-borne vibration is almost never annoying to people who are outdoors; without the effects associated with the shaking of a building, the rumble noise of vibrations is not perceptible.

Caltrans has developed guidance on addressing vibration issues associated with construction, operation, and maintenance of transportation projects (Caltrans 2006). Based on this guidance, continuous/frequent intermittent vibration sources are notable when their peak particle velocity (PPV) exceeds 0.1 inch per second. Table 3.13-3 outlines additional specific criteria for human annoyance due to vibration. Though the guidance is non-enforceable, it provides a basis for evaluating potential vibration impacts from the proposed Project.

Table 3.13-3: Human Response to Transient Vibration

Human Response	PPV (inches/second)
Severe	2.0
Strongly Perceptible	0.9
Distinctly Perceptible	0.24
Barely Perceptible	0.035

Source: Caltrans 2013

3.13.2 Regulatory Background and Methodology

3.13.2.1 Regulatory Background

Federal

No federal regulations that limit overall environmental construction noise levels applicable to the Project were identified.

State

No state regulations limiting environmental construction noise levels were identified.

Local

The following reviews of the county's and city's noise-related policies and regulations is provided for informational purposes and to assist with CEQA review.

City of St. Helena Noise Ordinance

Chapter 8.24 of the City of St. Helena Municipal Code states that commercial and residential construction activities within city jurisdiction are only permitted between the hours of 8 a.m. and 5 p.m., Monday through Saturday, and prohibited all day on Sundays and legal holidays. Other types of construction activities are not restricted to these hours. Exemptions may be permitted provided the construction noise is not a nuisance to neighbors. There are no numerical limits on construction noise.

Napa County Noise Ordinance

Chapter 8.16 of the Napa County Code of Ordinances contains a regulation regarding construction noise. Table 8.16.080 of the code limits construction-related noise levels by land use to the levels provided in Table 3.13-4. The ordinance further states that "Where technically and economically feasible, construction activities shall be conducted in such a manner that the maximum noise levels at affected properties would not exceed those listed in the following schedule:"

Table 3.13-4: Napa County Noise Limits for Construction Activities

	Residential	Commercial	Industrial
Daily: 7 a.m. to 7 p.m.	75 dBA	80 dBA	85tdBA
Daily: 7 p.m. to 7 a.m.	60 dBA	65 dBA	70tdBA

The Napa County ordinance allows applicants for construction projects within county jurisdiction to apply for variances from the above limitations for a period not to exceed 5 years. Variance requirements include demonstrating that bringing the source of sound or activity into compliance would constitute an unreasonable hardship on the applicant or the community.

3.13.2.2 Methodology

Evaluation of potential noise impacts from the Project included reviewing county, community, and city noise standards, characterizing the existing noise environment, and calculating and estimating noise levels and related impacts during construction.

Temporary construction noise associated with the operation of heavy equipment was evaluated using methods specified in the FHWA's *Roadway Noise Construction Model User's Guide* (FHWA 2006). Temporary construction noise due to Horizontal Directional Drilling (HDD) was evaluated utilizing measured HDD noise levels from the literature (Burge & Kitech 2009).

3.13.3 Environmental Setting

The Project alignment runs almost entirely within or adjacent to Caltrans' ROW along SR 29 between the cities of St. Helena and Calistoga, with the exception of a short portion along Oak Avenue in the City of St. Helena and two locations at the northern end of the Project on Heitz Way and Azalea Springs Way. The most populated areas along the route are located in St. Helena and characterized by a mixture of commercial and residential uses. Further north beyond St. Helena, the Project Area is lightly populated, consisting mainly of commercial uses, including many vineyards and their associated facilities. Rural residences are present, but are generally widely dispersed. Residential properties, where present, are generally located 50 feet to 500 feet or more from where construction activity would occur, although some residences, in particular within St. Helena, are located within 15 feet of a pipeline construction work area. Customer service lines are connected to gas meters at residences.

The existing noise environment along the route is dominated by vehicular traffic along SR 29. Other contributors include natural sounds (insects, wildlife) and sounds emanating from neighborhoods. Existing sound levels in close proximity to the route are likely to be elevated due to the presence of vehicular traffic, especially during daytime hours.

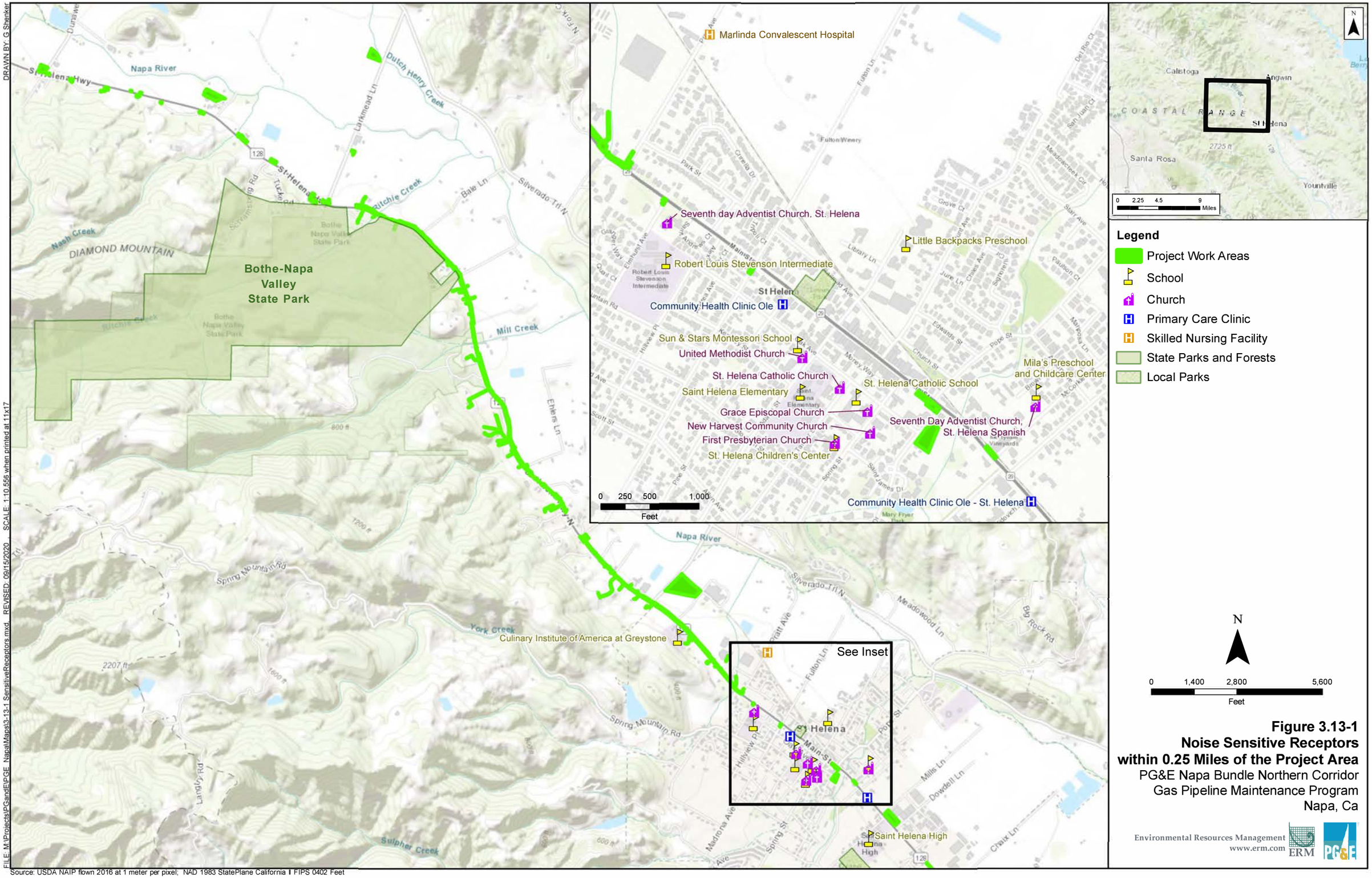
3.13.3.1 Sensitive Receptors

Noise-sensitive receptors are generally defined as locations where people reside or where the presence of unwanted sound may adversely affect the existing land use. Typically, noise-sensitive land uses include residences, hospitals, places of worship, libraries, performance spaces, offices, and schools, as well as nature and wildlife preserves, recreational areas, and parks. Sensitive receptors within 0.25 mile of the Project alignment were analyzed for potential impacts as a result of Project construction and operation.

The locations of non-residential noise-sensitive receptors are shown on Figure 3.13-1 and listed in Table 13.3-5. The nearest noise-sensitive receptors to the Project are residences, a few as close as 15 feet from where pipeline construction activity would occur. Other than residences, additional noise sensitive uses are located within St. Helena, and comprise churches and schools. The nearest churches and schools include the St. Helena Catholic Church, Grace Episcopal Church, and St. Helena Catholic School, all located on the west side of Oak Avenue, although no construction activity is proposed along the portion of the pipeline where these most proximate, non-residential uses are located. The Bothe-Napa Valley and Bale Grist Mill State Parks are located adjacent to northern portions of the Project route. No hospitals are located within 0.25 mile of the Project. No public airports or private airstrips were identified within 2 miles of the Project.

Table 3.13-5: Non-Residential Sensitive Receptors with 0.25-Mile

Sensitive Receptor	Approximate Distance from Construction Activity (feet)
Schools	
The Culinary Institute of America at Greystone	295
Robert Louis Stevenson Middle School	425
Saint Helena Catholic School	510
Mila's Preschool and Childcare Center Inc.	580
Saint Helena Elementary School	800
St. Helena Children's Center	830
Sun & Stars Montessori School	850
Little Backpacks Preschool	1,300
Recreation Facilities	
Bale Grist Mill State Historical Park	Adjacent
Mary Fryer Park	Adjacent
Bothe-Napa Valley State Park	140
Lewis Station	605
Lyman Park	625
Stephen C McCullagh Park	1,105
Baldwin Park	1,345
Other Facilities	
Grace Episcopal Church	535
St. Helena Catholic Church	735
Carnegie Building Recreation Center	850



Legend

- Project Work Areas
- School
- Church
- Primary Care Clinic
- Skilled Nursing Facility
- State Parks and Forests
- Local Parks

Figure 3.13-1
Noise Sensitive Receptors within 0.25 Miles of the Project Area
PG&E Napa Bundle Northern Corridor
Gas Pipeline Maintenance Program
Napa, Ca

Environmental Resources Management
www.erm.com

Source: USDA NAIP flown 2016 at 1 meter per pixel; NAD 1983 StatePlane California I FIPS 0402 Feet

FILE: M:\Projects\PGandE\PGE_NapaMaps\3-13-1 SensitiveReceptors.mxd REVISED: 09/15/2020 SCALE: 1:10,556 when printed at 11x17

DRAWN BY: G Shenker

3.13.4 Avoidance and Minimization Measures and Potential Impacts

The following sections describe provide AMMs and assess potential Project-related construction and operational noise impacts.

3.13.4.1 Avoidance and Minimization Measures

PG&E would implement the following AMMs:

AMM NOI-1: Employ Noise-Reducing Construction Practices. PG&E will employ standard noise-reducing construction practices such as the following:

- Construction equipment will use noise-reduction devices that are no less effective than those originally installed by the manufacturer.
- Stationary equipment will be located as far as practical from noise-sensitive receptors.
- Unnecessary engine idling will be limited.

AMM NOI-2: Notify Residents of Nighttime Construction. Residents within 500 feet of the construction site(s) will be notified at least 7 days in advance by mail, personal visit, door hanger, or email and informed of the expected work schedule.

AMM NOI-3: Notify Residents of Liquid Natural Gas (LNG) Injection Site Activity. Residents within 600 feet of the LNG injection site will be notified at least 7 days in advance by mail, personal visit, door hanger, or email and informed of the expected work schedule.

3.13.4.2 Potential Impacts

a) Would the Project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? *Less-than-Significant Impact*

The Project would consist of short-term construction activities that would progress along the Project alignment lasting for a period of approximately 10 months. No permanent increases in noise levels would occur as a result of the Project. Construction-noise-related activities would include vegetation clearing, open trenching to install and replace pipe, bell hole excavation to inspect or replace limited sections of piping, and hydrostatic testing. Limited amounts of boring and HDD would also be conducted to install pipe. Lastly, a temporary LNG injection site would be located at Dunaweal Avenue for supplying gas to users upstream of the work activity.

These activities would require the temporary use of noise-generating equipment. The construction equipment to be used is generally similar to that used during typical public works projects. Typical noise levels generated by the construction equipment listed in the Project description have been calculated previously and published in various reference documents. The expected equipment noise levels listed in the FHWA *Roadway Construction Noise Model User's Guide* (FHWA 2006) were used for this evaluation for all equipment except for HDD, which used data from Burge & Kitech (2009). The FHWA user's guide provides the most recent comprehensive assessment of noise levels from construction equipment.

The equipment employed would not generally be operated continuously, nor would the equipment always operate simultaneously. Therefore, there would be times when no equipment is operating and noise would be at ambient levels. Typical usage factors for this type of construction equipment were obtained from the aforementioned FHWA user's guide, and applied to the provided sound levels to arrive at the average sound level that may occur during a typical workday. These usage factors are applied irrespective of work period duration, and account for the fact that equipment is not always operated at full-throttle conditions and is not used for an entire period. The sound levels provided would therefore be the same whether construction occurs over a 1 hour period, 12 hour period, or any duration work period.

Tables 3.13-6 through 3.13-8 provide the construction sound levels—adjusted to reflect a typical work period—expected at various distances (50 to 500 feet) from the route or activity, covering a range of distances to nearby sensitive receptors. Tables are provided for each discrete activity.

Table 3.13-6: Hydrostatic Testing Construction Noise Levels Adjusted for Work Period

Activity	Adjusted Noise Level for Work Period (dBA) [1]		
	50 Feet	100 Feet	500 Feet
Staging	81	75	60
Bell Hole Excavation	80	74	59
Welding/Removal/Coating	90	84	69
Clearance Crew	90	84	69
Backfill	86	80	65
Hydro Test Sites [2]	82	76	61

Notes:
(1) Includes all anticipated equipment in operation, accounting for the usage factors. Arrived at sound levels would be the same regardless of work duration.
(2) Equipment would only be placed at four locations.

Table 3.13-7: Pipeline Installation/Replacement Construction Noise Levels Adjusted for Work Period

Activity	Adjusted Noise Level for Work Period (dBA) [1]		
	50 Feet	100 Feet	500 Feet
Staging Yard	81	75	60
Vegetation Clearing	87	81	66
Open Cut Excavation	81	75	60
Welding/Coating/X-ray	89	83	68
Hydro Test Crew	82	76	61
Bore [2]	90	84	69
Clearance Crew	90	84	69
Backfill	85	79	64

Notes:

(1) Includes all anticipated equipment in operation, accounting for the usage factors. Includes service line installation.

(2) Boring would be limited to select locations

Table 3.13-8: Horizontal Directional Drilling Noise Levels

Activity	Noise Level for Workday (dBA)		
	50 Feet	100 Feet	500 Feet
HDD Entry Point	83	77	62
HDD Exit Point	71	65	50

Construction activities would be short term and temporary. Pipeline installation and replacement work in the vicinity of any single receptor on the route would likely last for a short duration, typically less than one week, as construction activity moves along the route. Bell hole excavation and backfilling associated with preparing the pipeline for hydrostatic testing would similarly be of short duration and would only occur at select locations along the route. Hydrostatic testing is expected to occur over a 4-day period. Boring and HDD may occur over a 3- to 8-week period, respectively, and only at select locations along the route. Construction is currently planned for nighttime hours. Total Project construction is expected to occur over a 10-month period, but not all activities would occur throughout this duration, nor would they all occur simultaneously.

The City of St. Helena noise ordinance generally limits construction activities to certain hours of the day. However, this restriction does not apply to the Project as it is not a commercial or residential project. While construction activities would be occurring at night in order to avoid daytime road closures of SR 29, most construction activities would be short-term (typically several days) and temporary at a given location. Because nighttime construction hours are required, PG&E would implement AMM NOI-1 and AMM NOI-2, which require noise-reducing construction practices and advance notice to all property owners within 500 feet of construction activities, respectively.

The Napa County ordinance, from which the Project is also exempt, provides numerical limits for construction noise that differ from day to night. Except for the most proximate noise sensitive receptors, construction noise levels would generally be below the ordinance limits.

The Project would require an alternate method of gas delivery when the existing pipeline is taken out of service to facilitate construction activities. This would be accomplished through use of an LNG injection site, on a parcel of land at the intersection of Dunaweal Lane and State Route 29, and provision of compressed natural gas trailers at some residences and businesses. The injection site would operate 24 hours a day for approximately 8 weeks during construction. LNG tankers would bring gas to the site, which would have two compressors, two generators, and two vaporizers. The compressors are the most significant noise-generating sources. The vaporizers generate minimal noise.

Measured sound level data of these compressors in operation, provided by PG&E, indicates that the highest sound level in any direction from a compressor unit is 80 dBA at 26 feet. Aerial photography was reviewed to determine the distance and direction from the nearest residences to the site. The expected noise levels at these residences due to LNG injection at the Dunaweal site are provided in Table 3.13-9.

Table 3.13-9: LNG Injection Site and Blowdown Noise Levels (1)

Activity	Expected Noise Level at Nearest Residences to LNG Injection Site (dBA) (1)(2)		
	West Dunaweal Lane (330 feet south)	**Dunaweal Lane (350 feet northeast)**	**Route 29 (600 Feet West)**
LNG Injection	60	59	54
LNG Tanker Blowdowns (3)	69	68	63

Notes:

(1) LNG Injection would occur 24 hours per day, but is a temporary activity, limited to approximately 8 weeks. No usage factors were applied.

(2) Distance measured from center of LNG site to residence.

(3) Maximum expected sound levels under rapid blowdown conditions. Lower noise levels would be generated during typical, slow venting.

Use of the LNG injection site would also require blowdown of emptied LNG trailers prior to leaving the site. This activity is expected to occur three times per 24 hour period, several times during the Project. The sound level generated during blowdowns depends on the speed with which blowdowns are conducted. During windy periods, the blowdowns are conducted quickly in order to push the gas plume higher. During this worst-case condition, maximum blowdown noise levels as reported by PG&E are 110 dBA at 3 feet. Table 3.13-9 also provides the worst-case blowdown noise levels expected at the nearest residences.

Existing ambient noise levels in the area are likely elevated due to the presence of vehicular traffic on SR 29 during daytime hours. LNG injection sound levels during the day would likely be in the range of existing ambient sound levels. However, during nighttime hours when less traffic is present, LNG injection site and blowdown noise levels would likely be audible above ambient conditions. Blowdowns would be conducted during daytime hours to the extent practical, but may need to occur during nighttime hours. Silencers cannot be installed on the LNG trailer vents during blowdowns, as blowdowns may need to occur as an emergency action and restrictions to vent flow are not permitted. Because 24-hour operation of the LNG site would be required during the 8-week period to maintain gas flow to customers and because blowdowns may occur at night, PG&E would implement AMM NOI-3, which requires advance notice of planned blowdowns to the property owners within 600 feet of the site.

With incorporation of the proposed AMMs, construction of the Project would result in a less-than-significant impact under this criterion.

b) Would the Project result in generation of excessive groundborne vibration or groundborne noise levels? *Less-than-Significant Impact*

Construction activities (e.g., ground-disturbing activities) may generate localized, groundborne vibration and noise. The human response thresholds for vibration (refer to Table 3.13-3) indicate that vibration is barely perceptible with a PPV of 0.035. Table 3.13-10 provides vibration source levels for some construction equipment that is expected to be used for the Project. The source levels have been normalized to a reference distance of 50 feet, as most residences are greater than 50 feet from the Project. However, there are a very few homes that are closer than 50 feet, with the closest residence being 15 feet from where construction would occur. The vibration levels for these residences are also provided.

Table 3.13-10: Vibration Source Levels for Construction Equipment at 50 Feet

Equipment[1]	PPV at 50 Feet	PPV at 25 Feet	PPV at 15 Feet
Loaded Truck	0.027	0.076	0.163
Bulldozer	0.001	0.003	0.006

Notes:

(1) Vibration levels listed are for typical equipment used during construction, and not all potential equipment used for the Project is listed herein. The equipment used is considered to be representative of the equipment that would be used during construction of the Project.

Referring to the data in Table 3.13-9, vibration levels would typically be below the barely perceptible response level provided in Table 3.13-3 for residences greater than 50 feet from where construction equipment would be in operation. For the very few residences that are closer than 50 feet, vibration levels would be above the barely perceptible level,

but below the distinctly perceptible level, and only for the very short durations when loaded trucks leave the work area. With implementation of AMM NOI-2, (providing advance notice to residences within 500 feet of nighttime construction activities), construction of the proposed Project would result in a less-than-significant impact.

c) For a Project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, will the Project expose people residing or working in the Project Area to excessive noise levels? *No Impact*

Construction, operation, and maintenance of the Project would occur at a distance greater than 2 miles from a public airport or private airstrip; therefore, the Project would result in no impact under this criterion.

3.14 POPULATION AND HOUSING

3.14.1 Introduction

Table 3.14-1: CEQA Checklist for Population and Housing

Would the Project:	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

3.14.2 Regulatory Background and Methodology

3.14.2.1 Regulatory Background

No regulatory background information is relevant to addressing Project-related impacts on population and housing.

3.14.2.2 Methodology

To evaluate potential effects on population and housing resources, the Bay Area Census (MTC and ABAG 2010), General Plan for the City of Calistoga (City of Calistoga 2003), General Plan for the City of St. Helena (City of St. Helena 2019), General Plan for Napa County (Napa County 2008) and the United States Census Bureau (United States Census Bureau 2018) were consulted. In addition, a desktop review was done of the proposed work using Google Earth.

3.14.3 Environmental Setting

Regional

The Project Area is located within Napa County, approximately 50 miles north of the City of San Francisco. The largest city in Napa County is the City of Napa, 13 miles south of the Project.

Local

The Project is located within the City of St. Helena and in the vicinity of the City of Calistoga and the unincorporated areas of Barro, Bale, and Larkmead. St. Helena had a population of 5,814 people in 2010 and an estimated population of6,102 people in

2019. Calistoga had a population of 5,155 people in 2010 and an estimated population of 5,247 people in 2019. The City of Napa had a population of 76,915 in 2010 and an estimated population of 78,130 people in 2019 (United States Census Bureau 2018). Unincorporated Napa County had an estimated population of 26,496 people in 2011 (Townsquare 2020).

In 2010, St. Helena had 2,776 housing units with a vacancy rate of 13.5 percent, Calistoga had 2,319 housing units with a vacancy rate of 12.9 percent, and the City of Napa had 30,149 housing units with a vacancy rate of 6.6 percent (MTC and ABAG 2010). The unincorporated area of Napa County between the cities of St. Helena and Calistoga is characterized by vineyard operations and rural residences.

3.14.4 Avoidance and Minimization Measures and Potential Impacts

The following sections describe impacts on population and housing using Appendix G of the CEQA Guidelines, and assess potential Project-related construction and operational impacts.

3.14.4.1 Avoidance and Minimization Measures

The Project would have no impact on population and housing and no measures are proposed by the applicant.

3.14.4.2 Potential Impacts

Project impacts on population and housing were evaluated using Appendix G of the CEQA Guidelines and discussed below.

a) Would the Project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? *No Impact.*

The purpose of the Project is to ensure pipeline integrity and meet customer demand for natural gas. The Project would not extend new gas lines or other infrastructure into areas not already served. Instead, the Project is designed to safely meet current and anticipated future demands for gas in the area. Furthermore, the Project does not include new housing or businesses or land use changes that would induce population growth in the area. Based on these considerations, the Project would not generate new development. Therefore, no impact would occur.

b) Would the Project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere? *No Impact.*

Project construction, operation, and maintenance would not displace existing housing, nor would replacement housing need to be constructed; therefore, no impact would occur.

3.15 PUBLIC SERVICES

3.15.1 Introduction

This section describes existing conditions and potential impacts on public services as a result of construction, operation, and maintenance of the Project, and concludes that no impacts would occur. Public services include fire and emergency protection, police protection, and maintenance of public facilities such as schools and parks. Emergency access is discussed in Section 3.17, Transportation. Temporary construction-related impacts on schools and parks-such as dust and noise-are discussed in Sections 3.3, Air Quality, and 3.13, Noise, respectively. Project compatibility with future park-planning efforts is discussed in Section 3.11, Land Use and Planning. Potential impacts on parks and recreational facilities are discussed in Section 3.16, Recreation.

The Project's potential effects on public services were evaluated using Appendix G of the CEQA Guidelines. The conclusions are summarized in Table 3.15-1 and discussed in more detail in Section 3.15.4.3.

Table 3.15-1: CEQA Checklist for Public Services

Would the Project:	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a) Result i1 substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:	☐	☐	☐	☒
Fire protection?	☐	☐	☐	☒
Police protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

3.15.2 Regulatory Background and Methodology

3.15.2.1 Regulatory Background

No regulatory background information for public services is relevant to the Project.

3.15.2.2 Methodology

Public services include fire and police protection, and maintenance of public facilities such as schools and parks. This section was prepared on the basis of reviews of the Napa County General Plan (Napa County 2008), Napa County General Plan Draft Environmental Impact Report (Napa County 2007), City of St. Helena and City of Calistoga General Plans (City of St. Helena 2019c; City of Calistoga 2003), Napa County Fire Department website (Napa County 2019), City of St. Helena Fire Department website (City of St. Helena 2019a), City of St. Helena and City of Calistoga Police Department websites (City of St. Helena 2019b; City of Calistoga 2019), City of St. Helena and City of Calistoga School District websites (St. Helena Unified School District 2019; Calistoga Joint Unified School District 2019), Napa County Regional Park District website (Napa County Regional Park and Open Space District 2019), and the Napa Valley Vine Coalition Trail website (Napa Valley Vine Trail Coalition 2019a, b).

3.15.3 Environmental Setting

The Project extends primarily in or adjacent to Caltrans' ROW along the SR 29 corridor between St. Helena and Calistoga. Due to the length of the Project, it intersects several public service jurisdictions. Specifically, the Project spans three fire jurisdictions, three police jurisdictions, two public school districts, three park jurisdictions, and two other public facilities. Table 3.15-2 lists the names of jurisdictions that service the Project Area.

Table 3.15-2: Public Services Jurisdictions

Public Service	Jurisdiction
Fire	St. Helena Fire
	Napa County State Responsibility Areas
	Napa County Local Responsibility Areas
Police	St. Helena Police Department
	Napa County Sheriff's Department
	Calistoga Police Department
School District	St. Helena Unified School District
	Calistoga Joint Unified School District
Parks	Napa County Regional Park and Open Space District
	Napa Valley Vine Trail Coalition
	St. Helena Recreation Department
Other Public Facilities	St. Helena Library
	St. Helena Recreation Department

3.15.3.1 Fire Protection

St. Helena Fire District jurisdiction begins at the southern end of the Project and ceases at the intersection of California State Route 29 (SR 29) and Deer Park Road. St. Helena Fire District has 2 full-time employees and 31 part-time staff. The department is a paid-per-call department, which makes the station unoccupied throughout the day. The department currently uses 10 vehicles, consisting of fire engines, fire trucks, and water tenders. In 2018, the department responded to all calls in seven minutes or less.

The remainder of the Project would be serviced by the County of Napa. Jurisdiction is split between Napa County State Responsibility Areas (SRA) and Napa County Local Responsibility Areas (LRA). The County of Napa contracts with the California Department of Forestry and Fire Protection (CAL FIRE) to manage the fire services in Napa County. In an SRA, CAL FIRE has financial responsibility for protection and suppression of fires, whereas LRAs fall within an incorporated city or cultivated agricultural lands and the county therefore has financial responsibility. The east side of the Caltrans ROW along SR 29 is designated as an LRA jurisdiction, while the west is an SRA jurisdiction. Within the jurisdiction of the Napa County Fire Department and CAL FIRE, there are five full-time paid stations and nine volunteer fire companies.

3.15.3.2 Police Protection

The Napa County Sheriff's Department provides law enforcement services to all unincorporated areas of the county. There are 35 deputies assigned to the unincorporated county patrol program (Napa County 2020). The St. Helena Station is the closest sheriff station to the Project.

For areas in incorporated cities, city police stations are responsible for providing law enforcement. This Project would be serviced by both the City of Calistoga and the City of St. Helena. The Calistoga Police Department services the Calistoga city limits and the St. Helena Police department services approximately 4 square miles of the City. However, both departments frequently respond to calls outside their jurisdiction. In 2019, Calistoga was staffed with six police officers, two corporals, eight dispatches, and two sergeants. St. Helena was staffed with 13 sworn police officers, five dispatchers, one community service officer, and many volunteers.

3.15.3.3 Schools

There are a total of three public school districts that manage 37 schools in Napa County. Public primary education is overseen by the Napa County Office of Education. There are also several private schools throughout Napa County.

