



**INITIAL STUDY/MITIGATED NEGATIVE DECLARATION  
PACIFIC GAS & ELECTRIC COMPANY  
R-687 L-215 SAN JOAQUIN RIVER  
CROSSING REPLACEMENT PROJECT**

June 2020



**Lead Agency:**

California State Lands Commission  
100 Howe Avenue, Suite 100 South  
Sacramento, California 95825

**Applicant:**

Pacific Gas & Electric Company  
4040 West Lane, Building #9 (113C)  
Stockton, California 95204



### **MISSION STATEMENT**

The California State Lands Commission provides the people of California with effective stewardship of the lands, waterways, and resources entrusted to its care through preservation, restoration, enhancement, responsible economic development, and the promotion of public access.

### **CEQA DOCUMENT WEBSITE**

[www.slc.ca.gov/ceqa/](http://www.slc.ca.gov/ceqa/)

### **Geographic Location (Proposed River Crossing)**

Latitude: 37°26'58.94" N  
Longitude: 121°1'44.42" W  
WGS84 Datum

Cover Photo:  
(Photo courtesy of Google Earth)

## TABLE OF CONTENTS

<b>LIST OF TABLES .....</b>	<b>v</b>
<b>LIST OF ABBREVIATIONS AND ACRONYMS .....</b>	<b>vii</b>
<b>EXECUTIVE SUMMARY .....</b>	<b>ES-1</b>
<b>1.0 PROJECT AND AGENCY INFORMATION .....</b>	<b>1-1</b>
1.1 PROJECT TITLE .....	1-1
1.2 LEAD AGENCY AND PROJECT SPONSOR .....	1-1
1.3 PROJECT LOCATION .....	1-1
1.4 ORGANIZATION OF THE MITIGATED NEGATIVE DECLARATION .....	1-1
1.5 PROJECT BACKGROUND AND OBJECTIVES .....	1-5
1.6 PUBLIC REVIEW AND COMMENT .....	1-5
1.7 APPROVALS AND REGULATORY REQUIREMENTS .....	1-6
1.7.1 California State Lands Commission .....	1-6
1.7.2 Other Agencies .....	1-7
<b>2.0 PROJECT DESCRIPTION .....</b>	<b>2-1</b>
2.1 PHASE 1 (Replacement Pipeline Installation) .....	2-1
2.1.1 Site Access .....	2-2
2.1.2 HDD Work Areas .....	2-2
2.1.3 HDD Methods .....	2-4
2.1.4 Phase 1 Schedule .....	2-13
2.2 PHASE 2 (DECOMMISSIONING OF EXISTING L-215 PIPELINE) .....	2-14
2.2.1 Decommissioning Work Areas .....	2-14
2.2.2 Pigging and Flushing .....	2-17
2.2.3 Decommissioning Methods .....	2-18
2.2.4 Water Disposal Requirements .....	2-25
2.2.5 Phase 2 Schedule .....	2-25
2.3 PRE-PROJECT PREPARATION ACTIVITIES AND SURVEYS .....	2-26
2.3.1 Phase 1 APMs .....	2-26
2.3.2 Phase 2 APMs .....	2-26
<b>3.0 ENVIRONMENTAL CHECKLIST AND ANALYSIS .....</b>	<b>3-1</b>
3.1 AESTHETICS .....	3-3
3.1.1 Environmental Setting .....	3-3
3.1.2 Regulatory Setting .....	3-5
3.1.3 Impact Analysis .....	3-5
3.1.4 Mitigation Summary .....	3-8
3.2 AGRICULTURE AND FORESTRY RESOURCES .....	3-9

3.2.1	Environmental Setting .....	3-9
3.2.2	Regulatory Setting.....	3-10
3.2.3	Impact Analysis .....	3-14
3.2.4	Mitigation Summary .....	3-15
3.3	AIR QUALITY .....	3-16
3.3.1	Environmental Setting .....	3-16
3.3.2	Regulatory Setting.....	3-21
3.3.3	Impact Analysis .....	3-22
3.3.4	Mitigation Summary .....	3-25
3.4	BIOLOGICAL RESOURCES .....	3-26
3.4.1	Environmental Setting .....	3-26
3.4.2	Regulatory Setting.....	3-33
3.4.3	Impact Analysis .....	3-34
3.4.4	Mitigation Summary .....	3-41
3.5	CULTURAL RESOURCES .....	3-42
3.5.1	Environmental Setting .....	3-42
3.5.2	Regulatory Setting.....	3-48
3.5.3	Impact Analysis .....	3-50
3.5.4	Mitigation Summary .....	3-53
3.6	CULTURAL RESOURCES – TRIBAL .....	3-54
3.6.1	Environmental Setting .....	3-54
3.6.2	Regulatory Setting.....	3-56
3.6.3	Impact Analysis .....	3-56
3.6.4	Mitigation Summary .....	3-57
3.7	ENERGY .....	3-58
3.7.1	Environmental Setting .....	3-58
3.7.2	Regulatory Setting.....	3-58
3.7.3	Impact Analysis .....	3-58
3.7.4	Mitigation Summary .....	3-59
3.8	GEOLOGY, SOILS, AND PALEONTOLOGICAL RESOURCES .....	3-60
3.8.1	Environmental Setting .....	3-60
3.8.2	Regulatory Setting.....	3-63
3.8.3	Impact Analysis .....	3-65
3.8.4	Mitigation Summary .....	3-69
3.9	GREENHOUSE GAS EMISSIONS.....	3-70
3.9.1	Environmental Setting .....	3-70
3.9.2	Regulatory Setting.....	3-71
3.9.3	Impact Analysis .....	3-72

3.9.4	Mitigation Summary .....	3-74
3.10	HAZARDS AND HAZARDOUS MATERIALS .....	3-75
3.10.1	Environmental Setting .....	3-75
3.10.2	Regulatory Setting.....	3-76
3.10.3	Impact Analysis .....	3-77
3.10.4	Mitigation Summary .....	3-82
3.11	HYDROLOGY AND WATER QUALITY .....	3-83
3.11.1	Environmental Setting .....	3-83
3.11.2	Regulatory Setting.....	3-87
3.11.3	Impact Analysis .....	3-90
3.11.4	Mitigation Summary .....	3-93
3.12	LAND USE AND PLANNING.....	3-95
3.12.1	Environmental Setting .....	3-95
3.12.2	Regulatory Setting.....	3-95
3.12.3	Impact Analysis .....	3-95
3.12.4	Mitigation Summary .....	3-96
3.13	MINERAL RESOURCES .....	3-97
3.13.1	Environmental Setting .....	3-97
3.13.2	Regulatory Setting.....	3-97
3.13.3	Impact Analysis .....	3-98
3.13.4	Mitigation Summary .....	3-98
3.14	NOISE .....	3-99
3.14.1	Environmental Setting .....	3-99
3.14.2	Regulatory Setting.....	3-103
3.14.3	Impact Analysis .....	3-104
3.14.4	Mitigation Summary .....	3-106
3.15	POPULATION AND HOUSING .....	3-107
3.15.1	Environmental Setting .....	3-107
3.15.2	Regulatory Setting.....	3-107
3.15.3	Impact Analysis .....	3-107
3.15.4	Mitigation Summary .....	3-108
3.16	PUBLIC SERVICES .....	3-109
3.16.1	Environmental Setting .....	3-109
3.16.2	Regulatory Setting.....	3-110
3.16.3	Impact Analysis .....	3-110
3.16.4	Mitigation Summary .....	3-110
3.17	RECREATION .....	3-111
3.17.1	Environmental Setting .....	3-111

3.17.2	Regulatory Setting.....	3-111
3.17.3	Impact Analysis .....	3-112
3.17.4	Mitigation Summary .....	3-113
3.18	TRANSPORTATION .....	3-114
3.18.1	Environmental Setting .....	3-114
3.18.2	Regulatory Setting.....	3-116
3.18.3	Impact Analysis .....	3-117
3.18.4	Mitigation Summary .....	3-118
3.19	UTILITIES AND SERVICE SYSTEMS .....	3-119
3.19.1	Environmental Setting .....	3-119
3.19.2	Regulatory Setting.....	3-119
3.19.3	Impact Analysis .....	3-121
3.19.4	Mitigation Summary .....	3-122
3.20	WILDFIRE .....	3-123
3.20.1	Environmental Setting .....	3-123
3.20.2	Regulatory Setting.....	3-123
3.20.3	Impact Analysis .....	3-123
3.20.4	Mitigation Summary .....	3-124
3.21	MANDATORY FINDINGS OF SIGNIFICANCE .....	3-125
3.21.1	Impact Analysis .....	3-125
<b>4.0</b>	<b>MITIGATION MONITORING PROGRAM .....</b>	<b>4-1</b>
4.1	PURPOSE .....	4-1
4.2	ENFORCEMENT AND COMPLIANCE.....	4-1
4.3	MONITORING .....	4-1
4.4	MITIGATION MONITORING TABLE .....	4-2
<b>5.0</b>	<b>OTHER STATE LANDS COMMISSION CONSIDERATIONS .....</b>	<b>5-1</b>
5.1	CLIMATE CHANGE.....	5-1
5.2	RECREATIONAL FISHING .....	5-1
5.3	ENVIRONMENTAL JUSTICE.....	5-2
5.3.1	U.S. Census Bureau Statistics .....	5-3
5.3.2	Population and Economic Characteristics .....	5-3
5.3.3	California Office Of Environmental Health Hazard Assessment (OEHHA) CalEnviroScreen Results .....	5-5
5.3.4	Conclusion .....	5-5
5.4	SIGNIFICANT LANDS INVENTORY .....	5-7
<b>6.0</b>	<b>MND PREPARATION SOURCES AND REFERENCES .....</b>	<b>6-1</b>

6.1	CALIFORNIA STATE LANDS COMMISSION STAFF .....	6-1
6.2	SECTION AUTHORS AND REVIEWERS .....	6-1
6.3	REFERENCES CITED .....	6-1

## APPENDICES

Appendix A	Abridged List of Major Federal and State Laws, Regulations, and Policies Potentially Applicable to the Project
Appendix B	Project Plans
Appendix C	Air Quality and Greenhouse Gas Emission Calculations
Appendix D	Biological Technical Report
Appendix E	Noise Modeling Results and Vibration Calculations
Appendix F	Inadvertent Release Contingency Plan

## LIST OF TABLES

Table ES-1. Environmental Issues and Potentially Significant Impacts.....	ES-2
Table ES-2. Summary of Proposed Project Mitigation Measures.....	ES-3
Table 1-1. Anticipated Agencies with Review/Approval over Project Activities .....	1-7
Table 2-1. Phase 1 Equipment Requirements.....	2-5
Table 2-2. Phase 1 Manpower Requirements .....	2-7
Table 2-3. Phase 1 Preliminary Schedule .....	2-14
Table 2-4. Phase 2 Equipment Requirements.....	2-16
Table 2-5. Phase 2 Manpower Requirements .....	2-17
Table 2-6. Project Excavation Areas .....	2-18
Table 2-6. Phase 2 Preliminary Schedule .....	2-25
Table 3-1. Environmental Issues and Potentially Significant Impacts .....	3-2
Table 3.3-1. Ambient Air Quality Summary (Turlock Monitoring Station) .....	3-17
Table 3.3-2. Ambient Air Quality Standards (State and Federal) .....	3-19
Table 3.3-3. SJVAPCD Thresholds of Significance (Construction) .....	3-22
Table 3.3-4. Estimated Phase 1 Air Pollutant Emissions (tons per year) .....	3-23
Table 3.3-5. Estimated Phase 2 Air Pollutant Emissions (tons per year) .....	3-24
Table 3.4-1. Potential Occurrence of Special-Status Wildlife at the Project Site .....	3-31
Table 3.5-1. Summary of Previously Known Cultural Resources within the Project Disturbance Areas and Buffer .....	3-50
Table 3.9-1. Estimated Phase 1 Greenhouse Gas Emissions(metric tons/year).....	3-73

Table 3.9-2. Estimated Phase 2 Greenhouse Gas Emissions (metric tons/year).....	3-73
Table 3.16-1. Summary of Public Service Providers .....	3-109
Table 4-1. Mitigation Monitoring Program .....	4-3
Table 5-1. Environmental Justice Statistics.....	5-4

## LIST OF FIGURES

Figure ES-1. Project Site Location Map .....	ES-4
Figure ES-2. Project Overview Map .....	ES-5
Figure 1-1. Project Site Location Map .....	1-3
Figure 1-2. Project Overview Map.....	1-4
Figure 2-1. Phase 1 Overview Map.....	2-3
Figure 2-2. HDD Conceptual Diagram.....	2-8
Figure 2-3. Conceptual HDD Work Area Layout Plan .....	2-9
Figure 2-4. Decommissioning Pipeline Segment and Work Areas Map .....	2-15
Figure 2-5. ACOE West Levee Pipeline Segment facing West .....	2-20
Figure 2-6. West Landing Pipeline Segment facing East .....	2-21
Figure 2-7. San Joaquin River at the Existing Pipeline Crossing .....	2-22
Figure 2-8. Example Use of a Sectional Barge with Crane .....	2-23
Figure 3.1-1. Oblique Aerial View of the Existing Pipeline Crossing, facing East.....	3-4
Figure 3.1-2. Public View - Prune Avenue/Paradise Avenue Intersection, facing East	3-4
Figure 3.1-3. Public View from the East Staging Area along South Carpenter Road, facing West .....	3-5
Figure 3.2-1. Phase 1 Important Farmland Overlay Map .....	3-11
Figure 3.2-2. Phase 2 Important Farmland Map Overlay .....	3-12
Figure 5-1. CalEnviroScreen Results .....	5-6

## LIST OF ABBREVIATIONS AND ACRONYMS

<b>A</b>	ADT	Average Daily Traffic
	ACM	Asbestos Containing Material
	ACOE	U.S. Army Corps of Engineers
	APM	Applicant Proposed Measures
<b>B</b>	BMP	Best Management Practices
<b>C</b>	CalEnviroScreen	California Communities Environmental Health Screening Tool
	Caltrans	California Department of Transportation
	CARB	California Air Resources Board
	CDFW	California Department of Fish and Wildlife
	CEQA	California Environmental Quality Act
	Cfm	Cubic feet per minute
	CFR	Code of Federal Regulations
	CH <sub>4</sub>	Methane
	CMP	Congestion Management Plan
	CNDDDB	California Natural Diversity Database
	CNEL	Community noise equivalent level
	CO	Carbon Monoxide
	CO <sub>2</sub>	Carbon Dioxide
	CO <sub>2</sub> e	Carbon Dioxide Equivalent
	CRHR	California Register of Historical Resources
	CSLC	California State Lands Commission
	CVPPP	Central Valley Flood Protection Plan
	CVRWQCB	Central Valley Regional Water Quality Control Board
<b>D</b>	dB	Decibel
	dBA	A-weighted Decibel
	DEPM	Division of Environmental Planning and Management
	DPM	Diesel Particulate Matter
<b>E</b>	EIR	Environmental Impact Report
<b>F</b>	Ft	Feet
	FESA	Federal Endangered Species Act
<b>G</b>	GHG	Greenhouse Gas
	GSA	Groundwater Sustainability Agency
<b>H</b>	HDD	Horizontal Directional Drilling
	H <sub>2</sub> S	Hydrogen Sulfide
	Hz	Hertz
<b>I</b>	IPCC	Intergovernmental Panel on Climate Change
	IS	Initial Study
<b>K</b>	KW	Kilowatt
<b>L</b>	L <sub>dn</sub>	Day-Night Average Sound Level
	L <sub>eq</sub>	Equivalent Sound Level
	L <sub>max</sub>	Maximum Sound Level
	LOS	Level of Service

<b>M</b>	MCL	Maximum Contaminant Level
	Mg/L	Milligrams per Liter
	MM	Mitigation Measure
	MMP	Mitigation Monitoring Program
	MND	Mitigated Negative Declaration
	mPA	Micro-Pascal
<b>N</b>	N <sub>2</sub> O	Nitrous Oxide
	NAHC	Native American Heritage Commission
	NMFS	National Marine Fisheries Service
	NO	Nitric Oxide
	NO <sub>2</sub>	Nitrogen Dioxide
	NO <sub>x</sub>	Nitrogen Oxides
	NOI	Notice of Intent
	NPDES	National Pollutant Discharge Elimination System
<b>O</b>	O <sub>3</sub>	Ozone
	OEHHA	Office of Environmental Hazard Assessment
	OPR	Office and Planning and Research
<b>P</b>	PG&E	Pacific Gas & Electric Company
	PM	Particulate Matter
	PM <sub>10</sub>	Particulate Matter Less Than 10 Micrometers
	PM <sub>2.5</sub>	Particulate Matter Less Than 2.5 Micrometers
	ppb	parts per billion
	ppm	parts per million
	PPV	Peak Particle Velocity
	PWSP	Project Work and Safety Plan
<b>R</b>	ROG	Reactive Organic Gases
	RTP/SCS	Regional Transportation Plan/Sustainable Communities Plan
<b>S</b>	SJVAB	San Joaquin Valley Air Basin
	SJVAPCD	San Joaquin Valley Air Pollution Control District
	SLR	Sea level rise
	SO <sub>2</sub>	Sulfur dioxide
	SPL	Sound Pressure Level
	StanCOG	Stanislaus County Association of Governments
	SWPPP	Storm Water Pollution Prevention Plan
	SWRCB	State Water Resources Control Board
<b>T</b>	TAC	Toxic Air Contaminant
	TDS	Total Dissolved Solids
	TMDL	Total maximum daily load
	TPH	Total Petroleum Hydrocarbons
<b>U</b>	µg/m <sup>3</sup>	Micrograms per Cubic Meter
	USEPA	U.S. Environmental Protection Agency
	USFWS	U.S. Fish and Wildlife Service

## EXECUTIVE SUMMARY

---

The California State Lands Commission (CSLC) is the lead agency under the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.) and has prepared this Initial Study (IS)/Mitigated Negative Declaration (MND) that analyzes and discloses the environmental effects associated with the proposed Pacific Gas & Electric Company R-687 L-215 San Joaquin River Crossing Replacement Project (Project). The Project would authorize the Pacific Gas & Electric Company (PG&E or Applicant) to decommission and replace Project-related facilities located (in part) within Lease No. 5438.1B. The Project is located approximately 4 miles southeast of Patterson, California, and is adjacent to and extends across the San Joaquin River in Stanislaus County (Figure ES-1).

The CSLC prepared an MND because it determined that, while the IS identifies potentially significant impacts related to the Project, mitigation measures (MMs) incorporated into the Project proposal and agreed to by the Applicant would avoid or mitigate those impacts to a point where no significant impacts occur.

### PROPOSED PROJECT

The Project would be conducted in two distinct phases, Phase 1 includes the following primary components (Figure ES-2):

- Installing approximately 7,215 feet of replacement pipeline under the River using HDD methods. This replacement pipeline segment would be installed using two directional drilling rigs, each working from opposite sides of the River.
- Installing approximately 411 feet of replacement pipeline west of the River using open trench methods, and installation of a valve set where the replacement pipeline would connect to the existing L-215-1 pipeline at Prune Avenue (west of the River).
- Decommissioning a short (750 foot) section of the existing L-215-1 pipeline near the west tie-in point on Prune Avenue by pigging and flushing, filling with a cement slurry, sealing with welded caps, and abandoning in place, which would also effectively terminate the existing connection between the L-215-1 pipeline and the L-215 pipeline.
- Installing approximately 365 feet of replacement pipeline east of the River using open trench methods, and installing a valve set where the replacement pipeline would connect to the existing station piping (herein referred to as the east station piping connection), approximately 800 feet east of Carpenter Road.

- Deactivating the existing L-215 pipeline within the Project area by purging with inert gas and capping the ends adjacent to Paradise Avenue west of the River and the L-215 pipeline's connection to the east. A segment of the existing L-215 line along Prune Avenue up to Paradise Avenue would be left in place to facilitate future customer service.

Under Phase 2, the existing L-215 pipeline that was deactivated in Phase 1 would be decommissioned in Phase 2. Decommissioning would include pigging and flushing of the pipeline to remove any potential contaminants, filling specific pipeline segments with concrete slurry, and removing other pipeline segments, including the river crossing. The existing L-215 pipeline to be decommissioned in Phase 2 would be approximately 6,800-feet long. Temporary construction easements would be acquired from affected property owners for work outside existing pipeline easements.

## ENVIRONMENTAL IMPACTS AND PROPOSED MITIGATION MEASURES

The environmental issues checked below in Table ES-1 would be potentially affected by this Project; a checked box indicates that at least one impact would be a "potentially significant impact." The Applicant has agreed to Project revisions, including the implementation of MMs, that would reduce the potential impacts to "less than significant with mitigation," as detailed in Section 3.0, *Environmental Checklist and Analysis*, of this MND. Table ES-2 lists the proposed MMs designed to reduce or avoid potentially significant impacts. With implementation of the proposed MMs, all Project-related impacts would be reduced to less than significant levels.

**Table ES-1. Environmental Issues and Potentially Significant Impacts**

<input checked="" type="checkbox"/> Aesthetics	<input type="checkbox"/> Agriculture and Forestry Resources	<input type="checkbox"/> Air Quality
<input checked="" type="checkbox"/> Biological Resources	<input checked="" type="checkbox"/> Cultural Resources	<input checked="" type="checkbox"/> Cultural Resources – Tribal
<input type="checkbox"/> Energy	<input checked="" type="checkbox"/> Geology, Soils, and Paleontological Resources	<input type="checkbox"/> Greenhouse Gas Emissions
<input checked="" type="checkbox"/> Hazards and Hazardous Materials	<input checked="" type="checkbox"/> Hydrology and Water Quality	<input type="checkbox"/> Land Use and Planning
<input type="checkbox"/> Mineral Resources	<input type="checkbox"/> Noise	<input type="checkbox"/> Population and Housing
<input type="checkbox"/> Public Services	<input checked="" type="checkbox"/> Recreation	<input type="checkbox"/> Transportation
<input type="checkbox"/> Utilities and Service Systems	<input type="checkbox"/> Wildfire	<input checked="" type="checkbox"/> Mandatory Findings of Significance

**Table ES-2. Summary of Proposed Project Mitigation Measures**

<b>Aesthetics</b>
MM AES-1: Nighttime Illumination Limitations
<b>Biological Resources</b>
MM BIO-1: Environmental Training Program
MM BIO-2: In-River Work Period Restrictions
MM BIO-3: Biological Monitoring
MM BIO-4: Turbidity Monitoring Plan
MM BIO-5: Western Pond Turtle Avoidance
MM BIO-6: Burrowing Owl Avoidance
MM BIO-7: Swainson's Hawk and White-Tailed Kite Avoidance
MM BIO-8: Breeding Bird Avoidance
MM BIO-9: Wetlands and Riparian Habitat Restoration
<b>Cultural Resources</b>
MM CUL-1/TCR-1: Cultural Resource Monitoring
MM CUL-2/TCR-2: Discovery of Previously Unknown Cultural or Tribal Cultural Resources
MM CUL-3/TCR-3: Unanticipated Discovery of Human Remains
<b>Cultural Resources – Tribal</b>
MM CUL-1/TCR-1: Cultural Resource Monitoring
MM CUL-1/TCR-2: Discovery of Previously Unknown Cultural or Tribal Cultural Resources
MM CUL-2/TCR-3: Unanticipated Discovery of Human Remains
<b>Hazards and Hazardous Materials</b>
APM-1: Project Work and Safety Plan
APM-2: Inadvertent Release Contingency Plan
APM-3: Utility Location Survey
APM-4: Pre- and Post-Project Geophysical Debris Survey
MM HAZ-1: Asbestos Handling Procedures
<b>Hydrology and Water Quality</b>
MM HYDRO-1: Stormwater Pollution Prevention Plan (SWPPP)
<b>Recreation</b>
REC-1: Local In-Water Construction Notice

Figure ES-1. Project Site Location Map

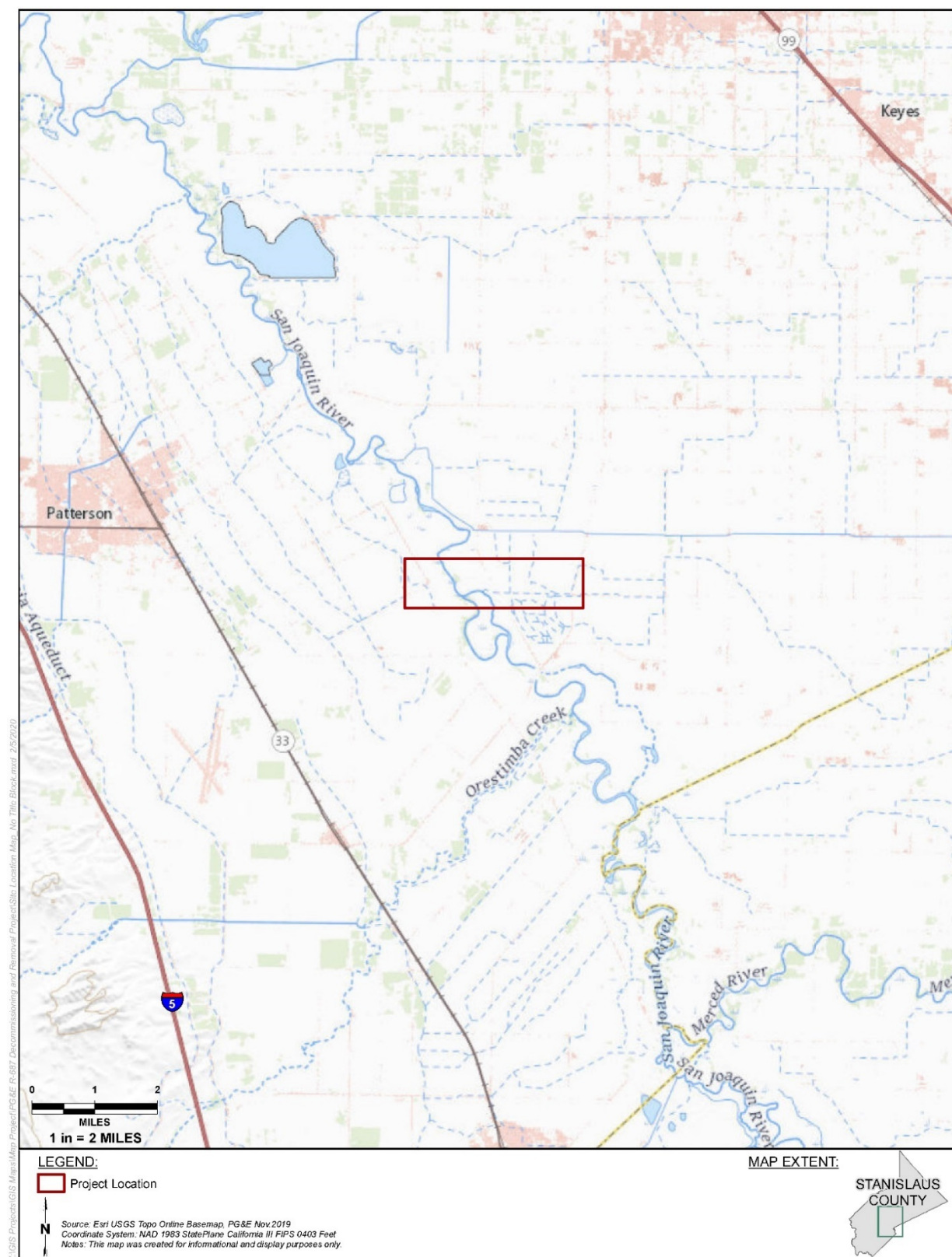
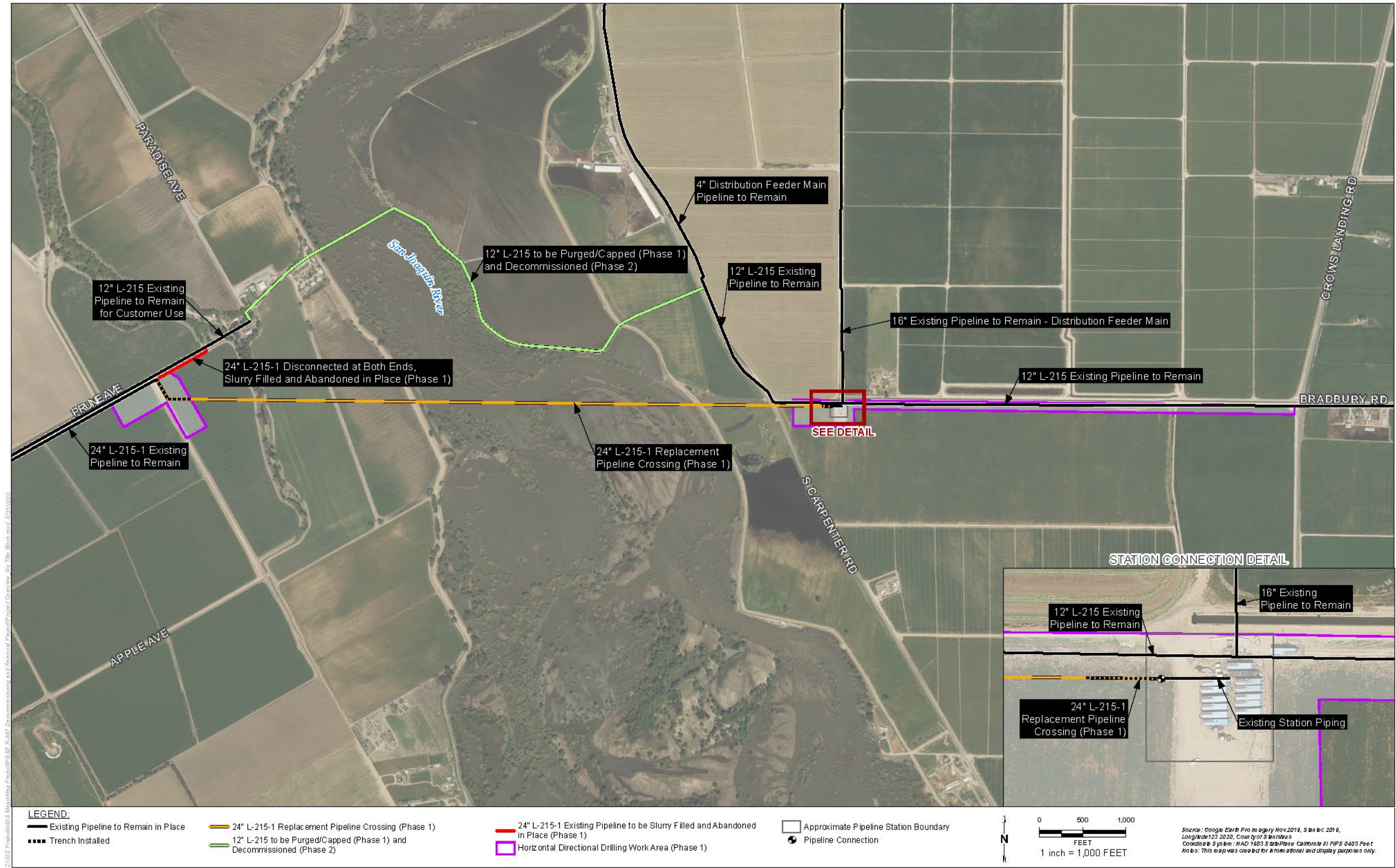


Figure ES-2. Project Overview Map



PAGE LEFT INTENTIONALLY BLANK

## 1.0 PROJECT AND AGENCY INFORMATION

### 1.1 PROJECT TITLE

PG&E R687 L-215 San Joaquin River Crossing Replacement Project (Project).

### 1.2 LEAD AGENCY AND PROJECT SPONSOR

<u>Lead Agency</u> California State Lands Commission 100 Howe Avenue, Suite 100-South Sacramento, CA 95825	<u>Contact Person</u> Cynthia Herzog, Senior Environmental Scientist Environmental Planning and Management Division <a href="mailto:Cynthia.herzog@slc.ca.gov">Cynthia.herzog@slc.ca.gov</a> (916) 574-1310
<u>Applicant</u> Pacific Gas & Electric Company 4040 West Lane, Building #9 (113C) Stockton, CA 95204	<u>Contact Person</u> Sean Poirier Senior Land Planner <a href="mailto:SMPX@pge.com">SMPX@pge.com</a> (925) 786-2655

### 1.3 PROJECT LOCATION

The Project is located approximately 4 miles southeast of Patterson, California, and is adjacent to and extends across the San Joaquin River in Stanislaus County (Figures 1-1 and 1-2). The Project area includes an existing submerged natural gas pipeline that crosses under the San Joaquin River and is located in part within the jurisdiction of the California State Lands Commission (CSLC) under Lease No. 5438.1B. The surrounding area is predominantly in agricultural production.

### 1.4 ORGANIZATION OF THE MITIGATED NEGATIVE DECLARATION

This Initial Study/Mitigated Negative Declaration (IS/MND) is intended to provide the CSLC, as lead agency under the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.), and other responsible agencies, with the information required to exercise their discretionary responsibilities with respect to the proposed Project. The document is organized as follows:

- **Section 1** provides the Project location and background, agency and Applicant information, Project objectives, anticipated agency approvals, and a summary of the public review and comment process.
- **Section 2** describes the proposed Project including its location, layout, equipment, facilities, operations, and schedule.

- 1 • **Section 3** presents the IS, including the environmental setting, identification and  
2 analysis of potential impacts, and discussion of various Project changes and  
3 other measures that, if incorporated into the Project, would mitigate or avoid  
4 those impacts such that no significant effect on the environment would occur.  
5 CSLC staff prepared this IS pursuant to State CEQA Guidelines section 15063.<sup>1</sup>
- 6 • **Section 4** presents the Mitigation Monitoring Program.
- 7 • **Section 5** discusses other CSLC considerations relevant to the Project, such as  
8 climate change, environmental justice, and the CSLC Significant Lands Inventory  
9 that are in addition to review required pursuant to CEQA.
- 10 • **Section 6** presents information on report preparation and references.
- 11 • **Appendices** include specifications, technical data, and other information  
12 supporting the analysis presented in this MND:
  - 13 ○ Appendix A: Abridged List of Major Federal and State Laws, Regulations,  
14 and Policies Potentially Applicable to the Project
  - 15 ○ Appendix B: Project Plans
  - 16 ○ Appendix C: Air Quality and Greenhouse Gas Emission Calculations
  - 17 ○ Appendix D: Biological Technical Report
  - 18 ○ Appendix E: Noise Modeling Results and Vibration Calculations
  - 19 ○ Appendix F: Inadvertent Release Contingency Plan

---

<sup>1</sup> The State CEQA Guidelines are found in California Code of Regulations, title 14, section 15000 et seq.

Figure 1-1. Project Site Location Map

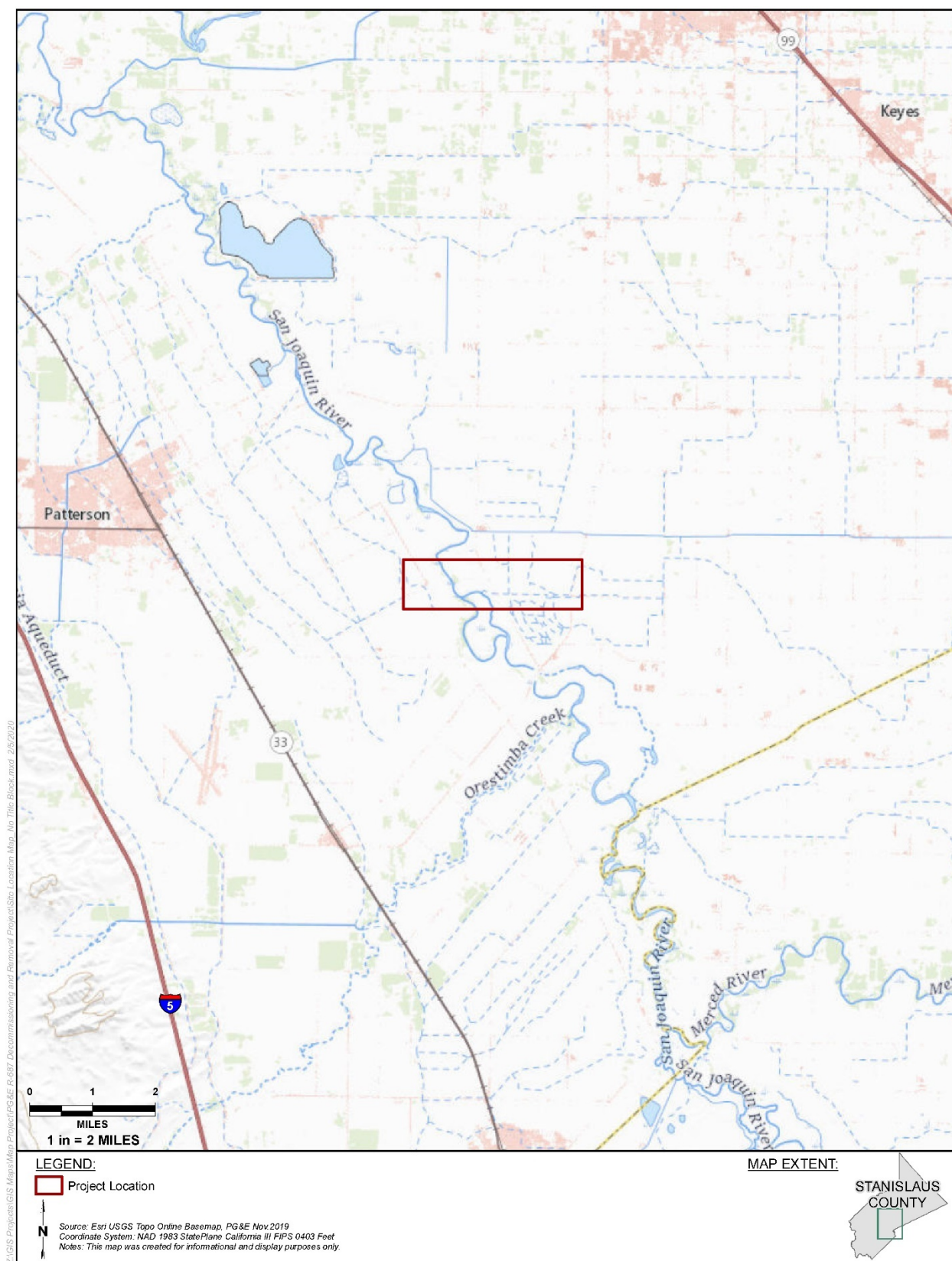
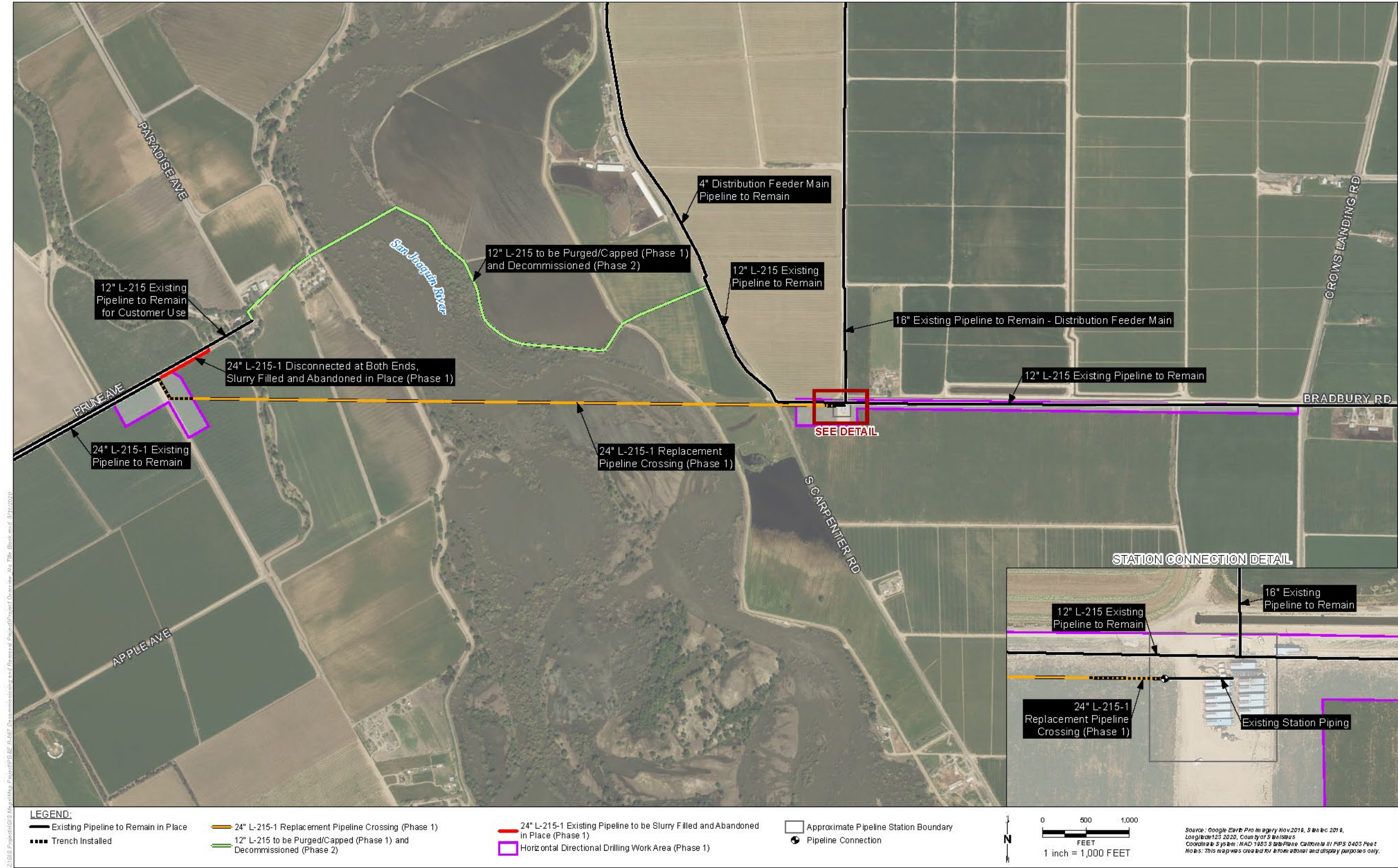


Figure 1-2. Project Overview Map



## 1.5 PROJECT BACKGROUND AND OBJECTIVES

The Project area is currently served by a network of existing gas pipelines that connect the service areas west and east of the San Joaquin River (River). West of the River, an existing 12-inch-diameter pipeline (L-215) runs east along Prune Avenue, crosses under the River, connects to another existing segment of the L-215 on the eastern side of the River at South Carpenter Road, and continues southeast to Bradbury Road (this eastern L-215 segment also connects to a 4-inch distribution feeder main pipeline to the north). The L-215 pipeline then turns east and parallels Bradbury Road to connect with existing station piping. The existing L-215 pipeline along Bradbury Road and an existing 16-inch distribution pipeline that runs to the north are both currently connected to; and supported by the station piping and pig launcher/receivers, which are used for pipeline maintenance. Also located on the west side of the River along Prune Avenue is an existing 24-inch-diameter pipeline (L-215-1). The L215-1 pipeline also runs parallel to Prune Avenue and the L-215 pipeline, and currently connects to the L-215 pipeline approximately 600 feet west of the intersection of Prune Avenue and Paradise Avenue (Figure 1-2).