Table 3.15-3 lists the schools located within 0.25 mile of the Project:

Table 3.15-3: Schools in the Project Vicinity

School	Education Level	Address	Distance from Project Alignment (mile)
Saint Helena Catholic School	TK-8	1255 Oak Avenue, St. Helena	0.01
Saint Helena Elementary School	3-5	1325 Adams Street, St. Helena	0.02
Sun & Stars Montessori School	Preschool-K	1310 Adams Street, St. Helena	0.02
The Culinary Institute of America at Greystone	College	2555 Main Street, St. Helena	0.06
Robert Louis Stevenson Middle School	6-8	1316 Hillview Place, St. Helena	0.08
St. Helena Children's Center	Preschool	1428 Spring Street, St. Helena	0.11
Mila's Preschool and Childcare Center Inc.	Daycare/ Preschool	957 Brown Street, St. Helena	0.12
Little Backpacks Preschool	Preschool	995 Adams Street, St. Helena	0.25

Source: Data compiled by ERM in 2020

3.15.3.4 Parks

Three public park departments or districts manage public parks in the Project Area. Additional information about impacts on recreational resources is provided in Section 3.16, Recreation.

Napa County

The following three public parks departments or districts are located in Napa County:

- *Napa County Regional Park and Open Space District.* The Napa County Regional Park and Open Space District oversees parks located in all areas of Napa County. This department oversees 10 recreational facilities in the community of Napa County. Bothe-Napa Valley State Park and Bale Grist Mill Historical State Park are within 300 feet of the Project alignment.

- *Napa Valley Vine Trail.* The Napa Valley Vine Trail Coalition seeks to build a 47-mile Class 1 Multi-use Path the full length of Napa Valley, linking Napa County's countywide trail system. A few segments have been completed, including one 12.5-mile segment from Kennedy Park to Yountville. The proposed section of trail between the cities of St. Helena and Calistoga will be a Class 1 bicycle and

pedestrian trail. The trail will generally be adjacent to the east side SR 29 between Pratt Avenue and the CAL Fire station at Big Tree Road, and as such, will overlap or be adjacent to the pipeline replacement work areas. In most locations, the proposed trail would be 10 feet wide with 2-foot gravel shoulders for a total width of 14 feet, with asphalt installed over aggregated base. It is anticipated that the trail will be constructed after completion of the pipeline work (NVTA 2020).

- *St. Helena Parks and Recreation Department*. The St. Helena Parks Division of the Public Works Department maintains 11 parks: eight mini parks, two neighborhood parks, and one community park. The total acreage of parkland land is 27 acres. None of the parks are located within 300 feet of the Project alignment.

3.15.3.5 Other Public Facilities

Napa County owns and maintains four public libraries throughout the county. The Napa County library closest to the Project site is the Calistoga Branch Library, located 1.4 miles from Dunaweal Lane. The City of St. Helena operates a public library located 0.2 mile east of the Project alignment, at 1492 Library Lane.

The City of St. Helena Recreation Department provides a variety of activities for youth, teens, adults, and seniors. The Carnegie Building has primarily been used as a recreation center since 1978. It is located along the Project alignment at 1360 Oak Avenue, 0.2 mile from the closest work area.

3.15.4 Avoidance and Minimization Measures and Potential Impacts

The following sections describe impacts on public services using Appendix G of the CEQA Guidelines and assess potential Project-related construction and operational impacts.

3.15.4.1 Avoidance and Minimization Measures

The Project would have no impact on public services and no AMMs are proposed.

3.15.4.2 Potential Impacts

a) Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services: fire protection, police protection, schools, parks, other public facilities? *No Impact.*

Project construction would result in a temporary, short-term increase of up to approximately 100 construction workers. Although construction workers traveling to the Project area may use existing public services or amenities, this potential increase in

demand would be minimal and temporary and would not require new or altered government facilities. The Project would not include development of new residential units that would directly or indirectly increase population; therefore, no increase in the demand for public services in the area would occur. Furthermore, no new or altered public facilities are needed. Therefore, no impact would occur.

Fire and Police Protection

The Project would not require new or physically altered fire or police services. Therefore, no impact would occur.

Schools

The Project is within 0.25 mile of 7 public schools operated by St. Helena Union School District and one private school, Sun and Stars Montessori. The Project would not involve developing new residential units or services that would generate a new residential population in the area. Therefore, the Project would not cause an increase in the demand on existing schools that would affect school enrollment or performance objectives. No impact would occur.

Parks

Two public parks, Bothe Napa Valley State Park and Bale Grist Mill Memorial State Park, are located within 300 feet of the Project alignment. The Project would not involve developing new residential units or services that would generate a new daytime or residential population in the area that would increase the demand on parks. Construction workers traveling to the area may use existing public services or amenities such as parks; however, this potential increase in demand would be minimal and temporary and would not exacerbate the need for or deterioration of the park facilities or result in the need for new facilities. Therefore, no impact on public parks would occur.

Other Public Facilities

The Project would not impact the St. Helena Public Library, located approximately 0.2-mile east of the Project alignment, at 1492 Library Lane. The Project is designed to improve existing and projected gas capacity in the area and would not directly or indirectly induce growth or create need for additional public services. Therefore, no impact would occur.

Just as with the St. Helena Library, the Project would not create a need for additional public services; therefore, it would have no impact on the Carnegie Recreation Building. However, due to the close proximity of the building to the Project alignment, potential impacts related to recreation are discussed in Section 3.16, Recreation.

3.16 RECREATION

3.16.1 Introduction

This section describes existing conditions and potential impacts on recreation as a result of construction, operation, and maintenance of the Project and concludes that less-than-significant impacts would occur in this area. The Project would not introduce new housing or a significant number of jobs into the area that could increase the use of existing parks and would not require the introduction of new park facilities. Temporary construction impacts on parks-such as dust, hazards, and noise-are discussed in Section 3.3. Air Quality, 3.9. Hazards and Hazardous Materials, and 3.13. Noise respectively. The Project's potential effects on recreation were evaluated using Appendix G of the CEQA Guidelines. The conclusions are summarized in Table 3.16-1 and discussed in more detail in Section 3.16.4.

Table 3.16-1: CEQA Checklist for Recreation

Would the Project:	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a) Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
b) Does the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

3.16.2 Regulatory Background and Methodology

3.16.2.1 Regulatory Background

No federal, state, or local regulations related to recreation are applicable to the Project.

3.16.2.2 Methodology

Recreation resources include recreational facilities such as state, local, and regional parks. Identification of recreation resources was completed using a variety of sources including the Open Space and Conservation section of the Calistoga General Plan (City of Calistoga 2003), the Parks and Recreation section of the St. Helena General Plan (City of St. Helena 2019a), the Parks and Recreation Department for both cities (City of Calistoga 2019; City of St. Helena 2019b) and the Conservation and Open Spaces section of the County of Napa General Plan (Napa County 2008). A desktop review for

potential recreation resources was also completed using Google Earth and crowd sourced recreation websites (e.g. REI's Biking Project).

3.16.3 Environmental Setting

3.16.3.1 Regional Setting

The northwest area of Napa County where the Project is located supports a large amount of recreational activities focused on open or outdoor spaces including walking, driving, jogging, cycling, and trail hiking. Napa County has nearly 75 miles of complete, maintained, and publicly accessible non-motorized trails (NCRPOSD 2020). Additionally, the cities of St. Helena and Calistoga maintain active parks and recreation departments, which provide residents access to local green spaces.

Tourism in Napa County is heavily focused on the local wine industry. The Napa Valley Vine Trail is a 47-mile Class 1 Multi-use Path along the full length of Napa Valley, linking Napa County's county-wide trail system. The trail route is divided into 10 sections, each named for the city or vineyard area the trail passes through. A few segments have been completed, including one 12.5-mile segment from Kennedy Park to Yountville. The proposed section of trail between the cities of St. Helena and Calistoga will be a Class 1 bicycle and pedestrian trail. The trail will generally be adjacent to the east side of SR 29 between Pratt Avenue and the California Department of Forestry and Fire Protection (CAL FIRE) station at Big Tree Road, and as such, would overlap or be adjacent to the pipeline replacement work areas. In most locations the proposed trail would be 10 feet wide with 2-foot gravel shoulders for a total width of 14 feet, with asphalt installed over aggregated base. It is anticipated that the trail will be constructed after completion of the pipeline work (NVTA 2020).

3.16.3.2 Local Setting

SR 29, which provides residents access to open space for driving, walking, or bicycling, is considered a scenic entry corridor by the City of Calistoga. The entrances to Bale Grist Mill State Historic Park and Bothe-Napa Valley State Park are both on SR 29, directly across the highway from Project work areas. Bothe-Napa Valley State Park is a California State Park operated by the Napa County Regional Park and Open Space District. The park offers a variety of recreational activities, focusing mostly on hiking, camping, and swimming. Bale Grist Mill State Historic Park is a California State Park operated by Napa County Regional Park and Open Space District. Recreational activity in Bale Grist Mill is centered on the park's history and includes a variety of interpretive events. The two parks are located adjacent to each other and are connected via a 2.4-mile roundtrip hiking trail, which passes the historic Pioneer Cemetery and White Church (California Department of Parks and Recreation. 2019a).

In addition to open space areas, the Project would pass within 0.5 mile of 21 vineyards and wineries. While not officially considered recreation areas, vineyards attract a large number of tourists to Napa Valley (around 3.85 million in 2018). Table 3.16-2 lists parks and recreational facilities within 1 mile of the Project work area. These recreational facilities are managed by several agencies including Napa County Regional Park and Open Space District, Napa Valley Vine Trail Coalition, and City of St. Helena Parks and Recreation Department.

Table 3.16-2: Parks and Recreational Areas within One Mile of the Project

Parks and Recreational Facilities	Approximate Distance to Project Alignment (feet)
Bale Grist Mill State Historical Park	Adjacent
Bothe-Napa Valley State Park	Adjacent
Vine Trail – St. Helena and Calistoga Sections (when constructed)	Adjacent and Overlapping
Mary Fryer Park	50
Lyman Park	350
Lewis Station	650
Stephen C McCullagh Park	900
Baldwin Park	1,100
Jacob Meily Park	1,400
Mennen Park	1,650
Crane Park	2,800
Stone Bridge Park	4,100
Wappo Park	4,100

3.16.4 Avoidance and Minimization Measures and Potential Impacts

The following sections describe impacts on recreation facilities using Appendix G of the CEQA Guidelines and assess potential Project-related construction and operational impacts.

3.16.4.1 Avoidance and Minimization Measures

PG&E would implement the following Avoidance and Minimization Measures (AMM):

AMM REC-1. Notify Bothe-Napa Valley State Park of Nighttime Work. Prior to the start of construction, PG&E will provide Bothe-Napa Valley State Park advanced notification of scheduled nighttime work in the vicinity of the Park.

3.16.4.2 Potential Impacts

a) Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? *Less-Than-Significant Impact.*

The Project would not result in any residential or commercial development that would lead to an increased use of existing parks or other recreational facilities. Workers may use nearby park facilities during Project construction, but any increase associated with such use would be negligible and temporary and would not contribute substantially to the physical deterioration of existing facilities.

Entrances to Bale Grist Mill State Historic Park, Bothe-Napa Valley State Park, and vineyards are located along SR 29 where construction activities would be occurring. However, as construction activities would be temporary and short-term, mostly occurring at night, and traffic control plans would be implemented in compliance with encroachment permits, impacts associated with accessing these facilities would be temporary and short-term, resulting in a less-than-significant impact. Campers at Bothe-Napa Valley State Park would likely experience construction noise at night due to the proximity of the campground to the highway. Noise impacts are discussed in Section 3.13, Noise. Due to the temporary and short-term duration of construction, and with notification of construction activities as outline in AMM REC-1, impacts on campers would be less-than-significant. Finally, the Project would not cross or be adjacent to any of the other parks or recreational facilities located within approximately 1 mile of the Project alignment; public use of those facilities would not be affected by the Project and no impact would occur.

b) Does the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment? *No Impact.*

The Project would not include recreational facilities or require the construction or expansion of recreational facilities. Therefore, no impact would occur.

3.17 TRANSPORTATION

3.17.1 Introduction

This section describes existing conditions and potential impacts on transportation as a result of construction, operation, and maintenance of the Project. The analysis concludes that, although existing traffic conditions would be temporarily affected by Project construction, Project-related impacts on transportation would be less than significant with mitigation with mitigation. The Avoidance and Minimization Measures **(AMM)** as described in Section 3.17.4.2 would further reduce impacts. The Project's potential effects on transportation were evaluated using Appendix G of the CEQA Guidelines. The conclusions are summarized in Table 3.17-1 and discussed in more detail in Section 3.17.4.

Table 3.17-1: CEQA Checklist for Transportation

Would the Project:	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant *Impact*	No Impact
a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐
b) Conflict or be inconsistent with CEQA Guidelinest§ 15064.3, subdivision (b)?	☐	☐	☒	☐
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) a-incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
d) Result in inadequate emergency access?	☐	☐	☒	☐

3.17.2 Regulatory Background and Methodology

3.17.2.1 Regulatory Background

Federal

No federal regulations pertaining to transportation are applicable to the proposed Project.

State

Caltrans owns and operates the SR 29 ROW, and any Project-related work within Caltrans' ROW requires an encroachment permit from Caltrans. Caltrans is also the administrating agency for regulations related to traffic safety, including the licensing of drivers, weight and load limitations, transportation of hazardous and combustible materials, and the safe operation of vehicles.

Local

The following reviews of the county's and city's transportation related policies and regulations is provided for informational purposes and to assist with CEQA review.

Napa County

The Napa Countywide Bicycle Plan

The Napa Countywide Bicycle Plan outlines the development of a comprehensive, connected, safe and enjoyable bicycle system throughout all Napa county jurisdictions. A portion of the Project overlaps proposed bicycle trail (Napa Valley Transportation Authority 2019).

3.17.2.2 Methodology

Traffic data and other transportation system information were obtained from General Plans, the Federal Highway Administration website and literature searches. Traffic volumes for regional roadways in the study area were obtained from the Caltrans District 4 website. Local considerations and names for streets were obtained from local city websites and General Plans, as well as the City of St. Helena's Highway 29 Specific Plan.

3.17.3 Environmental Setting

This section includes a description of the roadways that would be used by workers and delivery trucks during construction. Access routes would vary depending on the origin of the worker or truck, and the type of activity that day. Therefore, the roads that are most likely to be affected are described. The highest volume roadways are described first.

3.17.3.1 Regional Highways

State Route 29 (SR 29)

The major highway in the Project Area is SR 29. Although it bisects multiple major cities in Napa County, it is classified as a rural highway within the county. It begins at Interstate 80 near Vallejo where it is a four-lane expressway, and after passing through Yountville, it transitions to a two-lane highway. Between the cities of Rutherford and Calistoga, SR 128 is merged with SR 29, and within St. Helena, SR 29 is the major divider of the city, and is also referred to as Main Street or the St. Helena Highway (California Highways 2020).

The Circulation Element of the St. Helena General Plan identifies SR 29 as the main route for vehicles traveling through the region, contributing to major congestion along St. Helena's Main Street. During peak travel times, less than half of all vehicles on SR 29 are traveling to or from destinations within St. Helena (City of St. Helena 2019).

3.17.3.2 Local Roadways

Local Roads

Brief stretches of the Project are on three local roads, all of which are within the City of St. Helena. These local roads are Mitchell Lane, Oak Avenue, and Madrona Avenue. Oak Avenue parallels SR 29 and is often used to bypass traffic congestion on Main Street. Mitchell Lane intersects Main Street on the north side of Sulphur Creek, and Madrona Avenue intersects Main Street toward the northern end of the city (City of St. Helena 2019).

3.17.3.3 Bicycle Facilities

Napa County

The Napa County Bicycle Transportation Plan describes the current bikeways in unincorporated Napa County and makes several proposed changes and upgrades to create a more inclusive and exhaustive bike system in Napa County. Currently there are no designated bike lanes located in the Project vicinity (Napa Valley Transportation Authority 2019).

Napa County Vine Trail

The Napa Valley Vine Trail is a proposed 47-mile Class I trail that will connect the cities within Napa County. A total of 12.5 miles of the trail have been completed. The proposed alignment for the section of the trail between the cities of St. Helena to Calistoga parallels the eastern side of SR 29. Construction of this section of the trail is anticipated to occur in 2022 (Napa Valley Vine Trail 2020).

City of St. Helena

The circulation element of the City of St. Helena General Plan describes the current bikeways and makes several proposed changes and upgrades to create a more inclusive and exhaustive bike system in the city boundaries. As of 2015, there was one existing Class II bicycle lane, one proposed Class III bicycle lane, and one proposed Class II bicycle lane in proximity to the Project Area. Additionally, a small portion of the Project Area intersects the city's proposed Bicycle Boulevard, a series of proposed Class III trails with designated signage for bicyclists (City of St. Helena 2019).

3.17.3.4 Air Traffic

The closest public use airport to the Project Area is Angwin-Parrett Field and is located 5 miles northeast of the southern end of the Project route. Two private airstrips (heliports) are located in the vicinity of the Project Area: the St. Helena Fire Department heliport, on the east side of SR 29 at Big Tree Lane; and the River Meadow Farm Heliport, located 4 miles southeast of the southern end of the Project. The Napa County Airport is located 25 miles south of St. Helena.

3.17.3.5 Transit and Rail Services

Napa County's transit system, operated by the Napa Valley Transportation Authority, is a series of bus routes and shuttles collectively referred to as the Vine. The Vine consists of 15 fixed-route buses, and also 4 flex-route shuttles that provide on-demand, door-to-door transit services for specific areas. Both St. Helena and Calistoga have shuttle service areas that overlap the Project Area and bus stops are located within Caltrans' ROW along SR 29. Bus routes located in close proximity to the Project Area are the Up Valley Connector and the Up Valley Express, which operate between the City of Calistoga and the Redwood Park and Ride in Union, an unincorporated community at the north end of the City of Napa (Napa Valley Transportation Authority 2020).

There is no public rail or freight rail service in the Project Area. The Napa Valley Wine Train, a privately-operated excursion train, runs between the City of Napa and St. Helena (Napa Valley Wine Train 2020).

3.17.4 Avoidance and Minimization Measures and Potential Impacts

The following sections describe transportation impacts using Appendix G of the CEQA Guidelines, provide AMMs, and assess potential Project-related construction and operation and maintenance impacts on transportation.

3.17.4.1 Avoidance and Minimization Measures

PG&E would implement the following AMMs:

AMM TT-1: Temporary Traffic Controls. PG&E will obtain any necessary encroachment permits from local jurisdictions as required, and will comply with permit requirements designed to prevent excessive congestion or traffic hazards during construction. PG&E will develop road and lane closures or width reduction or traffic diversion plans as required by the encroachment permits. Construction activities that are in, along, or cross local roadways will follow best management practices and local jurisdictional encroachment permit requirements, which may include traffic controls, such as signs, cones, and flaggers to minimize impacts on traffic in the Project Area. PG&E will coordinate with the Napa Valley Transportation Authority regarding the schedule and scope of construction activities that could impact bus routes and will coordinate temporary relocation of bus stops if necessary.

AMM TT-2: Avoidance of Peak Traffic. When feasible, PG&E will schedule construction activities that may impact traffic to occur at non-peak traffic times – e.g. Sunday through Friday between the hours of 8:00 p.m. and 6:00 a.m. It is anticipated that impacts to traffic flow will be resolved prior to the completion of work shifts.

AMM TT-3: Coordinate Road Closures with Emergency Service Providers and School Districts. At least 24 hours prior to implementing any road or lane closure, PG&E will coordinate with applicable emergency service providers and school districts in the Project vicinity. PG&E will provide information regarding the road or lanes to be closed, the anticipated date, time, and duration of closures, and a contact telephone number.

3.17.4.2 Potential Impacts

a) Would the Project conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities? *Less-than-Significant Impact*

Construction activities would generally occur in Caltrans' ROW or near SR 29, which is the main regional highway in the Project Area and the highway that connects communities along Napa Valley. SR 29 is also Main Street within St. Helena, the main thoroughfare through the city. As detailed in Section 2.12, up to 100 workers would be on-site during peak construction times. Transport vehicles (e.g., crew-cab trucks and pick-up trucks) would be used to transport personnel to work sites. In addition, construction equipment and materials would be delivered to staging areas and work areas, although those truck trips would not be a daily occurrence. Temporary lane closures would be required at various locations in order to install the pipeline within the highway, or to ensure public safety during construction activities along the road shoulder or within other parts of the Caltrans ROW, which may result in traffic delays lasting 15 minutes or less. Additionally, bus stops may need to be temporarily relocated in order to remain accessible to the public. To minimize impacts to traffic circulation, PG&E would implement traffic control plans (AMM TT-1), as required or approved by Caltrans and other jurisdictions, to minimize impacts to traffic and traffic hazards; construction activities would be scheduled to occur at night to the extent feasible and practical so that lane closures avoid peak traffic times (AMM TT-2); and PG&E would coordinate road closures with emergency service providers and school districts (AMM TT-3).

As construction of the Project would only result in a short-term increase in traffic in the region, the Project would not conflict with a program plan, ordinance, or policy addressing the circulation system and impacts would be less than significant.

b)* Would the Project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)? *Less-than-Significant Impact

CEQA Guideline section 15064.3 describes specific considerations for evaluation of a project's transportation impacts, noting that, generally, vehicle miles traveled (VMT) is the most appropriate measure of transportation impacts. The Project is not a capacity increasing project nor a type of project that requires analysis of VMT. Construction of

the Project would only result in a short-term increase in traffic in the region during construction, and no changes in traffic would occur during operation of the pipeline as a result of the Project. With the implementation of traffic control plans (AMM TT-1), scheduling of construction activities that may impact traffic to occur at non-peak traffic times at night (AMM TT-2), and coordination of road closures with emergency service providers and school districts (AMM TT-3), the Project's transportation impacts would be less than significant.

c) Would the Project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? *No Impact*

Project construction would not permanently alter any public roadways or intersections, nor would it introduce incompatible uses to the Project Area. Temporary, short-term road closures would occur when working within SR 29 and streets in St. Helena; however, the work would occur in compliance with encroachment permits and traffic control plans, all temporary construction barriers would be removed following construction, and road surfaces would be repaved. Therefore, the Project would not increase hazards due to design features of roadways. No impact would occur.

d) Would the Project result in inadequate emergency access? *Less-than-Significant Impact*

Emergency access routes would be maintained throughout Project construction and operation. Any lane closures would be temporary and short-term, and these closures would be coordinated with Caltrans and/or local jurisdictions and Caltrans-approved traffic control plans, to reduce the effects of potential temporary and short-term emergency access. Therefore, the impact would be less than significant.

3.18 TRIBAL CULTURAL RESOURCES

3.18.1 Introduction

This section details the existing tribal cultural resources within the study area and the relevant federal, state, and local regulations and policies. While the lead agency would engage in the process further as required by California law, the outreach and analysis done to date indicates that the Project would have less-than-significant impacts on tribal cultural resources.

Table 3.18-1: CEQA Checklist for Tribal Cultural Resources

Would the Project:	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a)Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Codet§ 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section5020.1(k), or	☐	☐	☒	☐
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code § 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☒	☐

3.18.2 Regulator Background and Methodology

3.18.2.1 Regulatory Background

State

Assembly Bill 52

Assembly Bill (AB) 52 established that tribal cultural resources (TCR) must be considered by the lead agency under CEQA and also provided for additional Native American consultation requirements to be undertaken by the lead agency. A TCR is a site, feature, place, cultural landscape, sacred place, or object that is considered of cultural value to a California Native American Tribe, and that is:

i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or

ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

A project that has potential to impact a TCR such that it would cause a substantial adverse change constitutes a significant effect on the environment unless mitigation reduces such effects to a less-than-significant level. The Governor's Office of Planning and Research has issued revised CEQA Guidelines to incorporate AB 52 requirements.

Under AB 52, Caltrans will conduct consultations with eligible tribes regarding TCRs once the application is deemed complete and Caltrans begins CEQA review of the project.

California Health and Safety Code and Public Resources Code

Broad provisions for the protection of Native American cultural resources are contained in the California Health and Safety Code, Division 7, Part 2, Chapter 5 (Sections 8010 through 8030).

Several provisions of the Public Resources Code also govern archaeological finds of human remains and associated objects. Procedures are detailed under PRC Section 5097.98 through 5097.996 for actions to be taken whenever Native American remains are discovered. Furthermore, Section 7050.5 of the California Health and Safety Code states that any person who knowingly mutilates or disinters, wantonly disturbs, or willfully removes human remains in or from any location other than a dedicated cemetery without authority of law is guilty of a misdemeanor, except as provided in Section 5097.99 of the PRC. Any person removing human remains without authority of law or written permission of the person or persons having the right to control the remains under PRC Section 7100 has committed a public offense that is punishable by imprisonment.

3.18.2.2 Methodology

Native American Coordination

PG&E contacted the Native American Heritage Commission (Commission) on April 19, 2019, informing them of the Project and requesting a review of their Sacred Lands File and list of groups and individuals who might have knowledge concerning cultural and tribal resources within the Project area limits. The Commission responded that the Sacred Lands File identified Native American resources in the Project area limit (PAL) and gave direction to contact the Mishewal-Wappo Tribe of Alexander Valley for information about resources in the PAL. A list of four potentially interested Native American individuals and organizations was provided by the Commission, including the contact for the Mishewal-Wappo Tribe of Alexander Valley, Middletown Rancheria, the Yocha Dehe Wintun Nations and Cortina Rancheria-Kletsel Dehe Band of Wintun Indians. PG&E sent the letters via mail and email on May 28, 2019 to the contacts on the Commission list to initiate outreach and informing them of the Project and background and inviting their participation in the consultation process.

Native American coordination was commenced by PG&E Senior Cultural Resources Specialist (CRS) Leslie Sakowicz. Ms. Sakowicz contacted the Commission on April 19, 2019, informing them of the Project and requesting a review of their Sacred Lands File and a list of groups and individuals who might have knowledge concerning cultural and tribal resources within the PAL. The Commission responded that the Sacred Lands File identified Native American resources in the PAL and gave direction to contact the Mishewal-Wappo Tribe of Alexander Valley for information about those resources. A list of four potentially interested Native American individuals and organizations was provided by the Commission, including the contact for the Mishewal-Wappo Tribe of Alexander Valley. Ms. Sakowicz sent the letters via mail and email on May 28, 2019, to the contacts on the Commission list to initiate outreach, informing them of the Project and background and inviting their participation in the consultation process. Follow-up phone calls were made to each of the individuals contacted in June 2019, and an updated letter was sent in November 2019.

Additionally, Caltrans commenced Assembly Bill 52 (AB 52) consultation in February 2021. This correspondence timeline is detailed in Appendix C. Ms. Sakowicz contacted Mishewal-Wappo Tribe of Alexander Valley Tribal Chair Scott Gabaldon, and coordination is ongoing. Mr. Gabaldon expressed an interest in having tribal representation during this Project, and that Tribal representation could be defined as the Project tasks move forward. During this discussion, Mr. Gabaldon said he was not aware of sacred sites within the PAL but requested Project maps to confirm. Mr. Gabaldon participated in field work related to the evaluation of the sites discussed herein, and when he was not available to be in the field, he was provided daily updates as to findings and progress. Additionally, Mr. Gabaldon reviewed the findings of this Project. He continues to assert

his request and need for involvement in field work and monitoring needs. In support of AB 52 compliance, Caltrans reached out to Mr. Gabaldon via email and letter February 17, 2021. No response has been received to date. In general, coordination with Mr. Gabaldon is ongoing.

Ms. Peterson from the Middletown Rancheria responded with a request for additional consultation and acknowledged the presence of Native American resources in the PAL. Upon further coordination, Ms. Peterson and her assistant Mr. Peterson did not have additional archaeological site concerns and offered to check their internal confidential database to determine if additional archaeological resources or other resource types are in the Project footprint. Middletown Rancheria followed up regarding their database search and no sites were identified which were not already known to be in the Project footprint. The Middletown representative asserted that as long as the Mishewal-Wappo Tribe have the staff to cover the Native American monitoring at all excavations, they would not be providing a monitor. If there is need for additional monitors, they would provide Native American monitors.

In January 2021, the cultural resources representatives for the Middletown Rancheria were updated. As such, Ms. Sakowicz reached out to Michael Rivera Jr. on February 9, 2021, and provided an electronic copy of the Phase II evaluation report. A follow-up call was made February 25, 2021. No response has been received to date. In support of AB 52 compliance, Caltrans reached out to the Middletown Rancheria via email and letter February 17, 2021. On February 24, Caltrans received a response from Mr. Rivera which asserted that he was catching up on the status of the Project as he wasn't involved with the early consultation and wasn't fully aware of what went on. He also wanted to clarify that Middletown is willing to let the Wappo take the lead, but they want to ensure that there is a tribal monitor present during testing and construction. Middletown is willing to provide monitors if Wappo cannot commit to covering everything. They want to work with the Wappo to negotiate that if necessary. They would like to continue consulting on the Project, even if the Wappo are taking the lead with monitoring. Mr. Rivera also asserted that Middletown will work to provide any comments on the Phase II report by late February. No comments have been received as the time of report production.

Neither Mr. Wright (Cortina Rancheria-Kletsel Dehe Band of Wintun Indians) nor Mr. Roberts (Yocha Dehe Wintun Nation) expressed any concerns regarding work in Calistoga or St. Helena. Caltrans reached out to the Yocha Dehe via email and letter in February 2021. No response has been received to date.

Table 3.18-2: Summary of the Native American Outreach Efforts

NATIVE AMERICAN TRIBES CONTACTED	DATE LETTERS SENT	RESPONSE AND DATE
Cortina Rancheria – Kletsel Dehe Band of Wintun Indians	May 2019 and November 2019	Office of Cultural Resource Studies (OCRS) spoke with Mr. Charlie Wright, Chairperson, and there is no interest in that area.
Middletown Rancheria	May 2019 and November 2019 January–February 2021	Email received November 2019 from Sally Peterson, Tribal Council Vice-Chairwoman, requesting additional consultation and copies of studies. Confirmed known or acknowledged presence of a resource. OCRS responded to the request and consultation is ongoing. In January 2021, the cultural resources representatives for the Middletown Rancheria were updated. As such, Ms. Sakowicz reached out to Michael Rivera Jr. February 9, 2021 and provided an electronic copy of the Phase II evaluation report. A follow up call was made February 25, 2021t No response has been received to date. In support of AB 52 compliance, Caltrans reached out to the Middletown Rancheria via email and letter February 17, 2021t On February 24 Caltrans received a response from Mr. Rivera which asserted that he was catching up on the status of the Project as he wasn't involved with the early consultation and wasn't fully aware of what went on. He also wanted to clarify that Middletown is ok with letting the Wappo take the lead but they want to ensure that there is a tribal monitor presence during testing and construction. Middletown is willing provide monitors if Wappo cannot commit to covering everything. They want to work with the Wappo to negotiate that if necessary. They would like to continue consulting on the Project, even if the Wappo are taking the lead with monitoring. Mr. Rivera also asserted that Middletown will work to provide any comments on the Phase II report by late February. No comments have been received as the time of report production.
Mishewal Wappo Tribe of Alexander Valley	May 2019–present	Mr. Scott Gabaldon, Chairperson, spoke with the OCRS in May 2019. Additional information was provided to confirm if there are known sites in the PAL. Consultation is ongoing and likely will include tribal representation during archaeological testing and future studies. Mr. Gabaldon participated in field work related to the evaluation of the sites discussed herein, and when he was not available to be in the field, he was provided daily updates as to findings and progress. Additionally, Mr. Gabaldon reviewed the findings of this report and has asserted that he does not have any objections or additions. He continues to assert his requests and need for involvement in field work and monitoring. In support

NATIVE AMERICAN TRIBES CONTACTED	DATE LETTERS SENT	RESPONSE AND DATE
		Of AB 52 compliance, Caltrans reached out to Mr. Gabaldon via email and letter February 17, 2021t No response has been received to date.
Yocha Dehe Wintun Nation	May 2019 and November 2019 February 2021	OCRS spoke with Ms. Laverne Bill (Cultural Resources Department Manager) i1 June 2019 and Isaac Bojorquez (Cultural Director) in December 2019, and both asserted the tribe's lack of interest in the area. Caltrans reached out to the Yocha Dehe via email and letter in February 2021t No response has been received to date.

3.18.3 Environmental Setting

3.18.3 Ethnographic Context

The Project lies in the traditional tribal area of the Wappo people. The Wappo language is considered a branch of the Penutian family and is related to a large group of central and northern California languages. The Wappo's traditional territory extended from upper Napa Valley to the Russian River (California Department of Parks and Recreation). A traditionally sedentary hunter-gatherer culture, it is believed that prior to European contact the Wappo, lived in dome-shaped structures or in winter structures made of branches and mud (Four Directions Institute 2007). After European contact, the Wappo people were decimated in 1838 by a smallpox epidemic after which a small group of Wappo were absorbed into the Pomo culture. Approximately 250 individuals today identify as Wappo (California Department of Parks and Recreation 2020).

The traditional lifestyle of the Wappo was dramatically altered by the mission system. The mission system and the introduction of new diseases and assimilation had a devastating effect on the Wappo.

3.18.3.2 Modern Tribal Governments

Results* of *Native American Coordination

The Mishewal-Wappo Tribe of Alexander Valley Tribal Chair Scott Gabaldon was contacted, and coordination is ongoing. Mr. Gabaldon expressed an interest in having tribal representation during this Project during all phases, and that Tribal representation could be defined as the Project tasks move forward. During this discussion, Mr. Gabaldon said he does not know of sacred sites within the PAL; however, he is aware of the archaeological sensitivity of the corridor. Coordination with Mr. Gabaldon is ongoing.

Ms. Peterson and Mr. Peterson from the Middletown Rancheria responded with a request for additional consultation and acknowledged the presence of resources in the

PAL. On April 15, 2020, a conference call was held with the representatives of the Middletown Rancheria. In that meeting, the Middletown representatives stated that as long as the Wappo have staffing to cover a Native American presence at all excavation locations, Middletown does not need to be present to monitor; however, if multiple excavations are occurring and the Wappo are unable to cover the multiple spots, Middletown Rancheria requests to be notified and will provide a monitor for free. On May 28, 2020, Mr. Peterson sent PG&E by email a confidential map illustrating known resource locations within R-1018 project elements/work areas. No sites were identified as a result of that coordination that were not already known to be in the Project footprint, and it was determined that no known tribal cultural resources are present in the Project footprint. Consultation is ongoing between PG&E and the Rancheria.

Neither Mr. Wright (Cortina Rancheria-Kletsel Dehe Band of Wintun Indians) nor Mr. Roberts (Yocha Dehe Wintun Nation) expressed any concerns regarding work in Calistoga or St. Helena.

J.t18.4 Avoidance and Minimization Measures and Potential impacts

3.1 8.4.1 Avoidance and Minimization Measures

PG&E would implement the following AMMs:

AMM TCR-1: Undiscovered Potential Tribal Cultural Resources. The following procedure shall be employed if a resource is encountered and determined by the lead agency in tandem with the culturally affiliated tribe and the Project's archaeologist to be potentially eligible for the California Register of Historical Resources or a local register of historic resources and is associated with a California Native American Tribe(s) with a traditional and cultural affiliation with the geographic area of the proposed Project:

- The Project's qualified archaeologist shall notify Caltrans for appropriate action. PG&E will assist Caltrans if needed to identify the lead contact person for the California Native American Tribe(s) potentially associated with the tribal cultural resource and with a traditional and cultural affiliation with the geographic area of the proposed Project. Caltrans will contact the lead contact person to set up a meeting with PG&E and Caltrans.

- The Project's qualified archaeologist shall participate with Caltrans in discussions with the California Native American Tribe(s) to determine whether the resource is a "tribal cultural resource" as defined by PRC section 21074 and the tribe(s)' preferred method of mitigation, if the resource is determined to be a TCR.

- In consultation with Caltrans, PG&E and the California Native American Tribe(s), appropriate avoidance, protection or mitigation will be determined based on examples listed in PRC section 21084.3(b) or to the extent permitted by law.

3.18.4.2 Potential Impacts

Project impacts on tribal cultural resources were evaluated using Appendix G of the CEQA Guidelines and are discussed below.

a) Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code§ 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

i) **Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)? *Less-than-Significant Impact***

No tribal cultural resources, as defined in Public Resources Code Section 21074, have been identified in the proposed Project Area through archival research, field survey, subsurface surveys, and Native American consultation. Therefore, the Project is not anticipated to impact any tribal cultural resources listed or eligible for listing in the California Register or a local register of historical resources.

The Project would involve ground-disturbing activities that would extend into undisturbed soil, and there is a slight potential that previously unrecorded archeological deposits that may be tribal cultural resources could be identified. Should previously unidentified subsurface archaeological materials be identified during ground-disturbing activities, implementation of AMMs CUL-1 through CUL-5 would ensure that any impacts are less than significant. These measures include environmental awareness training of crews, recordation and investigation of inadvertent discoveries of archaeological sites, and actions to implement if human remains are encountered during construction, as well as archaeological and Native American monitoring within known site boundaries. Additionally, implementation of AMM TCR-1 identifies the procedures to be employed if a resource is encountered. Implementation of these measures would further reduce less-than-significant impacts.

Caltrans would consult with eligible tribes under PRC Section 21080.3.1 once the application is complete, and would further assess impacts on TCRs. Formal Consultation must be completed by Caltrans. However, PG&E conducted outreach and informal consultation with Native American tribes requesting information regarding the potential for sensitive Native American resources, including TCRs. Federal and state registers were also reviewed to identify any TCRs already formally listed. The results of

the records searches indicate that no Native American cultural resources that might be TCRs are known within or in the immediate vicinity of the study area. PG&E is not aware of any TCRs that would be affected by the Project.

ii) **A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Codet§ 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Codet§ 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.** ***Less-than-Significant Impact***

No tribal cultural resources, as defined in Public Resources Code Section 21074, have been identified in the proposed Project Area through archival research, field survey, subsurface surveys, and Native American consultation. Therefore, the Project is not anticipated to impact any tribal cultural resources determined by Caltrans to be significant pursuant to Public Resources Code Section 5024.1.

However, for the same reasons stated in the response above, should previously unidentified subsurface archaeological materials be identified during ground-disturbing activities, implementation of AMMs CUL-1 through CUL-5 would ensure that any impacts are less than significant. These measures include environmental awareness training of crews, recordation and investigation of inadvertent discoveries of archaeological sites, and actions to implement if human remains are encountered during construction, as well as archaeological and Native American monitoring. Additionally, implementation of AMM TCR-1 identifies the procedures to be employed if a resource is encountered. Implementation of these measures would further reduce impacts to less than significant.

3.19 UTILITIES AND SERVICE SYSTEMS

3.19.1 Introduction

This section describes existing conditions and potential impacts on utilities and service systems as a result of construction, operation, and maintenance of the Project, and concludes that no impacts would occur in these areas. Under the CEQA, utilities and service systems include water, wastewater, and solid waste collection and treatment. This section also addresses potential impacts on power and natural gas.

The proposed Project's potential effects on utilities and service systems were evaluated, using Appendix G of the CEQA Guidelines. The conclusions are summarized in Table 3.19-1 and discussed in more detail in Section 3.19.4.

Table 3.19-1: CEQA Checklist for Utilities and Service Systems

Would the Project:	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☐	☒
b) Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☐	☒
c) Result in a determination by the waste water treatment provider, which serves or may serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☐	☒
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

3.19.2 Regulatory Background and Methodology

3.19.2.1 Regulatory Background

Federal

No federal regulations pertaining to utilities and service systems are applicable to the proposed Project.

State

California Government Code

Section 4216 of the California Government Code protects underground structures during excavation. Under this law, excavators are required to contact a regional notification center at least 2 days prior to excavation of any subsurface installations. In the Project Area, Underground Service Alert is the regional notification center. Underground Service Alert notifies utility providers with buried lines within 1,000 feet of the excavation, and those providers are required to mark the specific location of their facilities prior to excavation. The code also requires excavators to probe and expose existing utilities, in accordance with state law, before using power equipment.

Local

The following reviews of the county's and city's utility and service-related policies and regulations is provided for informational purposes and to assist with CEQA review.

Napa County

Napa County's Solid Waste Removal is dictated in Ordinance 1123 § 4. Ordinance 1123 § 4 states that solid waste generated by construction on a property must be properly stored and removed in a timely manner (Napa County 2019a).

City of St. Helena

Chapter 8.04 of the St. Helena Municipal Code describes the city's code and ordinances as they relate to solid waste disposal. The Code requires all permitted projects to provide one or more solid waste/recycling areas for storage of solid waste. (City of St. Helena 2019a).

3.19.2.2 Methodology

General plans and official websites were reviewed for service providers in the Project Area of wastewater collection and treatment, water supply, stormwater drainage, solid waste disposal, electricity, and natural gas. These providers include NapaSan, City of St. Helena, and the Upper Valley Disposal Service.

3.19.3 Environmental Setting

3.19.3.1 Wastewater Collection and Treatment Services

Wastewater collection and treatment services for portions of Napa County are provided by NapaSan. NapaSan operates one wastewater plant, the Soscol Water Recycling Facility located along the Napa River, which treats all wastewater using primary, secondary, and tertiary treatments. The Soscol Water Recycling Facility treats an average of 10 million gallons of wastewater per day for approximately 82,000 customers. NapaSan also provides water for the City of Napa, who in turn sells some to the City of St. Helena (NapaSan 2020).

The City of St. Helena has one wastewater treatment plant, located in the southeast corner of the city. The wastewater treatment plant has an integrated pond system that treats water on a secondary level; water may be released into the Napa River under very limited conditions. The wastewater treatment plant was constructed in the 1960s and is required to meet new wastewater treatment standards set forth by the Regional Water Quality Control Board. St. Helena will have all of these improvements phased in by 2021 (City of St. Helena 2019c). Unincorporated areas within Napa County are serviced by the Well and On-site Wastewater Treatment subdivision within Napa County's Environmental Health Department (Napa County 2019b).

In more rural areas within the Project Area, properties are served by private septic systems, which are permitted by the Napa County Environmental Health Department (Napa County 2008).

3.19.3.2 Water Supply

St. Helena Public Works Department Water Distribution Division provides potable water for the City of St. Helena. Its water distribution system extends 2 miles north of the city and 3 miles south of the city. The city receives its water from three sources: Bell Canyon Reservoir, Stonebridge Wells, and purchasing from the City of Napa. Bell Canyon Reservoir is the city's primary source of potable water. St. Helena has an existing distribution area that covers a large area within and outside the city limits, extending 2 miles north of the city and 3 miles south of the city. In 2015, the city provided water to approximately 2,312 connections (City of St. Helena, 2019a).

In more rural areas within the Project Area, properties are served by private water wells, which are permitted by the Napa County Environmental Health Department (Napa County 2008).

3.19.3.3 Stormwater Drainage

St. Helena, stormwater and stormwater pollution prevention is managed by St. Helena Department of Public works. The city is divided into two major subwatersheds: York

Creek and Sulphur Creek. York Creek has a 4.4-square-mile subwatershed that includes the Upper and Lower York Creek reservoirs. Any runoff north of Pratt Avenue is conveyed to York Creek through a series of culverts and ditches and, from there, into the Napa River, north of the Pratt Avenue Bridge. The Sulphur Creek subwatershed area is 9.3 square miles. Approximately 1.5 miles of the creek intercepts the City of St. Helena. There are existing on- and off-stream reservoirs that intercept stormwater, but several currently have inadequate overflow mitigation (City of St. Helena, 2019a).

Portions of the Project located within rural unincorporated Napa County do not have developed stormwater collection systems. In these areas, stormwater conveyance generally consists of open stormwater ditches along SR 29 and other local roads. The Napa Countywide Stormwater Pollution Prevention Program, a joint coalition including the County of Napa, the cities of American Canyon, Napa, and Calistoga, and the Town of Yountville, provides coordination and consistency of approaches to stormwater management within the region (Napa County, 2019c).

3.19.3.4 Solid Waste Disposal

Solid waste disposal in the City of St. Helena and unincorporated Napa County is provided by The Upper Valley Disposal Service (UVDS). UVDS provides a single stream recycling program and several waste reduction programs. Solid waste is disposed of at the Clover Flat Landfill, located on the Silverado Trail north of St. Helena. The Clover Flat Landfill has a capacity of 4.90 million cubic yards, has an estimated capacity to last approximately 30 years, and is expected to close in 2047 (City of St. Helena 2019a).

3.19.3.5 Electricity and Natural Gas

PG&E is the provider of electricity and natural gas to residents and businesses within the Project Area. Residents also have the option of participating in the Community Choice Electricity Program run by the local public agency, Marin Clean Energy (MCE). MCE is a public, not-for-profit electricity provider that gives all PG&E customers the choice of having 60 to 100 percent of their electricity supplied from clean, renewable sources, such as solar, wind, bioenergy, geothermal, and hydroelectric (MCE 2020).

3.19.4 Avoidance and Minimization Measures and Potential Impacts

The following sections describe potential Project-related construction and operational impacts.

3.19.4.1 Avoidance and Minimization Measures

The Project would have no impact on utilities and service systems and no AMMs are proposed.

3.19.4.2 Potential Impacts

PG&E's engineering team has taken into consideration the location of other underground and overhead utilities in designing the Project. Additional utilities identification would occur in the final design stages. As required by state law, PG&E would notify other utility companies (through the Underground Service Alert) to locate and mark existing underground structures along the proposed alignments prior to any excavation activities. In addition, PG&E would probe and expose existing utilities, in accordance with state law, before using power equipment. PG&E has conducted existing utilities surveys as part of its feasibility study and routing analysis. Based on these surveys and during detailed design, PG&E would design the Project to have no permanent impact on power, natural gas, communications systems, or any other utilities that are specifically documented.

During the detailed design phase, PG&E would also assess whether the temporary interruption of other utilities would be necessary. If deemed necessary, PG&E would obtain timely approval from other utilities and closely coordinate with them until those utilities are returned to service. Prior to construction, PG&E would obtain emergency contact information for utilities that may be in close proximity or require monitoring during construction of the Project. In case of accidental service interruption of another utility, PG&E would immediately contact the affected utility to coordinate actions to restore service in a safe and timely manner.

a) Would the Project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects? *No Impact.*

As described in Section 2.0, Project Description, this Project would be replacing existing natural gas infrastructure to ensure safety and meet increased demand in the Napa region. Electric power and telecommunications facilities would not change in response to this Project. Project construction would require the use of water and wastewater facilities by construction workers, but this use would be temporary and short-term. Furthermore, the construction workforce would be relatively small (up to 100 workers), minimal wastewater generation would occur, and water use would be temporary. Wastewater service would be provided by portable toilets, and waste would be disposed of at licensed offsite facilities. Water would be used for dust control and hydrostatic testing. This use would be temporary and short-term. As discussed in Section 3.10, Hydrology and Water Quality, the Project would not create or contribute additional stormwater runoff that could exceed the capacity of existing stormwater systems. The Project would not require or result in the relocation or construction of new or expanded water, wastewater treatment, stormwater drainage, and electric power, or telecommunications facilities. Therefore, no impact would occur.

b) Would the Project have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years? *No Impact.*

Potable water would be supplied to construction workers for drinking and would be delivered to Project work areas by construction vehicles and equipment. As described in Section 2.0, Project Description, water for construction needs would be obtained from municipal sources and used for dust control and hydrostatic testing. The Project's water needs would be minor and short-term, and the Project would not require water beyond the period of construction activities. Thus, no impact would occur.

c) Would the Project result in a determination by the wastewater treatment provider which serves or may serve the Project that it does not have adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments? *No Impact.*

Portable toilets would be provided for construction workers during construction. Sanitary waste would be disposed of at appropriately licensed facilities in the Project Area that have adequate capacity to accommodate Project needs. Therefore, no impact would occur.

d) Would the generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals? *No Impact.*

Construction debris would be taken to a PG&E area service center for recycling or disposal. Other construction debris would be picked up from work areas and stored in approved containers on-site, and would be periodically hauled away for recycling or disposal during construction. PG&E would conduct a final survey to determine whether cleanup activities have been successfully completed as required.

The Project would also generate minimal solid waste from the food, glass, paper, plastic, and packing materials consumed by the up to 100 construction workers who would be on-site at peak construction periods. Existing landfills in the Project Area have adequate capacity to accommodate this negligible amount of solid waste, and the limited Project-generated waste would not be in excess of state or local standards, nor impair the attainment of solid waste reduction goals. No impact would occur.

e) Would the Project comply with federal, state, and local management and reduction statutes and regulations related to solid waste? *No Impact.*

All construction debris would be collected and hauled off-site for recycling or disposal during construction. PG&E would comply with all federal, state, and local statutes and regulations related to solid waste. Therefore, no impact would occur.

3.20 WILDFIRE

3.20.1 Introduction

This section describes existing conditions and potential impacts related to wildfires associated with construction and operation and maintenance of the Project. This analysis concludes that there would be no impacts with regards to wildfires. The Project's potential effects associated with wildfires were evaluated using Appendix G of the CEQA Guidelines. The conclusions are summarized in Table 3.20-1 and discussed in more detail in Section 3.20.4, Avoidance and Minimization Measures and Potential Impacts.

Table 3.20-1 : CEQA Checklist for Wildfire

If **located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:**	**Potentially Significant Impact**	**Less-than-Significant Impact with Mitigation Incorporated**	**Less-than-Significant Impact**	**No Impact**
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☑	☐
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☑	☐
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☑
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☑	☐

3.20.2 Regulatory Background and Methodology

3.20.2.1 Regulatory Background

The following subsections contain an overview of regulations related to wildfires and related hazards.

Federal

No federal regulations regarding wildfires apply to this Project.

State

California Department of Forestry and Fire Protection

The California Department of Forestry and Fire Protection (CAL FIRE) has created Fire Hazard Severity Zone maps for the state that identify areas that are within state or local responsibility for preventing or suppressing fires. These maps identify areas of significant fire hazards based on fuels, terrain, weather, and other relevant factors. State Responsibility Areas (SRAs) are areas of the state in which the financial responsibility of preventing and suppressing fires has been determined to be primarily that of the state. SRAs do not include lands within city boundaries or in federal ownership. Local Responsibility Areas (LRAs) are areas where the financial responsibility of preventing and suppressing fires is primarily that of local agencies, including cities and counties. Within SRAs, the director of CAL FIRE has designated areas as moderate, high, and very high fire-hazard severity zones (PRC Section 4202.).

California Public Resources Code

PRC Section 4290 requires all residential, commercial, and industrial building construction within SRAs provide for basic emergency access and perimeter wildfire protection measures.

California Public Utilities Commission

In January 2018, the CPUC adopted its High Fire-Threat District Map, which designates three areas where there is an increased risk from wildfires. Although the impetus of this mapping was wildfires relating to electric facilities, the mapping provides information relevant to any type of utility construction project.

Local

Local policies of the Napa County Office of Emergency Services and in the St. Helena General Plan primarily address wildfire prevention through planning and education.

Methodology

The potential for activities and equipment to pose fire hazards was evaluated through review of the CAL FIRE and CPUC hazard maps and maps contained in the Safety Element of the Napa County and St. Helena General Plan. CPUC, PG&E, Napa County and St. Helena fire hazard rules and policies were reviewed.

3.20.3 Environmental Setting

The Project is located in unincorporated Napa County and the City of St. Helena. Land use includes agriculture, commercial, and residential use. Within Napa Valley between the cities of St. Helena and Calistoga, the Caltrans ROW along SR 29 roughly forms the boundary between a LRA to east, and a SRA to the west. The LRA is not identified as a

fire-hazard severity zone, while the SRA is designated as a high fire-hazard severity zone between St. Helena and Larkmead Lane, and a very high fire-hazard severity zone between Larkmead Lane and Dunaweal Lane (Data Basin 2019). A total of 20 customer service lines, two laydown areas, and the T-1448B hydrostatic test section— including 10 bell holes and 5 temporary work areas—are located within this SRA high or very-high fire-hazard severity zone. The CPUC classifies three fire threat districts: Tier 1, high hazard zones that present a direct threat to public safety; Tier 2, elevated fire risk; and Tier 3, extreme fire risk. Small portions of the Project are within Tier 2 and Tier 3 fire hazard zones. Fire protection services and equipment near the existing utility lines are discussed in detail in Section 3.15, Public Services.

3.20.4 Avoidance and Minimization Measures and Potential Impacts

The following subsections assess potential Project-related construction and operational impacts related to wildfires.

3.20.4.1 Avoidance and Minimization Measures

PG&E would implement the following avoidance and minimization measures (AMMs):

AMM WF-1: Smoking and Fire Rules. Smoking will not be permitted on site, except in barren areas that measure a minimum of 20 feet in diameter and are cleared to mineral soil. Under no circumstances will smoking be permitted during the fire season (approximately July through October) while employees are operating equipment, or while walking or working in grass and woodlands.

AMM WF-2: Carry Emergency Fire Suppression Equipment. PG&E construction crew trucks and large equipment shall have, at a minimum, a standard round-point shovel and fire extinguisher. If construction activities likely to cause sparks (e.g., welding, grinding, or grading in rocky terrain) are conducted, emergency fire tool boxes shall be readily available to crews. The emergency fire tool boxes shall contain fire-fighting items such as shovels, axes, and water. All fires will be reported to the fire agencies with jurisdiction in the area immediately upon discovery of the ignition.

***AMM WF-3: Construction Fire Prevention Plan*.** PG&E shall prepare a Construction Fire Prevention Plan consistent with the measures identified in AMM HAZ-3, Fire Risk Management that addresses procedures for fire prevention at active construction sites. The Construction Fire Prevention Plan shall include requirements for carrying emergency fire suppression equipment, conducting “tailgate meetings” that cover fire safety discussions, restricting smoking, idling vehicles, and restricting construction during red flag warnings. The Construction Fire Prevention Plan shall address the following fire risk reduction measures:

- Training and briefing all personnel working on the Project in fire prevention and suppression methods.
- Conducting a fire prevention discussion at each morning's safety meeting.
- Storage of prescribed fire tools and backpack pumps with water within 50 feet of work activities.
- Assigning personnel to conduct a "fire watch" or "fire patrol" to ensure that risk mitigation and fire preparedness measures are implemented, fires are immediately detected, and to coordinate with emergency response personnel in the event of a fire.

3.20.4.2 Potential Impacts

Project impacts related to wildfires were evaluated using Appendix G of the CEQA Guidelines and are discussed in the following paragraphs.

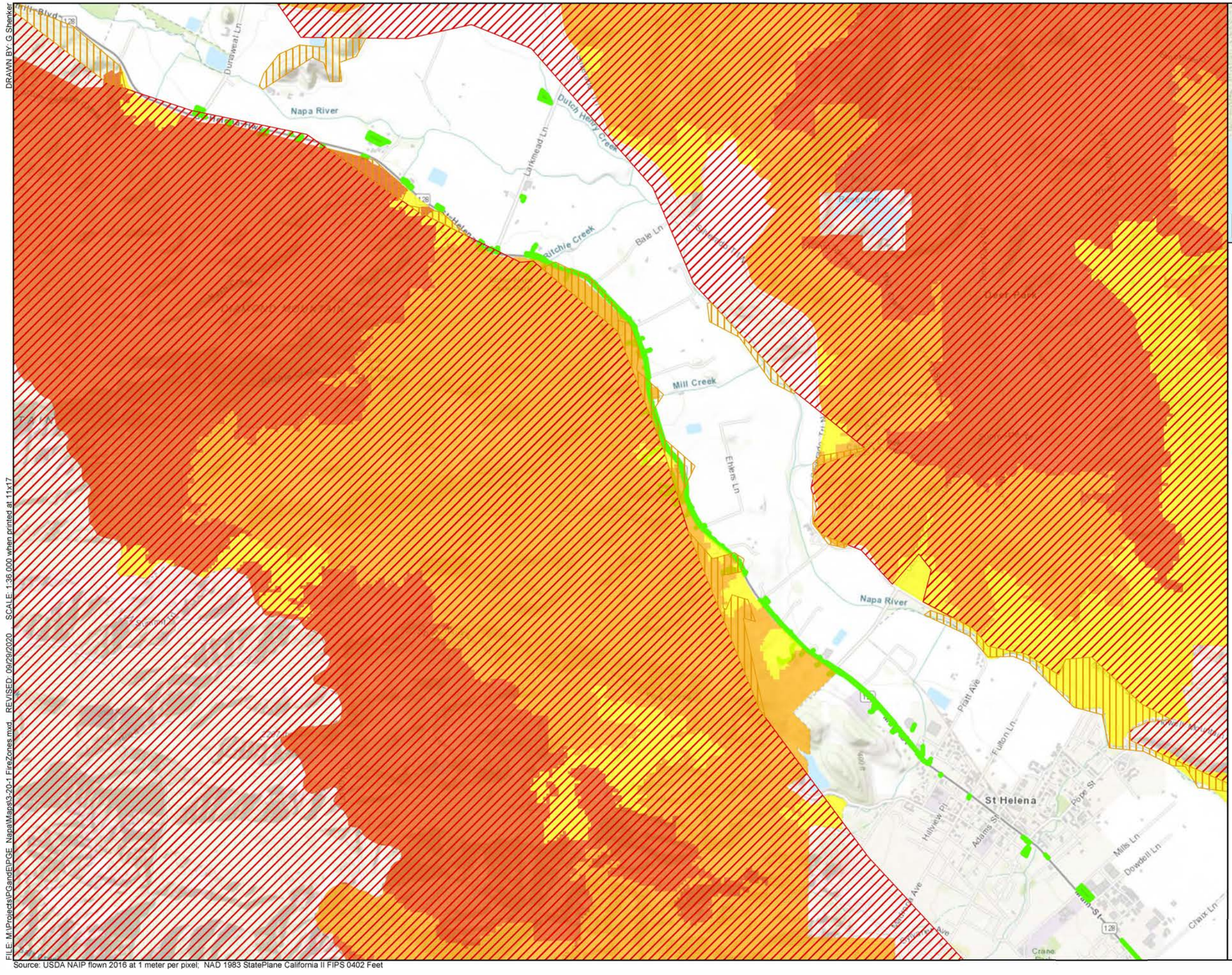
a) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project substantially impair an adopted emergency response plan or emergency evacuation plan? *Less-than-Significant Impact*

As depicted in Figure 3.20-1, portions of the Project are within an SRA designated by CAL FIRE as an area of high and very high fire-hazard severity zone under Public Resources Code sections 4201 et seq., and within Tier 2 and Tier 3 fire hazard zones designated by the CPUC. None of the Project is within an LRA classified fire-hazard severity zone.