A bathymetric survey was completed in October 2012 where the existing L-215 pipeline crosses under the River. The survey results indicated that a portion of the pipeline is exposed above the riverbed near the southeast shoreline. Due to this exposure, the Applicant, Pacific Gas & Electric (PG&E or Applicant) is proposing to replace the existing L-215 pipeline crossing by extending the L-215-1 pipeline (herein referred to as the “replacement pipeline”). The replacement pipeline would be installed at a new location but would connect to the existing L-215-1 pipeline along Prune Avenue. It would then be installed under the River using horizontal directional drilling (HDD), which would eliminate the risk of further pipeline exposure due to severe flooding, river scour and channel migration that could lead to pipeline failure.

The Project is required for PG&E to comply with Federal Pipeline Safety Regulations that require the operator to correct potentially hazardous conditions. To that end, the pipeline crossing the River would be increased from a 12-inch-diameter to a 24-inch-diameter to facilitate pipeline maintenance (pigging) once connected to the east station piping and the L-215-1 pipeline system. The existing L-215 pipeline would then be decommissioned by removing the segment under the riverbed and abandoning other segments in place.

## 1.6 PUBLIC REVIEW AND COMMENT

Pursuant to State CEQA Guidelines sections 15072 and 15073, a lead agency must issue a proposed MND for a minimum 30-day public review period. Agencies and the public will have the opportunity to review and comment on the document. Responses to written comments received by the CSLC during the 30-day public review period will be

1 incorporated into the MND, if necessary, and provided in the CSLC's staff report. In  
2 accordance with State CEQA Guidelines section 15074, subdivision (b), the CSLC will  
3 review and consider the MND, together with any comments received during the public  
4 review process, prior to taking action on the MND and Project at a noticed public  
5 hearing.

## 6 **1.7 APPROVALS AND REGULATORY REQUIREMENTS**

### 7 **1.7.1 California State Lands Commission**

8 The State of California acquired sovereign ownership of all tidelands and submerged  
9 lands and beds of navigable lakes and waterways upon its admission to the United  
10 States in 1850. The State holds these lands for the benefit of all people of the State for  
11 statewide Public Trust purposes, which include but are not limited to waterborne  
12 commerce, navigation, fisheries, water-related recreation, habitat preservation, and  
13 open space.

14 On tidal waterways and navigable rivers, the State's sovereign fee ownership extends  
15 landward to the ordinary high-water mark, which is generally reflected by the mean  
16 high-tide line, except for areas of fill or artificial accretion. For this Project, the State's  
17 sovereign fee ownership includes the bed of the San Joaquin River, a navigable  
18 waterway, extending below the ordinary low-water mark. The CSLC's authority is set  
19 forth in division 6 of the Public Resources Code and the agency is regulated by the  
20 California Code of Regulations, title 2, sections 1900–2970. The CSLC has authority to  
21 issue leases or permits for the use of sovereign lands held in the Public Trust, including  
22 all ungranted tidelands, submerged lands, and the beds of navigable lakes and  
23 waterways, and retains certain residual and review authority for tidelands and  
24 submerged lands legislatively granted in trust to local jurisdictions (Pub. Resources  
25 Code, §§ 6009, subd. (c); 6009.1; 6301; 6306). The CSLC must comply with CEQA  
26 when it undertakes an activity defined by CEQA as a “project” that must receive  
27 discretionary approval (i.e., the CSLC has the authority to approve or deny the  
28 requested lease, permit, or other approval) and that may cause either a direct physical  
29 change in the environment or a reasonably foreseeable indirect change in the  
30 environment. CEQA requires the CSLC to identify the significant environmental impacts  
31 of its actions and to avoid or mitigate those impacts, if feasible.

32 The Applicant has submitted an application to amend the existing lease (Lease No.  
33 5438.1B) to address the proposed replacement of the L-215 natural gas pipeline  
34 crossing under the San Joaquin River, near Patterson, Stanislaus County.

## 1 1.7.2 Other Agencies

2 In addition to the CSLC, the Project is subject to the review and approval of other state  
3 and federal entities with statutory or regulatory jurisdiction over various aspects of the  
4 Project (Table 1-1). All permits required for the Project would be obtained before  
5 starting any Project-related activities.

**Table 1-1. Anticipated Agencies with Review/Approval over Project Activities**

Permitting Agency	Anticipated Approvals/ Regulatory Requirements
<b>State</b>	
California State Lands Commission	Lease Amendment
California Department of Fish and Wildlife	<u>Master Lake and Streambed Alteration Agreement between the California Department of Fish and Game and the Pacific Gas and Electric Company (MSAA) (Notification No. 1600-2008-0001-0000-HQ)</u> <u>Conditions of Approval required by the Incidental Take Permit (ITP) issued by CDFW for the San Joaquin Valley Operation and Maintenance Habitat Conservation Plan (ITP No. 2081-2008-001-00).</u>
California Office of Historic Preservation	National Historic Preservation Act; Section 106 Compliance
Regional Water Quality Control Board, Central Valley	Section 401 Water Quality Certification (Clean Water Act); National Pollutant Discharge Elimination System (NPDES) permits
Central Valley Flood Protection Board	Levee encroachment permit
<b>Federal</b>	
U.S. Army Corps of Engineers, Sacramento District	Section 404 Nationwide Permit (Clean Water Act) Section 10 Permit (Rivers and Harbors Act) 33 U.S.C. Section 408 Authorization (Rivers and Harbors Act)
U.S. Fish and Wildlife Service	Section 7 Consultation (federal Endangered Species Act (FESA))/ PG&E San Joaquin Valley Operation and Maintenance Habitat Conservation Plan
National Marine Fisheries Service	Section 7 Consultation (FESA); Essential Fish Habitat Assessment

PAGE LEFT INTENTIONALLY BLANK

## 2.0 PROJECT DESCRIPTION

---

Pacific Gas & Electric Company (PG&E or Applicant) is proposing to address exposure of a natural gas pipeline at its crossing under the San Joaquin River (River) near Patterson, Stanislaus County. The Project objective is to replace the pipeline segment at a new location with a larger diameter pipeline using horizontal directional drilling (HDD) methods, and then decommission the existing pipeline crossing. The Project would be conducted in two phases.

- Phase 1 consists of installing and commissioning a 24-inch-diameter pipeline (herein referred to as the “replacement pipeline”) via horizontal directional drilling (HDD) under the River. On the west side of the River, the replacement pipeline would be connected to the existing L-215-1 pipeline, which runs parallel to the existing 12-inch-diameter pipeline (L-215) along Prune Avenue. The existing L-215 pipeline within the River crossing area would then be deactivated by purging the pipeline with inert gas and capping the ends. On the east side of the River, the replacement pipeline would be connected to existing station piping (herein referred to as the east station piping connection) located approximately 800 feet east of the intersection of Bradbury Road and South Carpenter Road. Phase 1 is planned for implementation during summer/fall 2020.
- Phase 2 involves the decommissioning and partial removal of the existing L-215 pipeline within the Project area, including the segment under the River. Phase 2 is planned for implementation between July and September 2021.

### 2.1 PHASE 1 (REPLACEMENT PIPELINE INSTALLATION)

This Phase would consist of the following major components:

- Installing approximately 7,215 feet of replacement pipeline under the River using HDD methods. This replacement pipeline segment would be installed using two directional drilling rigs, each working from opposite sides of the River.
- Installing approximately 411 feet of replacement pipeline west of the River using open trench methods, and installation of a valve set where the replacement pipeline would connect to the existing L-215-1 pipeline at Prune Avenue.
- Decommissioning a short (750 foot) section of the existing L-215-1 pipeline near the west tie-in point on Prune Avenue by pigging and flushing, filling with a cement slurry, sealing with welded caps, and abandoning in place, which would also effectively terminate the existing connection between the L-215-1 pipeline and the L-215 pipeline.

- Installing approximately 365 feet of replacement pipeline east of the River using open trench methods, and installing a valve set where the replacement pipeline would connect to the east station piping, approximately 800 feet east of Carpenter Road.
- Deactivating the existing L-215 pipeline within the Project area by purging with inert gas and capping the ends adjacent to Paradise Avenue west of the River and the L-215 pipeline's connection to the east. A segment of the existing L-215 line along Prune Avenue up to Paradise Avenue would be left in place to facilitate future customer service.

Figure 2-1 provides an overview of the replacement pipeline crossing alignment and work areas.

### **2.1.1 Site Access**

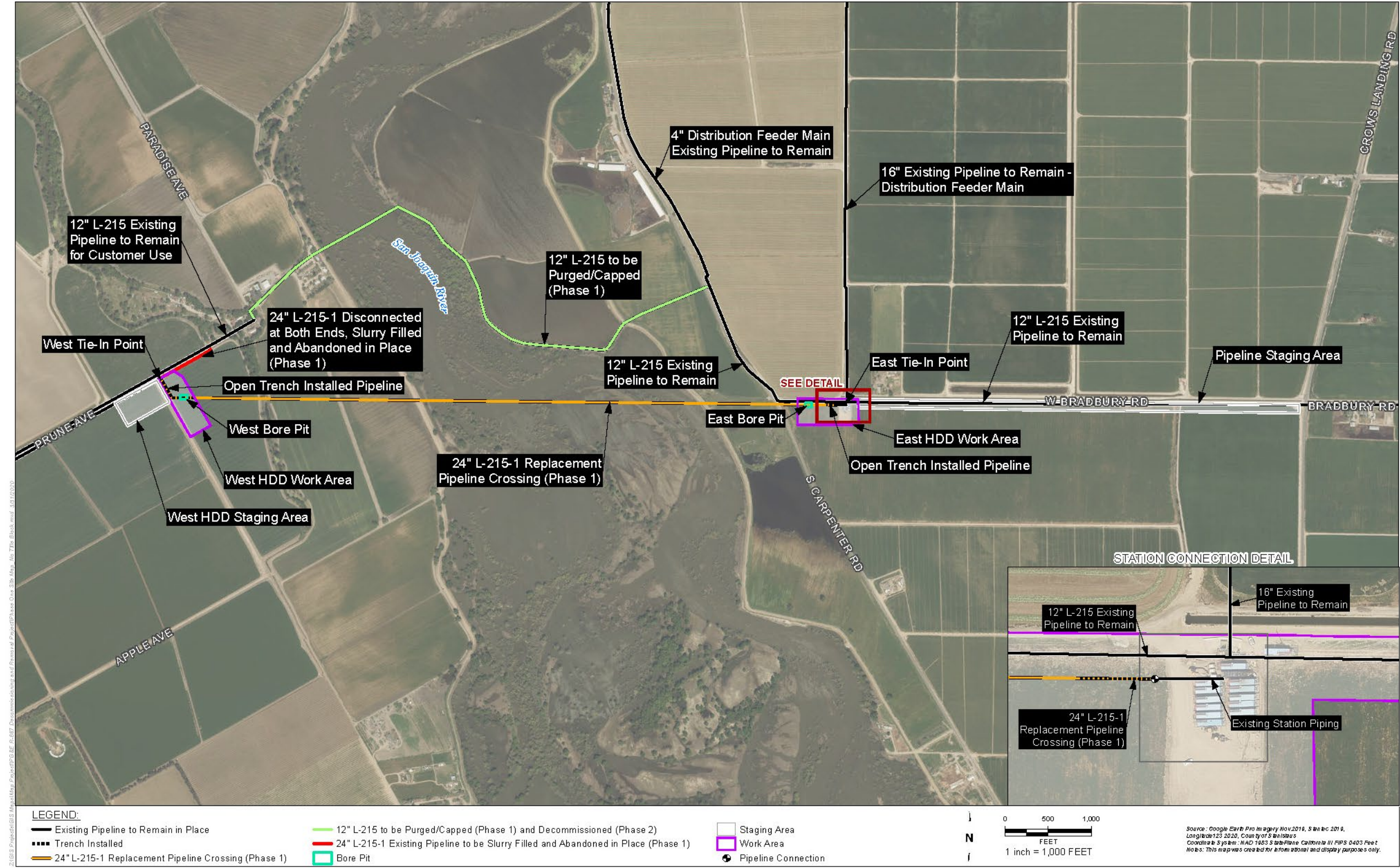
The Project site would be accessed from Interstate Highway 5, east on Fink Road to Crows Landing Road, then north on Carpenter Road. The west side of the Project site would be accessed via State Highway 33 (at Crows Landing Road) north to Marshall Road, then east to Prune Avenue.

### **2.1.2 HDD Work Areas**

Two HDD Work Areas would be required in Phase 1, both of which would provide space for a drill rig and associated equipment as well as staging and storage space for equipment and materials (Figure 2-1). No construction is proposed within the San Joaquin River corridor in Phase 1. The HDD Work Areas would not be paved or surfaced with gravel. However, crane mats may be used beneath specific pieces of equipment, which would be removed upon Phase 1 completion.

The West HDD Work Area and Staging Area would encompass approximately 8.4 acres of agricultural fields located immediately south of Prune Avenue on assessor's parcel numbers 048-027-019 and 048-028-001. A temporary construction easement would be obtained from the owners of these private parcels. The West HDD Work Area would include the open trench installation of the replacement pipeline that would connect to the existing L-215 pipeline system, the HDD bore pit, and excavations needed to install the valve set and tie into the existing pipeline.

Figure 2-1. Phase 1 Overview Map



1 The East HDD Work Area would encompass approximately 4.8 acres of agricultural  
2 fields located immediately south of West Bradbury Road and east of Carpenter Road on  
3 assessor's parcel number 057-001-013. A temporary construction easement would be  
4 obtained from the owner of this private parcel. The East HDD Work Area would include  
5 the HDD bore pit, the open trench installation of the replacement pipeline, and  
6 excavations needed to install the valve set and tie the replacement pipeline into the east  
7 station piping connection. The work area also includes an additional 11.7-acre area  
8 (about 5,100 feet by 100 feet) located immediately south of West Bradbury Road that  
9 would be used to weld and test pipeline sections prior to pull-back into the drill hole.

### 10 **2.1.3 HDD Methods**

11 The following is a summary of tasks required to install the proposed replacement  
12 pipeline:

- 13 • Two directional drilling rigs located at each side of the River crossing would be  
14 used to conduct an intersecting pilot bore. A bore pit (entry/exit pit) would be  
15 excavated at each end of the replacement pipeline alignment. One drill rig  
16 located at the West Bore Pit would drill a pilot bore extending approximately  
17 4,600 feet. The second drill rig located at the East Bore Pit and would drill a pilot  
18 bore extending approximately 2,600 feet. The two drill holes would meet at a  
19 depth of about 100 feet below the floodplain about midway between the two U.S.  
20 Army Corps of Engineers (ACOE) levees; thereby avoiding the low-flow channel.
- 21 • Following completion of the eastern 2,600-foot pilot bore, the eastern drill rig  
22 would forward ream to allow for the intersect to take place with the western  
23 drilling rig. Once the intersect is made, the western boring would continue  
24 forward until the drill stem reaches the Eastern Bore Pit. Both rigs would conduct  
25 simultaneous forward reaming operations to produce a 24-inch-diameter bore.  
26 The reaming would continue until it reaches a diameter of 36 inches, which would  
27 provide sufficient free space for the replacement pipeline string to move easily.
- 28 • After reaming operations and pipeline string testing are completed, the welded  
29 pipeline string (pull section) would be pulled back into the opened hole from the  
30 exit (east) side.
- 31 • After the replacement pipeline is in place, the annular space between the  
32 replacement pipeline and bore hole would be grouted for a distance of 10 vertical  
33 feet from the ground surface.

34 Table 2-1 provides a summary of equipment needs by task. Table 2-2 provides a  
35 summary of manpower needs by task. Figure 2-2 provides a conceptual diagram of the

- 1 basic HDD process. Figure 2-3 provides a conceptual layout plan for the HDD work  
 2 areas.

**Table 2-1. Phase 1 Equipment Requirements**

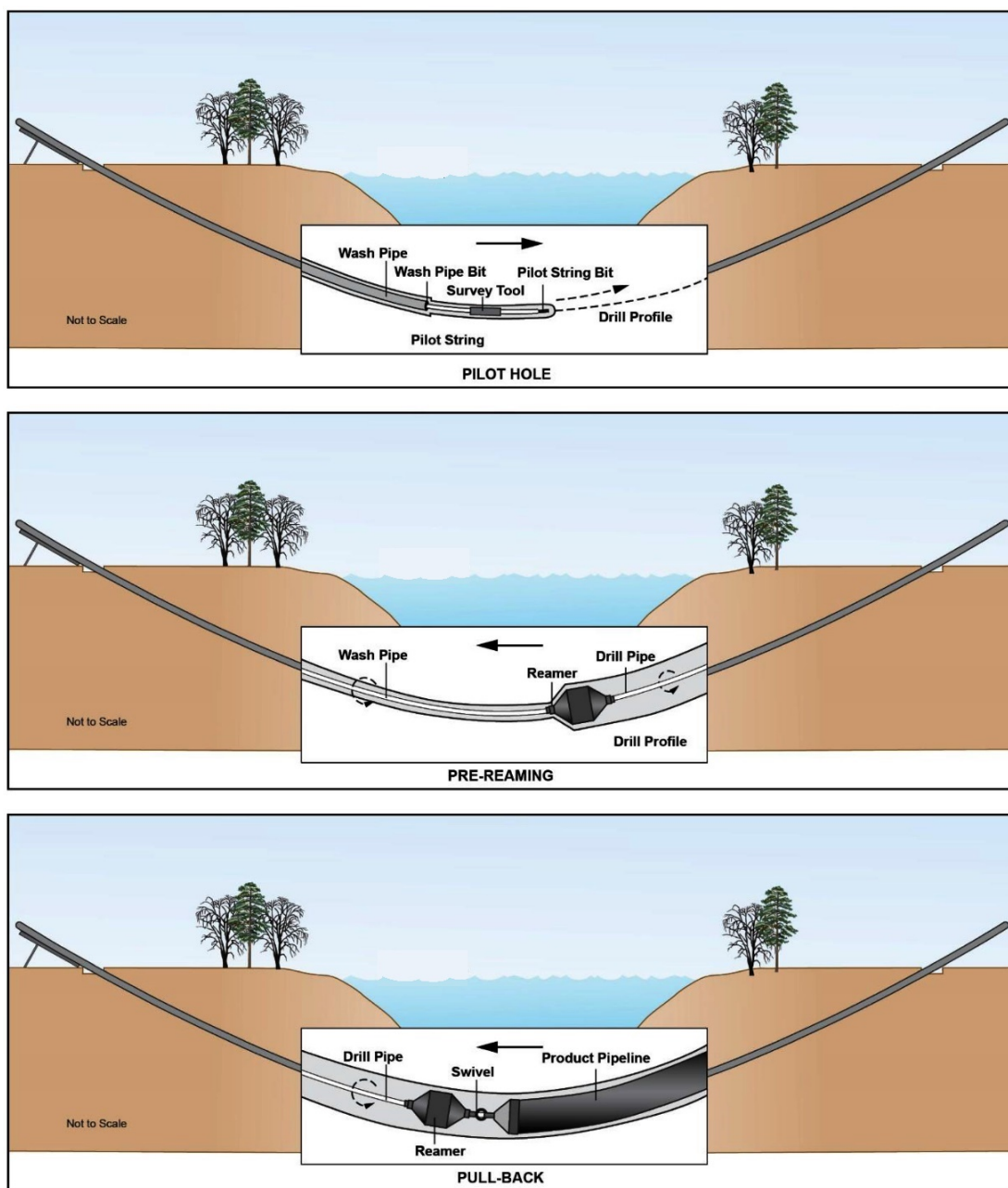
Equipment Type	Quantity	Horsepower	Operating Hours/Day	Days
<b>Site Support/Project Management</b>				
Light-duty truck (crew)	3	200	3	84
Water truck (3,000 gallon)	1	350	8	72
Medium-duty truck (flatbed)	1	300	4	84
Light plant	4	20	8	84
Generator (40 KW-hour)	1	60	8	84
Air compressor (185 cfm)	1	50	8	84
<b>Pipe/Materials Procurement</b>				
Light-duty truck (crew)	2	200	3	6
Heavy-duty truck	3	350	8	6
Excavator	2	310	8	6
<b>Excavation</b>				
Light-duty truck	2	200	3	18
Excavator	2	310	8	18
Air compressor (185 cfm)	1	50	8	18
<b>Pipeline String Welding</b>				
Light-duty truck (crew)	2	200	3	38
Medium-duty truck (welding, tapping trucks)	7	300	4	38
Welding machine	6	20	8	38
Excavator	2	310	8	38
Pipeline rollers	10-20	--	24	38
Side-boom pipelayer	1	260	8	38
<b>Pipeline Installation</b>				
Light-duty truck (crew)	2	200	3	11
Medium-duty truck (welding, tapping trucks)	3	300	4	11
Welding machine	2	20	8	11
Excavator	2	310	8	11
Air compressor (185 cfm)	1	50	8	11
<b>HDD Operation</b>				
Light-duty truck (crew)	4	200	3	60
Drill rig	2	700	10	60
Mud pump	2	600	10	60
Drilling mud reclaimer	2	--	10	60
Pipeline thruster	2	--	10	60
Vacuum truck (3,000 gallon)	2	350	8	60

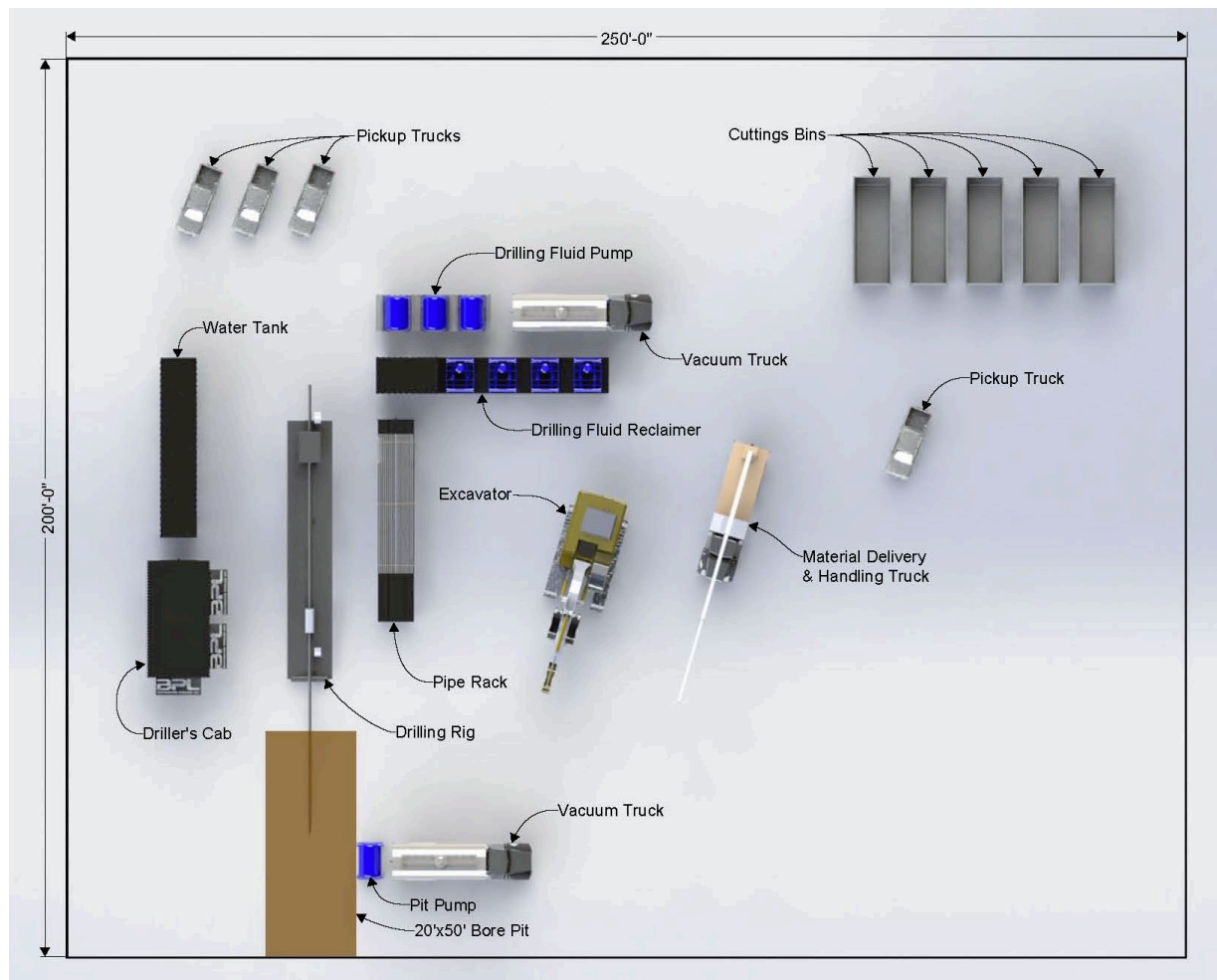
Equipment Type	Quantity	Horsepower	Operating Hours/Day	Days
Dump truck (10 yard)	2	350	8	60
Skid-steer loader	2	75	8	60
Excavator	2	310	8	60
Dozer	1	215	8	60
<b>Pipeline String Pull-back</b>				
Light-duty truck (crew)	4	200	4	1
Excavator	4	310	16	1
Side-boom pipelayer	3	260	16	1
Backhoe	1	75	16	1
Medium-duty truck (welders)	2	300	6	1
Welding machine	2	20	16	1
Light plant	8	20	8	1
<b>Strength Test and Caliper Piggings</b>				
Light-duty truck (crew)	3	200	3	6
Air compressor (1,600 cfm)	2	580	8	6
Desiccant air dryer	1	--	8	6
Fill pump	1	10	8	6
Test trailer	1	--	8	6
Medium-duty truck (welding, tapping trucks)	3	300	4	6
Welding machine	2	20	8	6
Excavator	1	310	8	6
<b>Backfill/Site Restoration</b>				
Light-duty truck (crew)	2	200	3	10
Heavy-duty truck	2	350	8	10
Excavator	2	310	8	10
Air compressor (185 cfm)	1	50	8	10
<b>Existing Pipeline Decommissioning (flushing and cementing)</b>				
Light-duty truck (crew)	4	200	3	5
Vacuum truck (3000 gallon)	2	350	4	3
Concrete truck	1	350	4	2
Excavator	1	310	8	5
Water pump	1	20	4	2
Welding machine	1	20	4	2
Concrete pump	1	300	4	1
Air compressor (185 cfm)	1	50	4	2

**Table 2-2. Phase 1 Manpower Requirements**

<b>Task</b>	<b>Quantity</b>	<b>Hours/Day</b>	<b>Days</b>
Site support/project management	4	10	84
Pipe/material procurement	8	10	6
Excavation	8	10	18
Pipeline string welding	20	10	38
Pipeline installation	12	10	11
HDD operation	21	10	60
Pipeline string pull-back	22	20	1
Strength test and caliper pigging	9	10	6
Backfill/site restoration	9	10	10
Existing pipeline decommissioning	5	12	5

Figure 2-2. HDD Conceptual Diagram



**Figure 2-3. Conceptual HDD Work Area Layout Plan**

### 1 2.1.3.1 Pilot Hole Drilling

2 The following detailed description would be applicable to both the west and east bore  
 3 sites. At the west and east drill points, bore pits would be excavated within the  
 4 designated work areas before the start of drilling. The pits would be approximately 20  
 5 feet wide by 50 feet long by 10 feet deep. Soils excavated from the pits would be  
 6 stockpiled within the adjacent work areas until construction is complete; then backfilled  
 7 into the pits. To initiate the pilot hole, the drill rig would be positioned along the selected  
 8 directional alignment (azimuth). Next, the bottom hole assembly containing the steering  
 9 probe would be drilled in at the entrance point. The pilot hole would then be advanced  
 10 and kept on course by using non-rotating drill string with an asymmetrical leading edge.  
 11 The drilling progress is achieved by hydraulic cutting action using nozzles configured at  
 12 the apex of the drill head. The actual path of the pilot hole would be monitored during  
 13 drilling by taking periodic readings of the inclination and azimuth of the leading edge  
 14 using a tracking system used to calculate the horizontal and vertical coordinates relative  
 15 to the initial entry point on the surface.

1 If drilling fluid circulation is poor in the shallow portion of the pilot hole near the bore pits,  
2 pilot hole drilling would be paused, and the drill string removed. The initial pilot bore  
3 would be enlarged by reaming, and a short steel casing would be pushed into the  
4 enlarged pilot bore from the drill rig. Once the casing is installed, the drill string would be  
5 re-inserted into the drill hole through the casing and drilling would resume, allowing the  
6 drilling fluid to return to the bore pit through the casing.

7 Water and drilling fluid additives such as bentonite clay would be mixed together and  
8 added to the circulating drilling fluid as the drill string advances and increases the  
9 volume of the borehole, which must remain filled with drilling fluid. Fresh water (typically  
10 water suitable for agricultural use or potable water, depending on availability) would be  
11 trucked from an off-site source and deposited in a portable water tank at the drill site.  
12 Drilling fluid would be constantly circulated in a loop during the drilling process. Starting  
13 at the drill head, the pressurized drilling fluid inside the drill pipeline exits through  
14 nozzles in the drill head and sweeps cuttings (solids such as gravel, sand and silt  
15 dislodged by the drill head) away from the drill head. The cuttings-laden drilling fluid  
16 then flows back through the borehole to the bore pit. The pit pump then moves the  
17 cuttings-laden drilling fluid from the bore pit to the reclaimer. The reclaimer separates  
18 the cuttings from the drilling fluid using screens and hydrocyclones, which are metal  
19 cones that use circular motion (centripetal force) to separate solids (drill cuttings) from  
20 the drilling fluid. Cuttings are moved from the reclaimer to the cuttings bins to be  
21 temporarily stored prior to being trucked offsite for disposal. Reclaimed drilling fluid is  
22 then pumped back into the drill string to return to the drill head and start the cycle over  
23 again.

24 To minimize the potential for inadvertent release (unplanned movement outside the drill  
25 hole), the HDD contractor would mathematically model the drilling fluid in use and  
26 calculate the expected annular pressure for the length of the drilled hole. The annular  
27 pressure would be monitored and continuously recorded during drilling of the pilot hole  
28 using an electronic sensor package.

#### 29 2.1.3.2 Reaming and Hole Opening

30 After the drilling of the pilot hole has been completed, the pilot hole would be enlarged  
31 using a reaming process. This process involves repeatedly introducing larger diameter  
32 reamers into the hole until it reaches a diameter of 36 inches, which would provide  
33 sufficient free space for the replacement pipeline string to move easily. The reaming  
34 tools consist of a circular set of cutters and drilling fluid jets. Drilling fluid composed of  
35 non-toxic compounds, such as bentonite, would be used to help ream the pilot holes.  
36 The pressurized drilling fluid serves three purposes: to cool the cutting tools, support the  
37 reamed hole, and lubricate the trailing drill pipe. The drilling fluid returns coming back to  
38 the drill rig side would be pumped to the reclaimer and re-circulated.

### 2.1.3.3 Pipeline String Assembly and Testing

The approximately 7,215-foot-long pipeline string would be assembled from 40-foot sections of pipeline (delivered by flatbed truck) and laid out on rollers along the approximately 5,100-foot-long pipeline string layout area. To level the rollers, they would be dug into place on bare ground or placed on shims. The pipeline would be welded together and tested for strength, and a caliper pig used to verify the welded inside diameter. The welded pipeline string would be hydrostatically tested by filling the string with water, pressurizing the water and monitoring for pressure changes. The purpose of this initial test is to identify any issues when repairs are easier to perform prior to pulling the pipeline string into the drill hole. However, final testing would be conducted after pipeline tie-in (see Section 2.1.3.5). Water used for initial hydrostatic testing would be stored on-site and re-used for the final hydrostatic test. Once the pipeline string has passed hydrostatic testing, a fusion-bonded epoxy pipeline coating would be applied as the primary line coating for corrosion protection. Additionally, an abrasion resistant coating would also be applied as a layer on top of the corrosion protection coating before the pipeline is pulled through the HDD borehole.

### 2.1.3.4 Pipeline Pull-Back Procedure

After reaming operations and pipeline string testing are completed, the welded pipeline string (pull section) would be pulled back into the opened hole from the exit (east) side. The pull-back process is similar to the reaming phase except that a reamer would be used to pull the pipeline string back through the bore hole to the west side of the River crossing. A swivel would connect the pull section to the reamer thus minimizing torsion forces transmitted to the pull section. The pull section would be supported by positioned pipeline rollers located east of the River crossing. Side boom pipelayers with cradles would support the pipeline entering the bore hole. The lead side boom pipelayer would be used to align the pipeline so that it is pulled through the borehole at the same angle as the exit hole.

### 2.1.3.5 Pipeline Tie-In

The replacement pipeline would tie-in to the existing L-215-1 pipeline west of the crossing and into the east station piping connection approximately 800 feet east of South Carpenter Road on the east side of the crossing. The western tie-in would occur at Prune Avenue approximately 1,300 feet west of Paradise Avenue within the West HDD Work Area shown on Figure 2-1. The western tie-in involves 415 feet of open trench pipeline installation to connect (weld) the replacement pipeline segment to the existing L-215-1 at the tie-in point. The eastern tie-in would occur just south of West Bradbury Road approximately 800 feet east of Carpenter Road within the East HDD Work Area shown on Figure 2-1. The eastern tie-in involves 365 feet of open trench

1 pipeline installation to connect and weld the replacement pipeline segment to the east  
2 station piping connection.

3 Pipeline tie-in would require a small temporary excavation (about 20 feet by 25 feet) to  
4 expose the existing pipeline and provide space for welding and valve installation.  
5 Excavations would be stabilized as required by Occupational Safety and Health  
6 Administration regulations, which may include sloping, use of shoring, or trench shields.  
7 Additional testing such as coating inspection, gauging pigs, cathodic corrosion  
8 protection testing would also be performed. The entire replacement pipeline segment  
9 installed in Phase 1 between the two tie-in points, including the HDD and trench-  
10 installed segments would be then be hydrostatically tested according to federal (49  
11 Code of Federal Regulations [CFR] 195) and PG&E standards (see Section 2.1.3.8).

#### 12 2.1.3.6 Site Restoration

13 Following installation of the pipeline string, grouting, and tie-in to the existing L-215  
14 pipeline/east station piping connection, all excavations would be backfilled with native  
15 earth material and the site would be restored to pre-Project conditions to allow  
16 agricultural cultivation to resume within the work areas. All equipment and materials  
17 (Section 2.1.3.8) would be removed from the Project site.

#### 18 2.1.3.7 Pipeline Signage

19 Approximately 14 pipeline markers would be installed along the replacement pipeline  
20 alignment, in areas that would not interfere with agricultural cultivation. The pipeline  
21 markers would be striped orange and white and extend at least 7 feet above grade.

#### 22 2.1.3.8 Water and Waste Disposal Requirements

23 Approximately 600,000 gallons of freshwater would be required to produce drilling fluids  
24 and about 180,000 gallons would be required for hydrostatic pipeline testing. This water  
25 would be supplied and trucked from a local residential or agricultural well if authorized  
26 by the owner. Alternatively, water would be trucked to the site from a local off-site  
27 source (likely within 20 miles of the Project site).

28 The water collected from the hydrostatic testing operations would be stored in  
29 temporary tanks and tested to characterize the type and concentrations of any  
30 contaminants. The test results would be used to determine whether the water should be  
31 treated on-site, transported to an off-site wastewater treatment facility, or a combination  
32 thereof (on-site pre-treatment, then transportation). It is assumed hydrostatic test water  
33 would be trucked to a wastewater treatment facility within 20 miles of the Project site for  
34 disposal. If it is determined that water could be treated and released on-site,  
35 authorization under a National Pollutant Discharge Elimination System (NPDES) permit

would be obtained from the Central Valley Regional Water Quality Control Board (CVRWQCB) for discharge of treated hydrostatic test water. Discharge to land may be authorized under state-wide General Order WQO-2003-003, while discharge to surface waters may be authorized under General Order R5-2016-0076-01 (NPDES No. CAG995002). The treated water would be tested as required by permit conditions. If needed, hydrostatic test water would be stored on-site until permit authorization is obtained.

Residual drilling fluid and solids would be disposed of by trucking to an appropriate waste disposal site. It is assumed residual drilling fluid and cuttings would be considered non-hazardous waste and would be trucked to a solid waste facility within 50 miles of the Project site.

#### 2.1.3.9 Existing L-215 Pipeline Deactivation Activities

After the replacement pipeline has been installed under the River, all eight segments of the existing L-215 pipeline (described in Section 2.2), would be deactivated by purging with inert gas and capping the ends. In addition, a short (750 foot) onshore section (Figure 2-1) of the existing L-215-1 pipeline near the west tie-in point on Prune Avenue would be decommissioned, which would also effectively terminate the existing connection between the L-215-1 pipeline and the existing L-215 pipeline. This segment is located over 1,500 feet west of the ACOE levee, and would be cleaned via pigging and flushing, filled with cement slurry, sealed with welded caps and abandoned in place. A small work area (less than 0.1 acre) with two small pits would be required to conduct this work within the West HDD Work Area.