The Project would not substantially impair an adopted emergency response plan or emergency evacuation. As indicated in Section 3.9.4.3(f) of Section 3.9, Hazards and Hazardous Materials, the Project would not conflict with an adopted emergency response plan or evacuation plan. As described in Section 3.17.4.3(d) of Section 3.16, Transportation and emergency access would not be directly impacted during construction because all streets would remain open to emergency vehicles at all times throughout construction. Although lane closures may be required, at least one lane would remain open to provide access for emergency vehicles. In addition, any lane closures would be temporary and short-term, and these closures would be coordinated with Caltrans and local jurisdictions to reduce the potential temporary and short-term effects on emergency access. Therefore, therefore, the impact would be less than significant.

DRAWN BY: G.Shenker

FILE: M:\Projects\PGandE\PGE_NapaMaps\3-20-1 FireZones.mxd REVISED: 09/29/2020 SCALE: 1:36,000 when printed at 11x17



Legend

- Project Work Areas

Calfire Fire Hazard Severity Zones in State Responsibility Area (SRA)

- Moderate
- High
- Very High
- CPUC Tier 2 Elevated Fire Threat
- CPUC Tier 3 Elevated Fire Threat

Source: USDA NAIP flown 2016 at 1 meter per pixel; NAD 1983 StatePlane California II FIPS 0402 Feet

Figure 3.20-1
Fire Hazard
PG&E Napa Bundle Northern Corridor
Gas Pipeline Maintenance Program
Napa, Ca

Environmental Resources Management
www.erm.com

PG&E annually updates its own Company Emergency Response Plan (CERP), which is prepared and submitted to CPUC in compliance with General Order 166 (PG&E 2018). The CERP includes PG&E's in-place plans and protocols for a coordinated response to emergencies. In 2018, the CERP added a Wildfire Safety Operations Center, staffed 24 hours a day, to detect, mitigate, communicate, and respond to fire threat hazards throughout PG&E's service area. The Project would not impair continued implementation of the CERP.

b) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project – due to slope, prevailing winds, and other factors – exacerbate wildfire risks, and thereby expose Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?
Less-than-Significant Impact

As explained above, portions of the Project are within an SRA designated by CAL FIRE as an area of high and very high fire risk under PRC Sections 4201 et seq., and Tier 2 and Tier 3 fire hazard zones designated by the CPUC.

The Project would not exacerbate wildfire risks in or near an SRA or elsewhere due to slope, prevailing winds, or other factors that would expose Project occupants to wildfire pollutants or cause the uncontrolled spread of a wildfire. Construction and operation activities would occur in areas of long-term agricultural, commercial, and residential use. The primary risk for potential fire hazards would be associated with the use of vehicles and equipment during construction that could generate heat or sparks that could ignite dry vegetation and cause a fire. An additional but less likely hazard during construction and operation would be equipment failure, which could result in a fire.

During construction, PG&E would implement AMM WF-1 limiting smoking and AMM WF-2 requiring workers to carry emergency fire suppression equipment to reduce wildland fire risk in the Project Area. In addition, AMM WF-3 requires PG&E to implement a Construction Fire Prevention Plan during construction to minimize and avoid fire risk during construction. See also Section 3.8.3.4(g), regarding risks from wildland fires. Impacts from construction would remain less than significant.

As additional protection from wildfires, PG&E has a Wildfire Safety Operations Center that is staffed 24 hours a day to detect, mitigate, communicate, and respond to fire threat hazards throughout PG&E's service area. Accordingly, potential impacts from construction would be less than significant.

c) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment? *No Impact*

Portions of the Project are within an SRA designated by CAL FIRE as an area of high and very high fire risk under PRC Sections 4201 et seq., Tier 2 and Tier 3 fire hazard zones designated by the CPUC. The portions of the Project within these areas are either within or adjacent to roads, and the Project would not require the installation or maintenance of new infrastructure such as roads, fuel breaks, emergency water sources, power lines or other utilities.Therefore, there would be no impact.

d) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes? *Less-than-Significant Impact*

As explained above, portions of the Project are within a SRA designated by CAL FIRE as an area of high and very high fire risk under PRC Sections 4201 et seq., and Tier 2 and Tier 3 fire hazard zones designated by the CPUC. The most recent wildfire near the Project area was the Glass fire in 2020, which burned 67,484 acres of land.

The Project is located on relatively flat topography (slopes less than 5 percent), would not change drainage patterns, and would not expose people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes. The Project would include surface-disturbing activities that could temporarily alter existing drainage patterns with Project work areas; however, any stormwater flow would be managed in accordance with the Project Storm Water Pollution Prevention Plan, which would minimize potential for flooding and erosion from work areas during construction. Therefore, the impact would be less than significant.

3.21 MANDATORY FINDINGS OF SIGNIFICANCE AND CUMULATIVE IMPACT ANALYSIS

3.21.1 Introduction and Methodology

This section discusses mandatory findings of significance as well as potential cumulative impacts related to the construction, operation, and maintenance of the Project. Cumulative impacts, as defined in Section 15355 of the CEQA Guidelines, refer to two or more individual impacts that, when considered together, are considerable or compound or increase other environmental impacts. A cumulative impact is the change in the environment that results from the incremental impact of a Project when added to other closely related past, present, or reasonably foreseeable future projects. Cumulative impacts can result from individually minor but collectively significant impacts occurring over time.

An analysis of potential cumulative impacts for each relevant resource topic is provided in Section 3.21.5, immediately following Table 3.21-2, which lists projects within approximately 1 mile of the Project Area. The projects listed in Table 3.21-2, developed from available information on websites and input by the involved agencies, were included if they had potential environmental impacts, relative geographic scope and location, and/or timing and duration of implementation similar to those of the Napa Bundle Northern Corridor Gas Pipeline Maintenance Project. The analysis considered the potential cumulative impacts that could result when impacts of the proposed Project are considered in combination with impacts of other past, present, and reasonably foreseeable future projects. Some reasonably foreseeable future projects listed in Table 3.21-2 might not be approved or could be modified prior to approval; however, for the purpose of this analysis, approval and construction of identified projects was assumed.

3.21.2 Mandatory Findings of Significance

The analysis presented in this section is based on consideration of the CEQA checklist questions presented in Table 3.21-1. The analysis indicates that there is no substantial evidence that any of the conditions set forth in Table 3.21-1 would be significantly impacted. Potential impacts are expected to be less-than-significant and further mitigated with the suggested Avoidance and Minimization Measures (AMM).

Table 3.21-1: CEQA Checklist for Mandatory Findings of Significance

Would the Project:	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a) Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory	☐	☐	☑	☐
b) Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a Project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☑	☐
c) Have environmental effects which will cause substantial adverse effects on human beinos, either directly or indirectly?	☐	☐	☑	☐

a) Would the Project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? *Less-than-Significant Impact.*

The Project would not have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or substantially reduce the number or restrict the range of a rare or endangered plant or animal. As discussed in Section 3.4, Biological Resources, construction activities may have minor, short-term impacts on species habitat, populations, or communities, resulting in less-than-significant impacts, but none of the minor impacts would result in the level of effects listed in question a). As summarized in Table 3.4-2, four special-status plant species were initially considered to have potential to occur in the Project Area; however, comprehensive surveys for special-status plants were conducted and only one special-status plant species was documented. AMM BIO-

7 would be implemented to ensure that impacts to special-status plants are less than significant.

As summarized in Table 3.4-3, fifteen special-status wildlife species are either likely to occur or have the potential to occur in the Project Area: western bumble bee, freshwater shrimp, steelhead, California giant salamander, foothill yellow-legged frog, California red-legged frog, western pond turtle, tricolored blackbird, golden eagle, white-tailed kite, American peregrine falcon, purple martin, pallid bat, and Townsend's big-eared bat. Reconnaissance-level surveys for special-status wildlife were conducted, and no special-status species were observed. Fish species would not be directly impacted by Project activities because no in-water work would occur. Based on the Project work areas generally being either within urban areas, within Caltrans' ROW along SR 29, or on cultivated agricultural lands immediately adjacent to the Caltrans ROW, impact avoidance strategies can be easily implemented to avoid impacts to these species. PG&E will implement AMMs BIO-1 through AMM BIO-11 to further reduce less-than-significant impacts.

Likewise, the Project would not eliminate important examples of the major periods of California history or prehistory. Cultural resources surveys and records searches identified 16 archaeological resources and 17 architectural resources within the Project Area. Four of the archaeological resources and seven architectural resources have been determined ineligible for listing in either the National Register of Historic Places or California Register of Historical Resources. Fourteen archaeological and architectural resources are listed or are assumed eligible for listing, but would be flagged as an avoidance area by construction equipment and personnel to avoid inadvertent impacts. In the unlikely event that historical resources are discovered during construction activities, AMM CUL-3 would be implemented to ensure that the Project would not eliminate important examples of major periods of California history or prehistory.

b) Would the Project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)? *Less-than-Significant Impact*

A cumulative impact analysis for each resource area is presented in Section 3.21.5. In the Project Area, the Project would contribute incrementally to cumulative impacts to air quality, biological resources, cultural and paleontological resource, geology and soils, greenhouse gas (GHG) emissions, hazardous material, noise, recreation, traffic, and water quality; however, the Project would not contribute substantially to those cumulative impacts. Thus, the Project would not have environmental effects that are

individually limited but cumulatively considerable. Therefore, the impact would be less than significant.

c) Would the Project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? *Less-than-Significant Impact*

The Project would not adversely affect human beings, either directly or indirectly. Potential construction impacts associated with human health include the presence of hazards, hazardous materials use, potential for wildland fires, noise impacts, and temporary air quality impacts. As discussed previously, construction impacts associated with air quality, noise, wildland fires, and hazards and hazardous materials would be less than significant with implementation of PG&E-proposed AMMs. The Project would have a beneficial effect on human beings in the Project Area by improving the physical infrastructure and the safety of the pipeline, and by meeting natural gas demands. Therefore, the impact would be less than significant.

3.21.3 Cumulative Impacts

Projects included in the cumulative impact assessment were identified by using a list approach (CEQA Guidelines Section 15130[b][1][A]), including all pending development projects within an approximately 1-mile radius. This area includes portions of unincorporated Napa County and the City of St. Helena. Table 3.21-2 below summarizes these pending development projects.

3.21.4 Key Projects in the Project Vicinity

Construction of the Project is tentatively scheduled to occur during an approximate 10-month construction period between March and December 2022. Review of the City of St. Helena (City of St. Helena n.d.) and county (Napa County n.d.) websites identified several planned or completed projects in the vicinity which have the potential to overlap in construction dates. Table 3.21-2 lists the projects that are within 1 mile of the Project and provides additional information regarding the timeline and status of these projects.

3.21.5 Analysis of Cumulative Impacts

Any future projects that may occur in the same time and place as the proposed Project would be required to adhere to the terms of encroachment and other permits, which, combined with the Project's implementation of AMMs and adherence to the terms of the encroachment permits, would result in cumulative impacts to be less than significant.

As described throughout Section 3.0, there are no potential impacts to the following resources: energy, land use, minerals, population and housing, public services, utilities, and wildfire. This Project is expected to have less-than-significant impacts on the following resources: aesthetics, agriculture and forest, air quality, biological resources,

cultural resources, energy, geology and soils, greenhouse gas emissions, hazards, hydrology and water quality, noise, recreation, transportation, and tribal resources. With the application of AMMs, potential less-than-significant impacts would be further reduced. Below is an evaluation of potential cumulative impacts on the relevant resources.

Table 3.21-2: Cumulative Projects in the Project Vicinity

Project Name	Description/ Location	Proximity to Project Route (miles)	Anticipated Construction Date
(P18-00382) Ballentine Vineyards	Construction of multiple structures totaling 5,435 square feet among other site improvements.	Adjacent	Unknown
(PL18-007) 567 Pope St. - Castellucci Subdivision & Demolition	Twenty-four townhome units. Potentially significant traffic impacts. Application submitted July 2019; project status "Under Review."	0.48	Unknown
(PL18-008) 567 Pope St. - Castellucci Winery Design Review & Use Permit	Construction of small winery, 2 residential units, and 12 future units of farmworker housing. Potential significant traffic impacts. Application submitted July 2019; project status "Under Review."	0.48	Unknown
(PL19-00049) Crinella Pump Station Design Review	Renovations to an existing sanitary pump station on 1752 Crinella Dr. Application approved January 2020.	0.23	2021
(P19-00098) Duckhorn Vineyards	Construction of a new winery building and new infrastructure to increase production.	0.44	2021
(P19-00146) Ehlers Estate Winery	Major site modifications to the winery.	0.27	Unknown
(PL17-00006) Farmstead at Long Meadow Ranch Hotel	Sixty-five lodging units at Long Meadow Ranch. Potential significant traffic impacts. Application submitted in May 2017; project status "Under Review."	0.35	2021
(P19-00170) Frank Family Vineyard	Construction of one new barn (2,244 square feet). Increase in visitation, staff, and hours of operation. Project plans submitted March 2019.	0.41	Unknown
(R19002) Hunt Avenue Sidewalk Gap Closure	Construction of 1,140 linear feet of sidewalk and curb ramp repairs along Hunt Avenue, Church Street, and Edwards Street. Project approved May 2019; project status "Underway."	0.13	2020 (completed)

Project Name	Description / Location	Proximity to Project Route (miles)	Anticipated Construction Date
(Project#: 10-40) Hunter Residential Subdivision	Seventy-six lodging units. Application submitted January 2017; project status "Under Review."	0.55	Unknown
(P19-00038) MOD: Inn at the Abbey	This project proposes developing the Inn at the Abbey and constructing 79 lodging units and making renovations to the site.	Adjacent	Unknown
(R1979) Pavement Restoration	City of St. Helena capital project addressing road improvements and sidewalk accessibility improvements. Delayed from 2020 to 2021t	0.04	2021
PG&E Distribution Project	Installation of distribution main pipeline along the east side of SR 29 between Dunaweal Lane and the City of Calistoga. Installation of LNG injection site at Dunaweal Lane.	Overlapping and adjacent	2020
(R-77) Railroad Ave Curb Ramp Updates and R-13-80 ADA Transition Plan Curb Ramps	Construction of 18 ADA curb ramps and street modifications along Grayson Ave., Railroad Ave., and Library In. in the City of St. Helena.	0.15	Unknown
(PL19-033) St. Helena Estates Pre-Application Review	Construction of 7 affordable units, 12 farm housing, 56 townhouses, and 12 single-family units across 4 parcels within the City of St. Helena. Application submitted July 2019; project status "Complete." Related construction is still underway.	0.48	Unknown
Napa Valley Vine Trail Project	Construction of a 40 mile paved trail. St. Helena to Calistoga construction end date is 2022. Permanent land use impacts.	Overlapping and adjacent	2020
(P20-00079) Vida Valiente	Converting 0.475 acres of land to vineyards and constructing of 26,093 square feet of production facilities. Potential significant traffic impacts.	1.53	Unknown
Caltrans 2K150	Bridge Rail Replacement at Sulfur Creek and York Creek.	Overlapping	Cancelled
Caltrans 4J300	SR 29 York to 128 Split Pavement Preservation.	Overlapping	2022
Caltrans 4J990	Ritchie Creek Bridge Replacement Project for Fish Passage Improvement.	Overlapping	2022/2023

Project Name	Description/ Location	Proximity to Project Route (miles)	Anticipated Construction Date
Caltrans 2Q260	Napa Valley Vine Trail Class I Bike & Pedestrian Facility, from SR 29-Bothe State Park to Dunaweal Lane, and Fair Way in Calistoga to Silverado Trail.	Overlapping	2021/2022
Caltrans 3G64A	Environmental Mitigation and Plant Establishments for Napa River Bridge Replacement Project.	1.63	2020/2024
Caltrans 4J830	Repair or Replace Sections of Hopper Slough Bridge Barrier Rails and Slabs.	4.02	2025/2026

Note: ADA= Americans with Disabilities Act; LNG = liquefied natural gas

3.21.5.1 Aesthetics

The Project would not result in cumulatively considerable impacts to aesthetics resources in the Project vicinity. (Less-than-Significant Impact)

All impacts to aesthetic resources are determined to be less-than-significant. With the application of AMMs, potential less-than-significant impacts would be further reduced. The work area is within and adjacent to SR 29, which is not a State Scenic Highway but is a county scenic highway. Construction-related visual impacts would result from the temporary presence of workers, construction equipment, and vehicles along the Project route, but this would be a temporary visual change. The Project would not permanently obstruct any views as the pipelines would be buried underground. Only pipeline markers and service valves would be visible aboveground, but these are features of the existing pipeline. The Project would require removal of 27 trees, but the trees are situated intermittently along a distance of several miles. Therefore, the Project would not contribute to permanent cumulative aesthetics impacts.

3.21.5.2 Agriculture and Forest

The Project would not result in cumulatively considerable impacts to agricultural or forest resources in the Project vicinity. (Less-than-Significant Impact)

A significant portion of the Project work area is within designated Prime Farmland, Farmland of Statewide Importance, and Unique Farmland; no commercial forest resources are present in the Project area. Viticulture is the primary agricultural land use in the Project area. Where pipeline work areas overlap vineyards, construction activities would necessitate the removal of vines. The vines can be replanted post-construction, although not within 10 feet of the pipeline, thereby limiting agricultural use while not

permanently converting farmland. Therefore, the Project would not significantly contribute to permanent cumulative agricultural impacts

3.21.5.3 Air Quality

The Project would not conflict with or obstruct implementation of the applicable air quality plan. Therefore, the Project would not cause or significantly contribute to any cumulative impact in this respect. (Less-than-Significant Impact)

All impacts to air quality are determined to be less than significant with implementation of AMMs and MMs described in Section 3.3, Air Quality. The average daily emissions associated with construction activities would not exceed any construction-related thresholds of significance; thus the Project would not conflict with the region's air quality plans. Implementation of AMM AQ-1 and AMM GHG-1, which include controlling fugitive dust and reducing idling time, would reduce exposure of sensitive receptors to emissions and odors. Because of the linear nature of the Project, air emissions would be temporary and only last a few days or a few weeks at a given location during the construction period, and the Project would not have a substantial contribution to the region's air quality. The Project would contribute to cumulative conditions in the form of short-term construction emissions; however, there are no additional emissions associated with operations. Projects in the surrounding vicinity could also contribute to emissions in the region.

3.21.5.4 Biological Resources

The Project would not conflict with any local policies or ordinances protecting biological resources and would not conflict with the provisions of a conservation plan. Therefore, the Project would not cause or substantially contribute to potential cumulative impacts associated with biological resources. (Less-than-Significant Impact)

The Project will avoid in-water work through the use of trenchless construction techniques such as auger bores and HDD. Impacts to the one wetland complex along the route would likewise be avoided through the use of HDD. Fifteen special-status wildlife species and four special-status plant species have the potential to occur in the Project's work area; one special-status plant species was observed within the BSA, but is outside of the Project footprint. The potential to impact sensitive species is reduced by the application of the recommended AMMs. Like this Project, other projects in the region are required to comply with federal and state regulations protecting special-status plant and wildlife species. In this context, the Project's less-than-significant impact would not cause or have a cumulatively considerable contribution to any significant cumulative effect related to biological resources.

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3.21.5.5 Cultural and Paleontological Resources

The Project would have not cause an adverse change in the significance of a historical resource. Therefore, the Project would not cause or contribute to any cumulative impact related to such resources. (No Impact)

Sixteen archaeological resources and seventeen architectural resources were identified within the Project's Area or Direct Impact. All potential impacts related to cultural and paleontological resources would be less than significant or nonexistent with implementation of the proposed AMMs and mitigation measures. As such, the Project would not contribute substantially to any cumulative impacts on cultural and paleontological resources.

3.21.5.6 Energy

The Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency, nor would the Project result in inefficient, wasteful, or unnecessary energy use during construction of the Project. Therefore, the Project would not cause or contribute to any cumulative impact related to this consideration. (No Impact)

3.21.5.7 Geology and Soils

Impacts to geological and soil conditions are determined to be less than significant. The Project is located in a region with historical seismic activity but it does not cross and is not located in close proximity to an active fault zone. Due to the presence of major regional seismic sources, it is possible that the Project would be exposed to at least one moderate or greater earthquake, and that the earthquake would be centered close enough to the Project to produce strong ground shaking in the Project Area. Although the Project may experience strong seismic ground shaking, construction activities would not exacerbate existing, or introduce new, seismic ground-shaking hazards. Portions of the Project would be constructed in areas that are classified as very low to moderate potential liquefaction zones. Construction activities would not introduce new liquefiable soils or substantially increase the amount of water runoff into these areas. Therefore, Project-related activities would not cause or increase this geologic hazard. The Project is not cumulatively considerable. (No Impact)

3.21.5.8 Greenhouse Gas Emissions

All impacts to GHG are determined to be less than significant. The Project's construction activities would temporarily generate GHG emissions from the use of construction equipment and machinery, as well as the increased vehicle travel to transport equipment, materials, and construction workers to the site. The temporary construction GHG emissions would not conflict with an applicable plan, policy, or regulation adopted to reduce GHG emissions. The emissions generated by the Project

would not be cumulatively considerable and would not significantly contribute to global climate change. (Less-than-Significant Impact)

3.21.5.9 Hazards and Hazardous Materials

All potential impacts related to hazards and hazardous materials would be less than significant or nonexistent with implementation of the AMMs described in Section 3.9, Hazards and Hazardous Materials and would not be cumulatively considerable. (Less-than-Significant Impact)

The Project would not be located on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, with the exception of the staging area on PG&E's property at 1301-1302 Mitchell Drive in St. Helena. During use of this property, PG&E would follow procedures to avoid disturbing the surface of the site in accordance with the land use covenant. Project construction would require the use of motorized heavy equipment and hazardous materials such as gasoline powered machinery and equipment. Hazardous materials would be transported to site in accordance with the U.S. Department of Transportation standards. PG&E's hazardous substance control and emergency response procedures and worker safety training programs described in AMMs HAZ-1 and HAZ-2 would further reduce less-than-significant impacts. The impacts of the Project related to hazards or hazardous materials are not individually significant and cumulative effects of this and other projects in the area would not be cumulatively considerable because each project must similarly follow the applicable federal and state rules and regulations required to ensure that no substantial impacts occur.

3.21.5.10 Hydrology and Water Quality

Potential Project-related impacts to hydrology and water quality would be less than significant or nonexistent with implementation of the AMMs described in Section 3.10, Hydrology and Water Quality. While construction activities would not require in-water work, construction activities have the potential to affect water quality through increased erosion from ground disturbance, excavations in areas of shallow groundwater, trench dewatering, and the potential release of fuels and other construction–related equipment hazardous materials near waters. PG&E would implement hazardous substance control measures, emergency response protocols, and a construction stormwater pollution prevention plan. With the application of AMMs, potential significant impacts to hydrology and water quality would be less-than-significant. Like this Project, other projects in the area would be required to comply with federal, state, and local regulations to protect water quality. With the implementation of similar protective measures it is unlikely there would be a significant adverse cumulative impact on hydrology and water quality.

Like this Project, other projects would be required to comply with federal, state, and local regulations and other mitigations associated with protecting water quality. With the implementation of similar protective measures, the incremental contributions of Project-related impacts would not be cumulatively considerable. (Less-than-Significant Impact)

3.21.5.11 Land Use and Planning

The Project would have no impact pertaining to the physical division of an established community or conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Therefore, the Project would not cause or contribute to any cumulative impact related to Land Use and Planning. (No Impact)

3.21.5.12 Mineral Resources

The Project is not located in a mineral resource area or within a locally important mineral resource recovery site delineated on any local land use plans. Therefore, the Project would not cause or contribute to any cumulative impact related to mineral resources. (No Impact)

3.21.5.13 Noise

The Project would temporarily increase noise above ambient levels due to construction activities. Potential for the Project to contribute to a cumulative noise impact exists only if the Project's construction schedule coincides or overlaps with other projects taking place in the immediate vicinity of the Project alignment and at least one of the other cumulative projects leads to an exceedance of noise or vibration at the same receptor. Project-generated noise and vibration are unlikely to cumulatively contribute to noise impacts affecting the same sensitive receptors as most of the Project construction would occur at night, and is therefore less likely to be occurring at the same time as other projects, and Project-generated noise and vibration would be localized, temporary, and less than significant. Furthermore, given that construction would proceed along the alignment, impacts to any sensitive receptors would be short-term. Therefore, the Project's less-than-significant contribution would not cause or contribute to any significant cumulative effect relating to noise or vibration. (Less-than-Significant Impact)

3.21.5.14 Population and Housing

The Project would not induce unplanned population growth nor displace people or housing. Therefore, the Project would not cause or contribute to any cumulative impact related to population and housing. (No Impact)

3.21.5.15 Public Services

The Project would have no impact associated with the provision or need for new or physically altered governmental facilities. Therefore, the Project would not cause or contribute to any cumulative impact related to these considerations. (No Impact)

3.21.5.16 Recreation

All impacts related to recreation would be less than significant. Although the Project would not increase the use of parks or other recreational facilities, construction activities may result in short-term impacts to nearby parks due to and noise. However, these impacts would be less than significant, short-term, and temporary. And while the Napa Valley Vine Trail will overlap the Project, it is not scheduled to be constructed until after the Project is completed. Therefore, because the Project has only temporary impacts, and does not impact the demand on current or future recreation facilities, the Project would not contribute significantly to cumulative impacts to recreation. (No Impact)

3.21.5.17 Transportation

All Project-related impacts to transportation are determined to be less than significant with implementation of the AMMs described in Section 3.17, Transportation. The movement of construction vehicles along public roads and the temporary closure of traffic lanes along SR 29 and streets within the City of St. Helena would result in temporary, short-term traffic impacts. Impacts to traffic flow would be reduced by conducting most construction activities at night. Traffic controls and other safety measures would be put in place to maintain proper traffic flow during temporary construction activities, in accordance with encroachment permits from Caltrans and local jurisdictions. PG&E would coordinate with local emergency services to minimize effects of lane closures. Other construction projects in the area affecting traffic would likewise need to comply with encroachment permits and follow similar measures. Short-term impacts on public transit, bicycle, and pedestrian facilities would be minor and likewise be temporary. If any projects occur at the same time and place as PG&E's construction, local encroachment permit conditions would apply to both projects ensuring that the Project impacts on transportation would not be cumulatively considerable. (Less-than-Significant Impact)

3.21.5.18 Tribal Cultural Resources

PG&E tribal consultation determined that there are no known tribal cultural resources present in the Project footprint. The only cumulative project that overlaps the location of PG&E's Project is the Napa Valley Vine Trail; however, should tribal cultural resources be impacted by several projects in the region, cumulative impacts could become cumulatively significant if multiple projects were to adversely affect the significance of similar types of resources. In the event that undiscovered tribal cultural resources are

encountered during Project construction, the AMMs described in Section 3.18, Tribal Cultural Resources, would be implemented, thereby reducing the potential impact to a less-than-significant level. (Less-than-Significant Impact).

3.21.5.19 Utilities and Service Systems

The Project would have no impact on utilities and service systems. Therefore, the Project would not cause or contribute to any cumulative impact related to these considerations. (No Impact)

3.21.5.20 Wildfire

The Project would not substantially impair an adopted emergency response plan or emergency evacuation plan, exacerbate wildfire risks, require the installation or maintenance of associated infrastructure than may exacerbate fire risk or that may result in temporary ongoing impacts to the environment, or expose people or structures to significant risks as a result of post-fire slope instability or drainage patterns. Therefore, the Project would not cause or contribute to any cumulative impact related to these considerations. (No Impact)

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CHAPTER 4 — AGENCY COORDINATION AND PUBLIC OUTREACH

PG&E began prefiling consultation with Caltrans District 4 on August 23, 2019, providing an overview of the Project and anticipated schedule.

Coordination with the City of St. Helena began in 2019 with discussions regarding PG&E's Project schedule and planned work by the City of St. Helena, including repairs to the bridge at Sulphur Creek and street paving. PG&E continues to be in contact with the City of St. Helena regarding construction planning. In February 2020, PG&E held a meeting with public agencies, describing its planned upgrades to DFM 0405-01. In attendance were representatives from Napa County (Public Works), City of St. Helena, Napa Sanitation District, Town of Yountville, City of Napa, City of Calistoga, and Napa Valley Transportation Authority.