As shown in Figure 1-2, the existing L-215-1 pipeline parallels the L-215 pipeline on Prune Avenue. A short segment of the existing L-215 pipeline west of the Prune Avenue/Paradise Avenue intersection would remain in service as a customer connection as it connects to PG&E's pipeline network west of the Project site.

#### 2.1.4 Phase 1 Schedule

Phase 1 Project operations would take place for approximately 4 to 5 months during summer/fall 2020. The duration of each major task is provided in Table 2-3. Work activities would generally be conducted Monday through Friday (occasionally Saturday) from approximately 7 a.m. to 7 p.m. per workday. However, pipeline string pull-back (replacement pipeline installation) may require a 24-hour work period. Weekend work may occur, if necessary, to complete the Project within any seasonal constraints identified by regulatory agencies.

**Table 2-3. Phase 1 Preliminary Schedule**

<b>Task</b>	<b>Estimated Work Period (Days)*</b>
Site support/project management	84
Pipe/material procurement	6
Excavation	18
Pipeline string welding	38
Pipeline installation	11
HDD operation	60
Pipeline string pull-back	1
Strength test and caliper pigging	6
Backfill/site restoration	10
Existing pipeline decommissioning	5

\* Days shown may overlap. Total Phase 1 work period would be approximately 4 to 5 months.

## **2.2 PHASE 2 (DECOMMISSIONING OF EXISTING L-215 PIPELINE)**

### **2.2.1 Decommissioning Work Areas**

The remainder of the existing L-215 pipeline that was deactivated in Phase 1 would be decommissioned in Phase 2. Decommissioning would begin by pigging and flushing the remaining pipeline segments to remove any potential contaminants. Specific pipeline segments would then be filled with concrete slurry, and other segments would be removed as shown in Figure 2-4. For planning purposes, the decommissioning of pipeline L-215 would be addressed in eight segments that correspond with the varying locations specific to each pipeline segment. Figure 2-4 identifies the pipeline segments and work areas and notes the final disposition of each pipeline segment. The total length of L-215 pipeline to be removed in Phase 2 is approximately 6,800 feet long. Temporary construction easements would be acquired from affected property owners for work outside existing pipeline easements. Tables 2-4 and 2-5 list equipment and manpower requirements for Phase 2.

Figure 2-4. Decommissioning Pipeline Segment and Work Areas Map

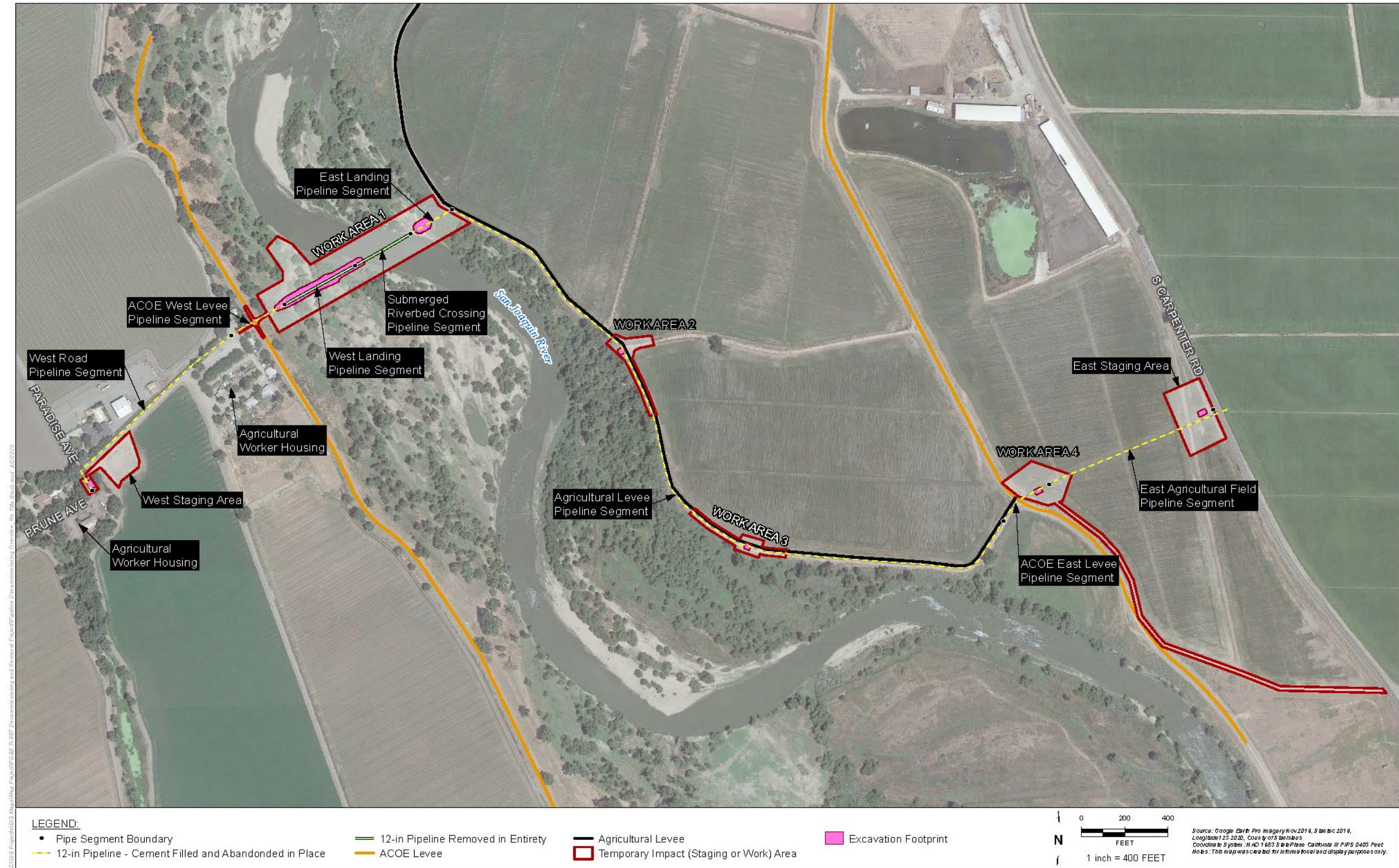


Table 2-4. Phase 2 Equipment Requirements

Equipment Type	Quantity	Horsepower	Operating Hours/Day	Days
<b>Mobilization</b>				
Light-duty truck (crew)	2	200	3	5
Heavy-duty truck	2	350	8	5
Crane (barge assembly, launch)	1	610	12	10
<b>Pigging and Flushing</b>				
Light-duty truck (crew)	4	200	3	8
Heavy-duty truck (water)	1	350	8	4
Heavy-duty truck (deliveries)	2	350	6	5
Excavator	2	310	8	4
Wheeled loader	2	240	8	4
Water pump	1	20	4	3
Welding machine	1	20	4	1
Air compressor	1	20	4	1
<b>Cementing</b>				
Light-duty truck (crew)	2	200	3	10
Heavy-duty truck (concrete)	3	350	4	10
Excavator	2	310	12	10
Wheeled loader	2	240	12	10
Concrete pump	1	300	8	3
Welding machine	1	20	4	3
<b>On-shore Pipeline Removal</b>				
Light-duty truck (crew)	2	200	3	10
Heavy-duty truck (waste hauling, fill import)	2	350	6	10
Excavator	2	310	8	10
Wheeled loader	2	240	8	10
<b>In-River Pipeline Removal</b>				
Crane (barge)	1	330	12	15
Barge support vessel	1	500	12	15
Dive compressor	1	50	12	15
Generator (water pump)	1	75	6	5
<b>Demobilization</b>				
Light-duty truck (crew)	3	200	3	10
Heavy-duty truck	5	350	6	10
Crane (barge disassembly)	1	610	12	10

**Table 2-5. Phase 2 Manpower Requirements**

Task	Quantity	Hours/Day	Days
Mobilization	8	12	10
Pigging and Flushing	7	12	7
Cementing	8	12	10
Onshore Pipeline Removal	5	12	10
In-River Pipeline Removal	12	12	15
Demobilization	8	12	10

### 2.2.2 Pigging and Flushing

The first operation to be performed as part of Phase 2 would be the pigging and flushing of all eight existing L-215 pipeline segments to remove contaminants. In preparation for this activity, the two ends that were previously capped and used to fill the pipeline with inert gas in Phase 1 on both the west end at the corner of Prune Avenue and Paradise Avenue, and at the east end adjacent to Carpenter Road would be re-excavated. The same fittings installed during Phase 1 would be used to verify that no flammable gas exists inside the existing pipeline. The cap plates installed as part of Phase 1 pipeline deactivation would be cut off prior to commencement of pigging and flushing.

A pig launcher would be installed on the western end within the West Staging Area (see Figure 2-4), and a pig receiver would be installed on the eastern end within the East Staging Area. Temporary tanks, piping, pumps, and other water handling equipment would be set up within the staging areas and connected prior to any pigging and flushing operations. Approximately 90,000 gallons of freshwater would be required for pigging and flushing. This water would be supplied and trucked from a local well if authorized by the owner. Alternatively, water would be trucked to the Project site from a source within 20 miles of the site.

The existing pipeline would be pigged until the flush water is found to have a total petroleum hydrocarbon (TPH) content of less than 15 parts per million (ppm). The pigging would be performed in pig runs consisting of a three-pig train using a mixture of freshwater and surfactant pushed by a “pill” inserted between the first and second pigs. The volume of water required to push the pigs all the way through the pipeline is approximately 45,000 gallons. Therefore, two pig runs are estimated to consume about 90,000 gallons of water. Flush water generated by pigging and flushing operations would be fully contained within piping, valves and temporary tanks. The release of flush water to the environment from the pipeline is not anticipated as the flushing would be conducted at much lower pressures than currently present in the active pressurized pipeline. Flush water samples would be taken after each run and sent to a State-certified testing laboratory to measure TPH in the sample. Additional pig runs would be

1 conducted as needed until flush water sample test results indicate that TPH is below 15  
2 ppm.

### 3 **2.2.3 Decommissioning Methods**

4 Decommissioning methods for each affected segment of the existing pipeline are  
5 discussed below. Figure 2-4 provides the location of each of the eight pipeline  
6 segments to be decommissioned. Access pits would be re-excavated (in areas  
7 previously used during Phase 1) or excavated in new areas to access the pipeline  
8 segments. Project excavations are outlined in Table 2-6 below. After pipeline removal  
9 operations have been completed, all terrestrial excavations would be backfilled,  
10 compacted, and returned to pre-Project contours. The decommissioned pipelines would  
11 be equipped with a test station that is connected electronically to the decommissioned  
12 pipeline segment. This allows PG&E to locate and mark the pipeline for future  
13 identification. Additionally, the decommissioned pipelines are mapped in PG&E's  
14 system as a retired line.

**Table 2-6. Phase 2 Project Excavation Areas**

Work Area	Excavation	Excavation Dimensions (ft)	Impact Area (ft <sup>2</sup> )
West Staging Area	Excavation A - Prune and Paradise Avenue	35 x 20	700
Work Area 1	Excavation B - San Joaquin River West Landing	45 x 450	20,250
	Underwater Excavation Area	4 x 280	1,118
	Excavation C - San Joaquin River East Landing	80 x 50	3,629
Work Area 2	Excavation D - Agricultural Levee	24 x 24	576
Work Area 3	Excavation E - Agricultural Levee	24 x 24	576
Work Area 4	Excavation F - Agricultural Field	30 x 20	600
Work Area 5	Excavation G - Agricultural Field	35 x 20	700

### 2.2.3.1 West Road Pipeline Segment

The approximately 1,020-foot-long West Road Pipeline Segment begins just north of the high-pressure regulator located at the corner of Prune Avenue and Paradise Avenue, then extends north along Paradise Avenue approximately 70 feet, and then east along an unpaved road approximately 950 feet (Figure 2-4). This pipeline segment is buried approximately 5 feet deep. To provide access to this pipeline segment, a pit (about 35 feet by 20 feet, 6 feet deep, with 2:1 slopes) would be excavated at the west end, within the 0.72-acre West Staging Area. A cement slurry would be pumped into the West Road Pipeline Segment and the adjacent ACOE West Levee Pipeline Segment using a trailer mounted concrete pump from the West Staging Area. To ensure the pipeline is filled with cement to the extent feasible, cementing is conducted on relatively short pipeline segments, the volume of cement needed would be calculated, the amount of cement injected would be estimated, and the process would be monitored to observe cement at the exit point. Cementing pressure would be limited to the pipeline's maximum allowable operating pressure of 890 pounds per square inch to minimize the risk of release.

Once the cement slurry has cured sufficiently (approximately 48 hours), the pipeline ends would be cut off by an oxy-acetylene torch and capped with welded 0.5-inch thick A36 steel plates, and the pipeline segment would be abandoned in place. The pit would be backfilled, compacted, and returned to pre-Project contours.

### 2.2.3.2 ACOE West Levee Pipeline Segment

The approximately 270-foot-long ACOE West Levee Pipeline Segment passes through the western ACOE levee. Figure 2-5 provides a view of the ACOE levee from the eastern levee toe. This segment begins at a point located approximately 50-feet west of the western toe of the levee, through the levee, and ends approximately 50-feet east of the eastern toe of the western ACOE levee. This pipeline segment is buried between 1.5 feet and 4 feet deep. A cement slurry would be pumped into this pipeline segment at the same time as the West Road Pipeline Segment. Access to the eastern end of this pipeline segment would be the trench excavated to remove the West Landing Pipeline Segment (see Work Area 1 on Figure 2-4). Once the cement slurry has cured sufficiently (approximately 48 hours), the pipeline ends would be cut off by oxy-acetylene torch, the ends would be capped with welded 0.5-inch thick A36 steel plates, and the pipeline segment would be abandoned in place. Decommissioning of this pipeline segment would not result in any additional ground disturbance.

**Figure 2-5. ACOE West Levee Pipeline Segment facing West**



1    2.2.3.3    West Landing Pipeline Segment

2    The approximately 400-foot-long West Landing Pipeline Segment passes underneath  
3    the dry riverbed between the ACOE West Levee Pipeline Segment and the western  
4    shoreline of the River (Figure 2-4). Figure 2-6 provides a view of the West Landing  
5    Pipeline Segment from near the eastern levee toe. This pipeline segment is buried  
6    between 1.5 feet to 10 feet deep. The West Landing Pipeline Segment would be entirely  
7    removed using conventional terrestrial excavation equipment, which would include  
8    excavation (2:1 slopes) to expose the pipe, cutting and extraction with the use of a  
9    hydraulic shear and grapple, and backfill and compaction using excavation spoils. The  
10   maximum work area (ground disturbance) would be within the 5 acres designated as  
11   Work Area 1, consisting of a 200-foot-wide area that stretches from the West Landing  
12   Pipeline Segment to the East Landing Pipeline Segment and associated access areas.  
13   However, the excavation area to expose the pipeline would only be up to 45-feet wide  
14   and 450-feet long or approximately 0.43 acre.

15   This pipeline segment includes the western River shoreline. After in-river pipeline  
16   cutting and excavation (see Section 2.2.3.4) has been completed, a winch would pull  
17   the remaining pipeline out of the western riverbank from the excavation shown in Work  
18   Area 1 up onto the west landing. The recovered pipeline would be cut into sections and  
19   excavation equipment would be used to move the sections to the west ACOE levee for  
20   loading onto trucks.

**Figure 2-6. West Landing Pipeline Segment facing East**

#### 1    2.2.3.4    Submerged Riverbed Pipeline Segment

2    This pipeline segment crosses under the submerged riverbed (low-flow channel) from  
 3    shoreline to shoreline. Figure 2-7 provides a view of the River at the existing pipeline  
 4    crossing. The depth of burial of this pipeline segment under the riverbed varies from  
 5    exposure to approximately 6 feet. Deeper portions (more than 3 feet of water depth) of  
 6    the Submerged Riverbed Pipeline Segment would be removed using a portable  
 7    “sectional” barge that would be trucked in and assembled on the west bank of the River.  
 8    Figure 2-8 provides a photograph of a similar sectional barge with crane. A pre-Project  
 9    geophysical survey, and 811 notification and coordination with local utilities (see Section  
 10   2.3) would be completed prior to any in-river work to identify any interfering utilities or  
 11   obstructions. The sectional barge would be equipped with a crane and diving spread  
 12   and anchored with spuds (movable steel piles attached to the barge, see Figure 2-8).  
 13   The crane would be equipped with a submersible excavation pump to surgically  
 14   excavate the buried sections of the submerged pipeline to expose it in preparation for  
 15   removal. Hand jetting (use of a hand-held water jet to remove sediment) by divers is not  
 16   anticipated but may be used if site conditions warrant. Divers would cut the pipeline  
 17   where it is exposed, as close to the eastern riverbank as possible.

**Figure 2-7. San Joaquin River at the Existing Pipeline Crossing**



- 1 Portions of the pipeline buried near the western riverbank that are too shallow to be  
2 reached using the sectional barge would be exposed by excavation using terrestrial  
3 equipment as described for the West Landing Pipeline Segment, essentially extending  
4 the excavation into about 2 feet of surface water. A winch located on the west landing  
5 would be used to pull the entire Submerged Riverbed Pipeline Segment out of the River  
6 channel and onto the west landing, once enough of the pipeline has been exposed by  
7 excavation to reduce the required force to within the winch's capacity.
- 8 Spoils from the excavation would be used to backfill the excavation area and the  
9 disturbed riverbed would be allowed to return to pre-Project conditions through natural  
10 hydrogeomorphic processes over time. After all decommissioning activities have been  
11 completed and equipment demobilized, a post-Project debris survey would be  
12 performed to document the final underwater site conditions (APM-4).

**Figure 2-8. Example Use of a Sectional Barge with Crane**

#### 1    2.2.3.5    East Landing Pipeline Segment

2    The approximately 245-foot-long East Landing Pipeline Segment is buried beneath the  
 3    dry riverbed between the Submerged Riverbed Crossing (eastern shoreline of the River)  
 4    and the Agricultural Levee Pipeline Segment. A cement slurry would be pumped into  
 5    this pipeline segment using an 80-foot by 50-foot-long excavation near the eastern  
 6    shoreline within Work Area 1. Once the cement slurry has cured sufficiently  
 7    (approximately 48 hours), the pipeline ends would be cut off by oxy-acetylene torch, the  
 8    ends would be capped with welded 0.5-inch thick A36 steel plates, and the pipeline  
 9    segment would be abandoned in place.

10   This pipeline segment extends into the eastern River shoreline. After the submerged  
 11   pipeline has been removed from the riverbed (see Section 2.2.3.4) as close to the  
 12   shoreline as possible, heavy equipment would pull the remaining pipeline out of the  
 13   eastern riverbank from the excavation described above (within Work Area 1). The top of  
 14   the excavation would be situated at least 5 feet from the top of the bank to minimize  
 15   disturbance and reduce impacts to the integrity of the existing bank to the greatest  
 16   extent feasible. The recovered pipeline would be cut into sections and excavation  
 17   equipment would be used to move the pipeline sections to the agricultural levee for  
 18   loading onto trucks.

2.2.3.6 Agricultural Levee Pipeline Segment

The approximately 3,430-foot-long Agricultural Levee Pipeline Segment is buried under the crown of the agricultural levee and begins where the pipeline leaves the dry riverbed of the East Landing Pipeline Segment and extends along the crown of the agricultural levee. This pipeline segment ends approximately 50 feet southwest of the east ACOE levee. The pipeline segment is buried approximately 4 feet to 6 feet below the crown of the agricultural levee. A cement slurry would be pumped into this pipeline segment and the adjacent ACOE East Levee Pipeline Segment using two pits excavated along the agricultural levee (within Work Areas 2 and 3) and a third pit located just east of the ACOE East Levee Pipeline Segment (within Work Area 4). Once the cement slurry has cured sufficiently (approximately 48 hours), the pipeline ends would be cut off by oxy-acetylene torch, the ends would be capped with welded 0.5-inch thick A36 steel plates, and the pipeline segment would be abandoned in place. The pits would be backfilled, compacted, and returned to pre-Project contours. The total work area (ground disturbance) would be approximately 2.9 acres, consisting of Work Areas 2, 3 and 4 with pits.

2.2.3.7 ACOE East Levee Pipeline Segment

The approximately 245-foot-long ACOE East Levee Pipeline Segment begins at a point located approximately 50-feet southwest of the southwestern toe of the east ACOE levee, running through the levee, and ending at a point approximately 50 feet east of the eastern toe of this levee. A cement slurry would be pumped into this pipeline segment concurrent with the Agricultural Levee Pipeline Segment. No additional work areas would be required.

2.2.3.8 East Agricultural Field Pipeline Segment

The approximately 875-foot-long East Agricultural Field Pipeline Segment runs beneath the agricultural field between the ACOE East Levee Pipeline Segment and Carpenter Road. The east end of this pipeline segment terminates immediately upstream (west) of the tie-in to the pipeline that runs parallel to Carpenter Road on the west side of the road. A cement slurry would be pumped into this pipeline segment using a re-excavated 30-foot by 20-foot pit previously used for the ACOE East Levee Pipeline Segment (within Work Area 4) and a new 35-foot by 20-foot-long pit to be excavated just west of Carpenter Road within the East Staging Area. Once the cement slurry has cured sufficiently (approximately 48 hours), the pipeline ends would be cut off by oxy-acetylene torch, the ends would be capped with welded 0.5-inch thick A36 steel plates, and the pipeline segment would be abandoned in place.

## 2.2.4 Water Disposal Requirements

Approximately 90,000 gallons of fresh water would be required for pigging and flushing the existing L-215 pipeline. The water collected from the pigging and flushing operations in the temporary tanks within the East Staging Area would be tested to characterize the type and concentrations of any contaminants. The test results would be used to determine whether the water should be treated on-site, transported to an off-site wastewater treatment facility, or a combination thereof (on-site pre-treatment, then transportation). If it is determined that water could be treated on-site, authorization under a NPDES permit would be obtained from the CVRWQCB for discharge of treated flush water. Depending on flush water test results, discharge to land may be authorized under state-wide General Order WQO-2003-003, while discharge to surface waters may be authorized under General Order R5-2016-0076-01 (NPDES No. CAG995002). The treated water would be tested as required by permit conditions. If needed, treated flush water would be stored on-site until permit authorization is obtained.

## 2.2.5 Phase 2 Schedule

Phase 2 would be implemented during late summer/fall of 2021 for approximately 3 to 4 months. The estimated duration of each major task is provided in Table 2-6. The schedule is based on conducting work within the River during periods which are least favorable for special-status fish occurrence. Preliminarily, in-water work would be limited to July 1 through September 30, 2021, but this timeframe may be modified based on permit conditions issued by regulatory agencies. Work activities would generally be conducted Monday through Friday (occasionally Saturday) approximately 10 to 12 hours per workday from approximately 7 a.m. to 7 p.m. per workday. Weekend work may occur, if necessary, to complete the Project within the defined seasonal constraints.

**Table 2-6. Phase 2 Preliminary Schedule**

<b>Task</b>	<b>Estimated Work Period (Days)</b>
Mobilization	10
Pigging and Flushing	7
Cementing	10
Onshore Pipeline Removal	10
In-River Pipeline Removal	15
Demobilization	10

## **2.3 PRE-PROJECT PREPARATION ACTIVITIES AND SURVEYS**

Regulatory permits may be obtained separately for Phases 1 and 2 because they would occur in different years and only Phase 2 would require permits for in-river work. Once all regulatory permits are received, but prior to commencement of Project activities, the following Applicant Proposed Measures (APMs), consisting of technical plans and surveys to perform the work safely and in compliance with all regulatory permits and permissions, California Occupational Safety and Health Administration safety regulations, and owner's safety requirements would be completed. See Section 3.10, *Hazards and Hazardous Materials*; for complete APM text.

### **2.3.1 Phase 1 APMs**

- APM-1: Project Work and Safety Plan
- APM-2: Inadvertent Release Contingency Plan
- APM-3: Utility Location Survey

### **2.3.2 Phase 2 APMs**

- APM-1: Project Work and Safety Plan
- APM-3: Utility Location Survey
- APM-4: Pre- and Post-Project Geophysical Debris Survey

### 3.0 ENVIRONMENTAL CHECKLIST AND ANALYSIS

---

This section contains the Initial Study (IS) that was completed for the proposed Pacific Gas & Electric Company Gas Transmission Pipeline R-687 L-215 San Joaquin River Crossing Replacement Project (Project) in accordance with the requirements of the California Environmental Quality Act (CEQA). The IS identifies site-specific conditions and impacts, evaluates their potential significance, and discusses ways to avoid or lessen impacts that are potentially significant. The information, analysis, and conclusions included in the IS provide the basis for determining the appropriate document needed to comply with CEQA. For the Project, based on the analysis and information contained herein, California State Lands Commission (CSLC) staff has found that the IS shows that there is substantial evidence that the Project may have a significant effect on the environment but revisions to the Project would avoid the effects or mitigate the effects to a point where clearly no significant effect on the environment would occur. As a result, the CSLC concluded that a Mitigated Negative Declaration (MND) is the appropriate CEQA document for the Project.

The evaluation of environmental impacts provided in this document is based in part on the impact questions contained in 2019 Appendix G of the State CEQA Guidelines; these questions, which are included in an impact assessment matrix for each environmental category (Aesthetics, Air Quality, Biological Resources, etc.), are “intended to encourage thoughtful assessment of impacts.” Each question is followed by a check-marked box with column headings that are defined below.

- **Potentially Significant Impact.** This column is checked if there is substantial evidence that a Project-related environmental effect may be significant. If there are one or more “Potentially Significant Impacts,” a Project Environmental Impact Report (EIR) would be prepared.
- **Less than Significant with Mitigation.** This column is checked when the Project may result in a significant environmental impact, but the incorporation of identified Project revisions or mitigation measures would reduce the identified effect(s) to a less than significant level.
- **Less than Significant Impact.** This column is checked when the Project would not result in any significant effects. The Project’s impact is less than significant even without the incorporation of Project-specific mitigation measures.
- **No Impact.** This column is checked when the Project would not result in any impact in the category or the category does not apply.

The environmental factors checked below (Table 3-1) would be potentially affected by this Project. A checked box indicates that at least one impact would be a “Potentially Significant Impact” except that the Applicant has agreed to Project revisions, including

- 1 the implementation of mitigation measures, that reduce the impact to “Less than  
2 Significant with Mitigation.”

**Table 3-1. Environmental Issues and Potentially Significant Impacts**

<input checked="" type="checkbox"/> Aesthetics	<input type="checkbox"/> Agriculture and Forestry Resources	<input type="checkbox"/> Air Quality
<input checked="" type="checkbox"/> Biological Resources	<input checked="" type="checkbox"/> Cultural Resources	<input checked="" type="checkbox"/> Cultural Resources – Tribal
<input type="checkbox"/> Energy	<input checked="" type="checkbox"/> Geology, Soils, and Paleontological Resources	<input type="checkbox"/> Greenhouse Gas Emissions
<input checked="" type="checkbox"/> Hazards and Hazardous Materials	<input checked="" type="checkbox"/> Hydrology and Water Quality	<input type="checkbox"/> Land Use and Planning
<input type="checkbox"/> Mineral Resources	<input type="checkbox"/> Noise	<input type="checkbox"/> Population and Housing
<input type="checkbox"/> Public Services	<input checked="" type="checkbox"/> Recreation	<input type="checkbox"/> Transportation
<input type="checkbox"/> Utilities and Service Systems	<input type="checkbox"/> Wildfire	<input checked="" type="checkbox"/> Mandatory Findings of Significance

- 3 Detailed descriptions and analyses of impacts from Project activities and the basis for  
4 their significance determinations are provided for each environmental factor on the  
5 following pages, beginning with Section 3.1, *Aesthetics*. Relevant laws, regulations, and  
6 policies potentially applicable to the Project are listed in the Regulatory Setting for each  
7 environmental factor analyzed in this IS as well as within Appendix A - Abridged List of  
8 Major Federal and State Laws, Regulations, and Policies Potentially Applicable to the  
9 Project.

## 10 **AGENCY DETERMINATION**

- 11 Based on the environmental impact analysis provided by this Initial Study:

- ☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☒ 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.



April 21, 2020

Date

- 12 Signature  
13 Cynthia Herzog, Senior Environmental Scientist  
14 Division of Environmental Planning and Management  
15 California State Lands Commission

### 1 3.1 AESTHETICS

AESTHETICS – Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#### 2 3.1.1 Environmental Setting

3 The proposed Project area is within and adjacent to the San Joaquin River (River) in  
 4 southwestern Stanislaus County. The River is located in the western portion of the San  
 5 Joaquin Valley, which is about 30 miles wide and mostly supports intensive row-crop  
 6 agriculture. At the existing pipeline crossing, the River floodplain is constrained by two  
 7 earthen levees approximately 3,500 feet apart, with the low flow channel approximately  
 8 200 feet wide (see Figure 3.1-1). The floodplain area between levees supports linear  
 9 patches of riparian woodland along the low flow channel and along former flow channels  
 10 where the River has changed course. The balance of the floodplain supports patches of  
 11 riparian scrub and grassy disturbed areas. Overall, the River floodplain provides visual  
 12 variety in form and vegetation types that enhances the aesthetics of the surrounding  
 13 agricultural fields.

14 Public views of the Project site are limited to motorists on Prune Avenue and Paradise  
 15 Avenue to the west of the River, and South Carpenter Road and West Bradbury Road  
 16 to the east of the River. Figure 3.1-2 shows the public view from the Prune  
 17 Avenue/Paradise Avenue intersection with agricultural worker housing and associated  
 18 landscaping in the background. Figure 3.1-3 shows the public view from South  
 19 Carpenter Road along the existing pipeline alignment (note pipeline marker) at the  
 20 proposed East Staging Area, with the East U.S. Army Corps of Engineers (ACOE)  
 21 Levee in the background. The nearest scenic highway is Interstate Highway 5, which is

- 1 a state-designated scenic highway located approximately 6 miles west of the Project
- 2 site.

**Figure 3.1-1. Oblique Aerial View of the Existing Pipeline Crossing, facing East**



**Figure 3.1-2. Public View - Prune Avenue/Paradise Avenue Intersection, facing East**



**Figure 3.1-3. Public View from the East Staging Area along South Carpenter Road, facing West**



### 3.1.2 Regulatory Setting

There are no federal laws, regulations, or policies pertaining to aesthetics that are relevant to the Project. State laws and regulations pertaining to aesthetics and relevant to the Project are identified in Appendix A. Local regulations including applicable County General Plan policies are discussed below.

#### 3.1.2.1 Stanislaus County General Plan Land Use Element

**Policy Two.** Land designated Agriculture shall be restricted to uses that are compatible with agricultural practices, including natural resources management, open space, outdoor recreation and enjoyment of scenic beauty. Implementation measure: agricultural areas should generally be zoned for 40- to 160-acre minimum parcel sizes. Exceptions include land in a ranchette area so identified because of significant existing parcelization of property, poor soils, location, and other factors which limit the agricultural productivity of the area.

### 3.1.3 Impact Analysis

#### *a) Have a substantial adverse effect on a scenic vista?*

**No Impact**

1    Phases 1 and 2

2    There are no scenic vistas in the Project area, therefore Project-related activities,  
3    equipment and materials would not be visible from a scenic vista.

4    ***b) Substantially damage scenic resources, including, but not limited to, trees,***  
5    ***rock outcroppings, and historic buildings within a state scenic highway?***

6    **No Impact**

7    Phases 1 and 2

8    The Project would not involve any structures or materials that could be visible from  
9    Interstate Highway 5; therefore, no impact to scenic resources along this state scenic  
10   highway would occur.

11   ***c) Substantially degrade the existing visual character or quality of public views of***  
12   ***the site and its surroundings? (Public views are those that are experienced from***  
13   ***publicly accessible vantage point). If the project is in an urbanized area, would***  
14   ***the project conflict with applicable zoning and other regulations governing scenic***  
15   ***quality?***

16   **Less than Significant Impact**

17   Phase 1

18   Crop removal (and/or suspension of planting and cultivation) would affect up to 24.9  
19   acres of cultivated farmland to provide work areas (West HDD Work Area, West Staging  
20   Area, East HDD Work Area, Pipeline Staging Area) during the 4-month construction  
21   period. The temporary loss of crops, exposed soils, material stockpiles and equipment  
22   would degrade views from public roadways (Prune Avenue, Paradise Avenue, South  
23   Carpenter Road, West Bradbury Road). However, exposed soils and equipment is  
24   typical of areas in short rotation crop production (such as the Project site). Project-  
25   related changes in visual quality would be minor and temporary in nature.

26   Phase 2

27   Trees and other riparian vegetation (up to 3.8 acres) within the River floodplain would  
28   require removal to provide access for decommissioning of the existing pipeline (see  
29   Work Area 1 on Figure 2-4). Trees and shrubs within the River floodplain provide visual  
30   variety within an intensely cultivated row crop and cover crop area; therefore, removal of  
31   this vegetation may substantially reduce visual character and quality. In addition, crop  
32   removal (and/or suspension of cultivation) would occur within Work Area 4 and the East  
33   Staging Area. Exposed soils, stockpiles and loss of trees and other vegetation from the

River floodplain would degrade the visual character of views from public roadways (Prune Avenue, Paradise Avenue, South Carpenter Road, West Bradbury Road). However, views of the River floodplain from these roadways is mostly obscured by levees and/or intervening landscaping trees (see Figures 3.1-2 and 3.1-3). Therefore, Project-related changes in visual quality would be minor, nearly undetectable from public roadways and temporary in nature.

**d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?**

**Less than Significant with Mitigation**

Phase 1

Residential land uses in the Project area are limited to agricultural worker housing located approximately 1,800 feet northeast of the proposed West HDD Work Area (see Figure 2-1). Although Project work activities would be conducted predominantly during daylight hours (from approximately 7 a.m. to 7 p.m. per workday), limited nighttime operations (a few hours after sunset) may be required; for example, pipeline string pull-back during installation of the replacement pipeline. Lighting requirements for nighttime operations would adversely affect nighttime views of nearby residences; however, **MM AES-1** would limit lighting intensity and direct all lighting downwards and onto the work area. With the implementation of this measure, the impact would be less than significant.

Phase 2

Residential land uses in the Project area are limited to agricultural worker housing located approximately 450 feet northeast and approximately 200 feet southeast of the proposed West Staging Area (see Figure 2-4). Although Project work activities would be conducted predominantly during daylight hours, limited nighttime operations would be required such as in-river pipeline removal and barge assembly and disassembly. Lighting required for nighttime operations would adversely affect nighttime views of nearby residences. **MM AES-1** would limit lighting intensity and direct all lighting downwards and onto the work area. With the implementation of this measure, the impact would be less than significant.

**MM AES-1 Nighttime Illumination Limitations.** Project lighting shall be as low in intensity as possible to meet Project needs and safety requirements, be focused on work areas, and equipped with shielding to minimize glare and spillover into adjacent areas.

1    **3.1.4 Mitigation Summary**

2    Implementation of the following mitigation measure would reduce the potential for  
3    Project-related impacts to aesthetic resources to less than significant.

- 4        •    MM AES-1: Nighttime Illumination Limitations

## 1 3.2 AGRICULTURE AND FORESTRY RESOURCES

AGRICULTURE AND FORESTRY RESOURCES <sup>2</sup> - Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	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 Natural Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Pub. Resources Code, § 12220, subd. (g)), timberland (as defined by Pub. Resources Code, § 4526), or timberland zoned Timberland Production (as defined by Gov. Code, § 51104, subd. (g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 2 3.2.1 Environmental Setting

3 The Project site is located within southwestern Stanislaus County, which is located at  
4 the northern end of the San Joaquin Valley. Although the County's economy is  
5 diversifying, its economic base remains predominantly agricultural. As of 2012,  
6 agricultural land constitutes approximately 86 percent of all land in the County, and  
7 lands classified as Prime Farmland comprise 26 percent of the County (California  
8 Department of Conservation 2015). In large part, the important farmlands located within  
9 the County's unincorporated area are currently zoned for agricultural use. This zoning

<sup>2</sup> In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the State's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board (CARB).

protects agricultural lands from conversion to residential developments by the provisions of Measure E (see discussion below).

The importance of agriculture to Stanislaus County is demonstrated in the value of its agricultural production. In 1993, local crops were valued at \$1 billion. In 2018, the total value of Stanislaus County crops was estimated to be approximately \$3.57 billion (Stanislaus County Agricultural Commissioner 2019). The County's top-five farm products, in order of revenue, are almonds, milk, chickens, cattle and calves, and nursery (fruit and nut trees and vines). In 2017, Stanislaus County ranked sixth in total agricultural revenue among California's 58 counties (California Department of Food and Agriculture 2019).

According to the California Department of Conservation Farmland Mapping and Monitoring Program, the Project area supports agricultural lands classified as Prime Farmland and Statewide importance Farmland (California Department of Conservation 2018). Figures 3.2-1 and 3.2-2 provide an overlay of designated important farmland over Project work areas. The Project site is located within an area zoned for agricultural use (Stanislaus County General Agriculture A-2 zoning). The nearest forest land or timberlands are located within the Sierra National Forest approximately 66 miles east of the Project site.

### **3.2.2 Regulatory Setting**

There are no federal laws, regulations, or policies pertaining to agricultural resources that are relevant to the Project. State laws and regulations pertaining to agricultural resources and relevant to the Project are identified in Appendix A. The state Williamson Act and Farmland Security Zone Act programs are administered locally. Stanislaus County is a party to and enforces the contracts on lands within its unincorporated area. The California Department of Conservation has a limited oversight role that focuses primarily on the cancellation of contracts. In 2015, the County reported that it held 575,549 acres of land under Williamson Act contracts and 156 acres of land under an agricultural conservation easement. Local Agency Formation Commission and General Plan policies related to agriculture are listed below.

#### **3.2.2.1 Stanislaus County Local Agency Formation Commission (Agriculture Preservation Policy)**

The Stanislaus Local Agency Formation Commission has adopted an Agricultural Preservation Policy ("Policy") that provides evaluation standards for review of proposals that could induce or lead to the conversion of agricultural lands. The Policy requires that applicants prepare a Plan for Agricultural Preservation that details the impacts on agricultural resources and identifies the method or strategy selected to minimize the loss of agricultural lands.

Figure 3.2-1. Phase 1 Important Farmland Overlay Map

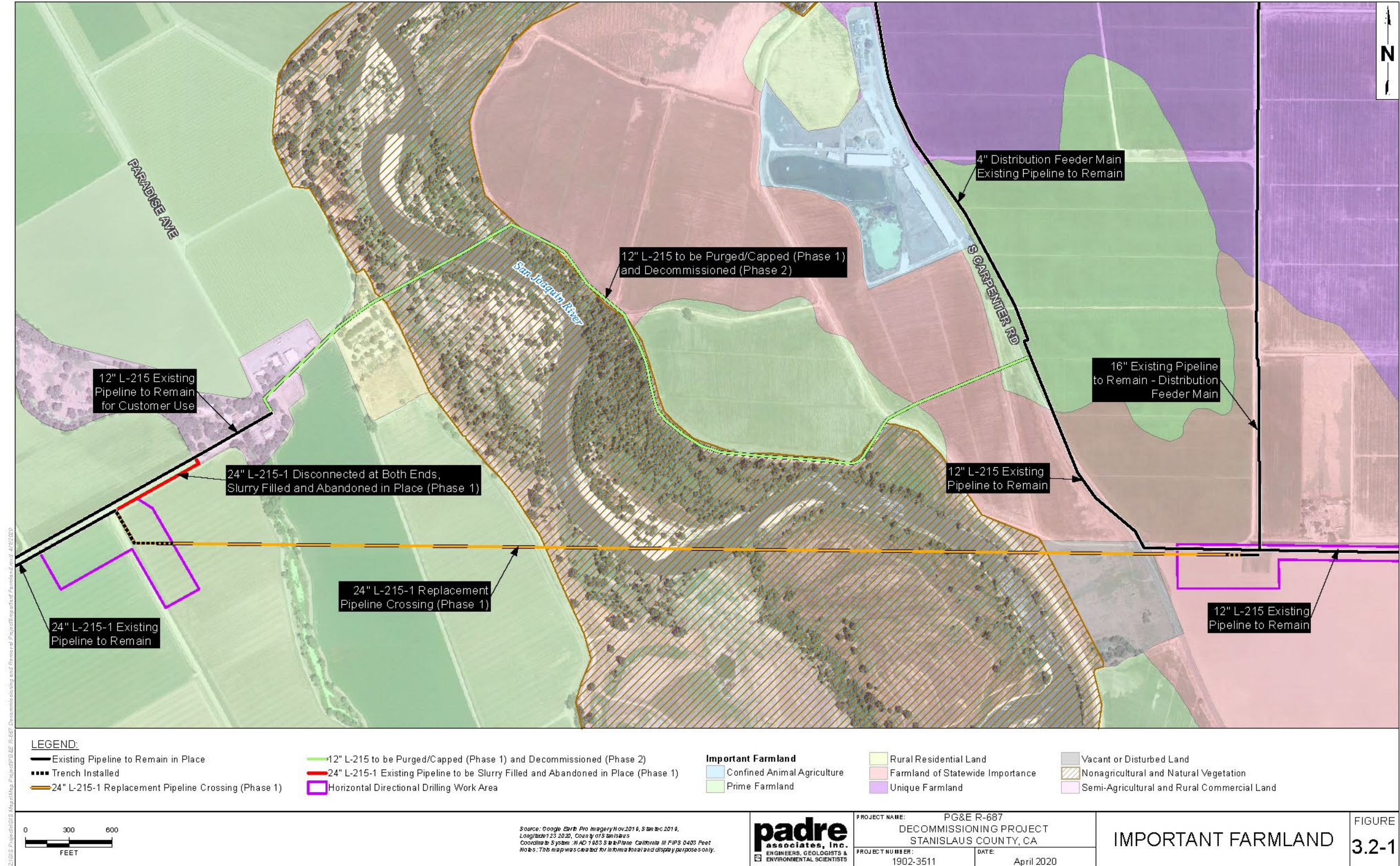
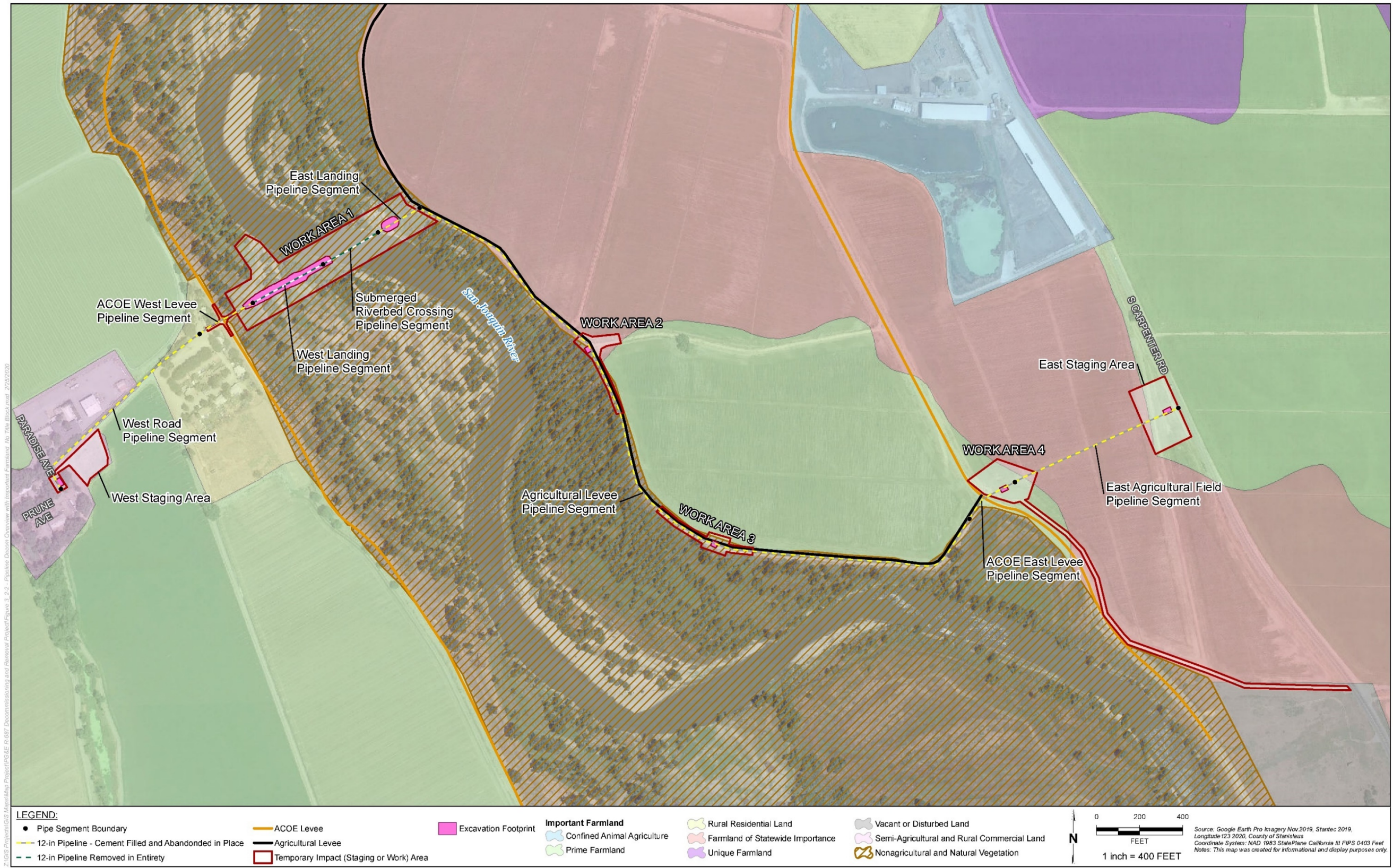


Figure 3.2-2. Phase 2 Important Farmland Map Overlay



1 The Policy sets forth three agricultural preservation strategies that the Local Agency  
2 Formation Commission encourages: 1:1 mitigation, reduction of an existing sphere of  
3 influence that contains agricultural lands, and voter-approved urban growth boundaries.

4 3.2.2.2 Stanislaus County General Plan Agricultural Element

5 **Policy 1.7.** Concentrations of commercial and industrial uses, even if related to  
6 surrounding agricultural activities, are detrimental to the primary use of the land for  
7 agriculture and shall not be allowed.

8 **Policy 1.10.** The County shall protect agricultural operations from conflicts with non-  
9 agricultural uses by requiring buffers between proposed non-agricultural uses and  
10 adjacent agricultural operations.

11 **Policy 1.22.** The County shall encourage regional coordination of planning and  
12 development activities for the entire Central Valley.

13 **Policy 2.3.** The County shall ensure all lands enrolled in the Williamson Act are devoted  
14 to agricultural and compatible uses supportive of the long-term conservation of  
15 agricultural land.

16 **Policy 2.5.** To the greatest extent possible, development shall be directed away from  
17 the County's most productive agricultural areas.

18 **Policy 2.6.** Agricultural lands restricted to agricultural use shall not be assessed to pay  
19 for infrastructure needed to accommodate urban development.

20 **Policy 2.11.** The County recognizes the desire of cities and unincorporated  
21 communities to grow and prosper and shall not oppose reasonable requests consistent  
22 with city and county agreements to expand, provided the resulting growth minimizes  
23 impacts to adjacent agricultural land.

24 **Policy 2.14.** When the County determines that the proposed conversion of agricultural  
25 land to non-agricultural uses could have a significant effect on the environment, the  
26 County shall fully evaluate on a project-specific basis the direct and indirect effects, as  
27 well as the cumulative effects of the conversion.

28 **Policy 2.17.** The County shall work cooperatively with the nine cities within the County  
29 and to encourage them to adopt agricultural conservation policies or ordinances which  
30 are consistent with County policies or ordinances in order to undertake an integrated,  
31 comprehensive Countywide approach to farmland conservation. It is the ultimate goal of  
32 the County to have all nine cities participate in or adopt an agricultural mitigation  
33 ordinance that is the same as or substantially similar.

1    **Policy 3.6.** The County shall encourage the conservation of soil resources.

2    3.2.2.3    Stanislaus County Measure E

3    Stanislaus County voters passed Measure E in November 2007. Under Measure E, land  
4    that is designated as agricultural or open space in the Land Use Element cannot be  
5    amended to residential or rezoned to residential without the approval of a majority of  
6    county voters. Because Measure E amended the county general plan, it affects  
7    unincorporated lands that are under the county's jurisdiction. Measure E is intended to  
8    direct residential growth into the incorporated cities, which are more capable of serving  
9    such growth, and limit the potential for residential growth to convert agricultural land  
10    within the unincorporated areas. Its immediate effect is to restrict future residential  
11    developments within the unincorporated county to those areas that are currently  
12    designated and zoned for residential development unless it is otherwise amended by a  
13    future voter initiative.

14    **3.2.3 Impact Analysis**

15    ***a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide***  
16    ***Importance (Farmland), as shown on the maps prepared pursuant to the***  
17    ***Farmland Mapping and Monitoring Program of the California Natural Resources***  
18    ***Agency, to non-agricultural use?***

19    **No Impact**

20    Phase 1

21    This phase would temporarily disturb approximately 8.3 acres of Prime Farmland (West  
22    HDD Work Area, West HDD Staging Area), approximately 10.8 acres of Statewide  
23    Importance Farmland (East HDD Work Area, pipeline staging area) and 5.8 acres of  
24    Unique farmland (pipeline staging area). However, the Project would only affect a single  
25    fall crop rotation during this phase. No long-term conversion of farmland would occur,  
26    and new above-ground facilities would be limited to pipeline markers, which would be  
27    located in areas that do not conflict with agricultural activities.

28    Phase 2

29    This phase would temporarily disturb approximately 2 acres of Prime Farmland (Work  
30    Area 2, Work Area 3, Work Area 4, East Staging Area) and approximately 1.1 acres of  
31    Statewide Importance Farmland (Work Area 2, Work Area 4, East Staging Area).  
32    However, and the Project would only affect a single fall crop rotation during Phase 2  
33    and no long-term conversion of farmland would occur.

1 ***b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?***

2 **No Impact**

3 Phases 1 and 2

4 The Project does not represent a change in land use and would not conflict with existing  
5 General Agriculture (A-2-40) zoning, agricultural practices or Williamson Act contracts.

6 ***c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined***  
7 ***in Pub. Resources Code, § 12220, subd. (g)), timberland (as defined by Pub.***  
8 ***Resources Code, § 4526), or timberland zoned Timberland Production (as defined***  
9 ***by Gov. Code, § 51104, subd. (g))?***

10 **No Impact**

11 Phases 1 and 2

12 Forest land or timberland does not occur in the region and would not be rezoned.

13 ***d) Result in the loss of forest land or conversion of forest land to non-forest use?***

14 **No Impact**

15 Phases 1 and 2

16 Forest land or timberland does not occur in the region and would not be adversely  
17 affected or converted to non-forest use.

18 ***e) Involve other changes in the existing environment which, due to their location***  
19 ***or nature, could result in conversion of Farmland, to non-agricultural use or***  
20 ***conversion of forest land to non-forest use?***

21 **No Impact**

22 Phases 1 and 2

23 The Project would not involve any environmental changes that could lead to conversion  
24 of farmland or forest land.

25 **3.2.4 Mitigation Summary**

26 The Project would have no impact to agriculture and forestry resources; therefore, no  
27 mitigation is required.

### 1 3.3 AIR QUALITY

<b>AIR QUALITY</b> - Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

#### 2 3.3.1 Environmental Setting

##### 3 3.3.1.1 General Climate and Meteorology

4 The California Air Resources Board (CARB) has divided California into regional air  
5 basins according to topographic air drainage features. The San Joaquin Valley Air Basin  
6 (SJVAB), which is approximately 250-miles long and averages 35-miles wide, is the  
7 second largest air basin in the state. Air pollution is directly related to a region's  
8 topographic features. The SJVAB is defined by the Sierra Nevada mountains in the east  
9 (8,000 to 14,000 feet in elevation), the Coast Ranges in the west (averaging 3,000 feet  
10 in elevation), and the Tehachapi mountains in the south (6,000 to 8,000 feet in  
11 elevation). The San Joaquin Valley is basically flat with a slight downward gradient to  
12 the northwest. The San Joaquin Valley could be considered a "bowl" open only to the  
13 north, as it opens to the sea at the Carquinez Straits where the San Joaquin-  
14 Sacramento Delta empties into San Francisco Bay.

Although marine air generally flows into the SJVAB from the San Joaquin River Delta, the region's topographic features restrict air movement through and out of the basin. The Coast Range hinders wind access into the San Joaquin Valley from the west, the Tehachapi Mountains prevent southerly passage of airflow, and the high Sierra Nevada range is a significant barrier to the east. These topographic features result in weak airflow, which becomes blocked vertically by high barometric pressure over the valley. As a result, the SJVAB is highly susceptible to pollutant accumulation over time. Most of the surrounding mountains are above the normal height of summer inversion layers (1,500-3,000 feet). Local climatological effects, including wind speed and direction, temperature, inversion layers, and precipitation and fog, can exacerbate the air quality problem in the SJVAB.

### 3.3.1.2 Local Air Quality

The ambient air quality of Stanislaus County is monitored by two stations: one in the City of Modesto (14th Street) and one in the City of Turlock (Minaret Street). The Turlock air quality monitoring station is closest and located approximately 10.7 miles east-northeast of the Project site. Air quality data from this station is presented in Table 3.3-1, which indicates ozone concentrations monitored in Turlock periodically exceed the state and federal standards, with the State 8-hour ozone standard exceeded an average of 29 days per year from 2016 through 2018. In addition, the State 24-hour PM<sub>10</sub> standard and Federal PM<sub>2.5</sub> standard are periodically exceeded at the Turlock monitoring station.

**Table 3.3-1. Ambient Air Quality Summary (Turlock Monitoring Station)**

Air Pollutant/Parameter	Standard	2016	2017	2018
<b>Ozone (parts per million)</b>				
Maximum 1-hour concentration monitored (ppm)		0.102	0.114	0.108
Number of days exceeding State standard	0.09 ppm	5	3	7
Maximum 8-hour concentration monitored (ppm)		0.089	0.100	0.096
Number of days exceeding 2015 Federal 8-hour standard	0.070 ppm	27	31	26
Number of days exceeding State 8-hour standard	0.070 ppm	28	31	28
<b>PM<sub>10</sub> (micrograms/cubic meter)</b>				
Maximum sample (µg/m <sup>3</sup> )		62.7	111.7	250.4
Number of samples exceeding State 24-hour standard	50 µg/m <sup>3</sup>	7	15	13
Number of samples exceeding Federal 24-hour standard	150 µg/m <sup>3</sup>	0	0	6
<b>PM<sub>2.5</sub> (micrograms/cubic meter)</b>				
Maximum sample (µg/m <sup>3</sup> )		53.6	72.3	187.3
Number of samples exceeding 24-hour Federal standard	35 µg/m <sup>3</sup>	13	29	25

Source: CARB 2020

3.3.1.3 Effects of Air Pollution

The primary chemical compounds that are considered pollutants emitted into or formed in the atmosphere include ozone, oxides of nitrogen, sulfur dioxide, hydrocarbons, carbon monoxide, and particulate matter.

Ozone is formed in the atmosphere through a complex series of chemical reactions generally requiring light as an energy source. Ozone is a pungent, colorless gas that is a strong irritant and attacks the respiratory system. Respiratory and cardiovascular diseases are aggravated by exposure to ozone. A healthy person exposed to high concentrations of ozone may experience nausea, dizziness, and burning in the chest. Ozone also damages crops and other vegetation.

Oxides of nitrogen ( $\text{NO}_x$ ) which are considered pollutants include nitric oxide (NO) and nitrogen dioxide ( $\text{NO}_2$ ). NO is colorless and odorless and is generally formed by combustion processes combining atmospheric oxygen and nitrogen.  $\text{NO}_2$  is a reddish-brown irritating gas formed by the combination of NO and oxygen in the atmosphere or at the emission source. Both NO and  $\text{NO}_2$  are considered ozone precursors because they react with hydrocarbons and oxygen to produce ozone. Exposure to  $\text{NO}_2$  may increase the potential for respiratory infections in children and cause difficulty in breathing even among healthy persons and especially among asthmatics.

Sulfur dioxide ( $\text{SO}_2$ ) is a colorless, pungent, irritating gas which affects the upper respiratory tract. Sulfur dioxide may combine with particulate matter and settle in the lungs, causing damage to lung tissues. Sulfur dioxide may combine with water in the atmosphere to form sulfuric acid that may fall as acid rain, damaging vegetation.

Hydrocarbons include a wide variety of compounds containing hydrogen and carbon. Many hydrocarbons (known as reactive organic gases [ROG]) react with NO and  $\text{NO}_2$  to form ozone. Generally, ambient hydrocarbon concentrations do not cause adverse health effects directly but result in ozone formation.

Carbon monoxide (CO) is a colorless, odorless gas generally formed by incomplete combustion of hydrocarbon-containing fuels. Carbon monoxide does not irritate the respiratory tract but does interfere with the ability of blood to carry oxygen to vital tissues.

Particulate matter (PM) consists of a wide variety of particle sizes and composition. Generally, particles less than 10 microns ( $\text{PM}_{10}$ ) are considered to be pollutants because they accumulate in the lung tissues and may contain toxic materials which can be absorbed into the system.

### 3.3.1.4 Toxic Air Contaminants (TAC)

Over 800 substances have been identified by the U.S. Environmental Protection Agency (USEPA) and CARB that are emitted into the air and may adversely affect human health. Based on the TAC inventory prepared by the San Joaquin Valley Air Pollution Control District (SJVAPCD), the TAC with the greatest emission rate in the San Joaquin Valley SJVAB is diesel particulate matter (DPM). Due to the cancer risk associated with exposure to diesel particulate matter, this substance has been targeted for risk reduction by the SJVAPCD, which includes development and implementation of District rules and State Airborne Toxic Control Measures. In addition, CARB has developed a Final Risk Reduction Plan (released October 2000) for exposure to diesel PM. Based on CARB Resolution 00-30, full implementation of emission reduction measures recommended in the Final Risk Reduction Plan would result in a 75 percent reduction in the diesel PM Statewide inventory and the associated cancer risk by 2010, and an 85 percent reduction by 2020 in the diesel PM inventory and potential cancer risk.

Sources of TACs in the Project region include mobile sources (motor vehicles, trains, equipment) and stationary sources such as dry cleaners (perchloroethylene emissions) and gasoline dispensing stations (vapor emissions of benzene and other components of gasoline).

### 3.3.1.5 Air Quality Standards

Air quality standards are specific pollutant concentration thresholds that are used to protect public health and the public welfare. The USEPA has developed two sets of standards; one to provide an adequate margin of safety to protect human health, and the second to protect the public welfare from any known or anticipated adverse effects. At this time, SO<sub>2</sub> is the only pollutant for which the two standards differ. The CARB has developed air quality standards for California, which are generally lower in concentration (i.e., more stringent) than federal standards. California standards exist for Ozone (O<sub>3</sub>), CO, suspended PM<sub>10</sub>, visibility, sulfates, lead, hydrogen sulfide, and vinyl chloride. Table 3.3-2 lists applicable ambient air quality standards.

**Table 3.3-2. Ambient Air Quality Standards (State and Federal)**

Pollutant	Averaging Time	California Standard	Federal Standard
Ozone (O <sub>3</sub> )	1-Hour	0.09 ppm	--
Ozone (O <sub>3</sub> )	8-Hour	0.070 ppm	0.070 ppm
Carbon Monoxide (CO)	1-Hour	20 ppm	35 ppm
Carbon Monoxide (CO)	8-Hour	9.0 ppm	9 ppm
Nitrogen Dioxide (NO <sub>2</sub> )	Annual Arithmetic Mean	0.030 ppm	0.053 ppm
Nitrogen Dioxide (NO <sub>2</sub> )	1-Hour	0.18 ppm	100 ppb
Sulfur Dioxide (SO <sub>2</sub> )	Annual Arithmetic Mean	--	0.030 ppm
Sulfur Dioxide (SO <sub>2</sub> )	24-Hour	0.04 ppm	0.14 ppm

Pollutant	Averaging Time	California Standard	Federal Standard
Sulfur Dioxide (SO <sub>2</sub> )	3-Hour	--	0.5 ppm (secondary)
Sulfur Dioxide (SO <sub>2</sub> )	1-Hour	0.25 ppm	75 ppb
Respirable Particulate Matter PM <sub>10</sub>	Annual Geometric Mean	20 µg/m <sup>3</sup>	--
Respirable Particulate Matter PM <sub>10</sub>	24-Hour	50 µg/m <sup>3</sup>	150 µg/m <sup>3</sup>
Fine Particulate Matter PM <sub>2.5</sub>	Annual Geometric Mean	12 µg/m <sup>3</sup>	12.0 µg/m <sup>3</sup>
Fine Particulate Matter PM <sub>2.5</sub>	24-Hour	--	35 µg/m <sup>3</sup>
Hydrogen Sulfide (H <sub>2</sub> S)	1-Hour	0.03 ppm	--
Vinyl Chloride	24 Hour	0.01 ppm	--
Sulfates	24 Hour	25 µg/m <sup>3</sup>	--
Lead	30 Day Average	1.5 µg/m <sup>3</sup>	--
Lead	Calendar Quarter	--	1.5 µg/m <sup>3</sup>
Lead	Rolling 3-Month Average	--	0.15 µg/m <sup>3</sup>
Visibility Reducing Particles	8-Hour	Extinction coefficient of 0.23 per kilometer - visibility of 10 miles or more due to particles when relative humidity is less than 70 percent.	--

Source: CARB 2020

### 1 3.3.1.6 Air Quality Regulation and Planning

2 Air pollution control is administered on three governmental levels. The USEPA has  
3 jurisdiction under the Clean Air Act, the CARB has jurisdiction under the California  
4 Health and Safety Code and the California Clean Air Act, and the SJVAPCD shares  
5 responsibility with the CARB for ensuring that all state and federal ambient air quality  
6 standards are attained within the SJVAB. The Project site is located in Stanislaus  
7 County within the SJVAB, which is comprised of San Joaquin County, Stanislaus  
8 County, Merced County, Madera County, Fresno County, Kings County, Tulare County  
9 and Kern County (western part). Stanislaus County periodically fails to meet air quality  
10 standards and is a designated “non-attainment” area for:

- 11 • State 1-hour ozone standard
- 12 • State and federal 8-hour ozone standard
- 13 • State particulate matter (PM<sub>10</sub>) standard
- 14 • State and federal fine particulate matter (PM<sub>2.5</sub>) standards

1 The SJVAPCD developed the 2016 Ozone Plan for the 2008 federal 8-hour ozone  
2 standard to address the mandate to attain this ambient air quality standard by  
3 December 31, 2031. Through implementation of comprehensive stationary source and  
4 mobile source control strategies as part of the 2016 Ozone Plan and previous ozone  
5 plans, the number of days that the federal 8-hour ozone standard was exceeded in the  
6 SJVAB has declined from 158 days in 2002 to 80 days in 2015. Implementation of the  
7 2016 Ozone Plan is anticipated to result in attainment of the 2008 federal 8-hour zone  
8 standard in SJVAB by 2031.

9 The SJVAPCD developed the 2018 Plan for the 1997, 2006 and 2012 federal PM<sub>2.5</sub>  
10 standards to attain these standards as expeditiously as practicable. This Plan builds on  
11 numerous existing plans and measures adopted by the SJVAPCD and CARB. Through  
12 implementation of these measures, the number of days that the 2006 federal 24-hour  
13 PM<sub>2.5</sub> standard was exceeded in the SJVAB has declined from 128 days in 2002 to 35  
14 days in 2017. The SJVAB is anticipated to attain the 2012 federal PM<sub>2.5</sub> standard by  
15 December 31, 2025.

### 16 **3.3.2 Regulatory Setting**

17 Federal and state laws and regulations pertaining to air quality and relevant to the  
18 Project are identified in Appendix A. At the local level, the SJVAPCD regulates  
19 stationary sources of air pollution in the SJVAB.

#### 20 **3.3.2.1 SJVAPCD Rules and Regulations**

21 The following SJVAPCD rules and regulations are applicable to the Project:

- 22 • Rule 4101 – Visible Emissions: This Rule sets the opacity standards for the  
23 discharge of visible air contaminants (typically smoke). Rule 4101 applies to  
24 heavy equipment exhaust used for proposed pipeline decommissioning and  
25 installation activities.
- 26 • Rule 4102 – Nuisance. This Rule indicates that no air contaminants shall be  
27 discharged that would cause injury, detriment, nuisance or annoyance to any  
28 considerable number of persons or to the public or which endangers the comfort,  
29 repose, health or safety of any such persons or the public or which would cause  
30 injury or damage to business or property. Rule 4102 applies to air pollutant  
31 emissions and any odors associated with proposed pipeline decommissioning  
32 and installation activities.
- 33 • Rule 8011 – General Requirements: This Rule sets the requirements for a  
34 fugitive dust management plan for use of unpaved roads and unpaved  
35 vehicle/equipment traffic areas. Rule 8011 applies to proposed pipeline  
36 decommissioning and installation activities.

- Rule 8021 – Construction, Demolition, Excavation, Extraction and Other Earthmoving Activities. This Rule sets requirements to reduce fugitive dust generation in areas affected by these operations. Rule 8021 applies to proposed pipeline decommissioning and installation activities.

The SJVAPCD's Guidance for Assessing and Mitigating Air Quality Impacts include adopted significance thresholds for short-term project (construction) air pollutant emissions (Table 3.3-3) (SJVAPCD 2015).

**Table 3.3-3. SJVAPCD Thresholds of Significance (Construction)**

Pollutant	Significance Threshold (tons per year)
NO <sub>x</sub>	10
ROG	10
CO	100
PM <sub>10</sub>	15
PM <sub>2.5</sub>	15

### 3.3.3 Impact Analysis

#### ***a) Conflict with or obstruct implementation of the applicable air quality plan?***

#### **No Impact**

#### **Phases 1 and 2**

The Project is comprised of the replacement of an existing natural gas pipeline and would not extend service into new areas or provide increased capacity into underserved areas. Therefore, the Project would not induce population growth and would not affect the emissions inventory projections (primarily based on population) of the SJVAPCD's 2016 Ozone Plan or 2018 PM<sub>2.5</sub> Plan. Therefore, the Project would not conflict with the implementation of these plans and progress towards attainment of ozone and PM<sub>2.5</sub> standards.

#### ***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?***

#### **Less than Significant Impact**

## Phases 1 and 2

Air pollutant emissions associated with implementation of the Project (both Phases 1 and 2) were estimated using emissions factors from emissions inventory models developed by CARB (EMFAC 2017, OFFROAD 2017). Inputs used in the EMFAC 2017 model (on-road motor vehicles) are year 2020 annual emissions for Stanislaus County. Inputs used in the OFFROAD 2017 model (off-road and stationary equipment) are year 2020 emissions for the SJVAB. Appendix C provides spreadsheets documenting these emissions calculations. Project emission estimates are provided in Tables 3.3-4 and 3.3-5 for Phases 1 and 2, respectively. As Phase 1 and Phase 2 would be implemented in different years, emissions are not additive when comparing to the SJVAPCD tons per year thresholds for construction emissions. Since estimated air pollutant emissions for both Phases 1 and 2 are less than the SJVAPCD's CEQA thresholds of significance, the Project's incremental increase is not considered cumulatively considerable.

**Table 3.3-4. Estimated Phase 1 Air Pollutant Emissions (tons per year)**

Work Task	NO <sub>x</sub>	ROG	CO	PM <sub>10</sub>	PM <sub>2.5</sub>
Site Support/Project Management	0.26	0.04	0.27	0.01	0.01
Pipe/Materials Procurement	0.04	<0.01	0.02	<0.01	<0.01
Excavation	0.09	0.01	0.06	<0.01	<0.01
Pipeline String Welding	0.44	0.04	0.25	0.02	0.02
Pipeline Installation	0.06	0.01	0.04	<0.01	<0.01
HDD Operation	1.67	0.13	1.08	0.06	0.06
Pipeline String Pull-back	0.06	0.01	0.03	<0.01	<0.01
Strength Test and Caliper Pigging	0.06	0.01	0.11	<0.01	<0.01
Backfill/Site Restoration	0.10	0.01	0.04	<0.01	<0.01
Existing Pipeline Decommissioning	0.02	<0.01	0.04	<0.01	<0.01
<b>Total*</b>	<b>2.79</b>	<b>0.24</b>	<b>1.92</b>	<b>0.10</b>	<b>0.10</b>
<b>SJVAPCD Significance Threshold</b>	<b>10</b>	<b>10</b>	<b>100</b>	<b>15</b>	<b>15</b>

\*Due to rounding, total values may not equal the sum of values in the table

**Table 3.3-5. Estimated Phase 2 Air Pollutant Emissions (tons per year)**

Work Task	NO <sub>x</sub>	ROG	CO	PM <sub>10</sub>	PM <sub>2.5</sub>
Mobilization	0.10	0.01	0.06	<0.01	<0.01
Pigging and Flushing Pipeline	0.04	<0.01	0.06	<0.01	<0.01
Cementing Pipeline	0.14	0.01	0.07	<0.01	<0.01
Onshore Pipeline Removal	0.09	0.01	0.05	<0.01	<0.01
In-River Pipeline Removal	0.20	0.05	0.15	0.02	0.02
Demobilization	0.11	0.01	0.06	<0.01	<0.01
<b>Total*</b>	<b>0.68</b>	<b>0.09</b>	<b>0.45</b>	<b>0.04</b>	<b>0.04</b>
<b>SJVAPCD Significance Threshold</b>	<b>10</b>	<b>10</b>	<b>100</b>	<b>15</b>	<b>15</b>

\*Due to rounding, total values may not equal the sum of values in the table

### **c) Expose sensitive receptors to substantial pollutant concentrations?**

#### **Less than Significant Impact**

##### Phase 1

Sensitive receptors (residential land uses) in the Project area are limited to agricultural worker housing located approximately 1,800 feet northeast of the West HDD Work Area. However, a small excavation required for pipeline decommissioning would be dug approximately 1,300 feet away. All Project-related air pollutant emissions would be short-term. Phase 1 would be conducted in the fall, when the dominant wind direction is from the northwest (data from the Modesto Airport), so nearby residences would be mostly upwind of Project emissions sources. Due to the short-term nature of Phase 1 (4 to 5 months) expected dispersion of pollutants and distance to emission sources, impacts to nearby residences would be less than significant. However, the impacts are further reduced by implementation of fugitive dust control measures required under SJVAPCD Rule 8021, which would minimize PM10 impacts to these sensitive receptors by using best management practices (BMPs), such as submitting a Dust Control Plan to the SJVAPCD prior to the start of any construction activity, limiting the speed of vehicles in the area, and operating water trucks/devices when excavation activities cease,

##### Phase 2

Sensitive receptors (residential land uses) in the Project area are limited to agricultural worker housing located approximately 450 feet northeast of the proposed West Staging Area (see Figure 2-4). The West Landing Pipeline Segment pipeline removal area would be located within 125 feet of these residences. All Project-related air pollutant emissions would be short-term (3 to 4 months). In addition, Phase 2 would be conducted in the fall, when the dominant wind direction is from the northwest (data from the Modesto Airport), such that nearby residences would be mostly upwind of Project

emissions sources. Due to the short-term nature of Phase 2 and expected dispersion of pollutants, impacts to nearby residences would be less than significant. Furthermore, as noted above, BMPs as mandated by the SJVAPCD under Rule 8021<sup>3</sup> would be implemented as part of the Project to further reduce impacts to air quality.

***d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?***

## **Less than Significant Impact**

### **Phases 1 and 2**

Project-related odors would be limited to diesel exhaust. Both Phases 1 and 2 would be conducted in the fall, when the dominant wind direction is from the northwest with a monthly average of 8 miles per hour (data from the Modesto Airport). Nearby residences would be mostly upwind of Project emissions sources and fall winds would likely disperse odors. In addition, Project-related emissions are temporary and are not anticipated to result in ongoing nuisance or annoyance. SJVAPCD Rule 4102 would not be violated and potential odor impacts are considered less than significant.

### **3.3.4 Mitigation Summary**

The Project would have no significant impacts to air quality; therefore, no mitigation is required.

---

<sup>3</sup> A copy of Rule 8021 can be found here: <https://www.valleyair.org/rules/currnrules/r8021.pdf>

# 1 **3.4 BIOLOGICAL RESOURCES**

<b>BIOLOGICAL RESOURCES – Would the project:</b>	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
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 U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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, U.S. Fish and Wildlife Service, State Lands Commission, or California Coastal Commission?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (including essential fish habitat)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

2 The following discussion is based (in part) on a Biological Technical Report prepared for  
3 Phase 2 of the Project, which is attached as Appendix D.

## 4 **3.4.1 Environmental Setting**

### 5 **3.4.1.1 Vegetation**

6 Plant communities were identified based on species composition and the Preliminary  
7 Descriptions of the Terrestrial Natural Communities of California (Holland 1986) but  
8 were modified as needed to accurately describe the existing habitat observed on-site.

The most recent classification system (A Manual of California Vegetation) used by the California Department of Fish and Wildlife (CDFW) was not used due to the difficulty in fully identifying dominant plant species at the time of the field surveys (winter). Six plant communities were identified on-site during field surveys. Along the River, Great Valley willow scrub is present in the lower terraces of the floodplain and Great Valley mixed riparian forests dominate the upper reaches of the floodplain. Additional detail regarding these plant communities is provided in Appendix D.

#### Agriculture

This term was used to describe cover crops and row crops present on both sides of the River. The most common crop present at the time of the field surveys was alfalfa.

#### Great Valley Mixed Riparian Forest

This plant community is dominated by broadleaved winter-deciduous trees that form in a fine-textured alluvium soil on the borders of river channels. Species that are characteristic of this plant community within the Project site include Goodding's black willow (*Salix gooddingii*), Fremont cottonwood (*Populus fremontii*), California box elder (*Acer negundo*), and California buttonwillow (*Cephalanthus occidentalis*). A sparse to dense herbaceous community was observed beneath the tree canopies including hydrophytic (associated with high soil moisture) species such as cocklebur (*Xanthium strumarium*), rabbitsfoot grass (*Polypogon monspeliensis*), and curly dock (*Rumex crispus*).

#### Great Valley Willow Scrub

This vegetation type is a riparian community consisting of dense, broad-leafed, winter-deciduous riparian thickets dominated by several willow species (Holland 1986). This plant community is prevented from maturing into riparian forest by periodic heavy flooding and erosion. Within the Project site, this plant community is present along both the western and eastern banks of the River.

#### Non-Native Grassland

This plant community occurs in previously disturbed areas and is dominated by non-native annual grasses including Bermuda grass (*Cynodon dactylon*), meadow barley (*Hordeum marinum ssp. gussoneanum*), and hare barley (*Hordeum murinum ssp. leporinum*). Annual forb species found in the grassland include black mustard (*Brassica nigra*), California burclover (*Medicago polymorpha*), redstem filaree (*Erodium cicutarium*), and shepherd's purse (*Capsella bursa-pastoris*).

1 Ruderal/Disturbed

2 This term is used to describe recently disturbed areas dominated by mostly weedy plant  
3 species. The species composition and density of this community varies significantly  
4 within the Project site. On the western side of the San Joaquin River channel, this  
5 vegetation type was mapped along the roadway to the west of Work Area 1, on top of  
6 the ACOE West Levee, and intermixing slightly with the Great Valley mixed riparian  
7 forest where vehicle traffic has significantly disturbed the vegetative cover. On the east  
8 side of the River, the ruderal/disturbed community was mapped along both the  
9 agricultural levee and the East ACOE Levee.

10 3.4.1.2 Waters and Wetlands

11 The Project site was examined for evidence of regulated habitats, such as waters and  
12 wetlands, under regulatory authority of the ACOE under Section 404 of the Clean Water  
13 Act and/or Section 10 of the Rivers and Harbors Act of 1899, and the California Water  
14 Board's State Wetland Definition and Procedures for Discharges of Dredged or Fill  
15 Material to Waters of the State (Procedures) (2019). A Preliminary Aquatic Resource  
16 Delineation was conducted during January 2020 for the Project site (Padre 2020) and is  
17 summarized within the attached Biological Technical Report (Appendix D). Within the  
18 Project site, there are several wetland types and other waters present that would likely  
19 be subject to federal and state jurisdiction. These different wetland types are defined  
20 both by their abiotic features such as water regime and topography as well as biotic  
21 factors like vegetation communities.

22 Lower Perennial Riverine (Waters of the U.S./State)

23 Riverine waters are defined as aquatic resource features that are confined within a  
24 channel and lack a dominance of trees, shrubs, persistent emergent herbs, mosses, or  
25 lichens. Wetlands that occur on a river's floodplain are classified separately from the  
26 riverine system due to the presence of vegetation cover (Cowardin 1979). Within the  
27 Project site, the limits of the lower perennial riverine classification are therefore confined  
28 to just the low flow channel of the River which is classified as a lower perennial channel.  
29 Riverine waters are not considered wetlands due to the lack of hydrophytic vegetation.

30 Palustrine Emergent Wetland (Wetland)

31 In most circumstances, palustrine wetlands are dominated by persistent emergent  
32 herbs, shrubs, or trees and are found in non-tidal areas. Within the Project site, a  
33 palustrine emergent wetland was mapped within the Great Valley mixed riparian forest  
34 plant community above the ordinary high-water mark. This wetland is located in a  
35 depressional feature that maintains high soil moisture due to subsurface flow and  
36 occasional flooding.

1 Palustrine Scrub-Shrub Wetland (Wetland)

2 Scrub-shrub wetlands often develop from adverse environmental conditions like flooding  
3 and erosion which prevent larger or older woody plants from developing. For this  
4 reason, a palustrine scrub-shrub wetland may be an early succession of a palustrine  
5 forested wetland and could develop into a forest given enough time to develop without  
6 adverse environmental conditions. Within the Project site, palustrine scrub-shrub  
7 wetlands are present on the lowest and most exposed terraces of the River's active  
8 floodplain.

9 Palustrine Forested Wetland (Wetland)

10 Palustrine forested wetlands share the same characteristics of other palustrine systems  
11 as described above but have a dominance of woody plants that are greater than 20 feet  
12 tall (trees). Within the Project site, this wetland type was part of the Great Valley mixed  
13 riparian forest vegetation community and is located on the western side of the River in  
14 the second terrace of the active floodplain where violent and disruptive flooding is less  
15 common.

16 3.4.1.3 Sensitive Natural Communities

17 Under the Manual of California Vegetation classification system (Sawyer et. al 2009)  
18 Great Valley mixed riparian forest may be considered Fremont cottonwood forest, which  
19 has a rarity ranking of G4/S3.2, which means the plant community is apparently secure  
20 at a global level, but vulnerable to extirpation at the state level.

21 3.4.1.4 Critical Habitat

22 The River downstream of its confluence with the Merced River (including the Project  
23 site) has been designated as critical habitat for the federally threatened Central Valley  
24 distinct population segment of steelhead (*Oncorhynchus mykiss*).

25 3.4.1.5 Wildlife

26 Wildlife observed at the Project site during field surveys is characteristic of the region  
27 and of the riverine and agricultural habitats. A comprehensive list of wildlife species  
28 observed during the surveys are included in Appendix D. The open agricultural  
29 landscape found surrounding the Project site provides forage for passerine birds and  
30 small mammals, such as California vole (*Microtus californicus*). These species, in turn,  
31 provide the prey base that attracts raptors such as red-tailed hawk (*Buteo jamaicensis*),  
32 northern harrier (*Circus cyaneus*), and Swainson's hawk (*Buteo swainsoni*). Agricultural  
33 production can increase insect populations that can also be prey for birds such as  
34 egrets (*Ardea* sp). Within the Project site, potential nesting habitat is limited to sparse  
35 riparian tree cover along the River and landscaping trees west of the River; however

1 suitable nest trees that may support nesting Swainson's hawk or other raptors occur  
2 within 0.25-mile of the Project site.