Public outreach for the Project has occurred in a phased approach, beginning with notification to landowners in 2019 regarding environmental and land surveys. During Project design, PG&E has been working with landowners at various locations to minimize Project impacts that would result from temporary construction activities and new easements for the new pipeline, in particular impacts associated with vineyards. In spring 2020, all landowners of locations where additional easements are required were contacted regarding property appraisals, the initial step in acquisition of the new easements. PG&E will continue to communicate with landowners along the Project alignment regarding the proposed construction and timing of the work. Letters will be sent to nearby landowners in advance of the start of construction, and interactive voice recordings will be used to keep landowners apprised of crew activities at the time of construction.

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CHAPTER 5 - LIST OF PREPARERS

Many PG&E representatives contributed to preparation of, or reviewed and commented on drafts of this Initial Study/Mitigated Negative Declaration. In addition, the following consultants provided support in preparing this document:

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Cultural	Kristina Montgomery	Associate Environmental Planner/ Archeologist
Cultural	Charles Palmer	Associate Environmental Planner/ Principal Architectural Historian
Cultural	Helen Blackmore	Senior Environmental Planner, Office of Cultural Resource Studies
Cultural	Kathryn Rose	Senior Environmental Planner, Office of Cultural Resource Studies
Visual	Chris Else	Landscape Architect, Office of Landscape Architecture
Hazardous Waste	Chris Wilson	Senior Transportation Engineer, Office of Environmental Engineering
Air Quality	Kenny Tsan	Acting Branch Chief, Office of Environmental Engineering
Noise	Kenny Tsan	Acting Branch Chief, Office of Environmental Engineering
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CHAPTER 6 — REFERENCES

6.0 CHAPTER 2 REFERENCES

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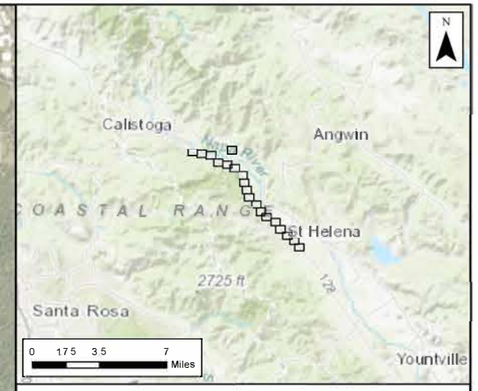
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Appendix A: Gas Transmission and Distribution Work Locations



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Mapbook Page

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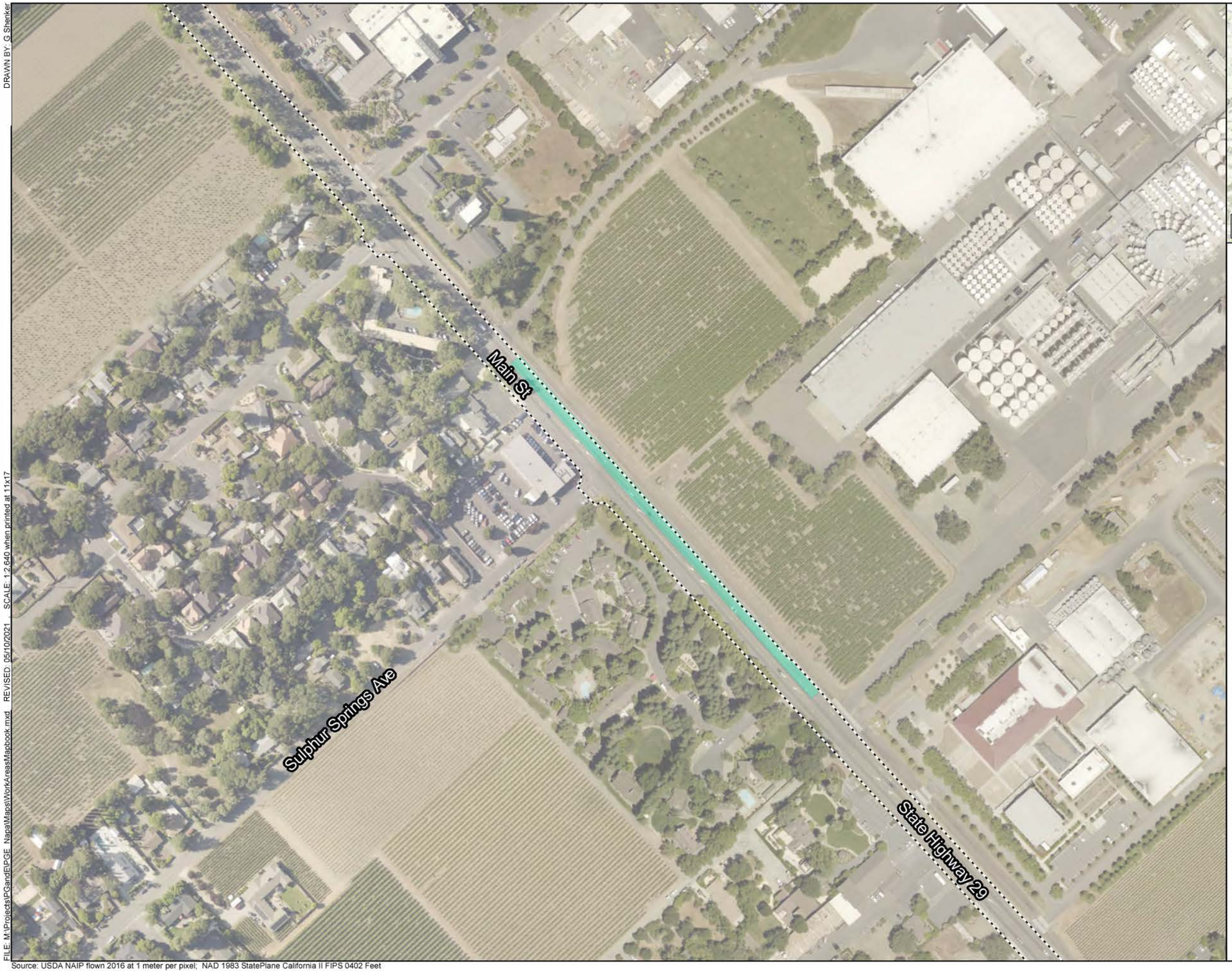
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Preliminary Project Components
Napa Bundle Northern Corridor
Gas Pipeline Maintenance Program
Napa, CA

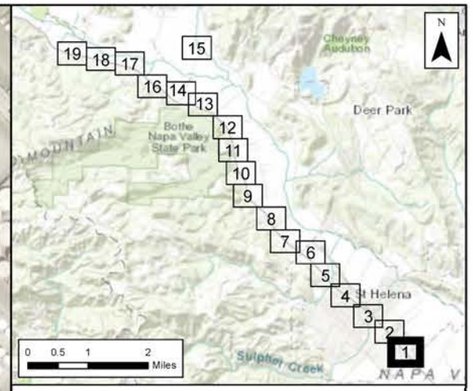
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Legend

- Laydown/Staging Area
- Caltrans Right of Way

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Appendix A:
Page 1 of 19
Preliminary Project Components
T-1448A Hydrostatic Test
Napa Bundle Northern Corridor
Gas Pipeline Maintenance Program
Napa, CA

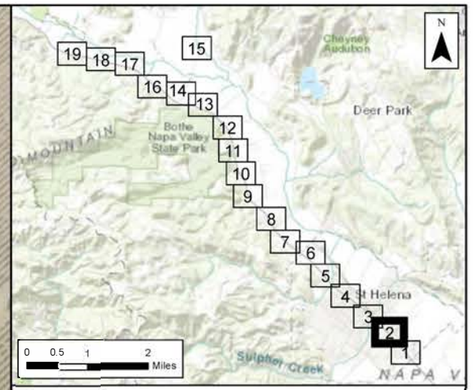
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Source: USDA NAIP flown 2016 at 1 meter per pixel; NAD 1983 StatePlane California II FIPS 0402 Feet





Legend

- Pipeline Temporary Work
- Laydown/Staging Area
- Caltrans Right of Way

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Feet

Appendix A:
Page 2 of 19
Preliminary Project Components
T-1448A Hydrostatic Test
Napa Bundle Northern Corridor
Gas Pipeline Maintenance Program
Napa, CA

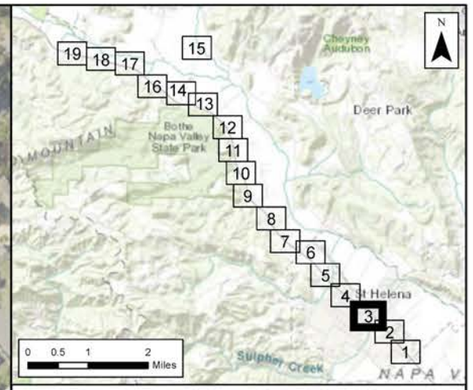
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Legend

- Pipeline Temporary Work
- Laydown/Staging Area
- Distribution Line (Bore)
- Distribution Line (Open Trench)
- Transmission Line (HDD)
- Hydrostatic Test
- Bell Hole
- Bore Hole Entry/Exit Pit
- CNG Injection Point
- Watercourse
- Caltrans Right of Way

Tree Survey

- Remove
- Trim

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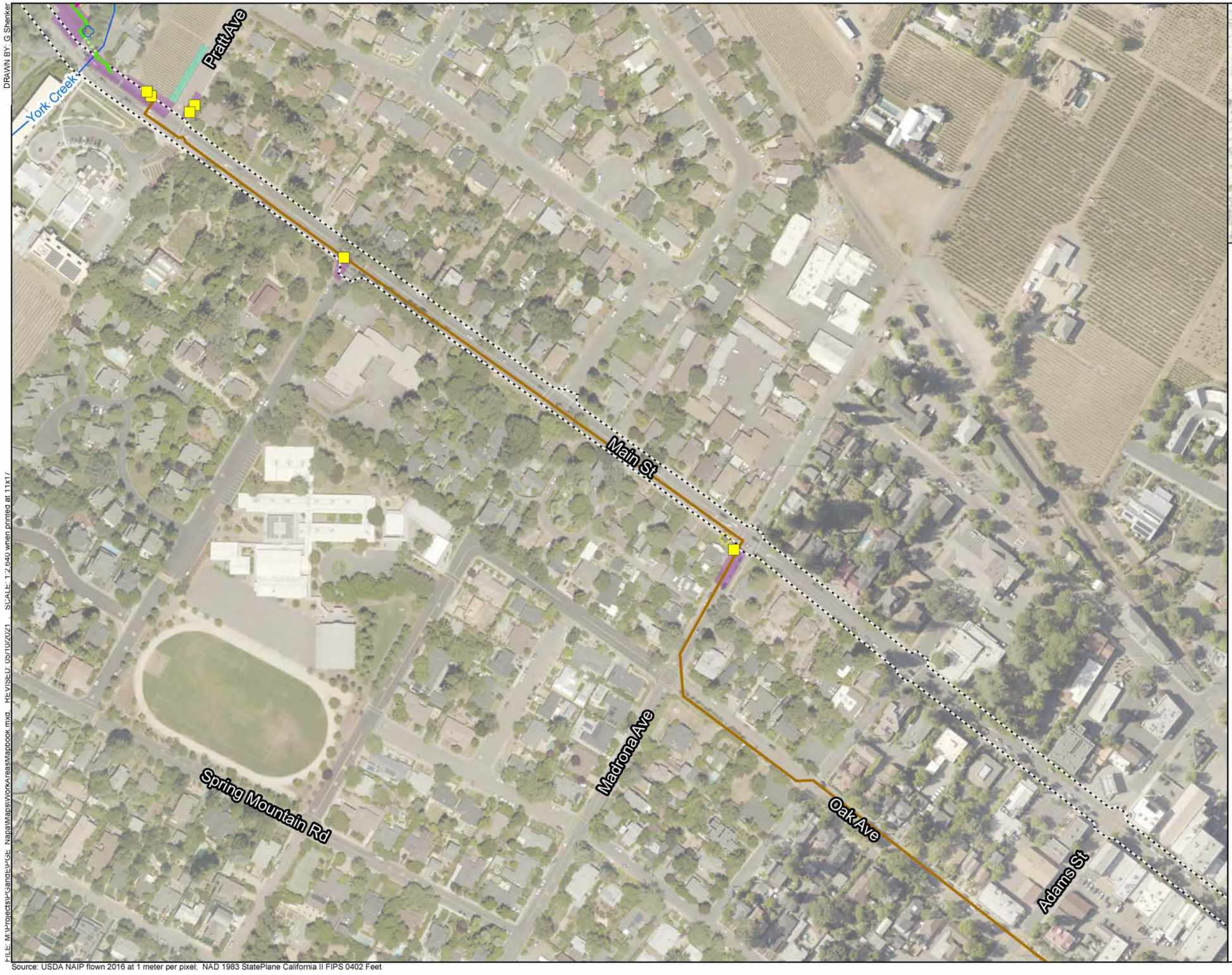
Appendix A:
Page 3 of 19
Preliminary Project Components
T-1448A Hydrostatic Test
Napa Bundle Northern Corridor
Gas Pipeline Maintenance Program
Napa, CA

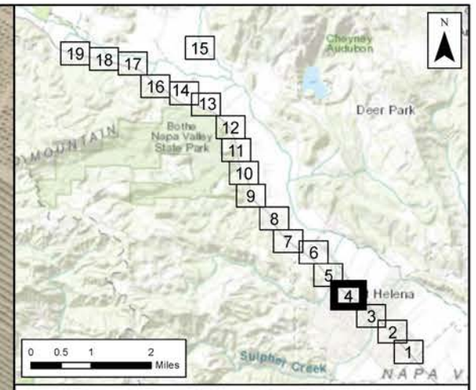
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Legend

- Pipeline Temporary Work
- Laydown/Staging Area
- Customer Service Line Work Area
- Distribution Line (Open Trench)
- Distribution Line (Free Span)
- Hydrostatic Test
- Customer Service Line
- Bell Hole
- Watercourse
- Caltrans Right of Way

Tree Survey

- Trim
- Trim and Protect

N

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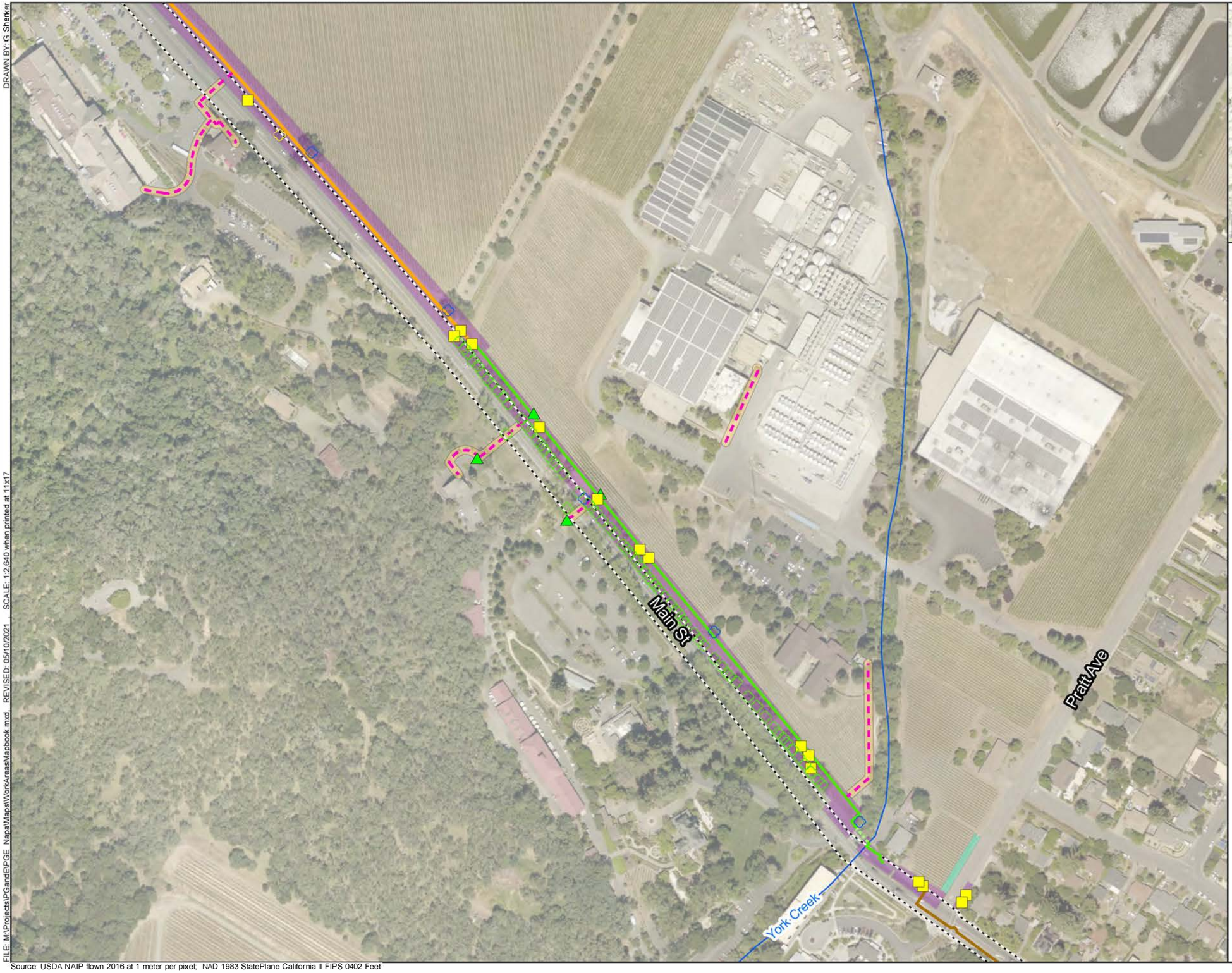
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Preliminary Project Components
T-1448A Hydrostatic Test
Napa Bundle Northern Corridor
Gas Pipeline Maintenance Program
Napa, CA

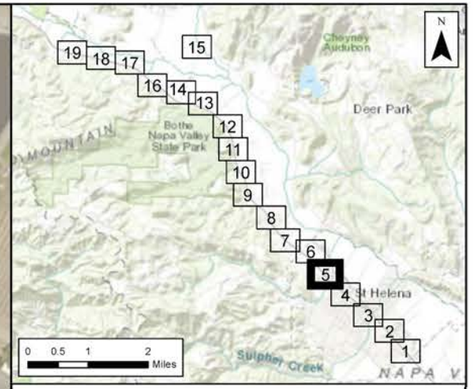
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Legend

- Pipeline Temporary Work
- Laydown/Staging Area
- Customer Service Line Work Area
- Joint Open Trench
- Distribution Line (Open Trench)
- Distribution Line (Free Span)
- Hydrostatic Test
- Customer Service Line
- Bell Hole
- Bore Hole Entry/Exit Pit
- Watercourse
- Caltrans Right of Way

Tree Survey

- Protect
- Trim
- Trim and Protect

N

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Appendix A:
Page 5 of 19
Preliminary Project Components
T-1448A Hydrostatic Test
Napa Bundle Northern Corridor
Gas Pipeline Maintenance Program
Napa, CA

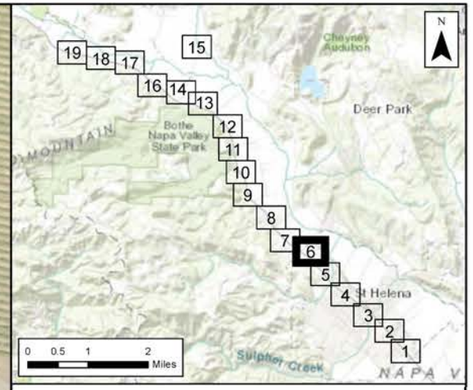
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Legend

- Pipeline Temporary Work
- Laydown/Staging Area
- Customer Service Line Work Area
- Joint Open Trench
- Customer Service Line
- Bell Hole
- Caltrans Right of Way

Tree Survey

- Trim

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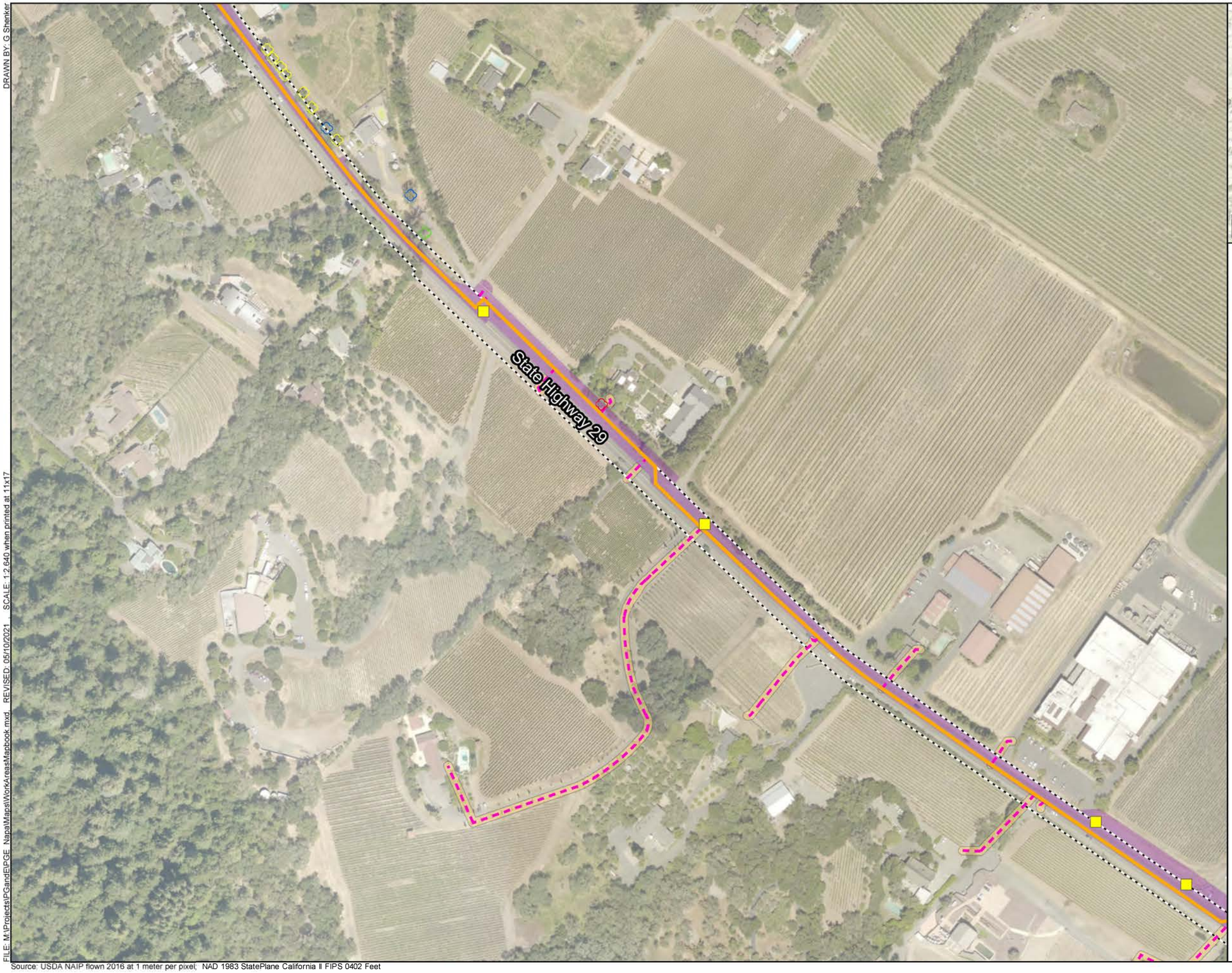
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Preliminary Project Components
R-1018B
Napa Bundle Northern Corridor
Gas Pipeline Maintenance Program
Napa, CA

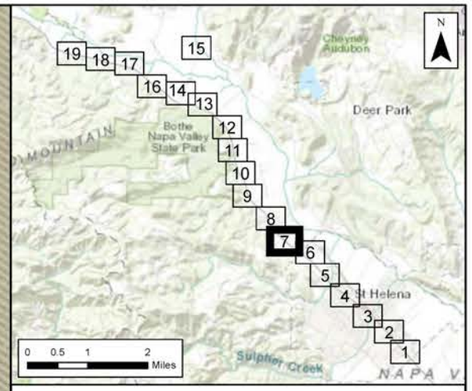
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Legend

- Pipeline Temporary Work
- Laydown/Staging Area
- Customer Service Line Work Area
- Joint Open Trench
- Customer Service Line
- Bell Hole
- Caltrans Right of Way

Tree Survey

- Protect
- Remove
- Trim
- Trim and Protect

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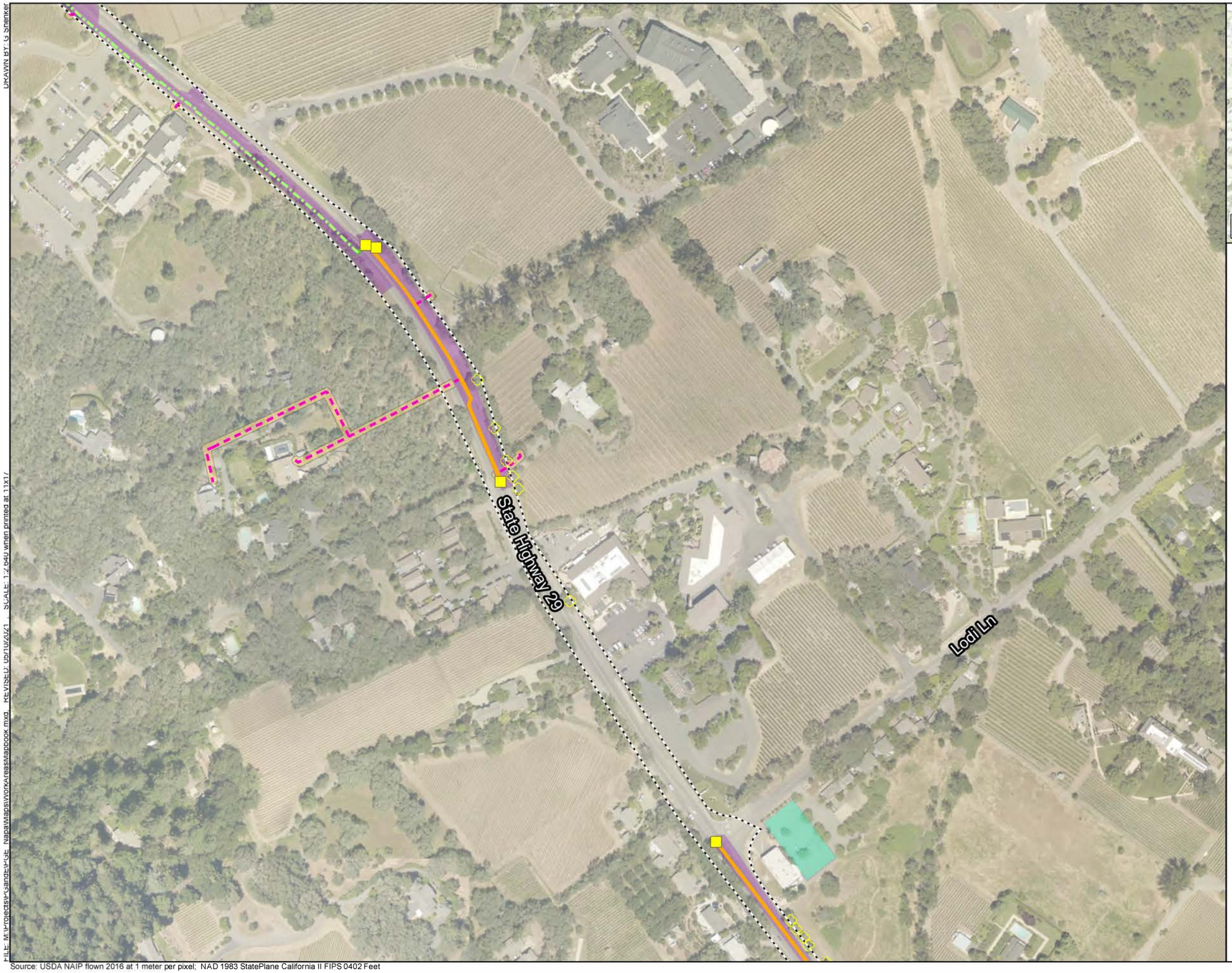
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Preliminary Project Components
R-1018B
Napa Bundle Northern Corridor
Gas Pipeline Maintenance Program
Napa, CA

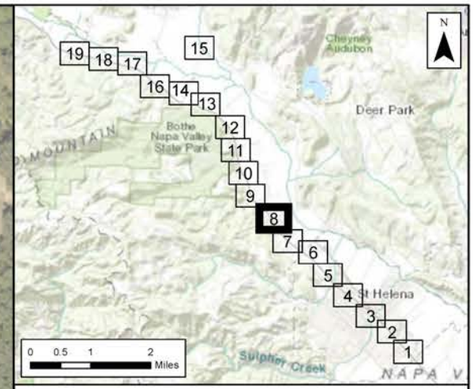
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Legend