### 3 3.4.1.6 Special-Status Plant Species

4 For the purposes of this analysis, special-status plant species are defined as listed or  
5 candidate species under the federal or state endangered species acts or considered  
6 rare or endangered by the California Native Plant Society. Based on literature review  
7 (including the California Natural Diversity Data Base [CNDDDB]) and a rare plant survey  
8 that was conducted in the Project area in 2019 as part of an overall Biological  
9 Resources Assessment (Stantec 2019), a list of 21 special-status plant species reported  
10 from the Project region (central San Joaquin Valley) was compiled (see Table 4 in  
11 Appendix D). None of these plant species have the potential to be present within the  
12 Project site.

### 13 3.4.1.7 Special-Status Wildlife Species

14 For the purposes of this analysis, special-status wildlife species are defined as listed or  
15 candidate species under the federal or state endangered species acts or a CDFW  
16 species of special concern. Based on literature review (including the CNDDDB) a list of  
17 five invertebrate species, 13 fish species, four amphibian species, three reptile species,  
18 17 bird species, and five mammal species from the Project region (central San Joaquin  
19 Valley) was compiled (see Table 4 in Appendix D). Special-status wildlife species with a  
20 moderate to high potential to occur at the Project site are discussed in Table 3.4-1.

### 21 3.4.1.8 Wildlife Corridors

22 Wildlife migration corridors are generally defined as connections between fragmented  
23 habitat patches that allow for physical and genetic exchange between otherwise  
24 isolated wildlife populations. Migration corridors may be local, such as those between  
25 foraging and nesting or denning areas, or they may be regional in extent. Migration  
26 corridors are not unidirectional access routes; however, reference is usually made to  
27 source and receiver areas in discussions of wildlife movement networks. "Habitat  
28 linkages" are migration corridors that contain contiguous strips of native vegetation  
29 between source and receiver areas. Habitat linkages provide cover and forage sufficient  
30 for temporary inhabitation by a variety of ground-dwelling animal species. Wildlife  
31 migration corridors are essential to the regional fitness of an area as they allow animals  
32 to access alternative territories when natural and man-made changes intrude into  
33 existing environments.

**Table 3.4-1. Potential Occurrence of Special-Status Wildlife at the Project Site**

Common Name Scientific Name	Status <sup>1</sup>	Probability of Occurrence
Central Valley steelhead <i>Oncorhynchus mykiss</i>	FT	<b>High.</b> Likely to occur at the Project site seasonally (spring and fall) during migration to and from spawning habitat upstream in the Merced River. Habitat on-site is not suitable for spawning.
Central Valley fall-run Chinook salmon <i>Oncorhynchus tshawytscha</i>	CSC	<b>High.</b> Likely to occur at the Project site seasonally (upstream in fall, downstream in late winter and spring) during migration to and from spawning habitat upstream in the Merced River. Habitat on-site is not suitable for spawning.
Central Valley spring-run Chinook salmon <i>Oncorhynchus tshawytscha</i>	FT, ST	<b>High.</b> Likely to occur at the Project site seasonally (upstream in spring, downstream in late winter and spring) during migration to and from spawning habitat upstream. Habitat on-site is not suitable for spawning. This is a re-introduced population and designated as a non-essential experimental population.
River lamprey <i>Lampetra ayresii</i>	CSC	<b>Moderate.</b> Reported from the Tuolumne River and could occur at the Project site during upstream migration; however, habitat on-site is not suitable for spawning.
Pacific lamprey <i>Entosphenus tridentata</i>	CSC	<b>Moderate.</b> Reported from the San Joaquin River and may be found at the Project site in migration; however, habitat on-site is not suitable for spawning.
Sacramento hitch <i>Lavinia exilicauda exilicauda</i>	CSC	<b>Moderate.</b> Reported from the San Joaquin River and may be found at the Project site.
White Sturgeon <i>Acipenser transmontanus</i>	CSC	<b>Moderate.</b> Reported from the San Joaquin River and may be found at the Project site. Spawning has been documented downstream of the Project site near Laird Park (9.6 miles to the northwest)
Sacramento splittail <i>Pogonichthys macrolepidotus</i>	CSC	<b>Moderate.</b> Reported from the San Joaquin River as far upstream as Salt Slough (near Newman), may be found at the Project site.
Western pond turtle <i>Emys marmorata</i>	CSC	<b>Moderate.</b> Low quality habitat present along the River at the Project site, may occur.
Cooper's hawk <i>Accipiter cooperii</i>	WL	<b>Moderate.</b> Reported from the Modesto wastewater treatment ponds 5.4 miles to the north, may nest in trees within and adjacent to the Project site.
Sharp-shinned hawk <i>Accipiter striatus</i>	WL	<b>Moderate.</b> Reported from the Modesto wastewater treatment ponds 5.4 miles to the north, may nest in trees within and adjacent to the Project site.
Swainson's hawk <i>Buteo swainsoni</i>	ST, BCC	<b>High.</b> An active Swainson's hawk nest was observed adjacent to the Project site in 2019 by Stantec (2019).
Yellow warbler <i>Setophaga petechia</i>	CSC, BCC	<b>Moderate.</b> Reported from the Modesto wastewater treatment ponds 5.4 miles to the north, may nest in trees within and adjacent to the Project site.
Yellow-breasted chat <i>Icteria virens</i>	CSC	<b>Moderate.</b> Reported from the Modesto wastewater treatment ponds 5.4 miles to the north, may nest in trees within and adjacent to the Project site.
Osprey <i>Pandion haliaetus</i>	WL	<b>Moderate.</b> Reported from the Modesto wastewater treatment ponds 5.4 miles to the north, may nest in trees within and adjacent to the Project site.
White-tailed kite <i>Elanus leucurus</i>	FP	<b>Moderate.</b> Reported from the Modesto wastewater treatment ponds 5.4 miles to the north, may nest in trees within and adjacent to the Project site.

Common Name Scientific Name	Status <sup>1</sup>	Probability of Occurrence
Loggerhead shrike <i>Lanius ludovicianus</i>	CSC BCC	<b>Moderate.</b> Reported from the Modesto wastewater treatment ponds 5.4 miles to the north, may forage at the Project site, unlikely to nest due to lack of suitable habitat.
Oak titmouse <i>Baeolophus inornatus</i>	BCC	<b>High.</b> Was observed during field surveys and is likely to nest within large valley oak trees at/near the Project site.
Burrowing owl <i>Athene cunicularia</i>	CSC, BCC	<b>Moderate.</b> No signs of burrowing owl were observed during winter field surveys; however, suitable burrows are present at the Project site and this species could occur.
Northern harrier <i>Circus cyaneus</i>	CSC	<b>Moderate.</b> Reported from near South Carpenter Road less than 3 miles from the Project site and may occur on-site. Agricultural fields adjacent to the Project site support both foraging and nesting habitat for this species.

**Status Codes<sup>1</sup>:**

BCC United States Fish and Wildlife Service (USFWS) Bird of Conservation Concern  
 CSC California Species of Special Concern  
 FE Federal Endangered  
 FP CDFW Fully Protected  
 FT Federal Threatened  
 SE California State Endangered  
 ST California State Threatened  
 WL CDFW Watch List

1 The River at the Project site provides a corridor for migratory fish to and from upstream  
 2 spawning areas including Central Valley steelhead, Chinook salmon and possibly  
 3 lamprey. The River also provides native vegetation and cover within an intensively  
 4 cultivated agricultural area dominated by cover crops and row crops. Mammals and  
 5 reptiles likely use the riparian vegetation along the River as cover during regional  
 6 movements. Birds such as warblers, hummingbirds, etc. migrate to higher elevations in  
 7 the spring and lower elevations in the fall and the riparian habitat adjacent to the River  
 8 offers shelter, forage, and water for migrating species traversing to the Sierra Nevada  
 9 Range to nest. Additionally, Central Valley year-round residents make local migrations  
 10 for foraging and/or nesting habitat along the River.

#### 11 3.4.1.9 San Joaquin River Restoration Program

12 This Program involves a combination of channel and structural modifications along the  
 13 River below Friant Dam, releases of water from Friant Dam to the confluence of the  
 14 Merced River, and the reintroduction of spring-run Chinook salmon. The first flow  
 15 releases from Friant Dam in support of the Program occurred in October 2009. Key  
 16 Program milestones included: (1) reintroducing spring-run Chinook salmon by  
 17 December 2012; (2) completing all high priority channel and structural construction  
 18 activities by December 2013; and (3) releasing the full restoration flows in 2014.  
 19 Juvenile spring-run Chinook salmon have been re-introduced to the San Joaquin River  
 20 upstream of the Merced River confluence since 2014, with redds (nests) observed in

1 this area in 2019, indicating these salmon successfully returned from the ocean to  
2 spawn. Due to the complexity of the habitat restoration and the ongoing drought in  
3 California, the latter two milestones have not been met, but the program is still moving  
4 forward.

### 5 **3.4.2 Regulatory Setting**

6 Federal and state laws and regulations pertaining to biological resources and relevant to  
7 the Project are identified in Appendix A. Local goals, policies, or regulations applicable  
8 to this area with respect to biological resources are listed below.

#### 9 **3.4.2.1 Stanislaus County General Plan**

10 The Stanislaus County General Plan includes several goals and policies to protect  
11 natural resources. The goals and policies listed below are relevant to biological  
12 resources in the county and can be found in the Land Use Element and the  
13 Conservation/Open Space Element.

#### 14 Land Use Element

15 **Policy Seven.** Riparian habitat along the rivers and natural waterways of Stanislaus  
16 County shall to the extent possible be protected.

#### 17 Conservation/Open Space Element

18 **Policy One.** Maintain the natural environment in areas dedicated as parks and open  
19 space.

20 **Policy Two.** Assure compatibility between natural areas and development.

21 **Policy Three.** Areas of sensitive wildlife habitat and plant life (e.g., vernal pools,  
22 riparian habitats, flyways and other waterfowl habitats, etc.) including those habitats and  
23 plant species listed in the General Plan Support Document or by state or federal  
24 agencies shall be protected from development.

25 **Policy Four.** Protect and enhance oak woodlands and other native hardwood habitat.

26 **Policy Six.** Preserve vegetation to protect waterways from bank erosion and siltation.

27 **Policy Ten.** Discourage the division of land which forces the premature cessation of  
28 agricultural uses.

29 **Policy Twenty-Nine.** Adequate water flows should be maintained in the County's rivers  
30 to allow salmon migration.

**Policy Thirty.** Habitats of rare and endangered fish and wildlife species shall be protected.

### 3.4.3 Impact Analysis

***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 U.S. Fish and Wildlife Service?***

### Less than Significant with Mitigation

#### Phase 1

The Applicant (PG&E) has an agency-approved Habitat Conservation Plan (HCP) that provides a comprehensive framework for conserving sensitive habitats for protected species for PG&E Operations and Maintenance activities in the San Joaquin Valley. The PG&E San Joaquin Valley HCP was developed in collaboration with the USFWS and CDFW and was first implemented in 2008. In addition, the Applicant must comply with all applicable provisions and/or protective measures of the Master Streambed Alteration Agreement between the California Department of Fish and Game and the Pacific Gas and Electric Company (MSAA) (Notification No. 1600-2008-0001-0000-HQ) and all applicable Conditions of Approval required by the Incidental Take Permit (ITP) issued by CDFW for the HCP (ITP No. 2081-2008-001-00).

**Ground Disturbance, Noise, and Lighting.** Proposed ground disturbance and vegetation removal would be limited to agricultural and roadside areas. Suitable habitat for special-status species listed in Table 3.4-1 would not be directly affected. Noise generated by HDD operations and other proposed activities may temporarily reduce habitat value for special-status bird species along the River; however, noise sources would be located at least 1,000 feet from riparian habitats, so noise levels would be similar to existing conditions associated with agricultural activities. Nighttime operations requiring lighting would be limited to pipeline string pull-back (replacement pipeline installation), which would be conducted in a single 24-hour period. This activity would be located about 1,100 feet from riparian habitats; therefore, increased light levels would also be minimal. In addition, wildlife near existing agricultural worker housing adjacent to the West ACOE Levee have likely become acclimated to lighting. Overall, Phase 1 impacts to special-status species is considered less than significant.

#### Phase 2

**Special-status Fish Species.** Pipeline removal in the River and on the riverbanks may impact special-status fish species (steelhead, Chinook salmon, river lamprey, Pacific lamprey, Sacramento hitch, white sturgeon, Sacramento splittail) if present. Potential

1 impacts due to Project implementation were discussed and seasonal work windows for  
2 avoidance of listed fish species were identified during pre-consultation with the National  
3 Marine Fisheries Service (NMFS). These activities would temporarily increase turbidity  
4 in the aquatic environment surrounding the pipeline removal location. Increases in  
5 turbidity can result in physical effects that adversely affect habitat and temporary  
6 suspension of sediments, organic matter, or contaminated constituents contained within  
7 the sediments could be introduced into the water column. Large-scale increases of  
8 organic matter within a water column, usually associated with fine sediments, such as  
9 silts and clays, can increase dissolved nutrient concentrations, resulting in increased  
10 algal blooms, or decrease dissolved oxygen when the suspended sediments are anoxic  
11 or have a high chemical oxygen demand. Due to the short-term nature of the Project  
12 and implementation of **MM BIO-1** through **MM BIO-4**, impacts to special-status fish  
13 species would be less than significant.

14 As noted above, the Applicant will comply with Master Streambed Alteration Agreement  
15 and the ITP from CDFW during Phase 2.

16 **Western Pond Turtle.** Pipeline decommissioning activities within and adjacent to the  
17 San Joaquin River could cause injury to or result in mortality of western pond turtle. Due  
18 to the short-term nature of the Project and implementation of **MM BIO-5**, this impact  
19 would be less than significant.

20 **Burrowing Owl.** Ground-clearing, equipment staging, and decommissioning activities  
21 could impact nesting burrowing owl. Due to the short-term nature of the Project and  
22 implementation of **MM BIO-6**, this impact would be less than significant.

23 **Swainson's Hawk and White-tailed Kite.** Habitat removal, noise and equipment  
24 activity associated with ground-clearing and pipeline decommissioning may  
25 substantially reduce breeding success of Swainson's hawk or white-tailed kite. Due to  
26 the short-term nature of the Project and implementation of **MM BIO-7**, this impact would  
27 be less than significant.

28 **Breeding Birds.** Vegetation removal or other Project activities may disrupt breeding by  
29 bird species protected under the Migratory Bird Treaty Act, California Fish and Game  
30 Code or other special-status bird species such as northern harrier, osprey, Cooper's  
31 hawk, sharp-shinned hawk, yellow warbler, yellow-breasted chat, loggerhead shrike and  
32 oak titmouse. Due to the short-term nature of the Project and implementation of **MM**  
33 **BIO-8**, this impact would be less than significant.

34 **Noise and Lighting.** Noise generated by pipeline cementing and removal activities may  
35 temporarily reduce habitat value for wildlife and special-status bird species along the  
36 River, particularly during vulnerable periods of the life cycle, such as breeding season.  
37 However, Project activities within habitat areas would mostly be conducted outside the

1 breeding season and would be limited to a maximum of 7 weeks. Therefore, noise-  
2 related impacts to wildlife and bird behavior and foraging success are considered less  
3 than significant.

4 Nighttime operations are not proposed; however, lighting may be occasionally required  
5 to support barge assembly, in-river pipeline removal, and barge disassembly for a few  
6 hours after sunset. However, this lighting would be low intensity, focused on work areas  
7 and limited to a few days. Wildlife at the Project site are expected to have become  
8 acclimated to lighting from existing agricultural worker housing adjacent to the West  
9 ACOE Levee. Therefore, lighting-related impacts to bird behavior and foraging success  
10 would not be considered significant.

11 Implementation of the following MMs would be sufficient to reduce impacts to  
12 special-status species to a less-than-significant level.

13 **MM BIO-1: Worker Environmental Awareness Training.** An environmental  
14 training program shall be developed, approved by CSLC staff prior to Project  
15 implementation, and presented by a qualified biologist. All contractors and  
16 employees involved with the Project shall attend the training. At a minimum,  
17 the training shall address special-status species that could occur on the site,  
18 their distribution, identification characteristics, sensitivity to human activities,  
19 legal protection, penalties for violation of state and federal laws, reporting  
20 requirements, and required Project avoidance, minimization, and mitigation  
21 measures. A copy of the training sign-in sheets shall be provided to CSLC  
22 staff when training has been concluded.

23 **MM BIO-2: In-River Work Period Restrictions.** Pipeline removal activities in  
24 surface water or on the banks of the San Joaquin River shall be conducted  
25 during the period when migratory fish are less likely to be present (July 1 to  
26 September 30). This work period shall be modified as required following  
27 consultation between the ACOE and NMFS conducted as part of Project  
28 permitting. In-river pipeline removal shall be prioritized for occurrence in the  
29 earlier part of the work period, and if feasible, completed prior to  
30 September 15.

31 **MM BIO-3: Biological Monitoring.** A qualified biological monitor, approved by  
32 CSLC staff, shall survey the onshore work area for sensitive species or other  
33 wildlife that may be present no more than 24 hours prior to the  
34 commencement of Project activities. In addition, the biological monitor shall  
35 monitor Project activities within surface water and riparian habitats, and other  
36 activities that have the potential to impact special-status species on a daily  
37 basis before Project activity begins.

1 If at any time during Project decommissioning any special-status wildlife  
2 species are observed within the Project area, work around the animal's  
3 immediate area shall be stopped or work shall be redirected to an area within  
4 the Project site that would not impact these species until the animal is  
5 relocated by a qualified biologist. Listed species would be allowed to leave on  
6 its own volition, unless coordination with USFWS and/or CDFW provide  
7 authorization for relocation by a qualified biologist with appropriate handling  
8 permits. Work would resume once the animal is clear of the work area. In the  
9 unlikely event a special-status species is injured or killed by Project-related  
10 activities, the biological monitor would stop work and notify CSLC and consult  
11 with the appropriate agencies to resolve the impact prior to re-starting work in  
12 the area.

13 **MM BIO-4: Turbidity Monitoring Plan.** A Turbidity Monitoring Plan shall be  
14 developed and submitted to CSLC staff 30 days prior to in-water work. The  
15 plan shall be implemented during all in-river work to ensure that turbidity  
16 levels upstream and downstream of the Project site do not exceed Basin Plan  
17 water quality objectives. The Plan shall include methods to reduce turbidity  
18 during in-river pipeline removal and removal of pipeline from the riverbanks, if  
19 determined to be necessary by turbidity monitoring results. These methods  
20 could include the application of materials such as silt fences and straw  
21 waddles to control erosion and sediment release or in-water silt curtains. The  
22 Applicant or its contractor shall send weekly electronic copies of the turbidity  
23 monitoring results for review by CSLC during in-river Project activities.

24 **MM BIO-5: Western Pond Turtle Avoidance.** A qualified biologist shall conduct a  
25 pre-construction survey for western pond turtle within 24 hours prior to any  
26 ground disturbance within the River floodplain (between the ACOE levees). If  
27 western pond turtle is observed, barrier fencing shall be constructed around  
28 the affected work areas to preclude the species. Should western pond turtle  
29 be found within the work areas, a qualified biologist in consultation with  
30 CDFW shall relocate the species outside of work area barriers.

31 **MM BIO-6: Burrowing Owl Avoidance.** A qualified biologist with demonstrable  
32 experience surveying and monitoring active burrowing owl burrows shall  
33 conduct focused burrowing owl surveys no more than 72 hours prior to any  
34 ground disturbance within the Project area. If burrowing owls are found at the  
35 Project site, a qualified biologist shall establish an exclusion zone of 160 feet  
36 during the non-nesting season and 250 feet during the nesting season can be  
37 established. If exclusion zones would preclude Project implementation, an  
38 experienced burrowing owl biologist in consultation with CDFW shall develop  
39 and implement a site-specific plan (i.e., a plan that considers the type and  
40 extent of the proposed activity, the duration and timing of the activity, the

sensitivity and habituation of the owls, and the dissimilarity of the proposed activity with background activities) to minimize the potential to affect the reproductive success of the owls.

**MM BIO-7: Swainson's Hawk and White-tailed Kite Avoidance.** A qualified biologist shall conduct a pre-construction nest survey for Swainson's hawk and white-tailed kite no more than 72 hours prior to any ground disturbance. If a Swainson's hawk nest or white-tailed kite nest is found within 0.25 mile of any work areas, a qualified biologist shall evaluate the adverse effects of the planned activity in consultation with CDFW. If the biologist determines that the activity would disrupt nesting, a buffer between the activity and the nest shall be established and limited operation period (reduced level of disturbance) during the nesting season (March 15 to June 30) shall be implemented. If work cannot be postponed, the active nest shall be monitored by a qualified biologist to establish a smaller buffer if warranted and approved by CDFW.

**MM BIO-8: Breeding Bird Avoidance.** Should Project activities occur during the breeding season (March 1 through August 1), a qualified biologist shall conduct breeding bird surveys to identify active nests. A buffer shall be established between the active nest and work activities in coordination with CDFW. Work within the established buffer shall be avoided. If work cannot be postponed, the active nest shall be monitored by a qualified biologist to establish a smaller buffer if warranted and approved by CDFW.

***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 U.S. Fish and Wildlife Service?***

## **Less than Significant with Mitigation**

### Phase 1

Riparian habitat along the San Joaquin River would not be affected by replacement pipeline installation, pipeline deactivation and decommissioning activities.

### Phase 2

Pipeline decommissioning and removal activities would result in the temporary loss of up to 3.8 acres of riparian habitat along the San Joaquin River, including 2.1 acres of Great Valley mixed riparian forest and 1.7 acres of Great Valley willow scrub. However, it is anticipated that vegetation would not be completely removed within Work Area 1 (see Figure 2-4), so actual vegetation loss may be lower. Great Valley mixed riparian forest is considered a sensitive plant community (see Section 3.4.1.3). With

implementation of **MM BIO-9** and **MM HYDRO-1**, these impacts would be less than significant.

**MM BIO-9: Wetland and Riparian Habitat Restoration.** A Riparian Site Restoration Plan developed in coordination with the ACOE and CDFW shall be implemented to replace wetland and riparian habitat removed by the Project. A copy of the plan shall be submitted to CSLC staff 30 days prior to Phase 2 Project implementation. The Applicant shall also obtain and comply with all necessary permits for impacts to jurisdictional aquatic resources from the ACOE, RWQCB, and CDFW prior to Phase 2 Project implementation. Compensatory mitigation must be consistent with the regulatory agency standards pertaining to mitigation type, location, and ratios. After decommissioning and pipeline removal activities are completed, all disturbed areas shall be seeded or hydroseeded with a seed mix appropriate for the area.

***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?***

#### **Less than Significant with Mitigation**

##### Phase 1

Wetlands would not be affected by replacement pipeline installation, deactivation and decommissioning activities.

##### Phase 2

Excavation and equipment access required for pipeline decommissioning and removal would involve temporary impacts to aquatic resources (waters of the U.S. and wetlands) regulated by the ACOE under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act. The Project would also result in temporary impacts to aquatic resources regulated by the CVRWQCB under Section 401 of the Clean Water Act and CDFW under Section 1600 of the California Fish and Game Code, and the California Water Board's Statewide Wetland Definition and Procedures. A preliminary aquatic resource delineation was conducted for the Project to determine the geographic extent of federal and state regulatory jurisdiction (Padre 2020). A summary of this delineation is provided in Appendix D. A total of 4.17 acres of temporary impact to federally jurisdictional waters and wetlands would occur as a result of the equipment access and excavation for removal of segments of the decommissioned pipeline at the San Joaquin River crossing location. A total of 4.17 acres of waters of the State and 5.43 acres of CDFW-regulated areas would also be temporarily impacted by the Project. Due to the

1 short-term nature of the Project and implementation of **MM BIO-9** and **MM HYDRO-1**,  
2 these impacts would be less than significant.

3 ***d) Interfere substantially with the movement of any native resident or migratory***  
4 ***fish or wildlife species or with established native resident or migratory wildlife***  
5 ***corridors, or impede the use of native wildlife nursery sites?***

6 **Less than Significant with Mitigation**

7 Phase 1

8 The low flow channel, riparian habitat or other vegetation along the River would not be  
9 affected by replacement pipeline installation, deactivation and decommissioning  
10 activities. Therefore, no impact to fish and wildlife movement would occur.

11 Phase 2

12 Heavy equipment activity and habitat removal would be focused on the area between  
13 the West ACOE Levee and the low flow channel, which would allow wildlife to transit the  
14 Project site east of the low flow channel and on levee roads. Work would not be  
15 conducted at night when most mammal movement occurs.

16 In-river work would be conducted during periods when migratory fish are unlikely to be  
17 present. At any one time, in-river pipeline removal would occupy about 100 feet of the  
18 existing 250-foot-long pipeline channel crossing, such that fish would have free passage  
19 during Project activities. Due to the short-term nature of the Project and implementation  
20 of **MM BIO-2**, fish migration impacts would be less than significant.

21 ***e) Conflict with any local policies or ordinances protecting biological resources,***  
22 ***such as a tree preservation policy or ordinance?***

23 **Less than Significant with Mitigation**

24 Phase 1

25 Replacement pipeline installation, pipeline deactivation and decommissioning activities  
26 would not conflict with any local policies or ordinances.

27 Phase 2

28 Pipeline decommissioning and removal activities would result in temporary impacts of  
29 up to 3.8 acres of riparian habitat along the River. Stanislaus County General Plan  
30 Conservation/Open Space Element Policy Three states that riparian habitats shall be  
31 protected from development. Land Use Element Policy Seven states riparian habitat

1 along rivers shall be protected. With implementation of mitigation measure **MM BIO-9**  
2 and **MM HYDRO-1**, this impact would be less than significant.

3 ***f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural***  
4 ***Community Conservation Plan, or other approved local, regional, or State habitat***  
5 ***conservation plan?***

6 **No Impact**

7 Phases 1 and 2

8 As noted above, the Applicant (PG&E) has an agency-approved HCP that provides a  
9 comprehensive framework for conserving sensitive habitats for protected species for  
10 PG&E Operations and Maintenance activities in the San Joaquin Valley. The PG&E San  
11 Joaquin Valley HCP was developed in collaboration with the USFWS and CDFW and  
12 was first implemented in 2008. Swainson's hawk, white-tailed kite, western pond turtle,  
13 and burrowing owl are PG&E San Joaquin Valley HCP covered species that may be  
14 affected by the Project. **MM BIO-1**, **MM BIO-5**, **MM BIO-6**, and **MM BIO-7** ensure that  
15 Project avoidance of these species is consistent with the PG&E San Joaquin Valley  
16 HCP. Therefore, there would be no conflicts with the plan.

#### 17 **3.4.4 Mitigation Summary**

18 Implementation of the following MMs would reduce the potential for Project-related  
19 impacts to biological resources to less than significant.

- 20 • MM BIO-1: Environmental Training Program
- 21 • MM BIO-2: In-River Work Period Restrictions
- 22 • MM BIO-3: Biological Monitoring
- 23 • MM BIO-4: Turbidity Monitoring Plan
- 24 • MM BIO-5: Western Pond Turtle Avoidance
- 25 • MM BIO-6: Burrowing Owl Avoidance
- 26 • MM BIO-7: Swainson's Hawk and White-tailed Kite Avoidance
- 27 • MM BIO-8: Breeding Bird Avoidance
- 28 • MM BIO-9: Wetlands and Riparian Habitat Restoration
- 29 • MM HYDRO-1: Stormwater Pollution Prevention Plan (SWPPP)

### 1 3.5 CULTURAL RESOURCES

CULTURAL RESOURCES- Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#### 2 3.5.1 Environmental Setting

3 The following discussion is a summary from the Cultural Resources Study prepared for  
4 the Project by Far Western Anthropological Research Group (2019).

##### 5 3.5.1.1 Precontact Context

6 The San Joaquin Valley precontact history may be organized into three main periods:  
7 Paleoindian, Archaic, and Emergent.

8 **Paleoindian Period (13,200–11,500 years before present).** The earliest tangible clue  
9 of human occupation in the Central Valley comes from eccentric crescents and basally  
10 thinned and “fluted” projectile points found at scattered locations in the San Joaquin  
11 Valley. Most similar to Clovis points, these distinctive projectiles have been well-dated  
12 elsewhere in North America to a brief interval between about 13,500 and 11,500 years  
13 before present. A recent reconsideration of radiocarbon dates from Clovis sites  
14 indicates these projectile points may have been in use for a much shorter period; just  
15 450 years between 13,250 and 12,800 years before present.

16 At the far southern end of the San Joaquin Valley in the Tulare Basin, Clovis-like points  
17 have been found in large numbers in and around the Witt site (KIN-32) between the  
18 190- and 195-foot elevation on the southwestern shore of Tulare Lake. This locality has  
19 produced the largest collection of basally thinned concave-base points in California, with  
20 as many as 200 specimens reported. Many of the ancient concave-base points at  
21 Tulare Lake are quite small, however, and are unlike classic Clovis points found  
22 elsewhere in North America. Many also lack well-defined “fluting” scars.

23 **Lower Archaic Period (11,500–7,000 years before present).** Well-preserved Lower  
24 Archaic archaeological deposits are rare in the Central Valley. Milling tools are one of  
25 the most commonly reported artifact classes from Lower Archaic sites on the fringes of  
26 the Central Valley and elsewhere in central California. Often characterized by dense

1 accumulations of milling tools (i.e., handstones and millingslabs), these so-called  
2 “millingstone” sites appear to represent frequently re-used encampments, part of a  
3 mobile, yet seasonally structured settlement system. In central California, nut crops  
4 associated with expanding woodlands may have been the primary focus of seasonal  
5 plant use.

6 Lower Archaic assemblages from central California are also often found to contain large  
7 broad-stemmed projectile or spear points. These points tend to be moderately to heavily  
8 re-worked, with convex and flat to indented bases and broad stems, resembling Borax  
9 Lake points from the North Coast Ranges and those with names such as Lake Mojave,  
10 Silver Lake, and Pinto, are typical of early Holocene assemblages found in the Great  
11 Basin. Shell beads from coastal California are found in early Holocene deposits in the  
12 western and central Great Basin, and obsidian from eastern Sierran quarries make up a  
13 large portion of the non-local flaked stone tools and tool-making debris found in Early  
14 Archaic sites on both sides of the Central Valley.

15 **Middle Archaic Period (7,000–2,500 years before present).** The beginning of the  
16 Middle Archaic in central California is marked by a substantial change in climate with  
17 warmer and drier conditions prevailing throughout the region. Oak woodlands expanded  
18 upslope in the Coast Ranges and conifer forests moved into alpine zones in the Sierra.  
19 Although conditions were generally arid, significant new wetland habitats were forming  
20 in the Central Valley as sea-level rise was forcing development of the Sacramento-San  
21 Joaquin Delta and associated marshlands. In the southern delta, the archetypical  
22 Middle Archaic tradition was the Windmill culture, dated as early as 5,000 years  
23 before present. Sites ascribed to the Windmill culture are unique in their abundance of  
24 westerly oriented, ventrally extended burials and elaborate material culture found  
25 primarily as burial offerings. More than 80 percent of the interments contained funerary  
26 offerings. Diverse non-utilitarian items have been found with these graves, including  
27 large numbers of well made “charmstones,” some of the earliest Olivella wall beads,  
28 abalone ornaments, quartz crystals, and abundant obsidian projectile points, and large  
29 bifaces from the Coast Ranges and eastern Sierra.

30 Fishing may have taken on new importance to Central Valley groups during the Middle  
31 Archaic, as fishing gear and abundant fish remains are first represented in assemblages  
32 dating to this time period. Both resident and anadromous fishes were taken, apparently  
33 obtained with spears and line and hook.

34 The transition in milling technologies and increasing long-term occupation evident in the  
35 delta region of central California during the Middle Archaic appear to be related to an  
36 increasing focus on nut crops. Archaeobotanical assemblages from throughout central  
37 California indicate that acorn, pine nuts, and other nuts were important fall resources  
38 beginning in the Early Archaic; but may have become more significant in certain regions  
39 during the Middle Archaic with the advent of storage.

1 The exchange of commodities such as obsidian, shell beads and ornaments, and  
2 perhaps other perishable items, was well established by the late Middle Archaic. People  
3 living in the Central Valley became important consumers of obsidian quarried on the  
4 east side of the Sierra Nevada. Stoneworkers at three main quarries (Bodie Hills, Casa  
5 Diablo, and Coso) manufactured bifacial blanks that were transported over the  
6 mountains to the western slope along well-defined, east-west travel corridors.

7 **Upper Archaic Period (2,500–930 years before present).** Evidence for Upper Archaic  
8 human occupation in the Central Valley is extensive, particularly for the last 2,000  
9 years. Perhaps as a result of greater temporal resolution and a much larger  
10 archaeological record, economic, technological, and socio-cultural developments are  
11 much better understood for the Upper Archaic than for preceding time periods. These  
12 sites contain extensive accumulations of habitation debris, including robust faunal and  
13 floral assemblages, a variety of habitation features, and hundreds of human graves, all  
14 indicating long-term residential occupation. In the eastern delta, the Windmill culture  
15 was replaced by people with a homeland to the west, from the Diablo Range or the  
16 North Bay. Descendants of the Windmill culture, termed the Meganos tradition,  
17 continued to occupy the San Joaquin Valley during the Upper Archaic. Their sites were  
18 found along the western and southern edges of the Delta and along the side streams  
19 and axial marshes of Merced and San Joaquin counties, from around 1,000 years ago.  
20 A period of cultural expansion out of the northern San Joaquin Valley is also evident in  
21 the interior of the northern Diablo Range beginning about 1,500 years ago.

22 Throughout central California, the Upper Archaic witnessed the development and  
23 proliferation of many specialized technologies, including new types of bone tools  
24 including harpoons, shaft wrenches, and awls. Mortars and pestles were predominantly  
25 or exclusively used in the lowlands of the Central Valley, in conjunction with an  
26 increased focus on processing acorns. Most residential sites dating to the Upper  
27 Archaic include large quantities of fish bone and fishing implements, as well as a  
28 diverse assortment of mammal and bird remains. Sites from the drier open grasslands  
29 of the San Joaquin Valley include primarily pronghorn and elk bone, while those closer  
30 to the Delta and riparian habitats include mostly deer and elk bone.

31 Well-defined exchange relationships are evident throughout central California during the  
32 Upper Archaic. Large quantities of shell beads manufactured in southern California and  
33 along the central and northern California coast are found in residential sites throughout  
34 the Central Valley. Obsidian from the eastern Sierra and North Coast Ranges is well  
35 represented in sites of this age, commonly found as large bifacial blades, often in burial  
36 contexts.

37 **Emergent Period (930–150 years before present).** A wholesale shift in material  
38 culture is evident beginning about 900 years ago, marking the beginning of the  
39 Emergent or Late Prehistoric (Precontact) Period in the San Joaquin Valley and

southern delta region. In addition to the distinctive big-head effigy ornaments and other decorative items (e.g., collared stone pipes, ear spools, and incised bird-bone whistles) introduced at the beginning of the Emergent Period, the most unique arrow point style in California developed in the northern San Joaquin Valley or adjacent regions to the west, known as the Stockton Serrated point.

During the Emergent Period, large mound villages were established every few miles along the San Joaquin River and major tributaries. Several sites contained house depressions and other types of residential features, along with human graves. Although the practice of cremation became quite common in the northern and western delta during the Emergent Period, it seems to have been rare in the southern delta. Burials from this time period commonly contain utilitarian items, such as mortars and pestles, but also large quantities of decorative items such as shell beads and ornaments. Coiled basketry appears to have become more important during the Emergent Period as basketry awls are more common in these sites and burned coiled basketry and other perishables have occasionally been found.

Fishing may also have become a significant component of the native economy during this time period, as fish bone and fishing equipment are common in these sites, including several types of spears and harpoons, bone fishhooks, and gorge hooks. Mortars and pestles were used almost exclusively during the Emergent Period, and there is substantial archaeobotanical evidence suggesting that small seeds, in addition to acorn, were among the primary plant foods. Most residential sites dating to this time period also include high quantities of large and small mammal bones, as well as abundant remains of water birds.

#### 3.5.1.2 Historical Context

Most of the San Joaquin Valley, including the Project site, was held by the Northern Valley Yokuts group who lived along the San Joaquin River near Patterson at the time of European contact. During the Spanish and Mexican Periods, virtually all of the Northern Valley Yokuts were relocated to the coastal missions. Between 1827 and 1833, when American trappers Jedediah Smith, Ewing Young, and Joseph Walker passed through the Stanislaus County region, the valley was empty of Native peoples. Secularization of the missions in the early 1830s repopulated the valley with ex-neophytes who raided stock from the new Californio rancheros until they were overrun by the stampede of Gold Rush immigrants.

Initial Mexican presence in the Project area occurred in 1844 when the 13,340-acre Rancho del Puerto was granted to brothers Mariano and Pedro Hernandez. It encompassed lands between present-day Highway 33 to the west, the San Joaquin River to the east, Del Puerto Creek to the north, and Marshall Road to the south. By the early 1850s, the Hernandez brothers sold the rancho to Americans Samuel G. Reed

1 and Ruben S. Wade. The rancho was purchased in 1866 by John D. Patterson who  
2 established a prosperous and diversified operation at Rancho del Puerto, devoting the  
3 bulk of the acreage to pasturing horses, sheep, and cattle, and also planting  
4 approximately 3,000 acres in wheat. Patterson expanded his holdings, purchasing  
5 approximately 5,000 additional acres to the west and south, including lands previously  
6 homesteaded by prior immigrants to the region.

7 As the Southern Pacific Railroad laid its tracks down the east side of the Central Valley  
8 in the 1870s, isolated rural trading posts were transformed into bustling commercial  
9 centers serving as transportation hubs for export crops. In 1887, the Southern Pacific  
10 began construction of its secondary rail line down the west side of the valley extending  
11 from Tracy to Fresno. New towns were established at Wesley and Newman, and in  
12 1892 a siding was constructed on the Patterson Ranch. The rail stop provided a critical  
13 transportation outlet for the ranch's wheat crop, and a grain warehouse was constructed  
14 adjacent to the site. The development surrounding the new railway lines inspired the  
15 Patterson family to reassess the future course of their landholdings.

16 With Patterson's death in 1902, his estate was bequeathed to 11 heirs and remained in  
17 a family trust until May 13, 1908, when the family organized the Patterson Ranch  
18 Company. After establishing the Patterson Ranch Company, T. W. Patterson and his  
19 associates quickly turned to creating a town and divining a method of diverting water  
20 from the San Joaquin. The official map of the Patterson Colony was filed in the  
21 Stanislaus County Recorder's Office on December 13, 1910, employing an unusual  
22 radial plan where the town's major streets converged in a central plaza. Surrounding the  
23 town center, broad avenues extended to the fertile farmlands of the colony, connecting  
24 the agricultural lands with the town.

25 By 1911, the town's population boasted 350 residents, triple from the year before. Civic  
26 amenities included Patterson Public School, several churches, a newspaper, a city  
27 waterworks, post office, bank, hardware store, grocery, and restaurant. Although the  
28 town was ostensibly "dry," with no saloons, a small billiard and cigar shop stood on  
29 South 3rd Street south of the Plaza. The area quickly came to specialize in the dairy  
30 business, cash crops such as alfalfa, and orchards.

31 In 1914, T. W. Patterson died at the age of 54 and his son Jack inherited the Patterson  
32 Ranch Company. As he was a minor at the time, his cousin John D. Patterson assumed  
33 responsibility for the company until the early 1920s, after which time Jack Patterson  
34 managed the agriculture-based company until its dissolution in 1948. In 1919, city  
35 residents voted for incorporation. The transition to incorporation marked a shift for the  
36 town of Patterson as the family-run colony gave way to a twentieth-century community.

37 The town's population had nearly quadrupled in size from 1911 to 1940, but still stood at  
38 only about 1,200 city residents. For a brief period between 1916 and 1920, Patterson

1 housed a processing facility for the Mineral Products Company. The company  
2 constructed a 23-mile narrow gauge railroad from its facility at Sperry Avenue and  
3 South 4th Street to Del Puerto Canyon, supplying magnesite, manganese chrome, and  
4 quicksilver for the war effort. The mines played out early, however, and the processing  
5 plant and railroad were abandoned in 1920.

6 A number of agriculture-related industrial developments were also built to support the  
7 production of Patterson's surrounding farmsteads, including Patterson Grain Elevator in  
8 1921 and the Mutual Creamery of Oakland in 1925. Irrigation continued to expand, with  
9 completion of the West Stanislaus Irrigation District in 1929. After the completion of  
10 Friant Dam on the upper San Joaquin in 1940, the quality of water diverted from the  
11 river to west-side irrigators declined.

12 The Farm Security Administration was created by President Franklin D. Roosevelt in  
13 1937. Among their many programs, the Administration built and operated 28 migratory  
14 farm labor camps in California between 1937 and 1943, housing around 20,000  
15 workers. The facility at Patterson included multi-family wood-frame units which, by the  
16 1960s, were used by the Stanislaus County Housing Authority as public housing for  
17 farm workers.

#### 18 3.5.1.3 Modern Development (1950s–Present)

19 Completion of the Central Valley Project and its Delta-Mendota Canal in the early  
20 1950s, and the California Aqueduct a decade later, allowed for the continued expansion  
21 of diversified agricultural operations in the countryside surrounding Patterson. Although  
22 presently the development paradigm of small farmsteads has ceded to an increasingly  
23 large-scale agricultural pattern, farming remains at the forefront of Patterson's cultural  
24 identity and economy. In the 1970s, the town claimed the mantle of "Apricot Capital of  
25 the World," though currently its substantial agricultural base is dominated by almond  
26 and walnut orchards, as well as row crops including beans, tomatoes, broccoli, spinach,  
27 and melons.

28 With the completion of Interstate Highway 5 in the late 1960s, and the subsequent  
29 development of Interstate Highway 580, waves of ex-urban settlers have flocked to the  
30 area, with the population more than doubling between 1998 and 2008; many new  
31 residents commute to the Bay Area. This population increase has infilled the town's  
32 core as well as expanded the community's borders, with several new housing  
33 developments, shopping malls, and business parks, pushing into former agricultural  
34 lands.

35 Despite the rapid growth of the past decade, the town of Patterson bears many of the  
36 distinctive attributes of its founding. The radial plan envisioned by the town's founder  
37 still remains the focal point of the town, as do some of its earliest buildings. The palm

tree lined Las Palmas Avenue extends from the center to the River, crossing cultivated fields, irrigation canals, and scattered farmsteads. As Patterson continues to grow in the twenty-first century, these characteristics will remain important representatives of the town's historical context.

### **3.5.2 Regulatory Setting**

Federal and state laws and regulations pertaining to cultural resources and relevant to the Project are identified in Appendix A. In addition to federal and state regulations, the Project site is within the jurisdiction of Stanislaus County, such that County General Plan policies apply to any new development or changes in land use. The following Stanislaus County General Plan Conservation/Open Space Element policies and implementation measures apply to cultural resources.

**Policy Twenty-Four.** The County will support the preservation of Stanislaus County's cultural legacy of historical and archeological resources for future generations. Implementation measures:

1. The County shall continue to utilize the Historical Site zone in Knight's Ferry and La Grange to protect the historical character of the communities.
2. The County shall seek input from the Knight's Ferry Municipal Advisory Council concerning any development proposals in the Historical Site zone in Knight's Ferry.
3. The County shall work with the County Historical Society, and other organizations and interested individuals to study, identify and inventory archeological resources and historical sites, structures, buildings and objects.
4. The County will cooperate with the State Historical Preservation Officer to identify and nominate historical structures, objects, buildings and sites for inclusion under the National Historic Preservation Act.
5. The County shall utilize the CEQA process to protect archaeological or historic resources. Most discretionary projects require review for compliance with CEQA. As part of this review, potential impacts must be identified and mitigated.
6. The County shall make referrals to the Office of Historic Preservation and the Central California Information Center as required to meet CEQA requirements.
7. The County will work with all interested individuals and organizations to protect and preserve the mining heritage of Stanislaus County.

**Policy Twenty-Five.** “Qualified Historical Buildings” as defined by the State Building Code shall be preserved. Implementation measures:

1. Whenever possible, the County Building Inspection Division shall utilize the provisions of the State Building Code that allow historical buildings to be restored without damaging the historical character of the building.
2. The County shall continue to utilize the Historical Site zone in Knight's Ferry and La Grange to protect the historical character of the communities.

#### 3.5.2.1 Archaeological Surveys

The Project site was surveyed by Far Western Anthropological Research Group on October 25 and 26, 2018. In addition, previously recorded cultural sites were visited during the surveys. The surveys included all proposed staging and work areas as delineated at the time, including a total of 64.44 acres. The surveys consisted of parallel linear transects spaced approximately 10 meters or less apart. The HDD alignment was also surveyed with two crew members walking along its centerline and spaced 10 meters apart. Ground visibility was fair to good (approximately 60 percent bare ground visible on average). The only areas that were overgrown were the margins of the San Joaquin River on its west bank, and the northernmost portion of the access road along the river's east bank.

As a result of Project development since the October 2018 surveys were completed, the potential Project area of potential affect was modified. Newly identified Project disturbance areas were surveyed by Padre Associates archaeologists on January 22 and 23, 2020. One precontact isolated artifact was found in an area highly disturbed by past agricultural activities. No other cultural resources were found.

#### 3.5.2.2 Records Search Results

A record search was conducted for the Project on August 21, 2018, by Central California Information Center staff and included all area of potential ground disturbance as well as a one-quarter mile buffer surrounding these areas. In addition, the following files were consulted: National Register of Historic Places, California Register of Historical Resources (CRHR), California Inventory of Historic Resources, California Historical Landmarks, and Historic Properties Directory. The records search identified two previously recorded resources within proposed disturbance areas and five located within the one-quarter mile buffer (Table 3.5-1). A third resource found during previous archeological monitoring but not yet recorded is included in Table 3.5-1.

**Table 3.5-1. Summary of Previously Known Cultural Resources within the Project Disturbance Areas and Buffer**

Primary Site Number	Trinomial Site Number	Resource Type	Description	Location
P-50-000073	CA-STA-426H		Turlock Irrigation District; bordered by San Joaquin, Tuolumne, and Merced Rivers. All canals and laterals in system, as well the La Grange Dam, were completed by 1900	Outside Project disturbance area
P-50-000218	CA-STA-133	Prehistoric midden, burials	Occupation site with midden	Near Project disturbance area
P-50-002114	--	Prehistoric midden, burials, historic debris	Multi-component site consisting of an isolated iron/steel fragment of machinery, presumably farm affiliated, and precontact fragments of shell, charcoal, and bone (including human)	Outside Project disturbance area
P-50-002115	--	Prehistoric lithic	Isolated find consisting of a single, tertiary obsidian flake	Outside Project disturbance area
P-50-002116	CA-STA-446/H	Prehistoric or historic human remains	Isolated, small bone fragment identified as part of a human zygomatic arch, which was reburied	Within Project disturbance area
P-50-002118	--	Historic irrigation	Irrigation canal that connects at the eastern end to Lateral No. 5. Recorded section is located at the intersection of Crow's Landing Road and Bradbury Road	Outside Project disturbance area
P-50-002179	--	Historic irrigation	Consists of a 3.25-mile-long channel, built in 1910	Outside Project disturbance area

### 1 3.5.3 Impact Analysis

#### 2 **a) Cause a substantial adverse change in the significance of a historical resource**

#### 3 **pursuant to § 15064.5?**

#### 4 **No Impact**

#### 5 Phases 1 and 2

6 Based on the records searches and field surveys, no historical resources are located  
7 within Project disturbance areas and none would be adversely affected.

#### 8 **b) Cause a substantial adverse change in the significance of an archaeological**

#### 9 **resource pursuant to § 15064.5?**

**Less than Significant with Mitigation**

Phase 1

Proposed HDD activities would be located in close proximity to Site P-50-000218 and may result in the discovery and disturbance of additional archeological deposits. In addition, unknown archeological resources may occur in other portions of Phase 1 disturbance areas. **MM CUL-1/TCR-1** involves monitoring in sensitive areas to ensure that archeological resources present would be immediately discovered, and work halted to avoid disturbance of these resources and their context. **MM-CUL-2/TCR-2** would ensure that archeological resources, in the event of accidental discovery, further disturbance would halt until the resource had been appropriately assessed and treatment, if necessary, approved.

Phase 2

Proposed pipeline decommissioning activities would not be located in close proximity to known archeological sites. However, the West Landing Pipeline Segment is located in an area of high archeological sensitivity and archeological resources may be discovered during pipeline removal. **MM-CUL-2/TCR-2** would ensure that archeological resources, in the event of accidental discovery, further disturbance would halt until the resource had been appropriately assessed and treatment, if necessary, approved.

With the implementation of **MM CUL-1/TCR-1** and **MM-CUL-2/TCR-2**, impacts to archeological resources would be less than significant.

**MM CUL-1/TCR-1: Cultural Resource Monitoring.** Prior to Phase 1 ground-disturbing activities, including any ground disturbance (including equipment setup and materials staging) of the West HDD Work Area and West HDD Staging Area, the Applicant shall prepare a Cultural Resources Monitoring Plan and submit it to the Northern Valley Yokuts Tribe and CSLC staff for review, input, and concurrence. The Plan shall include, but not be limited to the following measures:

- The Applicant shall retain a qualified archeologist and a representative of a California Native American tribe that is culturally affiliated to the Project site to monitor all ground disturbing activities (including setup of equipment) at the West HDD Work Area and any excavation within the West HDD Staging Area.
- The Applicant shall provide a minimum 5-day notice to the archeologist and tribal monitor prior to all activities requiring monitoring.

- The Applicant shall provide the archeologist and tribal monitor safe and reasonable access to the Project site.
- Guidance on identification of potential cultural resources that may be encountered.

The archeologist and Native American representative shall provide Phase 1 construction personnel with an orientation on the requirements of the Plan, including the probability of exposing cultural resources, guidance on recognizing such resources, and direction on procedures if a find is encountered.

**MM CUL-2/TCR-2: Discovery of Previously Unknown Cultural or Tribal Resources.** In the event that potential cultural or tribal resources are uncovered during Project implementation, all earth-disturbing work within 100 feet of the find shall be temporarily suspended or redirected until an approved archaeologist and tribal monitor, if retained, has evaluated the nature and significance of the discovery. In the event that a potentially significant cultural or tribal cultural resource is discovered, PG&E, CSLC and any local, state, or federal agency with approval or permitting authority over the Project that has requested/required notification shall be notified within 48 hours. The location of any such finds must be kept confidential and measures shall be taken to secure the area from site disturbance and potential vandalism. Impacts to previously unknown significant cultural or tribal cultural resources shall be avoided through preservation in place if feasible. Damaging effects to tribal cultural resources shall be avoided or minimized following the measures identified in Public Resources Code section 21084.3, subdivision (b), if feasible, unless other measures are mutually agreed to by the lead archaeologist and culturally affiliated tribal monitor that would be as or more effective.

A treatment plan, if needed to address a find, shall be developed by the archaeologist and, for tribal cultural resources, the culturally affiliated tribal monitor, and submitted to the Northern Valley Yokuts Tribe and CSLC staff for review, input, and concurrence prior to implementation of the plan. If the archaeologist or Tribe determines that damaging effects on the cultural or tribal cultural resource shall be avoided or minimized, then work in the area may resume.

Title to all archaeological sites, historic or cultural resources, and tribal cultural resources on or in the tide and submerged lands of California is vested in the state and under CSLC jurisdiction. The final disposition of

archaeological, historical, and tribal cultural resources recovered on State lands under CSLC jurisdiction must be approved by the CSLC.

**c) Disturb any human remains, including those interred outside of dedicated cemeteries?**

**Less than Significant with Mitigation**

Phases 1 and 2

The Project is not expected to disturb human remains. However unlikely, unmarked burials could be unearthed during subsurface construction activities and consequently the Project could disturb human remains, including those interred outside formal cemeteries. MM CUL-3/TCR-3 would ensure that, in the event of accidental discovery, further disturbance would halt until the human remains had been appropriately assessed and treatment, if necessary, approved. With the implementation of **MM CUL-3/TCR-3**, the impact would be less than significant.

**MM CUL-3/TCR-3: Unanticipated Discovery of Human Remains.** If human remains are encountered, all provisions provided in California Health and Safety Code section 7050.5 and California Public Resources Code section 5097.98 shall be followed. Work shall stop within 100 feet of the discovery, and both an archaeologist and CSLC staff must be contacted within 24 hours. The archaeologist shall consult with the County Coroner. If human remains are of Native American origin, the County Coroner shall notify the Native American Heritage Commission (NAHC) within 24 hours of this determination, and a Most Likely Descendent shall be identified. No work is to proceed in the discovery area until consultation is complete and procedures to avoid or recover the remains have been implemented.

**3.5.4 Mitigation Summary**

Implementation of the following MMs would reduce the potential for Project-related impacts to cultural resources to less than significant.

- MM CUL-1/TCR-1: Cultural Resource Monitoring
- MM CUL-2/TCR-2: Discovery of Previously Unknown Cultural or Tribal Cultural Resources
- MM CUL-3/TCR-3: Unanticipated Discovery of Human Remains

### 1 3.6 CULTURAL RESOURCES – TRIBAL

CULTURAL RESOURCES – TRIBAL	Potentially Significant Impact	Less Than Significant with Mitigation	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 Code section 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:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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, subdivision (k), or	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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 Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#### 2 3.6.1 Environmental Setting

##### 3 3.6.1.1 Ethnographic Context

4 At the time of European contact, almost the entire San Joaquin Valley, including the  
5 Project site, was held by the Northern Valley Yokuts group who lived along the San  
6 Joaquin River near Patterson. Due to early missionization and extended Euro-American  
7 contact beginning during the Gold Rush, very little information was recorded about the  
8 Lamam and other Northern Valley Yokuts communities. Like elsewhere in western  
9 California, the Yokuts were organized into small, independent political groups, referred  
10 to as tribelets. Each tribelet was controlled by a single headman and included a single  
11 principal settlement and occasionally smaller hamlets. These settlements were typically  
12 located on an elevated levee ridge in the valley bottom or along a major tributary stream  
13 near the San Joaquin River. Most settlements appear to have been permanent year-  
14 round villages, although people would disperse in the spring and early summer to  
15 collect seeds, bulbs, and other plant foods. Houses were typically simple frame  
16 structures covered by tule mats.

1 The Northern Valley Yokuts were among the first Central Valley native groups  
2 encountered by Spanish expeditions from the coast. According to The San Joaquin  
3 Historian (2016), the northern expansion of Spain changed almost everything. The aim  
4 of missionization was creation of an Indo-Spanish society. As recorded in baptismal  
5 records, Northern Valley Yokuts were forced to move to the missions at early as 1809.  
6 Virtually all had moved to Mission San Jose by 1827.

#### 7 3.6.1.2 Initial Tribal Coordination

8 The Applicant requested a search of the Sacred Lands file and a list of interested  
9 individuals from the NAHC on July 26, 2018. The NAHC response dated August 9,  
10 2018, stated that no known Native American cultural sites have been documented  
11 within the Project disturbance area. The NAHC also provided a list of five Native  
12 American contacts that may have knowledge about archaeological resources in the  
13 area. PG&E Cultural Resources Specialist Starla Lane mailed a letter to each of these  
14 contacts on August 5, 2018, requesting their input on the proposed Project.

15 A response was received from Chairperson Katherine Erolinda Perez of the North  
16 Valley Yokuts Tribe, who met with PG&E Cultural Resources Specialist Starla Lane on  
17 September 13, 2018. At this meeting, Chairperson Perez requested that the work area  
18 intersecting the Site P-50-000218 boundaries be moved farther to the west. This  
19 request was honored after the meeting and the work area was adjusted to the west to  
20 avoid the recorded site boundary. Additionally, Chairperson Perez requested that Native  
21 American monitors be present for all ground disturbance near this site.

#### 22 3.6.1.3 Formal Tribal Consultation

23 Pursuant to Executive Order B-10-11, concerning coordination with Tribal governments  
24 in public decision making, the CSLC adopted a Tribal Consultation Policy in August  
25 2016 to provide guidance and consistency in its interactions with California Native  
26 American Tribes (CSLC 2016). The Tribal Consultation Policy, which was developed in  
27 collaboration with Tribes, other State agencies and departments, and the Governor's  
28 Tribal Advisor, recognizes that Tribes have a connection to areas that may be affected  
29 by CSLC actions and "that these Tribes and their members have unique and valuable  
30 knowledge and practices for conserving and using these resources sustainably" (CSLC  
31 2016).

32 CSLC staff requested a search of the Sacred Lands files and a list of interested  
33 individuals from the NAHC on June 3, 2019. The NAHC response dated June 11, 2019,  
34 stated that no known Native American cultural sites have been documented within the  
35 Project disturbance area. The NAHC also provided a list of three Native American  
36 contacts that may have knowledge about archaeological resources in the area, which  
37 included:

- North Valley Yokuts Tribe
- Southern Sierra Miwuk Nation
- Tule River Indian Tribe

On August 03, 2019, CSLC staff received a letter via email from Chairwoman Katherine Erolinda Perez of the Northern Valley Yokuts Tribe and Nototomne Cultural Preservation requesting consultation under AB 52. In her request, Chairwoman Perez stressed the importance of the Tribe being involved in cultural resource identification, significance evaluations, and culturally appropriate treatment of any materials that may be discovered. In addition, the letter reiterated the Tribe's strong preference for avoiding impacts to tribal cultural resources and preservation of those resources in place whenever possible, as well as requesting that no subsurface testing or data recovery be allowed unless the Tribe has been consulted and has given consent to any proposed treatment. In March 2020, CSLC staff sent project information and copies of the cultural survey reports to Chairwoman Perez; however, tribal engagement and Consultation activities have been greatly affected by the COVID-19 crisis, as California tribes' full attention must be on protecting their vulnerable members and elders, and avoiding outbreaks in their communities. To be as flexible as possible with Consultation, and to ensure meaningful input is not forfeited in the name of project expediency, CSLC staff is working with the Applicant and consultant to ensure the cultural considerations raised by the Northern Valley Yokuts Tribe are fully integrated and sensitive resources are protected. To this end, **MM CUL-1/TCR-1** and **MM CUL-2/TCR-2** incorporate the requests made in Chairwoman Perez's letter and require that the Cultural Resources Monitoring Plan and Treatment Plan (if needed) be provided to the Tribe for review and input prior to approval and implementation of the plans.

### 3.6.2 Regulatory Setting

Federal and state laws and regulations pertaining to tribal cultural resources and relevant to the Project are identified in Appendix A. At the local government level, there are no goals, policies, or regulations applicable to this issue area for the Project due to its location and the nature of the activity.

### 3.6.3 Impact Analysis

***a) Would the project cause a substantial adverse change in the significance of a Tribal cultural resource, defined in Public Resources Code section 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:***

1        *(i) Listed or eligible for listing in the California Register of Historical*  
2        *Resources (CRHR), or in a local register of historical resources as defined in*  
3        *Public Resources Code section 5020.1, subdivision (k), or*

4        *(ii) A resource determined by the lead agency, in its discretion and supported*  
5        *by substantial evidence, to be significant pursuant to criteria set forth in*  
6        *subdivision (c) of Public Resources Code section 5024.1. In applying the*  
7        *criteria set forth in subdivision (c) of Public Resources Code Section 5024.1,*  
8        *the lead agency shall consider the significance of the resource to a California*  
9        *Native American tribe.*

## 10    **Less than Significant with Mitigation**

### 11    Phases 1 and 2

12    The records searches, field surveys and tribal consultation identified a single tribal  
13    resource (Site P-50-000218) in the vicinity of Project disturbance areas. The Project  
14    was redesigned to avoid this site (see Section 3.6.1.2). **MM CUL-1/TCR-1** involves  
15    monitoring in work areas near Site P-50-000218 to ensure that any tribal cultural  
16    resources present would be immediately discovered, and work halted to avoid  
17    disturbance of these resources and their context. Proposed pipeline replacement and  
18    decommissioning activities could impact previously unrecorded tribal cultural resources.  
19    **MM CUL-2/TCR-2** would ensure that, in the event of accidental discovery, further  
20    disturbance would halt until the resource had been appropriately assessed and  
21    treatment, if necessary, approved. In addition, if human remains of Native American  
22    origin are discovered in Project areas, **MM CUL-3/TCR-3** would ensure proper  
23    coordination with the most likely descendent(s). With the implementation of **MM CUL-**  
24    **1/TCR-1, MM CUL-2/TCR-2, and MM CUL-3/TCR-3** impacts would be reduced to less  
25    than significant.

### 26    **3.6.4 Mitigation Summary**

27    Implementation of the following MMs would reduce the potential for Project-related  
28    impacts to Tribal cultural resources to less than significant.

- 29        • MM CUL-1/TCR-1: Cultural Resource Monitoring
- 30        • MM CUL-2/TCR-2: Discovery of Previously Unknown Cultural or Tribal Cultural
- 31            Resources
- 32        • MM CUL-3/TCR-3: Unanticipated Discovery of Human Remains

### 1 3.7 ENERGY

ENERGY - Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 2 3.7.1 Environmental Setting

3 Stanislaus County is served by three energy providers: PG&E, Modesto Irrigation  
 4 District, and Turlock Irrigation District. Regionally, PG&E has a diverse power  
 5 production portfolio, which is comprised of a variety of renewable (such as wind, solar,  
 6 and hydroelectric) and non-renewable (such as natural gas) sources. On a smaller  
 7 scale, Modesto Irrigation District and Turlock Irrigation District also rely on a diverse  
 8 portfolio of energy sources to serve their customers. The primary source of electricity  
 9 provided by the Turlock Irrigation District and the Modesto Irrigation District partnership  
 10 is hydroelectric power generated by the Don Pedro Dam on the Tuolumne River.

#### 11 3.7.2 Regulatory Setting

12 There are no federal laws, regulations, or policies pertaining to energy that are relevant  
 13 to the Project. State laws and regulations pertaining to energy and relevant to the  
 14 Project are identified in Appendix A. There are no local laws, regulations, or policies  
 15 pertaining to energy that are relevant to the Project.

#### 16 3.7.3 Impact Analysis

17 ***a) Result in potentially significant environmental impact due to wasteful,***  
 18 ***inefficient, or unnecessary consumption of energy resources, during project***  
 19 ***construction or operation?***

#### 20 Less than Significant Impact

##### 21 Phases 1 and 2

22 The proposed Project involves the use of heavy equipment, motor vehicles, and a  
 23 vessel, all powered by non-renewable petroleum-based fuel sources. As such, Project  
 24 activities would result in temporary consumption of energy resources (e.g., gasoline and  
 25 diesel fuel). This energy consumption would be focused on increasing the reliability of  
 26 regional natural gas service and improving public safety by reducing the risk of pipeline

1 failure due to pipeline exposure in the riverbed. The Project has been designed to  
2 conduct the proposed pipeline replacement in an efficient manner, such that  
3 consumption of energy resources would not be wasteful, inefficient or unnecessary.

4 Project activities would not draw energy from the local power grid. In the long-term, the  
5 Project would reduce the maintenance needs of the replacement pipeline and the  
6 related use of gasoline and diesel fuel. Therefore, energy impacts would be less than  
7 significant.

8 ***b) Conflict with or obstruct a state or local plan for renewable energy or energy***  
9 ***efficiency?***

10 **No Impact**

11 Phases 1 and 2

12 The Project would not conflict with or obstruct a state or local plan for renewable energy  
13 or energy efficiency. Therefore, there would be no impact.

14 **3.7.4 Mitigation Summary**

15 The Project would have no significant impacts to energy; therefore, no mitigation is  
16 required.

# 1 **3.8 GEOLOGY, SOILS, AND PALEONTOLOGICAL RESOURCES**

<b>GEOLOGY, SOILS, AND PALEONTOLOGICAL RESOURCES - Would the project:</b>	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## 2 **3.8.1 Environmental Setting**

### 3 **3.8.1.1 Regional Overview**

4 The Project site is located in the central portion of the Great Valley geomorphic province  
5 in central California. The Great Valley province is a large northwestward trending,  
6 asymmetric structural trough that has been filled with as much as 6 vertical miles of  
7 sediment. The trough is situated between the Sierra Nevada Mountains on the east and  
8 the Coast Range Mountains on the west.

Both mountain ranges were initially formed by uplifts that occurred during the Jurassic and Cretaceous periods of geologic time (greater than 65 million years ago). Renewed uplift began in the Sierra Nevada during late Tertiary time and is continuing today. The deepest and oldest of the sediments that fill the structural trough are marine sediments deposited before the uplift of the Coast Ranges. A mix of marine and continental deposits formed over these older units as seas advanced and retreated in the Sacramento and San Joaquin Valleys. The upper and youngest sediments in the basin are continental deposits consisting of alluvial fan deposits and flood-basin, lake, and marsh deposits.

The San Joaquin Valley comprises the southern portion of the 400-mile long, 50-mile wide Great Valley alluvial plain. Prior to construction of modern flood control features (e.g., dams, levees), the San Joaquin River and its major tributaries were confined mostly by natural levees, which are low ridges of sandy and silty sediment deposited during flood-stage conditions. When the river and its tributaries flooded their natural levees, higher-energy sediment was deposited in the adjacent areas along the river channel while fine-grained sediments were deposited in lower-energy environments (e.g., topographically lower flood basins, abandoned river channels) farther from the river channel, resulting in highly variable deposits.

The western and eastern margins of the valley are bordered by Coast Range and Sierra Nevada derived alluvial fans. These fans are highly variable and stratigraphically complex. The San Joaquin River and its major tributaries traverse the San Joaquin Valley floor between these two fans, flowing northwest from the Sierra Nevada to the Sacramento-San Joaquin Delta.

#### 3.8.1.2 Site Geology

According to Sowers et al. (1993), the Project area along the San Joaquin River is mapped as Holocene age (younger than 11,800 years) active channel deposits of the San Joaquin River, while further away from the San Joaquin River channel on either ends the area is mapped as Holocene age basin deposits. The units are described by Sowers et al. (1993) as follows:

- Holocene active channel deposits of the San Joaquin River – Unconsolidated sands and silts of mixed Sierra Nevada and Coast Range origin. The Sierra granitic component dominates, characterized by mica, quartz, and feldspar. Deposits are broken into recent and older Holocene deposits. Recent deposits underlie the modern channel meander belt, floodplain, and low terraces, and are reworked by relatively frequent flooding.

- Holocene basin deposits - The basin deposits are comprised of unconsolidated silts and clays that underlie the distal portions of the Coast Range and Sierra Nevada-derived alluvial fans and are characterized by high groundwater tables and saline or alkaline soils. The surfaces of these deposits slope very gently toward the valley axis and are very rarely flooded. Soils tend to be fine-grained, often poorly drained, and contain accumulation of salts or carbonates.

### 3.8.1.3 Seismicity and Faulting

An active fault is a fault that has experienced seismic activity during historic time (since roughly 1800) or exhibits evidence of surface displacement during Holocene time. The Project site is located in a region traditionally characterized by low to moderate seismic activity. The site is not in an Alquist-Priolo Earthquake Fault Zone and no known active faults traverse the site. Based on review of published data and a current understanding of the geologic framework and tectonic setting of the proposed development, the primary source of seismic shaking at the Project site would likely be the Great Valley Thrust Fault and the San Andreas Fault, which are located at distances of 6 miles and 50 miles, respectively.

### 3.8.1.4 Local Geology

Four borings were completed as part of the geotechnical investigation conducted for pipeline replacement. Three of these borings were in proximity to the proposed HDD drill hole alignment, one on the upland side of both ACOE levees (east and west of the River) and one in an agricultural field between the west ACOE levee and the proposed West HDD Work Area. Based on information gathered from these borings, Project geologic conditions are generally consistent with the mapped surficial geology. The borings encountered approximately 3 to 12 feet of basin deposit clay with one silt layer. The basin deposits were underlain by approximately 2 to 8 feet of channel deposit silty sand. These deposits were underlain by sands with varying fines contents. The consistencies of the silts and clays ranged from stiff to hard and the relative densities of the sands ranged from medium dense to very dense, generally increasing with depth (Kleinfelder 2019).

### 3.8.1.5 Subsidence

Subsidence is the gradual settling or sudden sinking of the land surface from changes that take place underground, primary from groundwater or oil pumping. The aquifer system of the Project region (San Joaquin Valley) has both unconfined and confined parts caused by alternating layers of coarse and fine-grained sediments. Water in the coarse-grained, unconfined or water-table aquifers can be extracted or recharged easily and causes only minor 'elastic' compaction reflected as seasonal subsidence and rebound of water levels and the land surface. Most water wells exploit the deeper

1 confined aquifers, and withdrawal of water from them causes drainage of the fine-  
2 grained confining layers called aquitards. Significant amounts of water are available  
3 from the aquitards. These, however, drain slowly and compact both elastically and  
4 inelastically. In general, if water levels are not drawn too low, when pumping ceases  
5 water recharges the aquitards and their structure expands. However, if water levels are  
6 drawn too low an irreversible compaction of the fine-grained aquitards occurs. The  
7 water cannot recharge the layers, causing permanent subsidence and loss of some  
8 groundwater storage capacity.

9 By 1970, significant land subsidence (over 1 foot) had occurred in about half of the San  
10 Joaquin Valley affecting about 5,200 square miles, with some areas subsiding by as  
11 much as 28 feet. Most of the subsidence has occurred in the southern portion of the  
12 Valley, south of the Project site (USGS 2020). Data collected using interferometric  
13 synthetic aperture radar (deployed from aircraft and satellites) between May 2015 and  
14 September 2016 identified Corcoran as the center of the largest subsidence (22 inches)  
15 over this period. Subsidence identified during this period at the Project site is between 1  
16 and 4 inches (Farr et al. 2016).

17 The Project water demand may be met by groundwater from the Modesto, Turlock or  
18 Delta-Mendota sub-basins (see Section 3.11.1.6). Groundwater extraction-induced  
19 subsidence is not considered an issue within the Modesto and Turlock sub-basins, while  
20 up to 1.29 feet of subsidence was detected in the Delta-Mendota sub-basin between  
21 2015 and 2018 (California Natural Resources Agency 2019).

## 22 **3.8.2 Regulatory Setting**

23 Federal and state laws and regulations pertaining to geology, soils, and paleontological  
24 resources and relevant to the Project are identified in Appendix A. In addition to federal  
25 and state regulations, the Project site is within the jurisdiction of Stanislaus County,  
26 such that County General Plan policies and the County Code apply to any new  
27 development or changes in land use.

### 28 **3.8.2.1 Stanislaus County General Plan**

29 The following Stanislaus County General Plan policies and implementation measures  
30 apply to geologic hazards.

#### 31 Safety Element

32 **Policy Three.** Development should not be allowed in areas that are particularly  
33 susceptible to seismic hazard. Implementation measures:

- 34 1. The County shall enforce the Alquist-Priolo Earthquake Fault Zoning Act.

2. Development in areas of geologic hazard shall be considered for approval only where the development includes an acceptable evacuation route.

3. Development proposals adjacent to reservoirs shall include evaluations of the potential impacts from a seismically induced seiche.

4. The routes of new public roads in areas subject to significant seismic hazard shall be designed to minimize seismic risk.

5. Where it is found that right-of-way widths greater than those specified in the Circulation Element are necessary to provide added safety in geologically unstable areas, additional width shall be required.

**Policy Four.** Development west of Interstate Highway 5 in areas susceptible to landslides (as identified in this element) shall be permitted only when a geological report is presented with (a) documented evidence that no such potential exists on the site, or (b) identifying the extent of the problem and the mitigation measures necessary to correct the identified problem. Implementation measures:

1. The County shall utilize the CEQA process to ensure that development does not occur that would be especially susceptible to landslide. Most discretionary projects require review for compliance with CEQA. As part of this review, potential impacts must be identified and mitigated or a statement of overriding concerns adopted.

2. Development west of Interstate Highway 5 shall include a geological report unless the Chief Building Official and Planning Director are satisfied that no need for the study is present.

3. The routes of new public roads in areas subject to landslides shall be designed to minimize landslide risks.

**Policy Five.** Stanislaus County shall support efforts to identify and rehabilitate structures that are not earthquake resistant. Implementation measure:

1. The County shall take advantage of programs that would provide funds to identify and rehabilitate structures that do not currently meet building standard minimums for earthquake resistance.

**Policy Fourteen.** The County will continue to enforce state-mandated structural Health and Safety Codes, including but not limited to the Uniform Building Code, the Uniform Housing Code, the Uniform Fire Code, the Uniform Plumbing Code, the National Electric Code, and Title 24. Implementation measures:

1. All building permits shall be reviewed to ensure compliance with the Uniform Building Code.
2. All complaints of substandard dwellings shall be acted upon to ensure compliance with the Uniform Housing Code.
3. The Uniform Fire Code shall be followed in inspections and maintenance of structures regulated under that code.

#### Conservation Element

**Policy Sixteen.** Discourage development on lands that are subject to flooding, landslide, faulting or any natural disaster to minimize loss of life and property. Implementation measures:

1. Enforce the provisions of the Alquist-Priolo Earthquake Fault Zoning Act.
2. Development will not be permitted in floodways unless it meets the requirements of Chapter 16.40 of the County Code and is approved by the State Reclamation Board.
3. Development proposals in an area identified as having unstable soils (bluff, landslide areas in the foothills, etc.) shall include measures for mitigating possible hazards.
4. The County shall enforce the subdivision ordinance requirement for soils reports, which may be required to include a geologic report.
5. The County shall utilize the CEQA process to ensure that development does not occur that would be subject to natural disasters.

#### 3.8.2.2 Stanislaus County Grading Permit

The Development Services Division of the County's Public Works Department is responsible for issuing grading permits. The division reviews construction site plans and design calculations before issuing a grading permit. In 2014, as part of its Standards & Specifications Update, the County adopted grading standards based on the requirements of the California Building Code (Appendix J [Grading]) and Section 4.106 (Mandatory Measures for Residential and Section 5.106) (Non-residential Site Development) of the California Green Building Standards.

#### 3.8.3 Impact Analysis

***a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:***

1        **(i) Rupture of a known earthquake fault, as delineated on the most recent**  
2        **Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for**  
3        **the area or based on other substantial evidence of a known fault? Refer to**  
4        **Division of Mines and Geology Special Publication 42.**

5        **(ii) Strong seismic ground shaking?**

6        **(iii) Seismic-related ground failure, including liquefaction?**

7        **Less than Significant Impact**

8        Phases 1 and 2

9        No Alquist-Priolo fault zones occur in the Project area (California Department of  
10       Conservation 2010). The nearest known fault (Great Valley Thrust Fault System) is  
11       approximately 6 miles west of the Project site. The Project would be designed to resist  
12       seismic forces and would replace an existing aged segment of the L-215 pipeline with a  
13       new pipeline segment, thereby reducing the overall vulnerability of the system to  
14       seismic hazards, including liquefaction. In Phase 1, the preliminary liquefaction  
15       analyses indicate post-liquefaction settlement would likely be less than ½ inch on the  
16       east side of the River. In Phase 2, the proposed pipeline removal would include  
17       backfilling excavations with native earth material, such that the soil properties (including  
18       shear strength and grain size) would not be substantially changed. Therefore, the  
19       potential for liquefaction during seismic events would not increase.

20       In any case, in accordance with CEQA, Project analysis should address the potential  
21       impacts of the Project on the environment, not the potential impacts of the environment  
22       on the Project. As stated by the California Supreme Court, “agencies subject to CEQA  
23       generally are not required to analyze the impact of existing environmental conditions on  
24       a project's future users or residents. But when a proposed project risks exacerbating  
25       those environmental hazards or conditions that already exist, an agency must analyze  
26       the potential impact of such hazards on future residents or users.” (*California Building*  
27       *Industry Association v. Bay Area Air Quality Management District* (2015) 62 Cal.4th 369,  
28       386 (CBIA)).

29       Project activities would not exacerbate existing geological conditions or the potential for  
30       seismic ground shaking. The HDD activities in particular would not be sufficiently strong  
31       to trigger an earthquake, liquefaction, or landslides. No long-term impacts to the area  
32       due to loss of slope stability or erosion would result from the Project. This analysis  
33       therefore does not evaluate existing environmental risks that could affect the Project  
34       because the Project would not exacerbate them, consistent with the Court's ruling in  
35       CBIA. Therefore, the impacts would be less than significant.

1        **(iv) Landslides?**

2        **No Impact**

3        Phases 1 and 2

4        The Project area and vicinity are generally level, and do not have the potential to slide  
5        or experience sliding from adjacent areas. While there are minor slopes associated with  
6        the levees and riverbanks, these are not expected to be at risk of substantial movement  
7        during Project activities. Therefore, the Project is unlikely to result in landslides and  
8        there would be no impact.

9        **b) Result in substantial soil erosion or the loss of topsoil?**

10       **Less than Significant with Mitigation**

11       Phase 1

12       Topsoil would be temporarily removed during excavation of bore pits, pits used for  
13       flushing and cementing pipeline segments, and pits used for pipeline tie-in. However,  
14       this topsoil would be replaced as part of backfilling the pits. Pipeline replacement  
15       activities would not involve construction of any slopes or removal of substantial amounts  
16       of vegetation that could increase soil erosion during rain events. The Project applicant  
17       would obtain a grading permit from Stanislaus County and follow erosion minimization  
18       procedures as required by that permit. Additionally, the Project would obtain coverage  
19       under the National Pollution Discharge Elimination System Statewide Construction  
20       General Permit (Order No. 2012-0006-DWQ). The Construction General Permit requires  
21       that a SWPPP be prepared and implemented, as outlined in **MM HYDRO-1** (Section  
22       3.11, *Hydrology and Water Quality*). The SWPPP would include erosion and sediment  
23       control best management practices and housekeeping measures for control of  
24       contaminants. Erosion control best management practices would include source control  
25       measures such as wetting of dry and dusty surfaces to prevent fugitive dust emissions,  
26       preservation of existing vegetation, and effective soil cover (e.g., geotextiles, straw  
27       mulch, hydroseeding) for inactive areas and finished slopes to prevent sediments from  
28       being dislodged by wind, rain, or flowing water. With implementation **MM HYDRO-1**,  
29       Phase 1 of the Project would have a less than significant impact due to soil erosion or  
30       the loss of topsoil.

31       Phase 2

32       Topsoil would be temporarily removed during excavation of pipelines to be removed and  
33       pits used for flushing and cementing pipeline segments to abandoned in-place.  
34       However, this topsoil would be replaced as part of backfilling. Pipeline segments buried

1 within the levees would be abandoned in place (following flushing, cementing, capping),  
2 which would prevent disturbance of the levees and possible increased soil erosion  
3 during storm run-off events. Pipeline segments buried within the riverbanks would be  
4 removed and the areas backfilled, compacted and returned to pre-Project contours  
5 which would prevent possible increased soil erosion during storm run-off events. Similar  
6 to Phase 1, the Project applicant would obtain a grading permit from Stanislaus County  
7 and obtain coverage under the National Pollution Discharge Elimination System  
8 Statewide Construction General Permit (Order No. 2012-0006-DWQ) and implement a  
9 SWPPP. In addition, as noted in Section 3.4, *Biological Resources*, pipeline  
10 decommissioning and removal activities would result in the temporary loss of up to 3.8  
11 acres of riparian habitat along the San Joaquin River, including 2.1 acres of Great  
12 Valley mixed riparian forest and 1.7 acres of Great Valley willow scrub. This vegetation  
13 removal could also result in an increase in erosion; however, with the implementation of  
14 MM BIO-9, impacts would be further reduced to less than significant.

15 With implementation of **MM HYDRO-1** and **MM BIO-9**, the Project would have a less  
16 than significant impact due to soil erosion or the loss of topsoil.