- Pipeline Temporary Work
- Laydown/Staging Area
- Customer Service Line Work Area
- Joint Open Trench
- Distribution Line (Open Trench)
- Distribution Line (HDD)
- Customer Service Line
- Bell Hole
- Caltrans Right of Way

Tree Survey

- Trim

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Appendix A:
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Preliminary Project Components
R-1018B
Napa Bundle Northern Corridor
Gas Pipeline Maintenance Program
Napa, CA

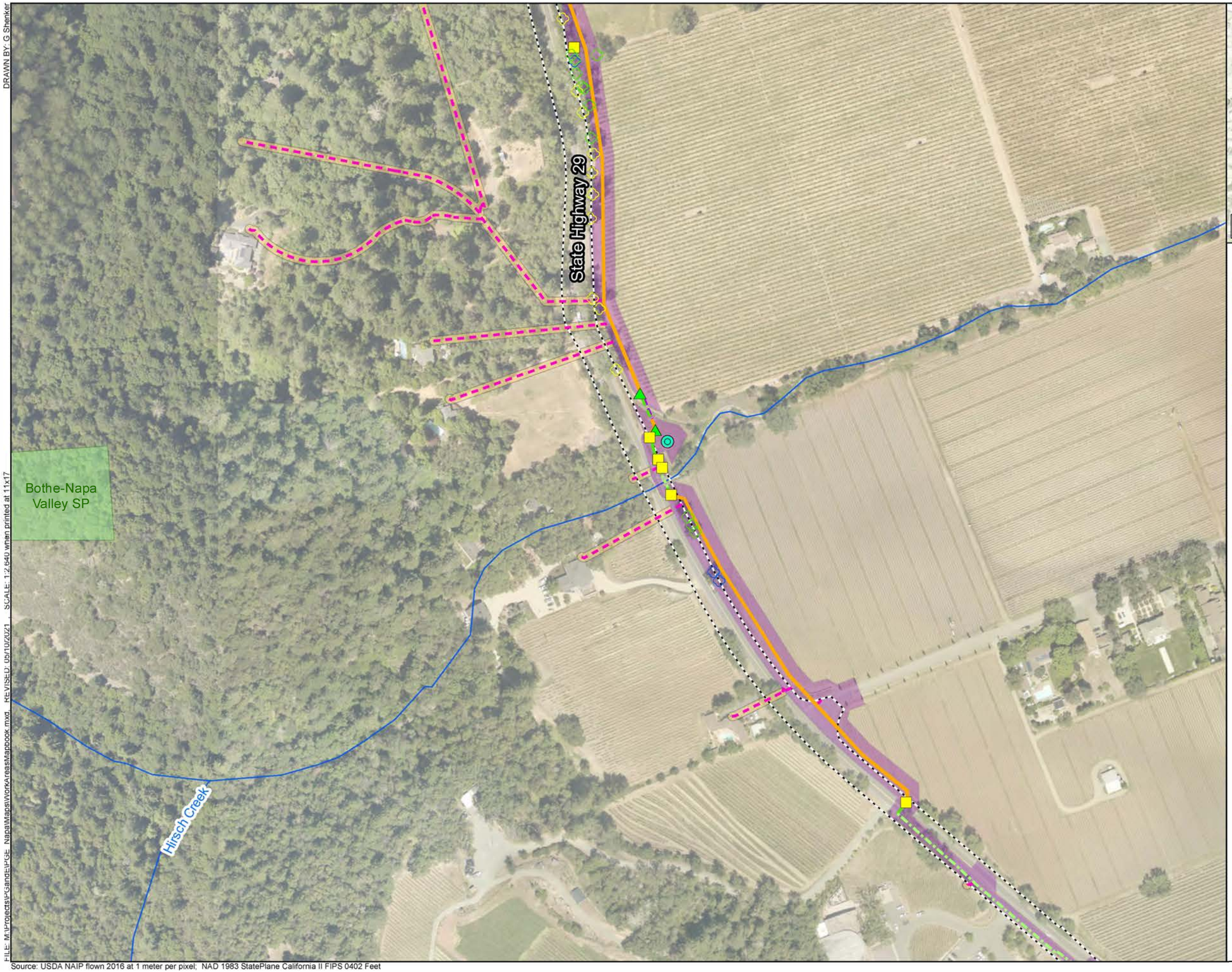
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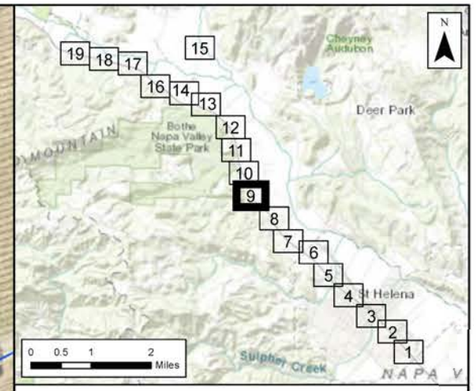
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Legend

- Pipeline Temporary Work
- Customer Service Line Work Area
- Joint Open Trench
- Distribution Line (Bore)
- Distribution Line (Open Trench)
- Distribution Line (Free Span)
- Distribution Line (HDD)
- Transmission Line (Bore)
- Customer Service Line
- Bell Hole
- Bore Hole Entry/Exit Pit
- Angwin Tap
- Watercourse
- State Park Land
- Caltrans Right of Way

Tree Survey

- Protect
- Trim
- Trim and Protect

N

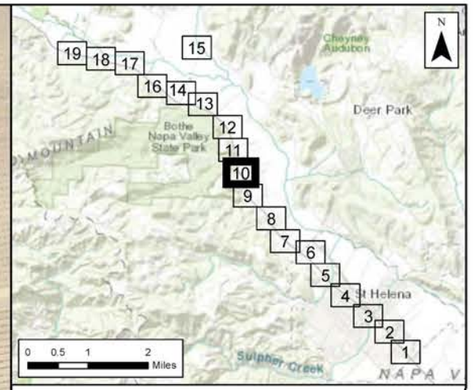
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Appendix A:
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Preliminary Project Components
R-1018
Napa Bundle Northern Corridor
Gas Pipeline Maintenance Program
Napa, CA

Environmental Resources Management
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Source: USDA NAIP flown 2016 at 1 meter per pixel; NAD 1983 StatePlane California II FIPS 0402 Feet





Legend

- Pipeline Temporary Work
- Customer Service Line Work Area
- Joint Open Trench
- Distribution Line (Bore)
- Transmission Line (Bore)
- Customer Service Line
- Bell Hole
- Bore Hole Entry/Exit Pit
- Deconick Wetland
- State Park Land
- Caltrans Right of Way

Tree Survey

- Protect
- Remove
- Trim
- Trim and Protect

N

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Appendix A:
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Preliminary Project Components
R-1018
Napa Bundle Northern Corridor
Gas Pipeline Maintenance Program
Napa, CA

Environmental Resources Management
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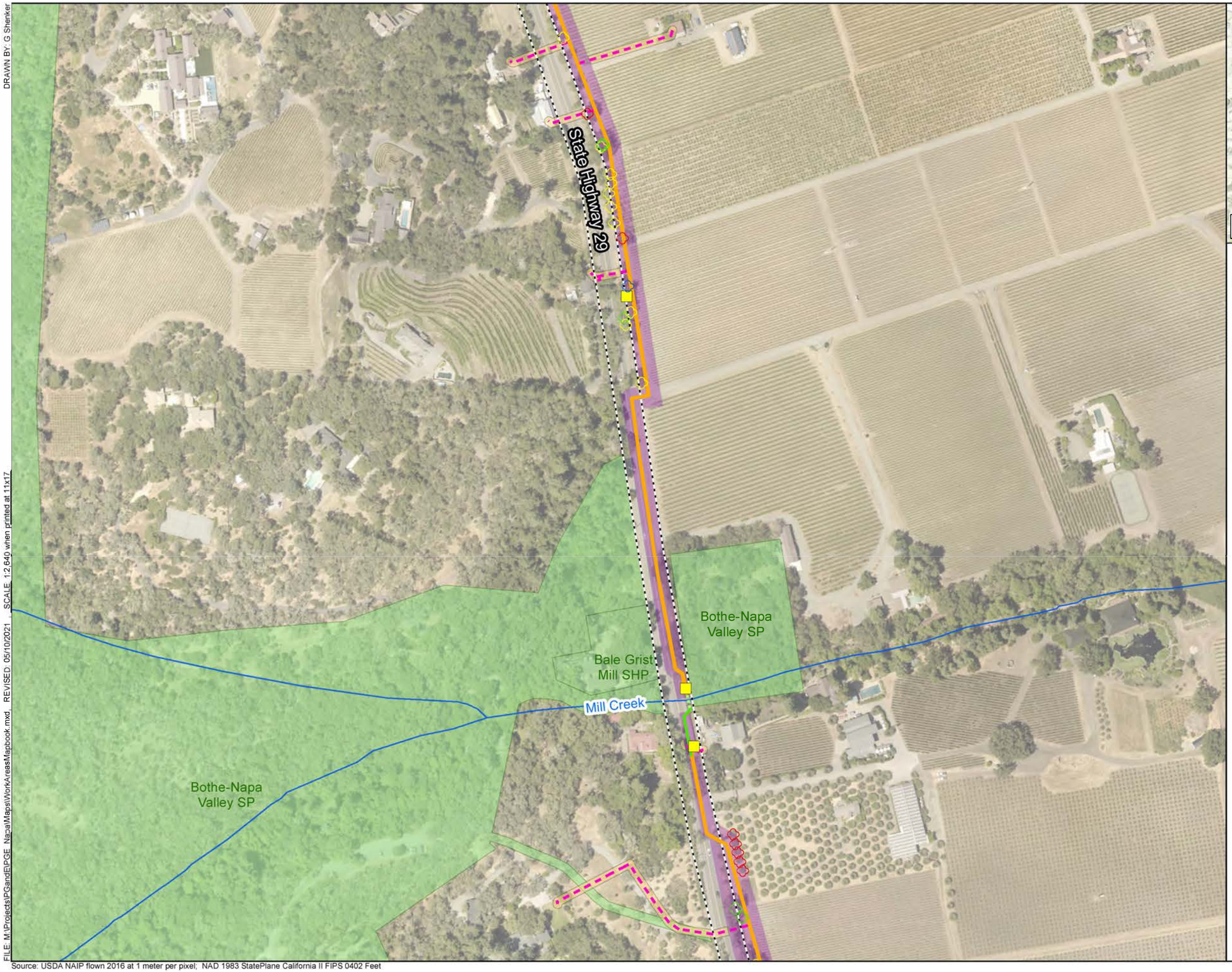
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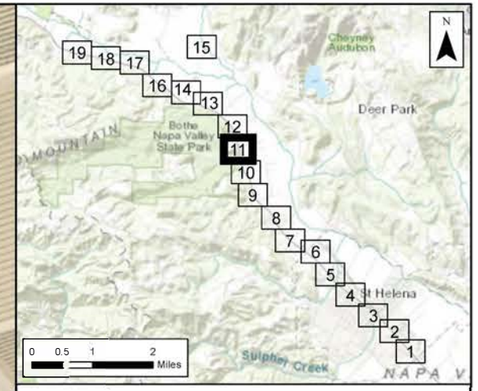
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Legend

- Pipeline Temporary Work
- Customer Service Line Work Area
- Joint Open Trench
- Distribution Line (Open Trench)
- Distribution Line (Free Span)
- Customer Service Line
- Bell Hole
- Watercourse
- State Park Land
- Caltrans Right of Way

Tree Survey

- Protect
- Remove
- Trim
- Trim and Protect

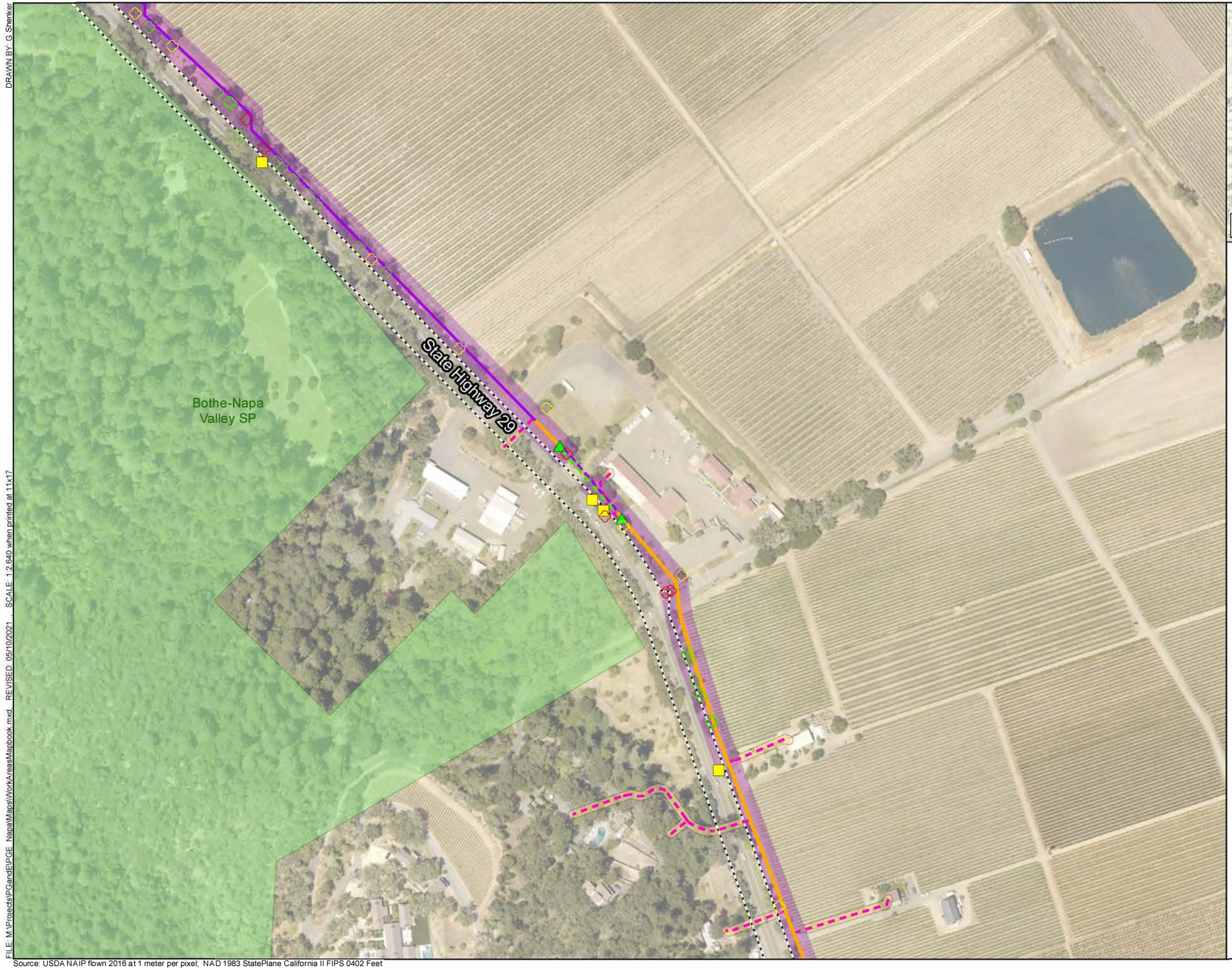
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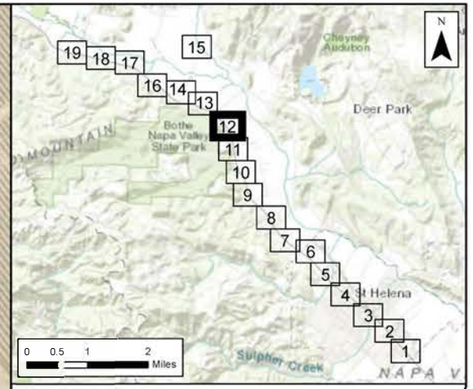
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Appendix A:
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Preliminary Project Components
R-1018
Napa Bundle Northern Corridor
Gas Pipeline Maintenance Program
Napa, CA

Environmental Resources Management
www.erm.com

Source: USDA NAIP flown 2016 at 1 meter per pixel; NAD 1983 StatePlane California II FIPS 0402 Feet





Legend

- Pipeline Temporary Work
- Customer Service Line Work Area
- Joint Open Trench
- Distribution Line (Bore)
- Transmission Line (Bore)
- Transmission Line (Open Trench)
- Customer Service Line
- Bell Hole
- Bore Hole Entry/Exit Pit
- State Park Land
- Caltrans Right of Way

Tree Survey

- Protect
- Remove
- Trim

N

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Feet

Appendix A:
Page 12 of 19
Preliminary Project Components
R-1018
Napa Bundle Northern Corridor
Gas Pipeline Maintenance Program
Napa, CA

Environmental Resources Management
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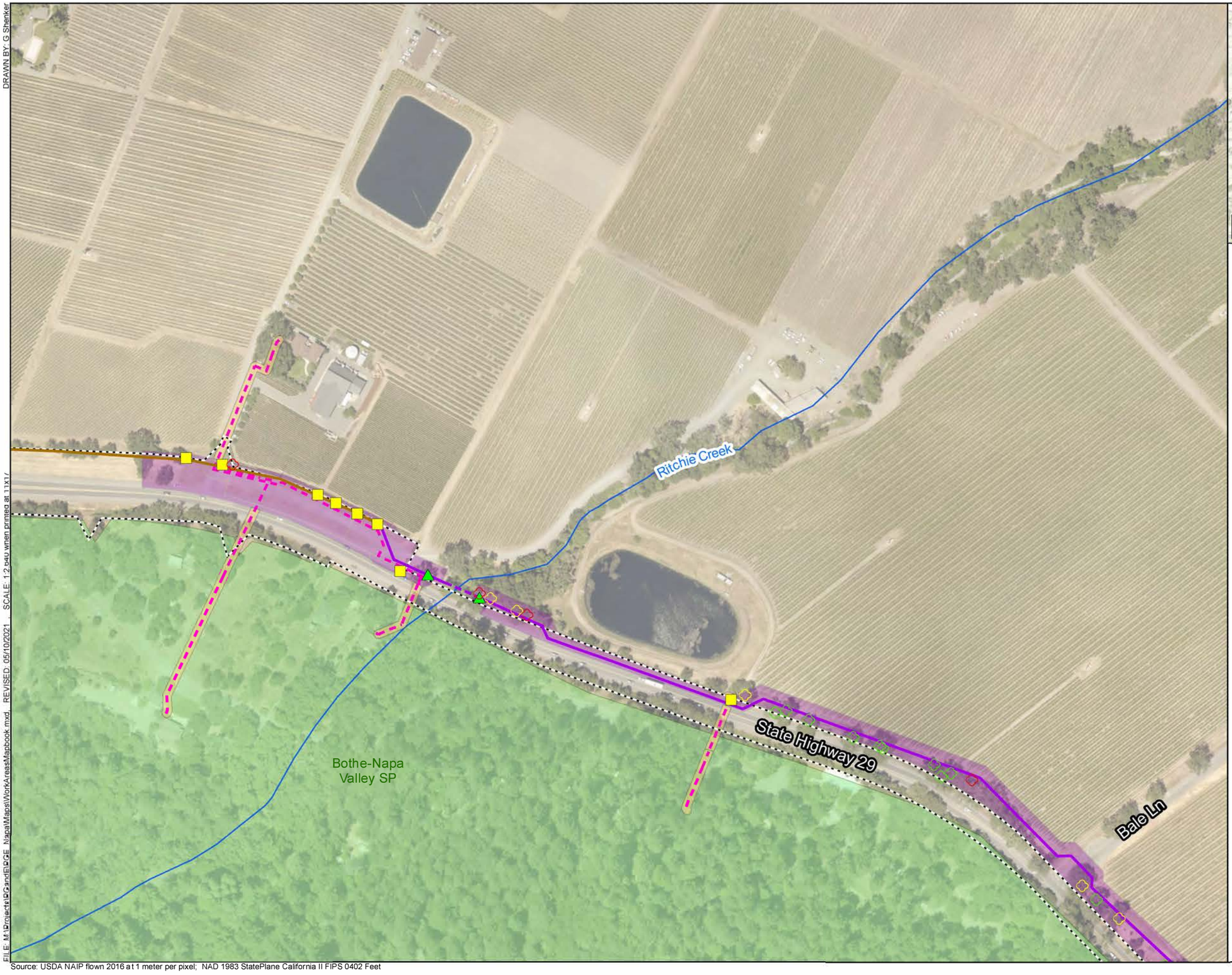
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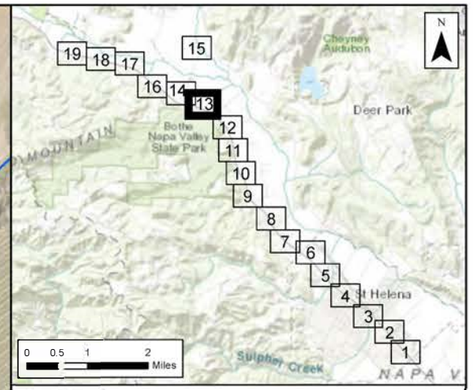
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Source: USDA NAIP flown 2016 at 1 meter per pixel; NAD 1983 StatePlane California II FIPS 0402 Feet

DRAWN BY: G Shenker

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Legend

- Pipeline Temporary Work
- Customer Service Line Work Area
- Transmission Line (Bore)
- Transmission Line (Open Trench)
- Hydrostatic Test
- Customer Service Line
- Bell Hole
- Bore Hole Entry/Exit Pit
- Watercourse
- State Park Land
- Caltrans Right of Way

Tree Survey

- Protect
- Remove
- Trim

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Feet

Appendix A:
Page 13 of 19
Preliminary Project Components
R-1018
Napa Bundle Northern Corridor
Gas Pipeline Maintenance Program
Napa, CA

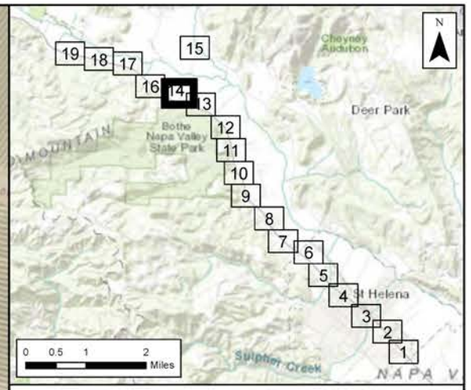
Environmental Resources Management
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Source: USDA NAIP flown 2016 at 1 meter per pixel; NAD 1983 StatePlane California II FIPS 0402 Feet

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Legend

- Pipeline Temporary Work
- Laydown/Staging Area
- Customer Service Line Work Area
- Transmission Line (Open Trench)
- Hydrostatic Test
- Customer Service Line
- Bell Hole
- State Park Land
- Caltrans Right of Way

Tree Survey

- Remove
- Trim
- Trim and Protect

N

0 100 200 400 Feet

Appendix A:
Page 14 of 19
Preliminary Project Components
T-1448B Hydrostatic Test
Napa Bundle Northern Corridor
Gas Pipeline Maintenance Program
Napa, CA

Environmental Resources Management
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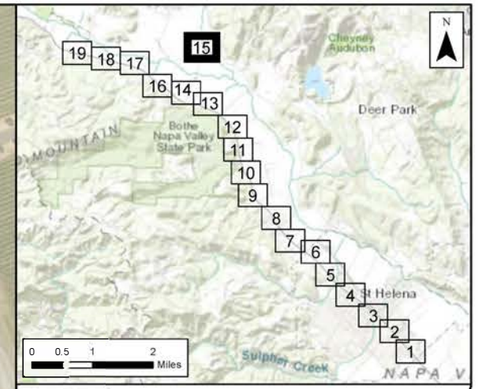
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Silverado Trl

Larkmead Ln

Dutch Henry Creek



Legend

- Laydown/Staging Area
- Watercourse

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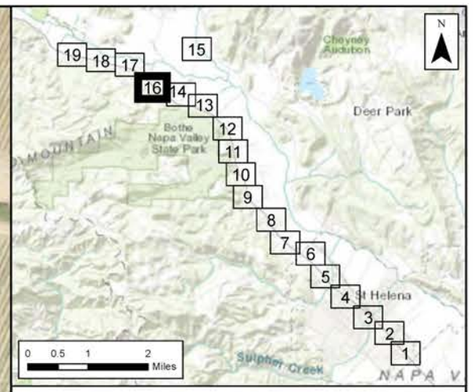
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Appendix A:
Page 15 of 19
Preliminary Project Components
T-1448B Hydrostatic Test
Napa Bundle Northern Corridor
Gas Pipeline Maintenance Program
Napa, CA

Environmental Resources Management
www.erm.com

Source: USDA NAIP flown 2016 at 1 meter per pixel; NAD 1983 StatePlane California II FIPS 0402 Feet





Legend

- Pipeline Temporary Work
- Hydrostatic Test
- Bell Hole
- Watercourse
- Caltrans Right of Way

Tree Survey

- Remove
- Trim

N

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Feet

Appendix A:
Page 16 of 19
Preliminary Project Components
T-1448B Hydrostatic Test
Napa Bundle Northern Corridor
Gas Pipeline Maintenance Program
Napa, CA

Environmental Resources Management
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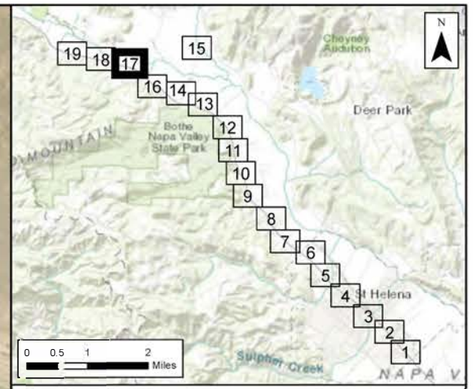
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Legend

- Pipeline Temporary Work
- Laydown/Staging Area
- Hydrostatic Test
- Bell Hole
- Watercourse
- Caltrans Right of Way

Tree Survey

- Trim
- Trim and Protect

N

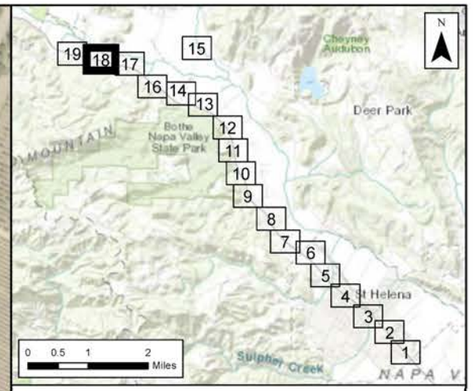
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Source: USDA NAIP flown 2016 at 1 meter per pixel; NAD 1983 StatePlane California II FIPS 0402 Feet

Appendix A:
Page 17 of 19
Preliminary Project Components
T-1448B Hydrostatic Test
Napa Bundle Northern Corridor
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Legend

- Pipeline Temporary Work
- Laydown/Staging Area
- Hydrostatic Test
- Bell Hole
- Watercourse
- Caltrans Right of Way

Tree Survey

- Remove
- Trim
- Trim and Protect

N

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Appendix A:
Page 18 of 19
Preliminary Project Components
T-1448B Hydrostatic Test
Napa Bundle Northern Corridor
Gas Pipeline Maintenance Program
Napa, CA

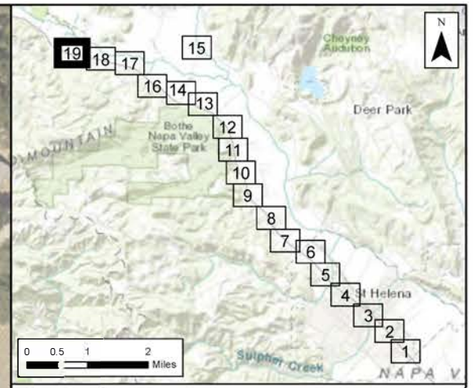
Environmental Resources Management
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Source: USDA NAIP flown 2016 at 1 meter per pixel; NAD 1983 StatePlane California II FIPS 0402 Feet

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Legend

- Pipeline Temporary Work
- Laydown/Staging Area
- LNG Injection Site
- Hydrostatic Test
- Piping for LNG Injection (Open Trench)
- Bell Hole
- Watercourse
- Caltrans Right of Way

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Appendix A:
Page 19 of 19
Preliminary Project Components
T-1448B Hydrostatic Test
Napa Bundle Northern Corridor
Gas Pipeline Maintenance Program
Napa, CA

Environmental Resources Management
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Source: USDA NAIP flown 2016 at 1 meter per pixel; NAD 1983 StatePlane California II FIPS 0402 Feet

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Appendix B: Project by Caltrans Postmile

ATTACHMENT B

Work Location Summary Tables by Caltrans Postmile

(Work areas for customer service lines within Caltrans ROW not included)

R-1018B Transmission Pipeline (8-inch) / Distribution Pipeline (8-inch)						
Begin Postmile	**End Postmile**	**Location**	**Work Area within Caltrans?**	**Install Method**	**Alternative Install Method**	**Comments**
29.28	29.29	Caltrans	Yes	Open Trench	N/A	Distribution pipeline only.
29.29	29.30	Caltrans	Yes	Free Span	N/A	Distribution pipeline only. Free span over York Creek.
29.30	29.56	Private Property	Yes	Open Trench	N/A	Distribution pipeline only.
29.56	30.05	Private Property	Yes	Joint Open Trench	N/A	Transmission and distribution pipeline.
30.05	30.31	Caltrans	Yes	Joint Open Trench	N/A	Install pipeline in center turn lane.
30.31	30.37	Caltrans	Yes	Joint Open Trench	N/A	Install pipeline in northbound lane.
30.37	30.50	Caltrans	Yes	Joint Open Trench	N/A	Edge of Caltrans easement.
30.50	30.63	Private Property	No	Joint Open Trench	HDD	Joint open trench preferred.
30.63	30.66	CalTrans	Yes	Joint Open Trench	HDD	Joint open trench preferred in center turn lane.
30.66	30.84	N/A	N/A	N/A	N/A	No work; pipeline installation occurred in 2019/2020.
30.84	30.87	Caltrans	Yes	Joint Open Trench	N/A	Install pipeline in northbound lane.