17 ***c) Be located on a geologic unit or soil that is unstable, or that would become***  
18 ***unstable as a result of the Project, and potentially result in on- or off-site***  
19 ***landslide, lateral spreading, subsidence, liquefaction or collapse?***

20 **Less than Significant Impact**

21 Phases 1 and 2

22 See the discussion above related to landslides and liquefaction. The Project water  
23 needs would be met by trucking groundwater to the site from a local source within 20  
24 miles (see Section 2.1.3.8). This groundwater would be obtained from a municipal  
25 source or an agricultural water district (see Section 3.11.1.6). Project water demands  
26 would be for construction only (one-time use), short-term (a maximum of 5 months) and  
27 additional groundwater usage would be negligible (less than 0.0012 percent, see Table  
28 3.11-1). Therefore, the Project contribution to groundwater extraction-related  
29 subsidence would be less than significant. Lateral spreading or localized soil collapse  
30 as a result of Project-related earthwork may occur, but would be very minor and not  
31 adversely affect any persons or property.

32 ***d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform***  
33 ***Building Code (1994), creating substantial direct or indirect risks to life or***  
34 ***property?***

35 **No Impact**

1    Phases 1 and 2

2    Soils in the Project area are mostly relatively soft and loose alluvial deposits of  
3    interbedded sand, clay, and silt. Expansive soils may be encountered during HDD  
4    and/or pipeline removal; however, pipeline replacement and decommissioning would  
5    not increase the risk to life or property created by their presence. Therefore, there would  
6    be no impact.

7    ***e) Have soils incapable of adequately supporting the use of septic tanks or***  
8    ***alternative wastewater disposal systems where sewers are not available for the***  
9    ***disposal of wastewater?***

10   **No Impact**

11   Phases 1 and 2

12   The Project would not involve the use of septic tanks or on-site sewage disposal.  
13   Portable restrooms would be provided on-site for workers and would be regularly  
14   serviced to remove sewage which would be disposed at the local wastewater treatment  
15   facility.

16   ***f) Directly or indirectly destroy a unique paleontological resource or site or***  
17   ***unique geologic feature?***

18   **No Impact**

19   Phases 1 and 2

20   All Project excavations would occur within active channel deposits or basin deposits of  
21   the San Joaquin River (Holocene age or younger). Geologic formations that may  
22   contain fossils would not be affected.

23   **3.8.4 Mitigation Summary**

24   Implementation of the following MM would reduce the potential for Project-related  
25   impacts to Geology, Soils, and Paleontological Resources to less than significant.

- 26        • MM HYDRO-1: Stormwater Pollution Prevention Plan (SWPPP)
- 27        • MM BIO-9: Wetland and Riparian Habitat Restoration

### 3.9 GREENHOUSE GAS EMISSIONS

GREENHOUSE GAS EMISSIONS – Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 3.9.1 Environmental Setting

Greenhouse Gases (GHGs), defined as any gas that absorbs infrared radiation in the atmosphere, include, but are not limited to, water vapor, carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), and fluorocarbons. These GHGs trap and build up heat in the atmosphere near the earth's surface, commonly known as the Greenhouse Effect. The atmosphere and the oceans are reaching their capacity to absorb CO<sub>2</sub> and other GHGs, leading to significant global climate change in the future. There is widespread international scientific consensus that human-caused increases in GHGs have and will continue to contribute to climate change, although there is uncertainty concerning the magnitude and rate of the warming.

In addition, the Intergovernmental Panel on Climate Change (IPCC), in the section of its Fifth Assessment Report by Working Group II, "Climate Change 2014: Impacts, Adaptation, and Vulnerability," (IPCC 2014; released March 31, 2014) specific to North America (Chapter 26), stated in part:

*North American ecosystems are under increasing stress from rising temperatures, carbon dioxide (CO<sub>2</sub>) concentrations, and sea-levels, and are particularly vulnerable to climate extremes. Climate stresses occur alongside other anthropogenic influences on ecosystems, including land-use changes, non-native species, and pollution, and in many cases will exacerbate these pressures. [26.4.1; 26.4.3]. Evidence since the Fourth Assessment Report (AR4) highlights increased ecosystem vulnerability to multiple and interacting climate stresses in forest ecosystems, through wildfire activity, regional drought, high temperatures, and infestations [26.4.2.1; Box 26-2]; and in coastal zones due to increasing temperatures, ocean acidification, coral reef bleaching, increased sediment load in runoff, sea level rise (SLR), storms, and storm surges [26.4.3.1].*

Climate change is having widespread impacts on California's economy and environment and will continue to affect communities across the state. Many impacts already occur, including increased fires, floods, severe storms, and heat waves (California Climate Change Center 2012). Documented effects of climate change in California include increased average, maximum, and minimum temperatures; decreased spring runoff to the Sacramento River; shrinking glaciers in the Sierra Nevada; sea-level rise at the Golden Gate Bridge; warmer temperatures in Lake Tahoe, Mono Lake, and other major lakes; and plant and animal species found at changed elevations (Office of Environmental Health Hazard Assessment [OEHHA] 2018).

According to the IPCC, the concentration of CO<sub>2</sub>, the primary GHG, has increased from approximately 280 parts per million (ppm) in pre-industrial times to well over 380 ppm today. CO<sub>2</sub> concentrations are currently increasing about 1.9 ppm/year; present CO<sub>2</sub> concentrations are higher than any time in at least the last 650,000 years. CO<sub>2</sub> is also used as a reference gas for climate change. To account for different GHG warming potentials, emissions are often quantified and reported as CO<sub>2</sub> equivalents (CO<sub>2</sub>e). For example, if the CO<sub>2</sub> warming potential is set at a reference value of 1, CH<sub>4</sub> has a warming potential of 28 (i.e., 1 ton of methane has the same warming potential as 28 tons of CO<sub>2</sub> [IPCC 2014]), while nitrous oxide has a warming potential of 265.

To meet both the statewide 2020 GHG reduction target that requires California to reduce its total statewide GHG emissions to 1990 levels (Health & Saf. Code, § 38550), and the 2050 goal of 80 percent below 1990 levels (Executive Order S-3-05), not only must projects contribute to slowing the increase in GHG emissions, but, ultimately, projects should contribute to reducing the State's GHG output. In order to reach California's GHG reduction targets, per capita emissions would need to be reduced by slightly less than 5 percent each year from 2020 to 2030, with continued reductions through 2050.

### **3.9.2 Regulatory Setting**

Federal and state laws and regulations pertaining to greenhouse gas emissions and relevant to the Project are identified in Appendix A. Various entities address this issue area at the state and regional levels. For example, CARB's Climate Change Scoping Plan establishes GHG reduction strategies and goals for California's future, focusing on large contributors to state GHG emissions (e.g., power generation and transportation).

At the local level, the SJVAPCD is the agency primarily responsible for addressing GHG emissions within the SJVAB and adopted a Climate Change Action Plan in August 2008. SVJAPCD developed guidance for lead agencies within the SJVAB to streamline CEQA review by pre-quantifying emissions reductions that would be achieved through the implementation of Best Performance Standards. Projects are considered to have a

less-than-significant cumulative impact on climate change if any of the following conditions are met.

1. Comply with an approved GHG reduction plan.

2. Achieve a score of at least 29 using any combination of approved operational Best Performance Standards.

3. Reduce operational GHG emissions by at least 29 percent over Business-as-Usual conditions (demonstrated quantitatively).

SJVAPCD has not adopted significance thresholds for construction related GHG emissions. For the purposes of this impact analysis, the construction phase GHG threshold of significance used by the Sacramento Metropolitan Air Quality Management District is used (1,100 metric tons CO<sub>2</sub>e per year). Lead agencies should quantify and disclose GHG emissions that would occur during construction and make a determination on the significance of these construction generated GHG emission impacts in relation to meeting AB 32 GHG reduction goals (SJVAPCD 2009).

### 3.9.3 Impact Analysis

***a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?***

#### **Less than Significant Impact**

##### Phases 1 and 2

Greenhouse gas emissions associated with implementation of the Project (both Phases 1 and 2) were estimated using emissions factors from emissions inventory models developed by CARB (EMFAC 2017, OFFROAD 2017) and the California Climate Action Registry General Reporting Protocol. Inputs used in the EMFAC 2017 model (on-road motor vehicles) are year 2020 annual emissions for Stanislaus County. Inputs used in the OFFROAD 2017 model (off-road and stationary equipment) are year 2020 emissions for the San Joaquin Valley Air Basin. Appendix C provides spreadsheets documenting these emissions calculations.

Project greenhouse gas emissions estimates are provided in Tables 3.9-1 and 3.9-2 for Phases 1 and 2, respectively. As Phase 1 and Phase 2 would be implemented in different years, annual emissions are not additive. Since the proposed Project would not exceed the 1,100 metric tons CO<sub>2</sub>e significance threshold and would not conflict with the Climate Change Action Plan developed by the SJVAPCD, the Project's incremental increase in greenhouse gas emissions would not be cumulatively considerable.

**Table 3.9-1. Estimated Phase 1 Greenhouse Gas Emissions  
(metric tons/year)**

Work Task	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub> e
Site Support/Project Management	39.7	0.001	0.001	40.0
Pipe/Materials Procurement	9.1	<0.001	0.001	9.3
Excavation	19.9	0.001	<0.001	20.0
Pipeline String Welding	72.8	0.003	0.002	73.4
Pipeline Installation	13.8	0.001	<0.001	13.9
HDD Operation	449.6	0.021	0.022	456.0
Pipeline String Pull-back	7.8	<0.001	<0.001	7.9
Strength Test and Caliper Pigging	13.7	0.001	0.001	13.8
Backfill/Site Restoration	22.7	0.001	0.002	23.3
Existing Pipeline Decommissioning	3.7	<0.001	<0.001	3.8
<b>Total*</b>	<b>652.8</b>	<b>0.030</b>	<b>0.029</b>	<b>661.4</b>

\*Due to rounding, total values may not equal the sum of values in the table

**Table 3.9-2. Estimated Phase 2 Greenhouse Gas Emissions  
(metric tons/year)**

Work Task	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub> e
Mobilization	15.4	0.001	0.001	15.7
Pigging and Flushing Pipeline	8.9	<0.001	0.002	9.4
Cementing Pipeline	28.4	0.001	0.001	28.7
Onshore Pipeline Removal	18.0	0.001	<0.001	18.2
In-River Pipeline Removal	27.1	0.002	0.001	27.3
Demobilization	17.9	0.001	0.001	18.3
<b>Total*</b>	<b>115.7</b>	<b>0.006</b>	<b>0.006</b>	<b>117.5</b>

\*Due to rounding, total values may not equal the sum of values in the table

- 1 ***b) Conflict with an applicable plan, policy or regulation adopted for the purpose***
- 2 ***of reducing the emissions of greenhouse gases?***
- 3 **No Impact**
- 4 Phases 1 and 2
- 5 The proposed Project would generate only temporary greenhouse gas emissions and
- 6 would not conflict with the state-wide Climate Change Scoping Plan or the Climate
- 7 Change Action Plan developed for the SJVAB by the SJVAPCD.

**1 3.9.4 Mitigation Summary**

- 2 The Project would have no significant impacts to greenhouse gas emissions; therefore,  
3 no mitigation is required.

### 1 3.10 HAZARDS AND HAZARDOUS MATERIALS

HAZARDS AND HAZARDOUS MATERIALS – Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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 or people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

#### 2 3.10.1 Environmental Setting

##### 3 3.10.1.1 Project Location and Surroundings

4 The Project site is located within an agricultural area in Stanislaus County. Interstate  
5 Highway 5 is located approximately 6 miles to the west. The nearest airport is located in  
6 Modesto, approximately 12.5 miles to the north-northeast. The nearest residential area  
7 is agricultural worker housing located adjacent to the West Road Pipeline Segment to  
8 be abandoned. The nearest schools are located in Patterson, approximately 4.6 miles to  
9 the west.

1 The State Water Resources Control Board GeoTracker database identifies two sites in  
2 proximity to the Project site. Both are underground storage tank sites associated with  
3 the former NASA Crows Landing Flight Facility. Leakage of diesel fuel from these tanks  
4 in the 1980's resulted in groundwater contamination. Following removal of the tanks,  
5 groundwater was remediated using soil vapor extraction and bio-sparging, and  
6 monitoring wells indicate these sites do not appear to pose a threat to groundwater and  
7 do not pose a significant threat to human health. The sites were formally closed in 2004  
8 and 2005.

### 9 **3.10.2 Regulatory Setting**

10 Federal and state laws and regulations pertaining to hazards and hazardous materials  
11 and relevant to the Project are identified in Appendix A. In addition to federal and state  
12 regulations, the Project site is within the jurisdiction of Stanislaus County, such that  
13 County General Plan policies apply to any new development or changes in land use.

#### 14 **3.10.2.1 Stanislaus County General Plan**

15 The following Stanislaus County General Plan Safety Element policies apply to hazards  
16 and hazardous materials.

17 **Policy One.** The County will adopt (and implement as necessary) plans inclusive of the  
18 Multi-Jurisdictional Hazard Mitigation Plan, to minimize the impacts of a natural and  
19 man-made disasters.

20 **Policy Two.** Development should not be allowed in areas that are within the designated  
21 floodway.

22 **Policy Six.** All new development shall be designed to reduce safety and health  
23 hazards.

24 **Policy Eight.** Roads shall be maintained for the safety of travelers.

25 **Policy Nine.** The County shall support the formation of improvement districts (including  
26 flood control districts) to eliminate safety hazards.

27 **Policy Twelve.** The Airport Land Use Commission Plan and County Airport Regulations  
28 (Chapter 17 of the County Code) shall be updated as necessary, maintained and  
29 enforced.

30 **Policy Thirteen.** The Department of Environmental Resources shall continue to  
31 coordinate efforts to identify locations of hazardous materials and prepare and  
32 implement plans for management of spilled hazardous materials as required.

**Policy Fourteen.** The County will continue to enforce state-mandated structural Health and Safety Codes, including but not limited to the Uniform Building Code, the Uniform Housing Code, the Uniform Fire Code, the Uniform Plumbing Code, the National Electric Code, and Title 24.

**Policy Fifteen.** The County will support the Federal Emergency Management Agency Flood Insurance Program so that residents who qualify may purchase such protection.

#### 3.10.2.2 Stanislaus County Certified Unified Program Agency

The Stanislaus County Hazardous Materials Division of the Department of Environmental Resources is the Certified Unified Program Agency as identified by the California Environmental Protection Agency. The programs for which the Hazardous Materials Division is responsible are: the Hazardous Waste Management Plan, Underground Storage Tank Program, Above Ground Storage Tank Program, California Accidental Release Prevention Program, Household Hazardous Waste Collection Program, Medical Waste Program, Hazardous Materials Disclosure Program (including Hazardous Materials Business Plans), Conditionally Exempt Small Quantity Generator Program, and the Tiered Permitting Program. The Hazardous Materials Business Plan is used to keep track of the use of hazardous materials by businesses in accordance with both state and federal laws.

#### 3.10.3 Impact Analysis

***a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?***

**Less than Significant with Mitigation**

##### Phases 1 and 2

The Project would involve the routine transport, storage, use, and disposal of small quantities of hazardous materials during installation of the replacement pipeline and decommissioning of the existing pipeline. These materials may include gasoline, diesel, lubricants, hydraulic fluid, coolant and solvents, which are regulated by federal, state, and local laws and regulations.

Development and implementation of a Project Work and Safety Plan (**APM-1**) would address the storage and handling of these materials during this Project and would include storing incompatible hazardous materials separately, using secondary containment for hazardous materials storage, requiring the contractor to use trained personnel for hazardous materials handling, keeping spill clean-up kits available on-site, and designating specific sites with appropriate spill containment within the construction

1 area as refueling stations for construction equipment. With the inclusion of **APM-1**, any  
2 potential impact to the public or the environment through the routine transport, use, or  
3 disposal of hazardous materials would be further reduced to less than significant.

4 **APM-1: Project Work and Safety Plan.** A Project Work and Safety Plan (PWSP)  
5 shall be submitted to CSLC staff and all other pertinent agencies for review  
6 and approval at least 30 days prior to the implementation of each Project  
7 Phase. The PWSP shall include the following information (at a minimum):

- 8 • Contact information
- 9 • Hazardous Spill Response and Contingency Plan
- 10 • Emergency Action Plan
- 11 • Summary of the Project Execution Plan
- 12 • Project Management Plan
- 13 • Site Safety Plan. Will include measures for proper handling of hazardous  
14 materials including, but not limited to soils containing residual pesticides
- 15 • Permit Condition Compliance Matrix

16 ***b) Create a significant hazard to the public or the environment through***  
17 ***reasonably foreseeable upset and accident conditions involving the release of***  
18 ***hazardous materials into the environment?***

19 **Less than Significant with Mitigation**

20 Phase 1

21 As noted above, **APM-1** would include a Hazardous Spill Response and Contingency  
22 Plan and Safety Plan to address the accidental release of hazardous materials.  
23 Installation of the replacement pipeline could result in the release of hazardous  
24 materials to the environment. Although HDD activities would be closely monitored, the  
25 potential exists for drilling fluids to migrate from the drill hole to surrounding fractured  
26 rock and sediments and be discharged to the land or surface water along the HDD  
27 alignment. However, the Project includes the development and implementation of an  
28 Inadvertent Release Contingency Plan (**APM-2**). A preliminary draft of the plan is  
29 included as Appendix F.

30 Pipeline decommissioning of a short segment of the existing pipeline would include  
31 pigging and flushing to remove residual hydrocarbons, which would be captured in  
32 temporary tanks. Flush water would not contain hazardous materials but would be  
33 tested to identify levels of contamination and disposed at an appropriate facility or  
34 discharged to the River, if authorized by the CVRWQCB. Impacts to water resources

associated with discharge of any flush water are further addressed in Section 3.11 (*Hydrology and Water Quality*). With the implementation of **APM-1** and **APM-2** impacts related to accidental release would be less than significant.

#### Phase 2

Pipeline decommissioning would include pigging and flushing the existing pipelines to remove residual hydrocarbons, which would be captured in temporary tanks. Flush water would not contain hazardous materials but would be tested to identify levels of contamination and disposed at an appropriate facility or discharged to the River if authorized. Impacts to water resources the release of hazardous materials associated with discharge of any flush water would be addressed by **APM-1** and are further addressed in Section 3.11, *Hydrology and Water Quality*. In accordance with **APM-3**, a utility location survey would be conducted for all planned areas of excavation in order to avoid existing utilities (or pipelines). In addition, a pre-Project Geophysical Debris Survey of the riverbed would be conducted to fully identify pre-Project bottom contours, debris, and any exposed utilities in order to avoid those areas during decommissioning (**APM-4**). The riverbed would also undergo a post-Project survey. Finally, the existing pipeline may have an asbestos coating, which would be disturbed during pipeline removal activities. A potentially significant impact to human health could occur if asbestos fibers become airborne in the vicinity of nearby residences. Therefore, Asbestos Handling Procedures (**MM HAZ-1**) would be implemented during pipeline removal.

With the implementation of the following **APMs**, impacts due to hazardous materials would be reduced; however, not to a less-than-significant level. PG&E commits to the following APMs to ensure that impacts due to hazardous materials would be minimized.

**APM-2: Inadvertent Release Contingency Plan.** An Inadvertent Release Contingency Plan shall be implemented to detect and address any inadvertent drilling fluid migration outside of the HDD drill hole, including potential drilling fluid migration into the River. At least 30 days prior to Phase 1 implementation, PG&E will submit a Final Plan to CSLC staff for review and approval.

**APM-3: Utility Location Survey.** The Applicant or their contractor shall conduct an 811 Utility Location Survey of all planned areas of excavation. Affected local utility companies shall be notified through this process and utility locators shall identify and mark the approximate location of buried lines with flags or paint. Marked utility locations shall be avoided.

**APM-4: Pre- and Post-Project Geophysical Debris Survey.** The Applicant or its contractor shall conduct pre- and post-Project Geophysical Debris Surveys of

the riverbed using a vessel equipped with a multi-beam sonar system. The pre-Project survey, with previously collected data, shall serve to fully identify pre-Project bottom contours, debris, and any exposed utilities, and a copy of the survey shall be submitted to CSLC staff for review 30 days prior to Project implementation. The post-Project survey results shall be submitted to CSLC staff 30 days after Project completion.

With implementation of **MM HAZ-1** impacts due to hazardous materials would be reduced to less than significant.

**MM HAZ-1: Asbestos Handling Procedures.** Construction personnel shall be informed of the potential presence of asbestos-containing material (ACM) at the Project site prior to their assignment. After exposing the existing pipeline for removal, and prior to the start of cutting and tie-in activities, a certified asbestos inspector/consultant shall test whether the coating consists of ACM greater than 1 percent by weight. If testing reveals the coating contains ACM less than 1 percent by weight, the pipeline segment shall be treated as normal construction waste and no additional measures are required. If testing reveals the coating contains ACM greater than 1 percent by weight, the materials shall be abated by a certified asbestos abatement contractor in accordance with the regulations and notification requirements of SJVAPCD Rule 4002, and in accordance with applicable worker safety regulations. All ACM removed from the pipeline segment shall be labeled, transported, and disposed of at a verified and approved ACM disposal facility.

***c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?***

**No Impact**

Phases 1 and 2

The Project site is located in an agricultural area, and there are no existing or proposed schools within 0.25 mile of the Project site. Therefore, there would be no impact to schools.

***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?***

**No Impact**

Phases 1 and 2

1 The Project site is not located within or near any hazardous materials sites compiled  
2 pursuant to Government Code section 65962.5 (Department of Toxic Substances  
3 Control [DTSC] 2020). Therefore, there would be no impact to the public or the  
4 environment.

5 ***e) For a project located within an airport land use plan or, where such a plan has***  
6 ***not been adopted, within 2 miles of a public airport or public use airport, would***  
7 ***the project result in a safety hazard or excessive noise for people residing or***  
8 ***working in the project area?***

9 **No Impact**

10 Phases 1 and 2

11 The Project site is not located within an airport land use plan or within 2 miles of an  
12 airport. Therefore, there would be no airport-related safety or noise impact to the public.

13 ***f) Impair implementation of or physically interfere with an adopted emergency***  
14 ***response plan or emergency evacuation plan?***

15 **No Impact**

16 Phases 1 and 2

17 The Project would not result in any change in land use or affect any roadways that may  
18 be used for emergency response or evacuation. Therefore, there would be no impact to  
19 emergency response in the Project area.

20 ***g) Expose people or structures, either directly or indirectly, to a significant risk of***  
21 ***loss, injury, or death involving wildland fires?***

22 **Less than Significant Impact**

23 Phases 1 and 2

24 The Project site is served by two fire protection districts, with the West Stanislaus Fire  
25 Protection District's service area located west of the San Joaquin River and the  
26 Mountain View Fire Protection District's service area located east of the San Joaquin  
27 River. Within the Project site, the River floodplain (between the ACOE levees) is  
28 considered a moderate fire severity hazard area by the California Department of  
29 Forestry and Fire Protection. Adjacent irrigated agricultural fields are not considered to  
30 be a fire hazard. Project ignition sources would be limited to mobile and stationary  
31 equipment, vehicles, welders and grinders. Standard safety features would be utilized,  
32 such as spark arrestor mufflers and grinder shields. Project activities would occur within

1 areas of irrigated agriculture or the River floodplain, with relatively high soil moisture. In  
2 addition, potentially flammable vegetation would be removed as part of work area setup,  
3 and while conducting pipeline replacement and decommissioning activities. Therefore,  
4 the Project-related increase in risk of property loss, injury or death from wildland fires is  
5 considered a less than significant impact.

#### 6 **3.10.4 Mitigation Summary**

7 Implementation of the following MM and APMs would reduce the potential for Project-  
8 related impacts related to hazardous materials to less than significant.

- 9 • APM-1: Project Work and Safety Plan
- 10 • APM-2: Inadvertent Release Contingency Plan
- 11 • APM-3: Utility Location Survey
- 12 • APM-4: Pre-and Post-Project Geophysical Debris Surveys
- 13 • MM HAZ-1: Asbestos Handling Procedures

# 1 **3.11 HYDROLOGY AND WATER QUALITY**

HYDROLOGY AND WATER QUALITY - Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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 that would:				
i) Result in substantial erosion or siltation on or off site;	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii) Substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or off site;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## 2 **3.11.1 Environmental Setting**

### 3 3.11.1.1 Surface Water Characteristics

4 The Project site spans the San Joaquin River which has a watershed of about 15,880  
5 square miles. The larger tributaries of the River include the Cosumnes, Mokelumne,  
6 Calaveras, Stanislaus, Tuolumne, Merced, Chowchilla, and Fresno Rivers. Major  
7 reservoirs and lakes include Pardee, New Hogan, Millerton, McClure, Don Pedro, and  
8 New Melones. Mean daily flows in the River (2018-2019 data) (California Department of  
9 Water Resources 2020) recorded near the Crows Landing Road bridge (1.5 miles  
10 southeast of the Project site) varied from a low of 221 cubic feet/second in August 2018  
11 to a high of 10,464 cubic feet/second in June 2019.

1    3.11.1.2   Surface Water Quality

2    The CVRWQCB has jurisdiction over entire Sacramento River and San Joaquin River  
3    basins. The Regional Board has developed a Water Quality Control Plan, or “Basin  
4    Plan”, to protect the quality of surface and groundwaters of the region. The Basin Plan  
5    designates beneficial uses of waters within the region, sets narrative and numerical  
6    water quality objectives to protect beneficial uses, and describes implementation  
7    programs intended to meet the Basin Plan objectives. Beneficial uses established for  
8    the River downstream of its confluence with the Merced River is limited to municipal and  
9    domestic water supply.

10   Surface water of the Project area (River reach between the Merced and Tuolumne  
11   Rivers) is considered impaired under Section 303(d) of the Clean Water Act (pertaining  
12   to TMDL, or total maximum daily load requirements<sup>4</sup>), due to elevated levels of DDT,  
13   mercury, Group A pesticides, benzene hexachloride, chlorpyrifos, aquatic toxicity  
14   (primarily to fish), DDE, elevated temperature, electrical conductivity (salinity), specific  
15   conductance and total dissolved solids (State Water Resources Control Board  
16   [SWRCB] 2016). A water body is impaired when data indicate that adopted water quality  
17   objectives are continually exceeded or that beneficial uses are not protected.

18   3.11.1.3   Flood Hazard

19   As shown on Flood Insurance Rate Map no. 06099C0760E, the Project site is entirely  
20   within the 1 percent annual chance flood hazard area (Zone A without base flood  
21   elevation), except the West HDD Work Area and West HDD Staging Area.

22   3.11.1.4   Groundwater Environment

23   The Project site straddles the San Joaquin River which forms the boundary of two  
24   hydrologic units, with the Delta-Mendota Canal Hydrologic Unit to the west and the San  
25   Joaquin Valley Floor Hydrologic Unit to the east. The River also forms the boundary  
26   between groundwater basins in the Project area, with the Delta-Mendota Groundwater  
27   sub-basin to the west and the Turlock Groundwater sub-basin to the east. Groundwater  
28   levels in the active well closest to the Project site (0.9 miles southeast of the West HDD  
29   Work Area, well number 06S08E01J001M) have been relatively constant since 1995,  
30   averaging about 15 feet below the ground surface (DWR, 2020).

---

<sup>4</sup> TMDL (Total Maximum Daily Load) is defined by the EPA as the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards.

1 Delta-Mendota Groundwater Sub-basin

2 Water bearing units of the Delta-Mendota sub-basin consist of the Tulare Formation,  
3 terrace deposits, alluvium and flood-basin deposits. The bottom of the aquifer is  
4 confined by the Corcoran Clay layer at a depth of about 100 to 500 feet (California  
5 Department of Water Resources 2006). While the total volume of groundwater in  
6 storage in the sub-basin has declined over time, groundwater storage reduction has not  
7 historically been an area of concern in the Project area, particularly in the Lower Aquifer  
8 (below the Corcoran Clay layer) as there are large volumes of fresh water in storage.

9 Groundwater quality in the sub-basin varies by location. Concerns related to  
10 groundwater quality are largely related to non-point sources and/or naturally occurring  
11 constituents. Primary constituents of concern are total dissolved solids (TDS), nitrate as  
12 nitrogen and boron, which all have anthropogenic as well as natural sources. In recent  
13 years, TDS concentrations in the Upper Aquifer are generally stable near or below the  
14 Secondary Maximum Contaminant Level (MCL) of 1,000 milligrams per liter (mg/L). In  
15 the Lower Aquifer, TDS concentrations are largely stable though have been found to  
16 exceed the Secondary MCL in some locations. Nitrate concentrations are largely below  
17 the Primary MCL of 10 mg/L, with elevated concentrations above the Primary MCL  
18 found south of Los Banos and northwest toward Patterson in the Upper Aquifer, and at  
19 elevated concentrations below the Primary MCL in the Lower Aquifer in locations where  
20 the Corcoran Clay is thin or non-existent. While boron does not have a drinking water  
21 standard, many crops are sensitive to high boron concentrations. Boron concentrations  
22 are greater than the agricultural goal within the Grassland Drainage sub-basin (at about  
23 2 mg/L), while near the City of Patterson, boron concentrations are generally stable and  
24 below agricultural objectives at 0.4 mg/L.

25 Turlock Groundwater Sub-basin

26 Water bearing units of the Eastern San Joaquin Sub-basin (of which the Turlock  
27 Groundwater sub-basin is a part) include alluvium, Modesto/Riverbank Formations,  
28 flood basin deposits, Laguna Formation and Mehrten Formation. Analysis of the well  
29 data shows that groundwater levels in the Turlock Groundwater sub-basin have  
30 declined since the 1960s, particularly in the eastern portion of the Sub-basin. Data for  
31 more recent years show that groundwater levels stabilized or recovered during the  
32 1990s. The most recent data suggest that groundwater levels in the central and eastern  
33 areas appear to have declined slightly since 2002.

34 Groundwater quality in the Turlock sub-basin remains generally high throughout most of  
35 the region. However, high salinity, nitrates, iron and manganese, boron, arsenic,  
36 radionuclides, bacteria, pesticides, trichloroethylene, and other trace organics have  
37 been found in the Turlock sub-basin.

### 3.11.1.5 Groundwater Management

The 2014 Sustainable Groundwater Management Act requires the formation of groundwater sustainability agencies (GSAs) in high- and medium-priority groundwater basins and sub-basins by June 30, 2017 to meet California Water Code requirements. Groundwater basins are often subdivided into smaller sub-basins for the purposes of groundwater management. West of the River, the Project site is located within the Northwestern Delta-Mendota sub-basin. East of the River, the Project site is located within the West Turlock Sub-basin. These sub-basins have been prioritized as “high” for management and development of a groundwater sustainability plan by the California Department of Water Resources. The Northwestern Delta-Mendota sub-basin GSA submitted a groundwater sustainability plan in coordination with the Northern and Central Delta-Mendota sub-basin GSA to the California Department of Water Resources on January 23, 2020. The West Turlock sub-basin GSA plans to submit a groundwater sustainability plan in coordination with the East Turlock sub-basin GSA by January 31, 2022. The focus of these groundwater sustainability plans is to manage the basins in a sustainable manner for at least 20 years.

### 3.11.1.6 Potentially Affected Groundwater Basins

As discussed in Sections 2.1.3.8 and 2.2.2, Phase 1 would require approximately 780,000 gallons of water and Phase 2 would require approximately 90,000 gallons of water, which equates to approximately 2.7 acre-feet in total. Project water demands would be met by groundwater trucked to the Project site. The source of this water has not been determined to date but would be obtained from a municipal supply (Patterson, Modesto or Turlock) or directly from an agricultural water district. For the purposes of impact assessment, it is assumed the source of Project water would be located within 20 miles of the Project site. Based on this criterion, potentially affected groundwater basins are the Modesto, Turlock, and Delta-Mendota sub-basins of the San Joaquin Valley Groundwater Basin. Well hydrographs from each of these sub-basins indicate a long-term trend of groundwater level decline (California Natural Resources Agency 2019). Table 3.11-1 provides a comparison of the Project water demand to the existing annual groundwater usage in each sub-basin.

**Table 3.11-1. Project Water Use Comparison (acre-feet)**

Sub-basin	Annual Groundwater Use	Project Groundwater Use	Project Percent Increase
Modesto	216,522	2.7	0.0012
Turlock	475,479	2.7	0.0006
Delta-Mendota	837,237	2.7	0.0003

### 3.11.2 Regulatory Setting

Federal and state laws and regulations pertaining to hydrology and water quality and relevant to the Project are identified in Appendix A. Relevant state, regional and local permits and plans are discussed below.

#### 3.11.2.1 NPDES General Permits

Pursuant to the Porter-Cologne Act, the Regional Board issues permits for discharges to land or surface waters. The limitations placed on the discharge are designed to ensure compliance with water quality objectives in the Basin Plan. Construction activities that disturb 1 or more acres of land surface are regulated under the General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Order No. 2012-0006-DWQ). This general permit also covers construction activities associated with Linear Underground/Overhead Utility Projects such as installation of underground pipelines, trenching, excavation, boring and drilling, and stockpile/borrow locations. To obtain coverage under the Construction General Permit, the legally responsible person must file a notice of intent (NOI), SWPPP, risk assessment, site map(s), and drawings.

Statewide General Waste Discharge Requirements for Discharges to Land with a Low Threat to Water Quality (Water Quality Order 2003-003-DWQ) addresses potential discharges that have a low potential to threaten water quality. Project-related discharges that may be covered include hydrostatic test water and construction dewatering (exposed groundwater). In accordance with this state-wide General Permit, all dischargers must comply with all applicable provisions in the Project area's Basin Plan, including any prohibitions and water quality objectives for surface water and groundwater. Discharges must be made to land owned or controlled by the discharger, unless the discharger has a written lease or agreement with the landowner. An NOI must be filed with the applicable regional board (in this case the CVRWQCB) prior to any wastewater discharge. Compliance with permit terms, including any monitoring, and filing a notice of termination upon completion of the activity are also required.

Waste Discharge Requirements for Limited Threat Discharges to Surface Water (Order No. R5-2016-0076-01) addresses discharges that have a low potential to threaten water quality. Project-related discharges that may be covered include hydrostatic test water, pipeline flushing water and construction dewatering. In accordance with this General Permit, the discharged water must meet screening levels established in the Permit for nitrate, residual chlorine, metals, pesticides and other contaminants. The discharge cannot substantially affect receiving water quality including dissolved oxygen, pH and temperature. An NOI must be filed with the CVRWQCB prior to any wastewater discharge. Compliance with Permit terms, including a self-monitoring program with

1 quarterly monitoring reports, and filing a notice of termination upon completion of the  
2 activity are also required.

### 3 3.11.2.2 Central Valley Flood Protection Plan

4 State Bill 5 required the California Department of Water Resources and the Central  
5 Valley Flood Protection Board to prepare and adopt a Central Valley Flood Protection  
6 Plan (CVFPP) and establish flood protection requirements for local land use decisions  
7 consistent with the CVFPP. The CVFPP was adopted in 2012 and updated in 2017. The  
8 CVFPP serves as the guiding document for managing flood risk along the Sacramento  
9 and San Joaquin river systems, including a system-wide investment approach for  
10 sustainable, integrated flood management in areas currently protected by facilities of the  
11 State Plan of Flood Control. Regional flood management plans were also developed to  
12 specifically address more local issues. The Project site is located within the planning  
13 area of the Mid San Joaquin River Regional Flood Management Plan.

### 14 3.11.2.3 Stanislaus County Groundwater Management Action Plan

15 Policies in the County's Groundwater Management Action Plan related to hydrology and  
16 water quality include the following.

17 **Governance (G-1).** Participate in the development and adoption of a Groundwater  
18 Sustainability Plans for all groundwater basins in Stanislaus County, consistent with  
19 Sustainable Groundwater Management Act.

20 **Governance (G-2).** Adopt General Plan (cities and County) changes to protect  
21 groundwater recharge areas and to manage or mitigate land use that has an impact on  
22 groundwater use and quality.

23 **Governance (G-3).** Evaluate existing Integrated Regional Water Management Plans  
24 with regard to their relevance to sustainable groundwater management activities that  
25 enhance water supply and protects water quality.

26 **Governance (G-4).** Discuss and develop alternate institutional mechanisms for  
27 integrated groundwater management strategies with the existing groundwater  
28 management planning agencies and associations in conformance with Sustainable  
29 Groundwater Management Act and the creation of Groundwater Sustainability  
30 Agencies.

31 **Governance (G-5).** Systematically evaluate and integrate existing Urban Water  
32 Management Plans, Agricultural Water Management Plans, and Groundwater  
33 Management Plans into a single, integrated, county-wide water management plan

1 focused on sustainable groundwater management programs, practices and projects and  
2 which includes robust performance metrics and implementation schedule.

3 3.11.2.4 Stanislaus County General Plan

4 The Land Use Element, Conservation/Open Space Element, Safety Element and  
5 Agricultural Element of the Stanislaus County General Plan provides policies related to  
6 hydrology and water quality.

7 Land Use Element

8 **Policy Four.** Urban development shall be discouraged in areas with growth-limiting  
9 factors such as high-water table or poor soil percolation, and prohibited in geological  
10 fault and hazard areas, flood plains, riparian areas, and airport hazard areas unless  
11 measures to mitigate the problems are included as part of the application.

12 **Policy Eight.** The County will continue to provide proper ordinances to ensure that  
13 flood insurance can be made available to qualified property owners through state and  
14 federal programs.

15 Conservation/Open Space Element

16 **Policy Five.** Protect groundwater aquifers and recharge areas, particularly those critical  
17 for the replenishment of reservoirs and aquifers.

18 **Policy Six.** Preserve vegetation to protect waterways from bank erosion and siltation.

19 **Policy Seven.** New development that does not derive domestic water from pre-existing  
20 domestic and public water supply systems shall be required to have a documented  
21 water supply that does not adversely impact Stanislaus County water resources.

22 Safety Element

23 **Policy Two.** Development should not be allowed in areas that are within the designated  
24 floodway.

25 **Policy Nine.** The County shall support the formation of improvement districts (including  
26 flood control districts) to eliminate safety hazards.

27 **Policy Fifteen.** The County will support the Federal Emergency Management Agency  
28 Flood Insurance Program so that residents who qualify may purchase such protection.

29 Agricultural Element

**Policy 3.4.** The County shall encourage the conservation of water for both agricultural and urban uses.

### **3.11.3 Impact Analysis**

**a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?**

#### **Less than Significant with Mitigation**

##### Phases 1 and 2

In the absence of proper controls, ground disturbance associated with setting up work areas, excavation of pits, and pipeline removal activities could result in erosion and sedimentation or the discharge of pollutants. Spills of diesel fuel, gasoline, coolant, hydraulic oil, and lubricants could occur, potentially impacting surface water quality. These issues would be addressed by the Hazardous Spill Response and Contingency Plan (**APM-1**), and the implementation of a SWPPP (**MM HYDRO-1**), which would be required to avoid significant impacts associated with spills, runoff, and sedimentation. The SWPPP would be consistent with the Statewide Construction General Permit (Order No. 2012-0006-DWQ).

The replacement pipeline would be hydrostatically tested before and after installation using freshwater from local wells or other sources (refer to Section 2.1.3.5). Discharge of hydrostatic test water and/or flush water would also be conducted under the authorization of a General Permit and would meet the required water quality limits. Drilling fluid required during HDD Phase 1 pipeline installation would have the potential to affect surface and groundwater resources. However, the Project includes **APM-2**, which would incorporate implementation of an Inadvertent Release Contingency Plan in order to detect and address any inadvertent fluid migration outside of the HDD drill hole. In addition, **MM BIO-4** would require turbidity monitoring during construction to minimize the potential for surface water quality impacts.

With the implementation of **APMs**, impacts associated with hydrology and water quality would be reduced; however, not to a less-than-significant level. PG&E commits to the following APMs to ensure that impacts affecting hydrology and water quality would be minimized. With implementation of **MM BIO-4** and **MM HYDRO-1** impacts to hydrology and water quality would be reduced to less than significant.