Begin Postmile	End Postmile	Location	Work Area within Caltrans?	Install Method	Alternative Install Method	Comments
30.87	30.95	CalTrans	Yes	Joint Open Trench	N/A	Install pipeline in road shoulder and edge of northbound lane.
30.95	30.95	Caltrans	Yes	Open Trench	N/A	Distribution only. Perpendicular crossing.
30.95	31.17	CalTrans	Yes	HDD	Open Trench	Distribution only. Shoulder of southbound lane.
31.17	31.17	Caltrans	Yes	Open Trench	N/A	Distribution only. Perpendicular crossing.
31.17	31.21	Private Property	Yes	Joint Open Trench	N/A	
31t21	31t23	CalTrans	Yes	Joint Open Trench	N/A	
31t23	31t34	Private Property	Yes	Joint Open Trench	N/A	
31t34	31t34	CalTrans	Yes	Joint Open Trench	N/A	Approximately 40 feet.
31t34	31t35	Caltrans	Yes	Free Span	N/A	Distribution only. Free span over Hirsch Creek.
31t35	31t37	CalTrans	Yes	Open Trench	N/A	Distribution only. Tie-in at NAP 31t37 on private property. End of R-1018B pipeline replacements.

R-1018 Transmission Pipeline (8-inch) / Distribution Pipeline (8-inch)						
Begin Postmile	**End Postmile**	**Location**	**Work Area within Caltrans?**	**Install Method**	**Alternative Install Method**	**Comments**
31t37	31t40	Private Property	Yes	Joint Open Trench	N/A	Southern tie-in.
31t40	31t41	Private Property	Yes	Bore	N/A	Bore under drainage ditch.
31t41	31t71	Private Property	No	Joint Open Trench	N/A	
31t71	31t75	Private Property	No	Bore	N/A	Bore under wetland.
31t75	31t79	Private Property	No	Joint Open Trench	N/A	
31t79	31t98	Private Property	Yes	Joint Open Trench	N/A	
31t98	32.01	CalTrans	Yes	Joint Open Trench	N/A	Install in northbound lane.
32.01	32.04	CalTrans	Yes	Open Trench	N/A	Distribution pipeline only.
32.04	32.05	CalTrans	No	Free Span	N/A	Mill Creek crossing.
32.05	32.19	CalTrans	Yes	Joint Open Trench	N/A	Approximately 50 feet of pipeline to side of road, then continue in northbound lane.
32.19	32.43	Private Property	No	Joint Open Trench	N/A	
32.43	32.47	Private Property	Yes	Joint Open Trench	N/A	

32.47	32.50	Private Property	Yes	Bore	N/A	Bore under drainage ditch at CAL FIRE station.
32.50	32.52	Private Property	Yes	Joint Open Trench	N/A	End of distribution pipeline installation.
32.52	32.99	Private Property	No	Open Trench	N/A	Transmission pipeline only
32.99	33.09	Caltrans	Yes	Open Trench	N/A	Shoulder of northbound lane. Transmission pipeline only.
33.09	33.12	Private	Yes	Open Trench	N/A	Transmission pipeline only.
33.12	33.14	Private	No	Bore	N/A	Transmission pipeline only. Ritchie Creek.
33.14	33.15	Private	Yes	Open Trench	N/A	Transmission pipeline only.
33.15	33.17	Caltrans	Yes	Open Trench	N/A	End of R-1018 pipeline replacements.

T-1448At– Work and Bell Hole Locations (Work area dimensions are approximate and not necessarily square nor entirely within Caltrans ROW.)				
Begin Postmile	**End Postmile**	**Location**	**Work Locations**	**Comments**
27.50	27.71	Caltrans	Laydown Area	Pipe string laydown for Sulphur Creek HDD. Northbound lane and road shoulder. Approximately 0.7-acre work area, 30 x 1,035 feet.
28.37	28.37	Caltrans	Exit of Sulphur Creek HDD	
28.34	28.37	Caltrans	Work area for exit of Sulphur Creek HDD	Approximately 1.0 acre work area, 30 x 150 feet; northbound lane closure. Also start of hydrostatic test.
28.50	28.50	Caltrans	Entry of Sulphur Creek HDD	
28.49	28.53	Caltrans/ Private	Work area for entry of Sulphur Creek HDD	Sidewalk and partial lane closure on Main Street for entry of Sulphur Creek HDD. Partial closure of parking lot. Lane closure on Mitchell Road at intersection with Main Street. Two areas: 140 x 40 feet, and 140 x 60 feet.
28.94	28.94	Caltrans/City of St. Helena	Bell hole	Approximately 0.08-acre work area, 200 x 35 feet, on Madrona Avenue at intersection with Main Street.
29.15	29.15	Caltrans/City of St. Helena	Bell hole	Approximately 0.04-acre work area, 35 x 60 feet, at intersection of Elmhurst Avenue and Main Street.
29.25	29.27	Caltrans/City of St. Helena	Test head	End of hydrostatic test. Work area for conducting hydrostatic test.

T-1448B – Work and Bell Hole Locations Work area dimensions are approximate and not necessarily square nor entirely within Caltrans ROW. Work areas completely outside of Caltrans ROW not included.			
Begin Postmile	**End Postmile**	**Location**	**Comments**
33.17	33.25	Caltrans	Staging area within Caltrans pull out.
33.46	33.50	Caltrans	Work areas with Caltrans ROW on both sides of Larkmead Lane at State Route 29. Three bell holes within Caltrans RW and two outside.
33.57	33.57	Caltrans	Approximately 0.1-acre work area, 75 x 80 feet.
33.90	33.90	Caltrans	Approximately 0.4-acre work area, 200 x 90 feet.
34.11	34.16	Caltrans	Approximately 0.3-acre work area, 220 x 70 feet.
34.18	34.19	Caltrans	Approximately 0.1-acre work area, 75 x 55 feet.
34.45	34.47	Caltrans	Approximately 0.08-acre work area. Heitz Way.
34.72	34.72	Caltrans	Approximately 0.08-acre work area, 35 x 35 feet. Heitz Way.
34.85	34.85	Caltrans	Approximately 0.06-acre work area, 55 x 45 feet.
34.85	34.87	Caltrans	Approximately 0.2-acre work area, 210 x 85 feet.
34.90	34.92	Caltrans	Approximately 0.07-acre work area, 70 x 45 feet.
35.04	35.07	Caltrans	Approximately 0.02-acre work area, 130 x 65 feet. Staging area.
35.07	35.07	Caltrans	Approximately 0.02-acre work area, 30 x 30 feet. Azalea Springs Way.
35.07	35.07	Caltrans	Approximately 0.02-acre work area, 60 x 20 feet. Azalea Springs Way.
35.25	35.28	Caltrans	Approximately 0.02-acre work area. Azalea Springs Way.
35.42	35.46	Caltrans	Work areas on northbound shoulder of State Route 29, both side of Dunaweal Lane. Approximately 0.05-acre work area, 85 x 25 feet, and 0.03-acre work area, 50 x 25 feet.

Appendix C: Representative Views of Project Area



Exhibit A-1
State Route 29 and Azalea Springs Way, looking northwest (May 2020)



Exhibit A-2
State Route 29 north of Bea Lane, looking southeast (May 2020)



Exhibit A-3
State Route 29 north of Bea Lane, looking northwest (May 2020)



Exhibit A-4
Proposed Dunaweal Lane LNG Facility Property, looking north from Scott Lane across SR29 (May 2020)



Exhibit A-5
Proposed Dunaweal Lane LNG Facility Property, looking north from across SR29 (May 2020)



Exhibit A-6
State Route 29, looking north towards Dunaweal Lane (March 2020)



Exhibit A-7
State Route 29, looking south towards Dunaweal Lane (March 2020)

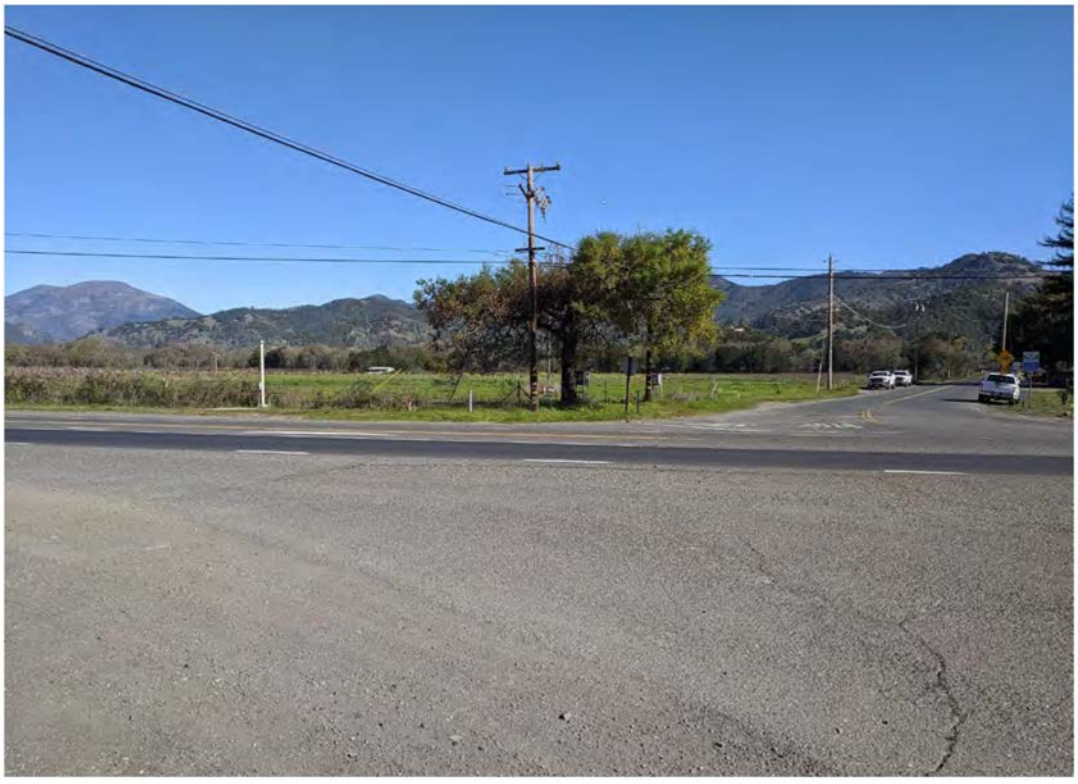


Exhibit A-8
Proposed Dunaweal Lane LNG Facility Property, looking northeast (March 2020)



Exhibit A-9
State Route 29, looking south from Larkmead Lane (April 2020)



Exhibit A-10
State Route 29, looking north from Larkmead Lane (April 2020)



Exhibit A-11
Larkmead Lane, looking west towards State Route 29 (April 2020)



Exhibit A-12
State Route 29, looking south from Bale Lane (April 2020)



Exhibit A-13
State Route 29, looking north from Bale Lane (April 2020)



Exhibit A-14
Bale Lane, looking west towards State Route 29 (April 2020)



Exhibit A-15
State Route 29, looking south from Lodi Lane (April 2020)



Exhibit A-16
State Route 29, looking north from Lodi Lane (April 2020)



Exhibit A-17
Lodi Lane, looking west towards State Route 29 (April 2020)



Exhibit A-18
Deer Park Road, looking west towards State Route 29 (April 2020)



Exhibit A-19
State Route 29, looking north towards Sulphur Creek Bridge in St. Helena, CA
(May 2020)



Exhibit A-20
State Route 29, looking north towards Sulphur Creek Bridge in St. Helena, CA
(May 2020)



Exhibit A-21
State Route 29, looking south at Pope Street in St. Helena, CA Bale Lane (April 2020)



Exhibit A-22
State Route 29, looking north from Pope Street in St. Helena, CA Bale Lane (April 2020)

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Appendix D: Biological Study Area





Legend

- Biological Study Area (247 acres)
- Project Footprint (45 acres)
- Watercourse
- Laydown/Staging Area

Note:
Project Footprint is based on Preliminary Project Components dated August 26, 2020. Updated October 8, 2020.

Service Layer Credits: National Geographic, Esri, Garmin, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community. Image capture date: June 16, 2018.

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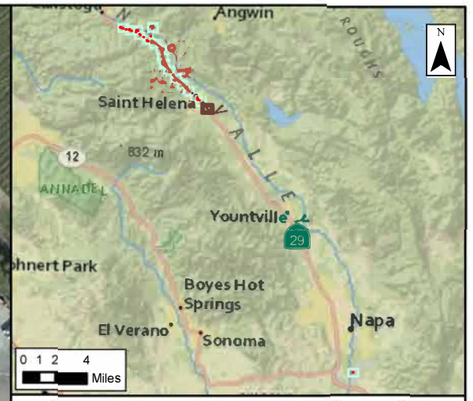
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Project Components and BSA
Map 01 of 18
PG&E Napa Bundle Northern Corridor
Gas Pipeline Maintenance Program
Napa, Ca

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Legend

- Biological Study Area (247 acres)
- Project Footprint (45 acres)
- Caltrans Right of Way
- Laydown/Staging Area

Note:
Project Footprint is based on Preliminary Project Components dated August 26, 2020. Updated October 8, 2020.

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Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community. Image capture date: June 16, 2018.

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Project Components and BSA
Map 02 of 18
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Gas Pipeline Maintenance Program
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Legend

- Biological Study Area (247 acres)
- Project Footprint (45 acres)
- Caltrans Right of Way
- Watercourse
- Pipeline Temporary Work Area
- Laydown/Staging Area
- CNG Injection Point
- Bell Hole
- Bore Hole Entry/Exit Pit

Pipeline Installation and Testing

- Distribution Line (Open Trench)
- Transmission Line (HDD)
- Hydrostatic Test

Note:
Project Footprint is based on Preliminary Project Components dated August 26, 2020. Updated October 8, 2020.

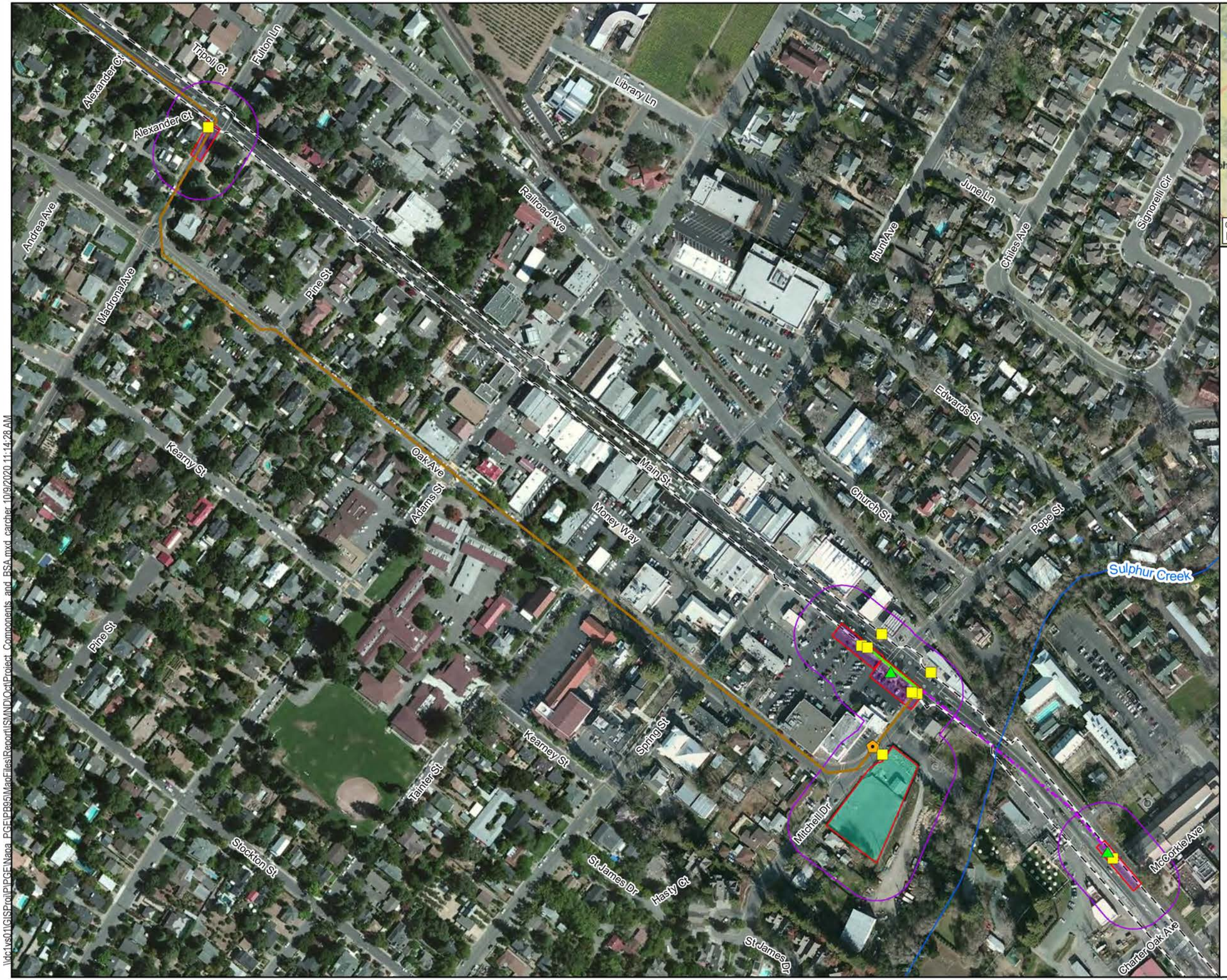
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Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community. Image capture date: June 16, 2018.

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Project Components and BSA
Map 03 of 18
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Gas Pipeline Maintenance Program
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Legend

- Biological Study Area (247 acres)
- Project Footprint (45 acres)
- Caltrans Right of Way
- Watercourse
- Pipeline Temporary Work Area
- Laydown/Staging Area
- CNG Injection Point
- Bell Hole
- Bore Hole Entry/Exit Pit

Pipeline Installation and Testing

- Distribution Line (Open Trench)
- Transmission Line (HDD)
- Hydrostatic Test

Note:
Project Footprint is based on Preliminary Project Components dated August 26, 2020. Updated October 8, 2020.

Service Layer Credits: National Geographic, Esri, Garmin, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.
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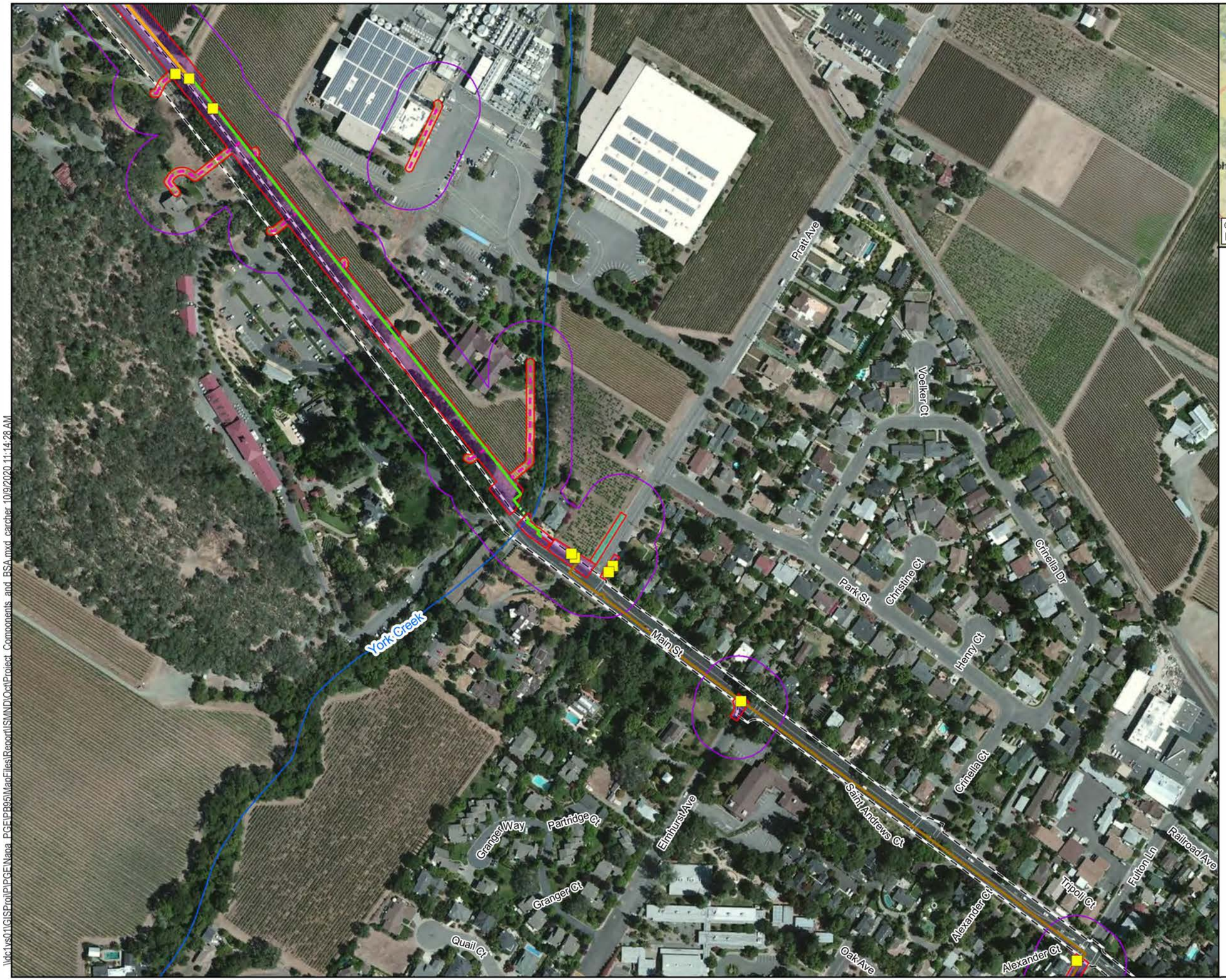
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Project Components and BSA
Map 04 of 18
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Gas Pipeline Maintenance Program
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Legend

- Biological Study Area (247 acres)
- Project Footprint (45 acres)
- Caltrans Right of Way
- Watercourse
- Pipeline Temporary Work Area
- Laydown/Staging Area
- Bell Hole
- Customer Service Line
- Customer Service Line Work Area

Pipeline Installation and Testing

- Joint Open Trench
- Distribution Line (Open Trench)
- Distribution Line (Free Span)
- Hydrostatic Test

Note:
Project Footprint is based on Preliminary Project Components dated August 26, 2020. Updated October 8, 2020.

Service Layer Credits: National Geographic, Esri, Garmin, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.
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Project Components and BSA
Map 05 of 18
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Gas Pipeline Maintenance Program
Napa, Ca

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Legend

- Biological Study Area (247 acres)
- Project Footprint (45 acres)
- Caltrans Right of Way
- Watercourse
- Pipeline Temporary Work Area
- Bell Hole
- Customer Service Line
- Customer Service Line Work Area

Pipeline Installation and Testing

- Joint Open Trench
- Distribution Line (Open Trench)

Note:
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Service Layer Credits: National Geographic, Esri, Garmin, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.
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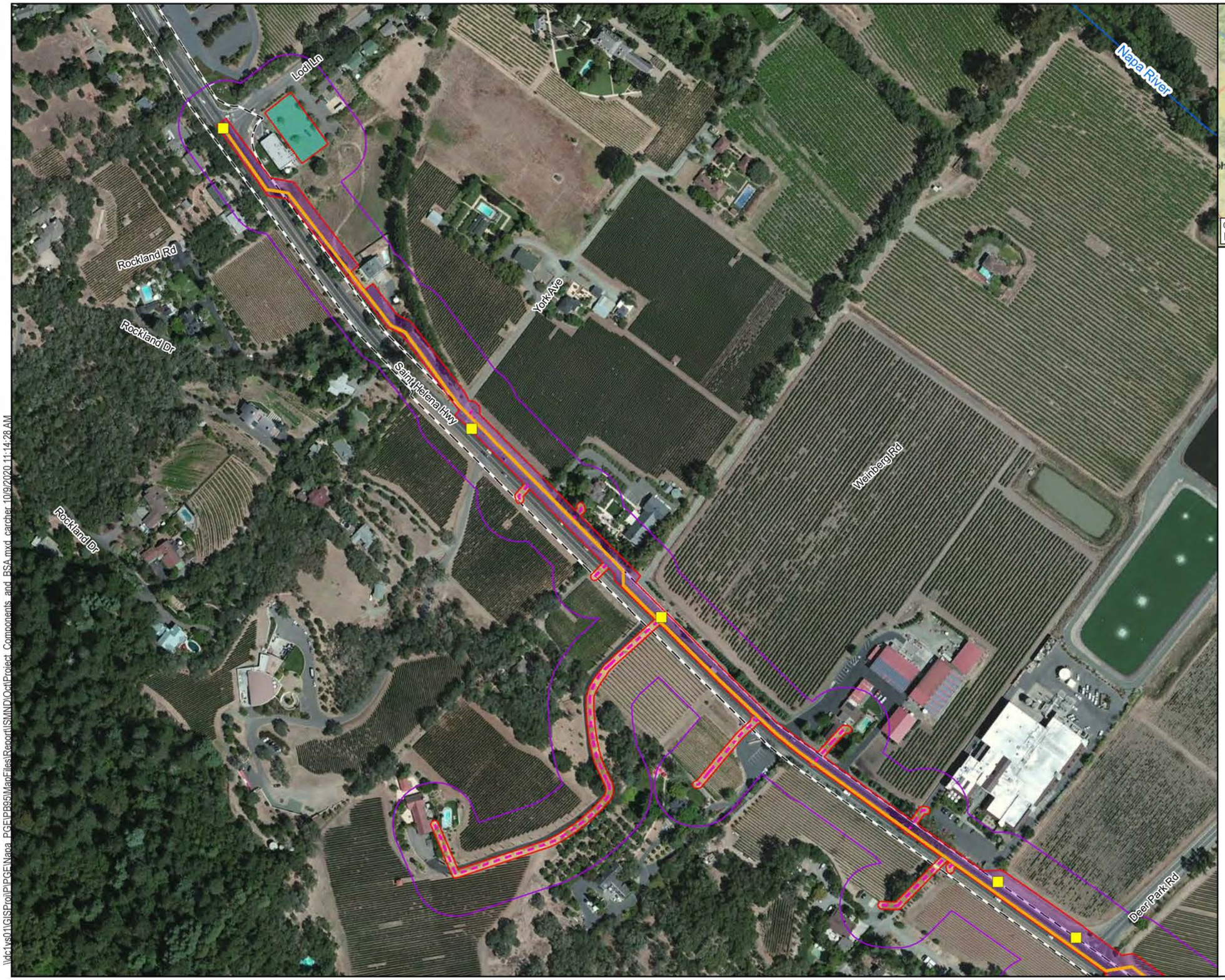
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Project Components and BSA
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Gas Pipeline Maintenance Program
Napa, Ca

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Legend

- Biological Study Area (247 acres)
- Project Footprint (45 acres)
- Caltrans Right of Way
- Watercourse
- Pipeline Temporary Work Area
- Laydown/Staging Area
- Bell Hole
- Customer Service Line
- Customer Service Line Work Area

Pipeline Installation and Testing

- Joint Open Trench

Note:
Project Footprint is based on Preliminary Project Components dated August 26, 2020. Updated October 8, 2020.

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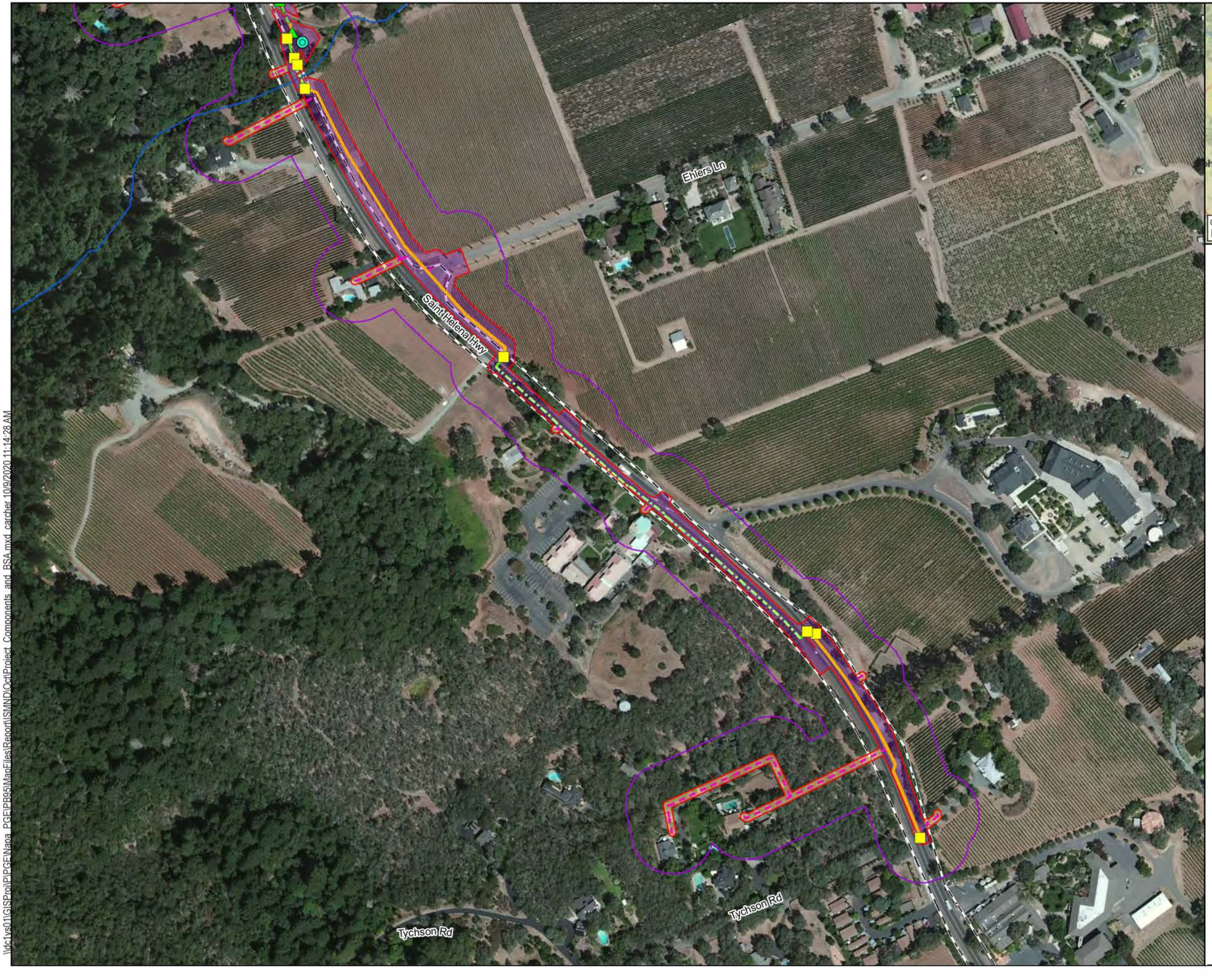
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Project Components and BSA
Map 07 of 18
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Gas Pipeline Maintenance Program
Napa, Ca

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Legend

- Biological Study Area (247 acres)
- Project Footprint (45 acres)
- Caltrans Right of Way
- Watercourse
- Pipeline Temporary Work Area
- Angwin Tap
- Bell Hole
- Bore Hole Entry/Exit Pit
- Customer Service Line
- Customer Service Line Work Area

Pipeline Installation and Testing

- Joint Open Trench
- Distribution Line (Bore)
- Distribution Line (Open Trench)
- Distribution Line (Free Span)
- Distribution Line (HDD)
- Transmission Line (Bore)

Note:
Project Footprint is based on Preliminary Project Components dated August 26, 2020. Updated October 8, 2020.

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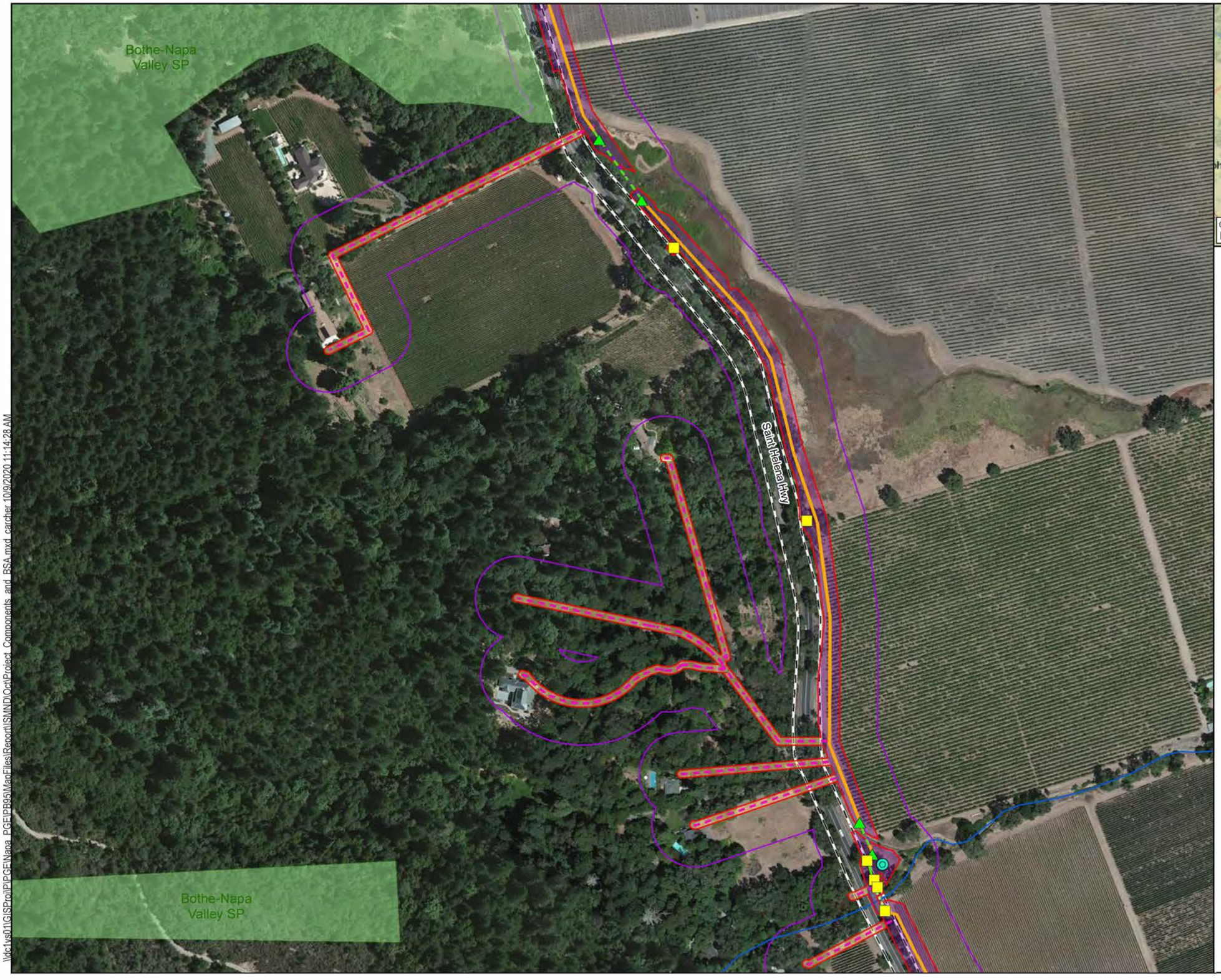
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Project Components and BSA
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Legend

- Biological Study Area (247 acres)
- Project Footprint (45 acres)
- State Park Land
- Caltrans Right of Way
- Watercourse
- Pipeline Temporary Work Area
- Angwin Tap
- Bell Hole
- Bore Hole Entry/Exit Pit
- Customer Service Line
- Customer Service Line Work Area

Pipeline Installation and Testing

- Joint Open Trench
- Distribution Line (Bore)
- Distribution Line (Open Trench)
- Distribution Line (Free Span)
- Transmission Line (Bore)

Note:
Project Footprint is based on Preliminary Project Components dated August 26, 2020. Updated October 8, 2020.

Emergent Wetland mapped on June 24, 2020 by Land Surveyor Scott Bryant and Wetland Scientist Russell Huddleston.

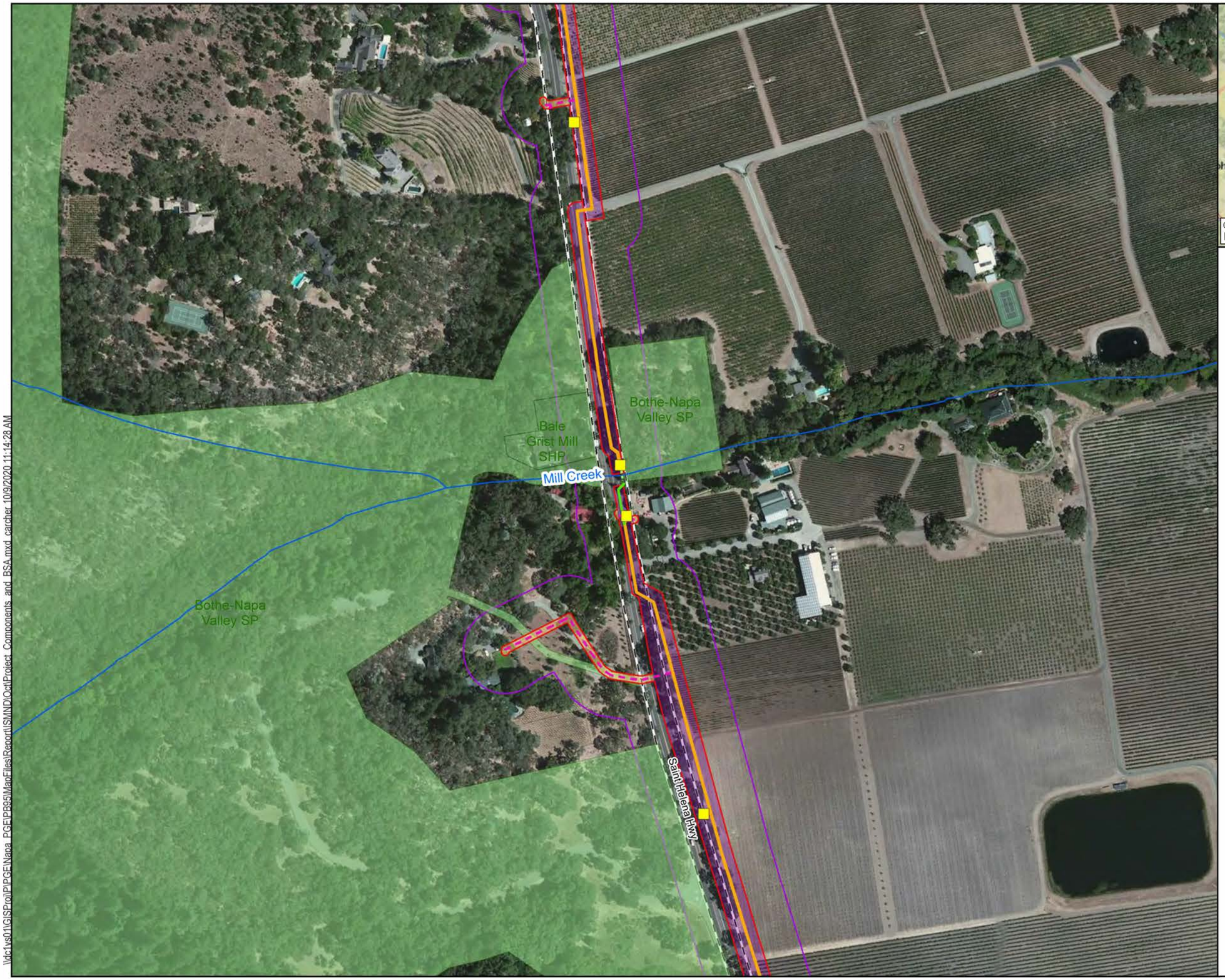
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Legend

- Biological Study Area (247 acres)
- Project Footprint (45 acres)
- State Park Land
- Caltrans Right of Way
- Watercourse
- Pipeline Temporary Work Area
- Bell Hole
- Customer Service Line
- Customer Service Line Work Area

Pipeline Installation and Testing

- Joint Open Trench
- Distribution Line (Open Trench)
- Distribution Line (Free Span)

Note:
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Legend

- Biological Study Area (247 acres)
- Project Footprint (45 acres)
- State Park Land
- Caltrans Right of Way
- Pipeline Temporary Work Area
- Bell Hole
- Bore Hole Entry/Exit Pit
- Customer Service Line
- Customer Service Line Work Area

Pipeline Installation and Testing

- Joint Open Trench
- Distribution Line (Bore)
- Transmission Line (Bore)
- Transmission Line (Open Trench)

Note:
Project Footprint is based on Preliminary Project Components dated August 26, 2020. Updated October 8, 2020.

Service Layer Credits: National Geographic, Esri, Garmin, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.
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Legend

- Biological Study Area (247 acres)
- Project Footprint (45 acres)
- State Park Land
- Caltrans Right of Way
- Watercourse
- Pipeline Temporary Work Area
- Bell Hole
- Bore Hole Entry/Exit Pit
- Customer Service Line
- Customer Service Line Work Area

Pipeline Installation and Testing

- Transmission Line (Bore)
- Transmission Line (Open Trench)
- Hydrostatic Test

Note:
Project Footprint is based on Preliminary Project Components dated August 26, 2020. Updated October 8, 2020.

Service Layer Credits: National Geographic, Esri, Garmin, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community. Image capture date: June 16, 2018.

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Legend

- Biological Study Area (247 acres)
- Project Footprint (45 acres)
- State Park Land
- Caltrans Right of Way
- Pipeline Temporary Work Area
- Laydown/Staging Area
- Bell Hole
- Customer Service Line
- Customer Service Line Work Area

Pipeline Installation and Testing

- Transmission Line (Open Trench)
- Hydrostatic Test

Note:
Project Footprint is based on Preliminary Project Components dated August 26, 2020. Updated October 8, 2020.

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Legend

- Biological Study Area (247 acres)
- Project Footprint (45 acres)
- Watercourse
- Laydown/Staging Area

Note:
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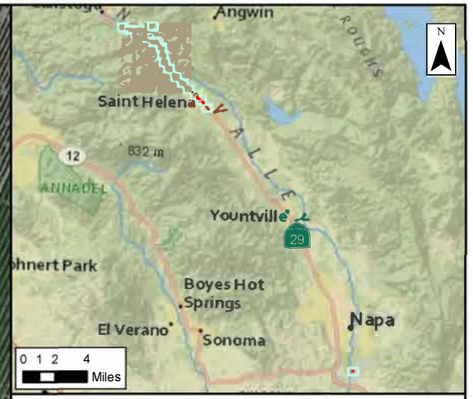
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Map 14 of 18
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Legend

- Biological Study Area (247 acres)
- Project Footprint (45 acres)
- Caltrans Right of Way
- Watercourse
- Pipeline Temporary Work Area
- Bell Hole

Pipeline Installation and Testing

- Hydrostatic Test

Note:
Project Footprint is based on Preliminary Project Components dated August 26, 2020. Updated October 8, 2020.

Service Layer Credits: National Geographic, Esri, Garmin, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.
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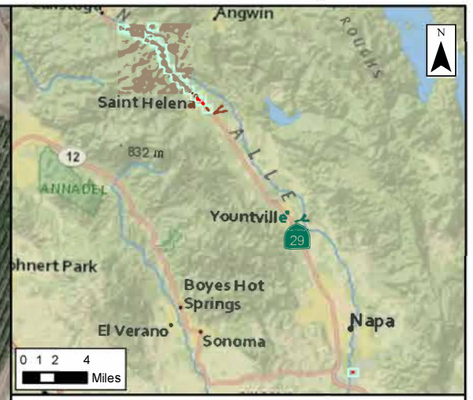
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Legend

- Biological Study Area (247 acres)
- Project Footprint (45 acres)
- Caltrans Right of Way
- Watercourse
- Pipeline Temporary Work Area
- Laydown/Staging Area
- Bell Hole

Pipeline Installation and Testing

- Hydrostatic Test

Note:
Project Footprint is based on Preliminary Project Components dated August 26, 2020. Updated October 8, 2020.

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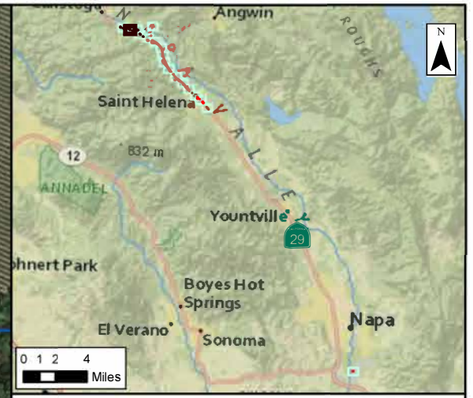
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Legend

- Biological Study Area (247 acres)
- Project Footprint (45 acres)
- Caltrans Right of Way
- Watercourse
- Pipeline Temporary Work Area
- Laydown/Staging Area
- Bell Hole

Pipeline Installation and Testing

- Hydrostatic Test

Note:
Project Footprint is based on Preliminary Project Components dated August 26, 2020. Updated October 8, 2020.

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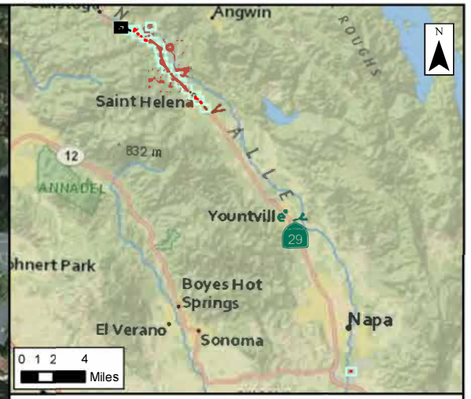
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Legend

- Biological Study Area (247 acres)
- Project Footprint (45 acres)
- Caltrans Right of Way
- Watercourse
- Pipeline Temporary Work Area
- Laydown/Staging Area
- LNG Injection Site
- Bell Hole

Pipeline Installation and Testing

- Hydrostatic Test
- Piping for LNG Injection (Open Trench)

Note:
Project Footprint is based on Preliminary Project Components dated August 26, 2020. Updated October 8, 2020.

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Appendix E: Glossary of Technical Terms

Term	Definition
Aerial Crossing	Where a pipeline is suspended to cross a waterway, either by cables or attached to a bridge.
Auger Bore	Trenchless construction method using a non-steerable rotating auger in front of or inside a casing to create a horizontal bore between an entry and exit pit.
Ball valve	A valve that is opened and closed by pivoting a ball to control gas flow.
Bell hole	An excavation that minimizes surface disturbance and provides sufficient room to access buried facilities.
Block valve	A mechanical device (valve) installed in a pipeline that can be closed to block the flow of gas.
Blowdown	A controlled activity to release gas pressure by means of releasing the pressure to the atmosphere.
Blow-off valve	A valve that is utilized to reduce pressure in the pipeline by venting gas to atmosphere.
Bollards	Short vertical post structures to control or direct road traffic or prevent damage to an aboveground structure.
Bore pit	The excavation at the entrance or exit where a bore hole is being created underground.
Boring	The act or process of making or enlarging a hole underground.
Casing	A length of pipe used for encasing a smaller diameter carrier pipe for installation under a road or other location.
Compressed natural gas	Compressed natural gas is made by compressing natural gas to less than 1 percent of the volume it occupies at standard atmospheric pressure.
Customer service lines	For the purpose of this document, a customer service line is defined as any pipeline extending from either the transmission pipeline or distribution pipeline to service a residence or business. The operating pressure of a customer service line is typically between 0.25 and 60 psi depending on the number of homes or businesses served by the line.
Dewater	The removal of the test water from the pipeline or water from a trench.
Distribution Feeder Main	A pipeline built off a trunk transmission line that provides gas to district regulator stations.
Distribution pipeline	Pipelines that are a system of mains and service lines that facilitate delivery of gas to customers. Distribution pipelines generally range between 2 and 24 inches in diameter and operate at 0.25 to 200 pounds per square inch (lower pressures than transmission pipelines).

Term	Definition
Easement agreement	A recorded document that remain in effect when a property is transferred to new owner. An agreement may include language that restricts certain uses within and near rights-of-way.
Elbow	A fitting which is bent in such a way to produce 90 degree change in the direction of the pipe.
Eminent Domain	A government's or government agencies' right to acquire private property for public use with compensation.
Fire extinguisher rated 40 B: C	40 represents the square footage that the extinguishing agent would cover. The letters represent the type of fire that can be put with a particular extinguisher; B is flammable liquids, and C is electrical equipment.
Encroachment	An encroachment is any structure or activity that is in, under, or over any portion of the State highway rights of way."
Excess flow valve	A device installed in a gas service line at or near the main. An EFV is used to stop the flow of gas if the velocity of the gas passing through the valve creates a pressure difference across the valve that is greater than a specified design limit
Flow valve	A control valve that regulates the flow or pressure of the gas.
Frac-out	An inadvertent release of drilling fluid when the down hole pressure exceeds the overburden pressure, or the flue finds a preferential seepage pathway other than the borehole.
Helical Augers	A drilling device, including a helical (or spiral) screw blade, which removes earth material while drilling, used to make auger bores in the ground.
High pressure regulator	A valve that controls pressure of the gas to a desired amount.
Horizontal directional drilling	A steerable trenchless method of installing pipe underground in an arc along a prescribed path between an entry pit and an exit pit.
Hot line	Pipeline under pressure, loaded line.
Hot tap	The method of making a connection to existing piping without the interruption of emptying that section of pipe. The pipe can continue to be in operation while maintenance or modifications are being done to it.
Hot tie-in	Activity that connects two pipelines together while the source pipeline still contains natural gas.
Hydrostatic test	A strength test in which the pipe is filled with liquid, subjected to suitable pressure, and then shut in, and the pressure monitored.
Hydrovac	A piece of equipment (truck) that injects water into the ground through a hose, liquefying the soil and creating a slurry. The slurry is then vacuumed into a storage tank on the truck.
Inlet Pipe	A pipe that allows the flow of gas into another pipe or device.

Term	Definition
In-line inspection	A pipeline inspection technique that uses devices known in the industry as "smart pigs." These devices run inside the pipe and provide indications of metal loss, deformation and other defects.
Jack-and-bore	Method of horizontal boring in which a non-steerable casing is pushed underground horizontally between entry and exit pits using repeated percussive blows.
K-rail	Temporary concrete traffic barriers.
Lateral	A segment of a pipeline that branches off of the main or transmission line to transport the product to a termination point.
Laydown Area (staging area)	A pre-approved space, such as an open lot, for storage of construction of equipment, materials, and supplies.
Liquefied natural gas	Liquefied natural gas is a natural gas that has been cooled down to convert it to a liquid form for the ease and safety of non-pressurized storage and transport.
Mainline valve	A valve positioned at a location along the pipeline system that can be closed down to isolate a line section in an emergency or for maintenance purposes.
Maximum allowable operating pressure	The maximum pressure at which a pipeline or segment of a pipeline may be operated under [49 CFR 192] and the provisions of ASME B31.8.
Miter bend	A joint made by beveling each of two parts to be joined, usually at a 45 degree angle, to form a corner, usually a 90 degree angle.
Natural gas	A naturally occurring mixture of hydrocarbon and nonhydrocarbon gases (mainly methane, CH4) found in porous geologic formations beneath the earth's surface, often in association with petroleum.
Natural gas pipeline	A pipeline transporting natural gas (methane) in gaseous form. Gas is moved through the pipeline by pressurizing the gas.
Pig	A tool that is sent down a pipeline and propelled by the pressure of the product flow in the pipeline itself. Used to perform various maintenance operations.
Piggable	A piggable pipeline is a pipeline that is designed to allow an inspection tool (pipeline inspection gauge or "pig") to pass through it. Features along the existing pipeline that may prevent the passage of a pig include elbows and miter bends in the pipe, control fittings, bottom fittings, and valves, including HPR stations.
Pilot Hole Drilling	Drilling a narrow hole prior to drilling with a larger drill.
Potholing	An excavation used to locate known subsurface utilities to verify the depth, size or type of underground utility.
Postmile	The State of California's method of tracking highway mileages starting from 0 at the beginning southern or western end of a route.

Term	Definition
Pounds per square inch	Measurement of the amount of pressure in a pipeline.
Pup	A short length of pipe.
Regasification	The process of transitioning liquefied natural gas back to its gaseous form through warming and vaporization.
Regulator station	Controls the gas pressure for major sections of the distribution system.
Remote control valve	A Remote Control Valve (RCV) is a valve equipped with electric or gas powered actuators to operate (open or close) the valve based on an order (signal) from a remote location, such as a gas control room.
Right of way	Areas of land above the pipeline that PG&E uses to maintain, inspect and safely operate its pipeline.
Sandjetting	A technique that uses high-velocity dry nitrogen to inject and propel sand through the pipe to clean it.
Service Tap (tap)	A location where a smaller pipeline or service line is connected to and receives gas from a larger pipeline.
Shoring (trench shoring)	Constructing supports to brace the trench walls to prevent soil from collapsing.
Slurry	A slurry is a thin wet mud or cement.
Stormwater Pollution Prevention Plan	A technical document complying with federal and state stormwater regulations that identifies plans for sediment and erosion control.
Supervisory Control and Data Acquisition	A system that enables monitoring, collection, and communication of real-time data about the pipeline system.
Tapping Tee	A pipe fitting that is used to combine or divide gas flow.
Temporary construction easement	Temporary permission to enter and perform various activities on private property during construction of a project.
Test head	A piece of equipment welded to the ends of the pipeline and through which water is pumped to conduct a pressure test.
Tie-in	Connecting one section of pipeline to another.
Transmission pipeline	Generally larger diameter pipelines (6 to 48 inches in diameter) that move gas long distances, typically operating at higher pressures (between 200 and 1.5000 pounds per square inch).
Unincorporated Areas	Communities that are not politically incorporated as a city or town and are without organized municipal services.
Unpiggable Features	Features that prevent passage of internal tools ("pigs") within the pipeline, such as elbows and miter bends in the pipe, control fittings, bottom fittings, valves, etc.

Term	Definition
Valve	A device that controls the flow of natural gas.

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Appendix F: List of Acronyms and Abbreviations

Name	Definition
µg/m3	Micrograms per cubic meter
A	Attainment
AB	Assembly Bill
ADA	American with Disabilities Act
AMM	Avoidance and Minimization Measures
BAAQMD	Bay Area Air Quality Management District
BMP	Best management practice
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAL FIRE	California Department of Forestry and Fire Protection
Cal/EPA	California Environmental Protection Agency
Cal/OSHA	California Division of Occupational Safety and Health
CalEEMod	California Emissions Estimator Model
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CCR	California Code of Regulations
CDC	California Department of Conservation
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERP	Company Emergency Response Plan
CFR	Code of Federal Regulations
CGS	California Geological Survey
CH4	Methane
CNEL	Community noise equivalent level
CNG	Compressed natural gas
CO	Carbon monoxide
CO2	Carbon dioxide
CO2e	Carbon dioxide equivalent
CPUC	California Public Utilities Commission
CWA	Clean Water Act
dB	Decibels
dBA	A-weighted decibels
DFM	Distribution feeder main
DTSC	Department of Toxic Substances Control
DWQ	Division of Water Quality
EDR	Environmental Data Resources Inc.

Name	Definition
EPA	U.S. Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FMMP	Farmland Mapping and Monitoring Program
GHG	Greenhouse gas
HAP	Hazardous air pollutant
HDD	Horizontal directional drilling
HPR	High-pressure regulator
HWCL	Hazardous Waste Control Law
IS/MND	Initial Study/Mitigated Negative Declaration
lbs/day	Pounds per day
Ldn	Day-night sound level
Leq	Equivalent sound pressure level
LNG	Liquid natural gas
LOS	Level of Service
LRA	Local Responsibility Area
LUST	Leaking underground storage tank
N	Nonattainment
NAAQS	National Ambient Air Quality Standards
NO2	Nitrogen dioxide
NOX	Nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
O3	Ozone
PAL	Project Area limit
Pb	Lead
PG&E	Pacific Gas & Electric Company
PM 2.5	Particulate matter with diameters 2.5 microns and smaller
PM10	Particulate matter with diameters 10 microns and smaller
ppm	Parts per million
PPV	Peak particle velocity
PRC	Public Resources Code
psig	Pounds per square inch gauge
ROG	Reactive organic gases
ROW	Right-of way
RWQCB	Regional Water Quality Control Boards
SCAQMD	South Coast Air Quality Management District
SFBAAB	San Francisco Bay Area Air Basin
SO2	Sulfur dioxide
SR	State route
SRA	State Responsibility Area
TCR	Tribal Cultural Resources
USC	United States Code
VMT	Vehicle miles traveled

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