**MM HYDRO-1: Stormwater Pollution Prevention Plan (SWPPP).** The Applicant or their contractor shall develop and implement a SWPPP consistent with the Statewide NPDES Construction General Permit (Order No. 2012-0006-DWQ). At a minimum, the SWPPP shall include measures for:

- Maintaining adequate soil moisture to prevent excessive fugitive dust emissions, preservation of existing vegetation, and effective soil cover (e.g., geotextiles, straw mulch, hydroseeding) for inactive areas and finished slopes to prevent sediments from being dislodged by wind, rain, or flowing water.
- Installing fiber rolls and sediment basins to capture and remove particles that have already been dislodged.
- Establishing good housekeeping measures such as construction vehicle storage and maintenance, handling procedures for hazardous materials, and waste management BMPs, including procedural and structural measures to prevent the release of wastes and materials used at the site.

The SWPPP shall also detail spill prevention and control measures to identify the proper storage and handling techniques of fuels and lubricants, and the procedures to follow in the event of a spill. The SWPPP shall be provided to CSLC staff for review a minimum of 30 days prior to Project implementation.

***b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?***

**Less than Significant Impact**

Phases 1 and 2

As indicated in Table 3.11-1, the Project water demand would be negligible (less than 0.0012 percent) of the groundwater use of any potentially affected sub-basin. The Project water demand would be for construction only (one-time use) and short-term (a maximum of 5 months). Therefore, Project-related water use would represent a less than significant impact to local water supplies. Such water use would not hinder sustainable groundwater management of any groundwater 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 that would:***

***i) Result in substantial erosion or siltation on or off site;***

**Less than Significant with Mitigation**

1    Phases 1 and 2

2    The Project would not alter the drainage pattern of the San Joaquin River or any other  
3    drainage. Removal of the exposed L-215 pipeline in the riverbed would reduce existing  
4    long-term riverbed erosion caused by turbulence and any debris caught on the exposed  
5    pipeline; However, short-term erosion and siltation caused by pipeline removal on the  
6    riverbanks would be potentially significant without implementation of a SWPPP (**MM**  
7    **HYDRO-1**). Erosion and siltation caused by pipeline removal would be further  
8    minimized by the proposed restoration of riparian habitat removed by the Project (**MM**  
9    **BIO-9**), and adherence to regulatory permit conditions. With the inclusion of **MM**  
10   **HYDRO-1** and **MM BIO-9**, the impact would be less than significant.

11        ***ii) Substantially increase the rate or amount of surface runoff in a manner that***  
12        ***would result in flooding on or off site;***

13    **No Impact**

14    Phases 1 and 2

15    The Project does not involve any new impervious surfaces or drainage features that  
16    could alter the rate or amount of storm run-off. Therefore, there would be no impact.

17        ***iii) Create or contribute runoff water that would exceed the capacity of existing***  
18        ***or planned stormwater drainage systems or provide substantial additional***  
19        ***sources of polluted runoff; or***

20    **No Impact**

21    Phases 1 and 2

22    The Project does not involve any new impervious surfaces or drainage features that  
23    could alter the rate or amount of storm run-off. All Project components would be buried  
24    (except pipeline markers) and would not contribute any pollutants to storm run-off in the  
25    Project area. Therefore, there would be no impact to any existing or planned drainage  
26    systems.

27        ***iv) Impede or redirect flood flows?***

28    **No Impact**

1 Phases 1 and 2

2 Although the Project site is located within a flood hazard area, all Project components  
3 would be buried (except pipeline markers) and would not impede or redirect flood flows.

4 ***d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to***  
5 ***project inundation?***

6 **No Impact**

7 Phases 1 and 2

8 Although the Project site is located within a flood hazard area, all Project components  
9 would be buried (except pipeline markers) and could not release pollutants during flood  
10 events. The Project site is not located within Tsunami Inundation Hazard Zone or  
11 subject to seiches. Therefore, no impact would result.

12 ***e) Conflict with or obstruct implementation of a water quality control plan or***  
13 ***sustainable groundwater management plan?***

14 **No Impact**

15 Phases 1 and 2

16 The Project may include discharge of hydrostatic testing water and/or pipeline flush  
17 water to the San Joaquin River, which could exceed the water quality objectives of the  
18 Central Valley Region Water Quality Control Plan. However, this water would be tested  
19 and treated as needed to ensure it complies with the waste discharge requirements of  
20 applicable general permits (Water Quality Order 2003-003-DWQ, Order R5-2016-0076-  
21 01). Therefore, such discharge is not anticipated to conflict with the Central Valley  
22 Region Water Quality Control Plan.

23 As discussed above in Section 3.11.1.4, the Project site is located within the planning  
24 area of two groundwater sustainability management plans. The water demand of the  
25 Project may be met by local groundwater basins managed under a groundwater  
26 sustainability management plan. However, due to the relatively small and temporary  
27 nature of this water demand, the Project would not conflict or obstruct groundwater  
28 management in the area.

29 **3.11.4 Mitigation Summary**

30 Implementation of the following APMs and MMs would reduce the potential for Project-  
31 related impacts to hydrology and water quality to less than significant.

- 1      • APM-1: Project Work and Safety Plan
- 2      • APM-2 Inadvertent Release Contingency Plan
- 3      • MM BIO-4: Turbidity Monitoring Plan
- 4      • MM BIO-9: Wetlands and Riparian Habitat Restoration
- 5      • MM HYDRO-1: Stormwater Pollution Prevention Plan (SWPPP)

# 1    **3.12 LAND USE AND PLANNING**

LAND USE AND PLANNING – Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## 2    **3.12.1 Environmental Setting**

3    The Project site is located within Stanislaus County. Most of the site has a General Plan  
4    land use designation of Agriculture, and A-2-40 zoning (General Agriculture, 40-acre  
5    minimum parcel size). However, the Phase 2 West Staging Area is located within a  
6    small area with a Commercial land use designation and C-2 zoning (General  
7    Commercial District).

## 8    **3.12.2 Regulatory Setting**

9    Federal and state laws and regulations pertaining to land use and planning and relevant  
10   to the Project are identified in Appendix A. Since the Project does not involve a change  
11   in land use, local goals, policies, or regulations are not applicable.

## 12   **3.12.3 Impact Analysis**

### 13   ***a) Physically divide an established community?***

### 14   **No Impact**

### 15   Phases 1 and 2

16   The Project site is located in an agricultural area with the nearest community located in  
17   Patterson, approximately 4 miles to the west. The Project does not involve any new  
18   above-ground structures (except pipeline markers), which would not divide any  
19   community.

### 20   ***b) Cause a significant environmental impact due to a conflict with any land use*** 21   ***plan, policy, or regulation adopted for the purpose of avoiding or mitigating an*** 22   ***environmental effect?***

1    **No Impact**

2    Phases 1 and 2

3    A new permanent pipeline easement along the buried replacement pipeline alignment  
4    may be required but would not require any change in land use. The Project would not  
5    conflict with existing agricultural activities or any land use plan or policy.

6    **3.12.4 Mitigation Summary**

7    The Project would have no impact to land use and planning; therefore, no mitigation is  
8    required.

### 3.13 MINERAL RESOURCES

MINERAL RESOURCES – Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 3.13.1 Environmental Setting

The Project site is located in Stanislaus County. Mineral resources of the County include construction-grade aggregate, diatomite, magnesite, silica, specialty sand, and chromite. Twelve mines are in operation in the County, primarily harvesting fluvial (aggregate) deposits along river and stream drainages. The nearest mineral resource area with demonstrated resources (aggregate classified as MRZ-2a) is located approximately 7.5 miles to the south of the Project site. The nearest mineral resource area with inferred aggregate resources (aggregate classified as MRZ-2b) is located approximately 6.5 miles to the south of the Project site (California Department of Conservation 1993).

According to the California Department of Conservation, Geologic Energy Management Division's on-line Well Finder, the Project site is not located within an active oil and gas development area. Oil well drilling was conducted in the 1950s in the Project area, yielding only dry holes. The nearest active well is located approximately 19 miles to the west of the Project site.

#### 3.13.2 Regulatory Setting

There are no federal laws, regulations, or policies pertaining to mineral resources that are relevant to the Project. State laws and regulations pertaining to mineral resources and relevant to the Project are identified in Appendix A. Stanislaus County General Plan policies are listed below.

##### 3.13.2.1 Stanislaus County General Plan Conservation/Open Space Element

**Policy Twenty-Six.** Surface mining in areas classified by the State Division of Mines and Geology as having significant deposits of extractive mineral resources shall be encouraged.

**Policy Twenty-Seven.** The County shall emphasize the conservation and development of lands having significant deposits of extractive mineral resources by not permitting uses that threaten the potential to extract the minerals.

**Policy Twenty-Eight.** Lands used for the extraction of mineral resources shall be reclaimed as required by the Surface Mining and Reclamation Act of 1975 to minimize undesirable impacts.

### **3.13.3 Impact Analysis**

***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?***

**(a to b) No Impact**

#### **Phases 1 and 2**

There are no mineral resource recovery sites or known mineral resources in or near the Project site. Project activities would not hinder access or otherwise result in the loss of availability of known or inferred mineral resources; therefore, there would be no impact.

### **3.13.4 Mitigation Summary**

The Project would have no impact to mineral resources; therefore, no mitigation is required.

### 1 3.14 NOISE

NOISE – Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Generate 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Generate excessive ground-borne vibration or ground-borne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Be 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 and expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 2 3.14.1 Environmental Setting

3 The Project area is located in an agricultural area. Noise sources include farm  
4 equipment and vehicles associated with planting, cultivation and harvesting, and motor  
5 vehicle traffic on South Carpenter Road, Marshall Road, and Crows Landing Road.  
6 Traffic noise from more distant Interstate Highway 5 (6 miles to the west) may be  
7 noticeable during nighttime periods. Noise impacts to biological resources are analyzed  
8 in Section 3.4, *Biological Resources*.

##### 9 3.14.1.1 Sound, Noise and Acoustics

10 Sound can be described as the mechanical energy of a vibrating object transmitted by  
11 pressure waves through a liquid or gaseous medium (e.g., air) to a hearing organ, such  
12 as a human ear. Noise is defined as loud, unexpected, or annoying sound. In the  
13 science of acoustics, the fundamental model consists of a sound (or noise) source, a  
14 receiver, and the propagation path between the two. The loudness of the noise source  
15 and obstructions or atmospheric factors affecting the propagation path to the receiver  
16 determines the sound level and characteristics of the noise perceived by the receiver.  
17 The field of acoustics deals primarily with the propagation and control of sound.

3.14.1.2 Sound Pressure Levels and Decibels

The amplitude of pressure waves generated by a sound source determines the loudness of that source. Sound pressure amplitude is measured in micro-Pascals (mPa). One mPa is approximately one hundred billionth (0.0000000001) of normal atmospheric pressure. Sound pressure amplitudes for different kinds of noise environments can range from less than 100 to 100,000,000 mPa. Because of this huge range of values, sound is rarely expressed in terms of mPa. Instead, a logarithmic scale is used to describe sound pressure level (SPL) in terms of decibels (dB). The threshold of hearing for young people is about 0 dB, which corresponds to 20 mPa.

3.14.1.3 Addition of Decibels

Because decibels are logarithmic units, sound pressure level cannot be added or subtracted through ordinary arithmetic. Under the decibel scale, a doubling of sound energy corresponds to a 3 dB increase. In other words, when two identical sources are each producing sound of the same loudness, the resulting sound level at a given distance would be 3 dB higher than one source under the same conditions. For example, if one automobile produces a sound pressure level of 70 dB when it passes an observer, two cars passing simultaneously would not produce 140 dB, they would combine to produce 73 dB. Under the decibel scale, three sources of equal loudness together produce a sound level 5 dB louder than one source.

3.14.1.4 A-Weighted Decibels

The decibel scale alone does not adequately characterize how humans perceive noise. The dominant frequencies of a sound have a substantial effect on the human response to that sound. Although the intensity (energy per unit area) of the sound is a purely physical quantity, the loudness or human response is determined by the characteristics of the human ear. Human hearing is limited in the range of audible frequencies as well as in the way it perceives the SPL in that range. In general, people are most sensitive to the frequency range of 1,000 to 8,000 Hertz [Hz] and perceive sounds within that range better than sounds of the same amplitude in higher or lower frequencies. To approximate the response of the human ear, sound levels of individual frequency bands are weighted, depending on the human sensitivity to those frequencies. Then, an “A-weighted” sound level (expressed in units of dBA) can be computed based on this information.

The A-weighting network approximates the frequency response of the average young ear when listening to most ordinary sounds. When people make judgments of the relative loudness or annoyance of a sound, their judgments correlate well with the A-scale sound levels of those sounds. Other weighting networks have been devised to address high noise levels or other special problems (e.g., B-, C-, and D-scales), but

these scales are rarely used in noise impact assessments. Noise levels for impact assessments are typically reported in terms of A-weighted decibels or dBA.

#### 3.14.1.5 Human Response to Changes in Noise Levels

As discussed above, doubling sound energy results in a 3 dB increase in sound. However, given a sound level change measured with precise instrumentation, the subjective human perception of a doubling of loudness will usually be different than what is measured.

Under controlled conditions in an acoustical laboratory, the trained, healthy human ear is able to discern one dB changes in sound levels, when exposed to steady, single-frequency (“pure-tone”) signals in the mid-frequency (1,000 to 8,000 Hz) range. In typical noisy environments, changes in noise of one to two dB are generally not perceptible. However, it is widely accepted that people are able to begin to detect sound level increases of 3 dB in typical noisy environments.

Further, a 5 dB increase is generally perceived as a distinctly noticeable increase, and a 10 dB increase is generally perceived as a doubling of loudness. Therefore, a doubling of sound energy (e.g., doubling the number of similar sources or the volume of traffic on a highway) that would result in a 3 dB increase in sound would generally be perceived as barely detectable.

#### 3.14.1.6 Noise Descriptors

Noise in our daily environment fluctuates over time. Some fluctuations are minor, but some are substantial. Some noise levels occur in regular patterns, but others are random. Some noise levels fluctuate rapidly, but others slowly. Some noise levels vary widely, but others are relatively constant. Various noise descriptors have been developed to describe time-varying noise levels. The following are the noise descriptors most commonly used in noise analysis.

- Equivalent Sound Level ( $L_{eq}$ ) represents an average of the sound energy occurring over a specified period. The one-hour A-weighted equivalent sound level ( $L_{eq[h]}$ ) is the energy average of A-weighted sound levels occurring during a one-hour period.
- Percentile-Exceeded Sound Level ( $L_{xx}$ ) represents the sound level exceeded for a given percentage of a specified period (e.g.,  $L_{10}$  is the sound level exceeded 10 percent of the time, and  $L_{90}$  is the sound level exceeded 90 percent of the time).

- 1 • Maximum Sound Level ( $L_{\max}$ ) is the highest instantaneous sound level measured  
2 during a specified period.
- 3 • Day-Night Level ( $L_{\text{dn}}$ ) is the energy average of A-weighted sound levels occurring  
4 over a 24-hour period, with a 10 dB penalty applied to A-weighted sound levels  
5 occurring during nighttime hours between 10:00 p.m. and 7:00 a.m.
- 6 • Community Noise Equivalent Level (CNEL) is the energy average of the A-  
7 weighted sound levels occurring over a 24-hour period, with a 10 dB penalty  
8 applied to A-weighted sound levels occurring during the nighttime hours between  
9 10:00 p.m. and 7:00 a.m., and a five dB penalty applied to the A-weighted sound  
10 levels occurring during evening hours between 7:00 p.m. and 10:00 p.m.

11 Sound from a localized source (i.e., point source) propagates uniformly outward in a  
12 spherical pattern, and the sound level attenuates (decreases) at a rate of 6 dB each  
13 time the distance doubles from a point or stationary source. Roadways, highways, and  
14 moving trains (to some extent) consist of several localized noise sources on a defined  
15 path; these are treated as “line” sources, which approximate the effect of several point  
16 sources. Sound levels attenuate at a rate of 3 dB for each time the distance doubles  
17 from a line source.

#### 18 Ground-borne Vibration

19 In contrast to airborne noise, ground-borne vibration is not a common environmental  
20 problem. Vibration from sources such as buses and trucks is not usually perceptible,  
21 even in locations close to major roads. Some common sources of ground-borne  
22 vibration are trains, buses on rough roads, and construction activities such as blasting,  
23 pile-driving and operating heavy earth-moving equipment.

24 Ground-borne vibration can cause detectable building floor movement, window rattling,  
25 items shaking on shelves or walls, and rumbling sounds. In extreme cases, the vibration  
26 can cause damage to buildings. Building damage is not a factor for most projects, with  
27 the occasional exception of blasting and pile-driving during construction. Human  
28 annoyance from vibration can often occur and can happen when the vibration exceeds  
29 the threshold of perception by only a small margin. A vibration level that causes  
30 annoyance would be well below the damage threshold for normal buildings.

31 Vibration is an oscillatory motion which can be described in terms of displacement,  
32 velocity or acceleration. Displacement is the easiest descriptor to understand. For a  
33 vibrating floor, the displacement is simply the distance that a point on the floor moves  
34 away from its static position. The velocity represents the instantaneous speed of the  
35 floor movement and acceleration is the rate of change of the speed. The peak particle  
36 velocity (PPV) is defined as the maximum instantaneous positive or negative peak of

1 the vibration signal. PPV is often used in monitoring of blasting vibration since it is  
2 related to the stresses that buildings undergo.

### 3 **3.14.2 Regulatory Setting**

4 Federal and state laws and regulations pertaining to noise and relevant to the Project  
5 are identified in Appendix A. Local policies and regulations from the Stanislaus County  
6 General Plan Noise Element and noise ordinance are provided below.

#### 7 **3.14.2.1 Stanislaus County General Plan**

8 The purpose of the General Plan Noise Element is to limit the community's exposure to  
9 excessive noise. It contains several related goals and policies, as well as two  
10 implementation measures relevant to this analysis. The Noise Element also establishes  
11 land use compatibility standards for noise.

12 **Policy One.** It is the policy of Stanislaus County to utilize the noise exposure  
13 information contained within the General Plan to identify existing and potential noise  
14 conflicts through the Land Use Planning and Project Review processes.

15 **Policy Two.** It is the policy of Stanislaus County to develop and implement effective  
16 measures to abate and avoid excessive noise exposure in the unincorporated areas of  
17 the County by requiring that effective noise mitigation measures be incorporated into the  
18 design of new noise generating and new noise sensitive land uses. Implementation  
19 measures:

- 20 1. New development of noise-sensitive land uses will not be permitted in noise-  
21 impacted areas unless effective mitigation measures are incorporated into the  
22 project design to reduce noise levels to the following levels:

- 23 a. For transportation noise sources, such as traffic on public roadways,  
24 railroads, and airports, 60 Ldn (or CNEL) or less in outdoor activity areas of  
25 single family residences, 65 Ldn (or CNEL) or less in community outdoor  
26 spaces for multi-family residences, and 45 Ldn (or CNEL) or less within noise  
27 sensitive interior spaces. Where it is not possible to reduce exterior noise to  
28 the prescribed level using a practical application of the best available noise-  
29 reduction technology, an exterior noise level of up to 65 Ldn (or CNEL) will be  
30 allowed. Under no circumstances will interior noise levels be allowed to  
31 exceed 45 Ldn (or CNEL) with the windows and doors closed in residential  
32 uses.

b. For other noise sources, such as local industries or other stationary noise sources, noise levels shall not exceed the performance standards listed under implementation measure 2.

2. New development of industrial, commercial or other noise generating land uses will not be permitted if the resulting noise levels will exceed 60 L<sub>dn</sub> (or CNEL) in noise-sensitive areas. Additionally, the development of new noise-generating land uses which are not preempted from local noise regulation will not be permitted if the resulting noise levels will exceed 55 dBA L<sub>eq</sub> during daytime or 45 dBA L<sub>eq</sub> during nighttime.

**Policy Three.** It is the objective of Stanislaus County to protect areas of the County where noise-sensitive land uses are located.

**Policy Four.** It is the objective of Stanislaus County to ensure that the Noise Element is consistent with and does not conflict with other elements of the Stanislaus County General Plan.

#### 3.14.2.2 Stanislaus County Noise Control Ordinance

Chapter 10.46 of the Stanislaus County Code (Noise Control Ordinance) was adopted by the County in February 2010. The ordinance states that it is unlawful for any person at any location within the unincorporated area of the County to create any noise or to allow the creation of any noise that causes the exterior noise level, when measured at any property situated in either the incorporated or unincorporated area of the County, to exceed specific exterior noise level standards. The exterior noise standard for commercial zones (including a portion of the Project site) is 60 dBA L<sub>max</sub> during daytime (7 a.m. to 10 p.m.) and 55 dBA L<sub>max</sub> during nighttime (10 p.m. to 7 a.m.). However, the Project is exempt from this ordinance because it consists of construction or maintenance performed by or at the direction of any public entity or public utility (County Code Section 10.46.080.J).

#### 3.14.3 Impact Analysis

***a) Generate 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**

County General Plan noise standards do not apply to the Project because it is not a new development and would not result in any long-term noise (following pipeline installation and decommissioning). The Project is also exempt from the County's Noise Control Ordinance because it consists of construction performed by or at the direction of a

1 public utility. However, Project-related noise levels at nearby residences have been  
2 estimated for the purposes of full disclosure.

### 3 Phase 1

4 The Federal Highway Administration's Roadway Construction Noise Model was used to  
5 estimate peak hour noise ( $L_{eq}$ ) generated by HDD operations (West HDD Work Area) at  
6 the nearest residence, located at the Prune Avenue/Paradise Avenue intersection  
7 (approximately 1,100 feet to the northeast). This impact scenario was selected due to  
8 the large amount of equipment in use, relatively long work period (60 work days) and  
9 proximity to residences. The modeled peak hour noise level is 59.4 dBA  $L_{eq}$ . Model  
10 output data is provided in Appendix E. Due to the temporary nature of Phase 1-  
11 generated noise and lack of any applicable noise standards, the Project-related  
12 temporary increase in ambient noise levels is considered a less than significant impact.

### 13 Phase 2

14 The Roadway Construction Noise Model was used to estimate peak hour noise ( $L_{eq}$ )  
15 generated by pipeline removal at the West Landing Pipeline Segment at the nearest  
16 residence, located approximately 200 feet to the west near the West ACOE Levee. This  
17 impact scenario was selected due to the large amount of equipment in use and  
18 proximity to residences. The modeled peak hour noise level is 68.5 dBA  $L_{eq}$ . Model  
19 output data is provided in Appendix E. Due to the temporary nature of Phase 2-  
20 generated noise and lack of any applicable noise standards, the Project-related  
21 temporary increase in ambient noise levels is considered a less than significant impact.

### 22 ***b) Generate excessive ground-borne vibration or ground-borne noise levels?***

#### 23 **Less than Significant Impact**

### 24 Phase 1

25 Methodology provided in the California Department of Transportation (Caltrans)  
26 Transportation and Construction Vibration Guidance Manual (2013) was used to  
27 estimate ground borne vibration at the nearest potentially occupied structure. Input and  
28 output data are provided in Appendix E. The estimated vibration level at the nearest  
29 residence (Prune Avenue/Paradise Avenue intersection) is 0.00065 PPV, which is much  
30 lower than 0.04 PPV required to be distinctly perceptible by humans and 0.3 PPV which  
31 could damage older residential structures. Therefore, Phase 1-generated vibration is  
32 considered a less than significant impact.

1    Phase 2

2    Methodology provided in the Caltrans Transportation and Construction Vibration  
3    Guidance Manual (2013) was used to estimate ground borne vibration at the nearest  
4    potentially occupied structure. Input and output data are provided in Appendix E. The  
5    estimated vibration level at the nearest residence (just west of the West ACOE Levee)  
6    is 0.00596 PPV, which is much lower than 0.04 PPV required to be distinctly perceptible  
7    by humans and 0.3 PPV which could damage older residential structures. Therefore,  
8    Phase 2-generated vibration is considered a less than significant impact.

9    ***c) Be located within the vicinity of a private airstrip or an airport land use plan, or,***  
10   ***where such a plan has not been adopted, within two miles of a public airport or***  
11   ***public use airport and expose people residing or working in the project area to***  
12   ***excessive noise levels?***

13   **No Impact**

14   Phases 1 and 2

15   The nearest airport is located in Modesto, approximately 12.5 miles to the north-  
16   northeast of the Project site. Therefore, aviation noise would not adversely affect the  
17   Project site.

18   **3.14.4 Mitigation Summary**

19   The Project would have no significant impacts to noise; therefore, no mitigation is  
20   required.

### 1 3.15 POPULATION AND HOUSING

POPULATION AND HOUSING – Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 2 3.15.1 Environmental Setting

3 According to the 2010 U.S. Census, Stanislaus County had a population of 514,453 and  
 4 grew 15 percent since the 2000 Census. The 2018 population in Stanislaus County was  
 5 539,301. The 2010 population of the nearby City of Patterson reported by the 2010  
 6 Census was 20,413 and grew 44 percent since the 2000 Census.

#### 7 3.15.2 Regulatory Setting

8 No federal, state, or local laws relevant to population and housing are applicable to the  
 9 Project. Since the Project does not involve a change in land use, local goals, policies, or  
 10 regulations are not applicable.

#### 11 3.15.3 Impact Analysis

12 ***a) Induce substantial unplanned population growth in an area, either directly (for***  
 13 ***example, by proposing new homes and businesses) or indirectly (for example,***  
 14 ***through extension of roads or other infrastructure)?***

15 **No Impact**

16 Phases 1 and 2

17 The Project consists of the replacement an existing buried natural gas pipeline and  
 18 decommissioning of the existing pipeline in an agricultural area. The replacement  
 19 pipeline would not extend natural gas service into new areas. Therefore, the Project  
 20 would not induce growth.

21 ***b) Displace substantial numbers of existing people or housing, necessitating the***  
 22 ***construction of replacement housing elsewhere?***

1    **No Impact**

2    Phases 1 and 2

3    The Project would be implemented in an agricultural area and would not displace any  
4    housing. Construction workers and other field personnel involved with pipeline  
5    replacement may slightly increase the demand for temporary (rental) housing or hotel  
6    amenities; however, the small number of persons employed during the Project would  
7    not create a long-term demand for housing. The Project would not generate a need for  
8    additional housing, generate new permanent jobs in the region, or displace existing  
9    housing or owners/tenants. Therefore, there would be no impact.

10   **3.15.4 Mitigation Summary**

11   The Project would have no impact to population and housing; therefore, no mitigation is  
12   required.

### 1 3.16 PUBLIC SERVICES

PUBLIC SERVICES	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Would the project result in 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 2 3.16.1 Environmental Setting

3 The Project site is located in unincorporated Stanislaus County, within an agricultural  
 4 area with minimal community services. The nearest community is the City of Patterson  
 5 located 4 miles west of the site. Service providers are listed in Table 3.16-1.

**Table 3.16-1. Summary of Public Service Providers**

Service	Provider(s)
Fire	West Stanislaus Fire Protection District (west of the San Joaquin River) Mountain View Fire Protection District (east of the San Joaquin River)
Police	Stanislaus County Sheriff's Office
School District	Patterson Joint Unified School District (City of Patterson)
Parks	Stanislaus County Parks and Recreation Department

6 The Stanislaus County Sheriff's Office is responsible for law enforcement in  
 7 unincorporated Stanislaus County as well as the nearby City of Patterson. The Sheriff's  
 8 Office headquarters is located at 250 E. Hackett Road in Modesto, approximately 20  
 9 minutes from the Project site.

10 The nearest schools are located in the city of Patterson about 4 miles west of the  
 11 Project site and are managed by the Patterson Joint Unified School District.

The nearest County parks to the Project site are the Las Palmas River and Fishing Access Park (3.7 miles to the northwest) and Bonita Park and Pool in Crows Landing, (approximately 4 miles to the south).

#### **3.16.2 Regulatory Setting**

Federal and state laws and regulations pertaining to public service and relevant to the Project are identified in Appendix A. There are no local goals, policies, or regulations applicable to the Project.

#### **3.16.3 Impact Analysis**

***a) Would the project result in 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?***

#### **No Impact**

##### **Phases 1 and 2**

The Project involves short-term pipeline replacement and does not involve the construction of any residences, buildings, or new infrastructure. The Project would not generate a need for any new government facilities or public services during or after proposed activities are completed. Therefore, there would be no impact.

#### **3.16.4 Mitigation Summary**

The Project would have no impact to public services; therefore, no mitigation is required.

### 1 3.17 RECREATION

RECREATION	Potentially Significant Impact	Less Than Significant with Mitigation	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Would the project interfere with existing use of in-river recreational boating opportunities? <sup>5</sup>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#### 2 3.17.1 Environmental Setting

3 The nearest public parks to the Project site are the Las Palmas River and Fishing  
 4 Access Park (3.7 miles to the northwest) and Bonita Park and Pool in Crows Landing,  
 5 (approximately 4 miles to the south). In addition, the private Turlock Sportsman's Club is  
 6 located approximately 1 mile south of the Project site (East HDD Work Area) and  
 7 focuses on trap shooting. The San Joaquin River supports recreational fishing, with  
 8 fisherman launching their boats at the Las Palmas River and Fishing Access Park. This  
 9 launch ramp is approximately 5.7 river miles downstream of the Project site. It is unclear  
 10 if boats can reach the Project site during most water conditions due to intervening sand  
 11 bars.

#### 12 3.17.2 Regulatory Setting

13 There are no federal laws, regulations, or policies pertaining to recreation that are  
 14 relevant to the Project. State laws and regulations pertaining to recreation and relevant  
 15 to the Project are identified in Appendix A. Local policies with respect to recreation are  
 16 listed below.

##### 17 3.17.2.1 Stanislaus County General Plan

18 The General Plan Land Use Element contains the following policies and implementation  
 19 measures relevant to recreation.

<sup>5</sup> The Commission has chosen to analyze this impact in addition to the impact analyses set forth in CEQA Guidelines Appendix G. Though use of the Appendix G checklist meets the requirements for an initial study, "public agencies are free to devise their own format." (State CEQA Guidelines § 15063, subd. (f).)

**Policy Two.** Land designated Agriculture shall be restricted to uses that are compatible with agricultural practices, including natural resources management, open space, outdoor recreation and enjoyment of scenic beauty.

**Policy Five.** Residential densities as defined in the General Plan shall be the maximum based upon environmental constraints, the availability of public services, and acceptable service levels. The densities reflected may not always be achievable and shall not be approved unless there is proper site planning and provision of suitable open space and recreational areas consistent with the supportive goals and policies of the General Plan.

**Policy Seventeen.** Promote diversification and growth of the local economy. Implementation measure: allow private recreational uses where they are not found to cause land use conflicts.

**Policy Twenty-One.** At least three net acres of developed neighborhood parks, or the maximum number of acres allowed by law, should be provided for every 1,000 residents, through land dedication and development, payment of in-lieu-of fees, or other methods acceptable to the Parks Department. Implementation measure: continue to implement the strategies identified under Goal Four of the Conservation/Open Space Element.

**Policy Twenty-Two.** Future growth shall not exceed the capabilities/capacity of the provider of services such as sewer, water, public safety, solid waste management, road systems, schools, health care facilities, etc. Implementation measure: benefit assessment districts, County Service Areas, Mello-Roos Districts, or other similar districts shall be formed as needed to pay for the cost of providing ongoing appropriate services.

### **3.17.3 Impact Analysis**

***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?***

**(a to b) No Impact**

1 Phases 1 and 2

2 The Project would not result in population growth in the area or otherwise result in the  
3 increased use of existing recreational facilities. The Project does not include any  
4 recreational facilities or require the construction or expansion of recreational facilities.

5 ***Would the project interfere with existing use of in-river recreational boating***  
6 ***opportunities?***

7 **Less than Significant with Mitigation**

8 Phases 1 and 2

9 Phase 1 of the Project is located on upland areas and would not affect in-river boating  
10 opportunities. The sectional barge proposed to remove in-river pipeline segments as  
11 part of Phase 2 would not block access for boaters cruising or fishing the San Joaquin  
12 River; however, removal of the in-water segment of the L-215 pipeline may raise safety  
13 concerns for recreational boaters. **MM REC-1** would be implemented to reduce this  
14 potential impact to less than significant.

15 **MM REC-1. Local In-Water Construction Notice.** Prior to in-water activity, PG&E  
16 or its designated contractor shall post information on Project locations, times,  
17 and other details of activities that may pose hazards to recreational boaters.  
18 At all times while construction activities are taking place in the San Joaquin  
19 River, warning signs and buoys shall be installed upstream and downstream  
20 of the construction site to provide notice to the public that construction  
21 activities are taking place and to exercise caution.

22 **3.17.4 Mitigation Summary**

23 Implementation of the following MM would reduce the potential for Project-related  
24 impacts to recreation to less than significant.

- 25
  - MM REC-1. Local In-Water Construction Notice

### 1 3.18 TRANSPORTATION

TRANSPORTATION – Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict or be inconsistent with State CEQA Guidelines section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 2 3.18.1 Environmental Setting

3 The Project site would be accessed from Interstate Highway 5, the primary north-south  
4 transportation corridor in California. Project-related vehicles are anticipated to exit  
5 Interstate Highway 5 at the Fink Road interchange, proceed east on Fink Road, then  
6 northeast on Crows Landing Road. Vehicles heading to the portion of the Project site  
7 west of the San Joaquin River would turn left (north) onto State Route 33, then right  
8 (east) on Marshall Road, then left onto Sycamore Avenue, then right onto Prune  
9 Avenue. Vehicles heading to the portion of the Project site east of the San Joaquin  
10 River are anticipated to continue on Crows Landing Road, cross the River, then turn left  
11 (north) onto South Carpenter Road.

##### 12 3.18.1.1 Local Roadway Conditions

13 The quality of traffic service provided by a roadway system can be described through  
14 the Level of Service (LOS) concept. LOS is a standardized means of describing traffic  
15 conditions by comparing traffic volumes in a roadway system with the system's capacity.  
16 A LOS rating of A-C indicates that the roadway is operating efficiently. Minor delays are  
17 possible on an arterial with a LOS of D. Level E represents traffic volumes at or near the  
18 capacity of the roadway, resulting in possible delays and unstable flow. Existing  
19 average daily traffic (ADT) volumes and LOS are listed below for affected local roadway  
20 segments:

- 21 • Fink Road, between Interstate Highway 5 and State Route 33: 2,150 to 2,400  
22 ADT, LOS C.
- 23 • Crows Landing Road between State Route 33 and Marshall Road: 3,100 to 3,350  
24 ADT, LOS C.

- Crows Landing Road between Marshall Road and South Carpenter Road: 8,450 ADT, LOS E
- Crows Landing Road between South Carpenter Road and West Bradbury Road: 6,600 ADT, LOS E.

#### 3.18.1.2 Stanislaus Association of Governments (StanCOG) Regional Transportation Plan

In August 2018, StanCOG adopted the 2018 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). The 2018 RTP/SCS is a plan for the Stanislaus region to meet its transportation needs for the 25-year period from 2017 to 2042, considering existing and projected future land use patterns as well as forecasted population and job growth. Understanding that continued growth in the region will occur with or without implementation of the RTP/SCS, it is intended to provide a framework for how to responsibly accommodate this growth such that the Stanislaus region can maintain its quality of life and meet other important local, state, and federal goals and requirements.

The 2018 RTP/SCS is based on approximately \$7.3 billion in revenue from available transportation funding sources through the life of the plan. It identifies and prioritizes expenditures of this anticipated funding for transportation projects of all modes: highways, streets and roads, transit, rail, bicycle and pedestrian, and aviation, as well as transportation demand management measures and intelligent transportation systems. The 2018 RTP/SCS is based on a preferred land use and transportation scenario, referred to as Scenario 2 (Preferred Scenario/Infill Redevelopment). Scenario 2 defines a pattern of future growth and transportation system investment for the region emphasizing a more transit-oriented development and a compact infill approach to land use and housing as compared to the “business as usual” trend of development, referred to as Scenario 1 (General Plan Trend/Business As Usual).

#### 3.18.1.3 StanCOG Congestion Management Plan (CMP)

A Draft Final of StanCOG’s updated CMP was completed in February 2020. This CMP was cooperatively developed by StanCOG and a Steering Committee comprised of local, state and federal representatives to provide a region-wide transportation strategy. By design, the CMP provides reliable and timely information on the current performance of the Stanislaus transportation system to be used to inform StanCOG’s RTP/SCS process. Likewise, the CMP provides quantified system performance measures and other valuable information on plausible strategies for mitigating congestion that will be directly applicable in the development of a future RTP project list. None of the roadway segments to be used by Project-related vehicles are affected by CMP measures or strategies.

1    **3.18.2 Regulatory Setting**

2    Federal and state laws and regulations pertaining to transportation and relevant to the  
3    Project are identified in Appendix A. Local goals, policies, or regulations applicable to  
4    this area with respect to transportation are listed below.

5    3.18.2.1 Stanislaus County General Plan

6    Stanislaus County General Plan policies, and implementation measures related to  
7    transportation and circulation are listed below.

8    Land Use Element

9    **Policy Twenty-Three.** New development shall pay its fair share of the cost of  
10   cumulative impacts on circulation and transit systems. Implementation measures:

- 11        1. Benefit assessment districts or other similar districts shall be formed as needed  
12        to pay for the cost of providing ongoing appropriate transportation services.
- 13        2. Traffic impacts shall be identified, and impact mitigation fees shall be paid by the  
14        subdivider and/or developer.
- 15        3. The LOS for all roadways and intersections shall be at least a “C” level, unless  
16        they are located within the sphere of influence of a city that has adopted a lower  
17        level of service.
- 18        4. Applicants for General Plan amendments shall coordinate with the StanCOG  
19        CMP to mitigate traffic impacts.

20    Circulation Element

21    **Policy One.** Development will be permitted only when facilities for circulation exist, or  
22    will exist as part of the development, to adequately handle increased traffic.

23    **Policy Four.** The circulation system shall provide for roads in all classifications  
24    (Freeway, Expressway, Major, Collector, Local, Minor and Private) as necessary to  
25    provide access to all parts of the County and shall be expanded or improved to provide  
26    acceptable levels of service based on anticipated land use.

27    **Policy Five.** Transportation requirements of commercial and industrial development  
28    shall be considered in all planning, design, construction, and improvements.

29    **Policy Six.** The County shall strive to reduce motor vehicle emissions and vehicle trips  
30    by encouraging the use of alternatives to the single occupant vehicle.

**Policy Ten.** The Airport Land Use Commission Plan and County Airport Regulations (Chapter 17 of the County Code) shall be updated as necessary, maintained and enforced.

### **3.18.3 Impact Analysis**

**a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?**

**No Impact**

#### Phases 1 and 2

The Project is not a new development and not subject to any General Plan policies or public facilities fees. The Project would not conflict with the RTP/SCS or the CMP.

**b) Conflict or be inconsistent with State CEQA Guidelines section 15064.3, subdivision (b)?**

### **Less than Significant Impact**

CEQA Guidelines section 15064.3(b) indicates that vehicle miles traveled is the most appropriate measure for transportation impacts. In December 2018, the Office of Planning and Research (OPR) provided an updated Technical Advisory to provide guidance regarding the evaluation of transportation impacts under CEQA. In particular, the advisory suggests that a project generating or attracting fewer than 110 one-way trips per day generally may be assumed to cause a less-than-significant transportation impact (OPR 2018).

#### Phase 1

Peak day traffic volumes are anticipated to occur during the initiation of HDD operations and include approximately 22 one-way worker trips and 60 one-way heavy-duty truck trips (water and other materials deliveries). Project-related trips and vehicle miles traveled would be temporary and have no lasting effect on greenhouse gas emissions and related impacts to human health and the environment. Peak day trips would be below the threshold identified in the Technical Advisory. Therefore, the impact would be less than significant.

#### Phase 2

Peak day traffic volumes are anticipated to occur during pigging and flushing and include approximately eight one-way worker trips and 40 one-way heavy-duty truck trips (water and other materials deliveries). Project-related trips and vehicle miles traveled

1 would be temporary and have no lasting effect on greenhouse gas emissions and  
2 related impacts to human health and the environment. Peak day trips would be below  
3 the threshold identified in the Technical Advisory. Therefore, the impact would be less  
4 than significant.

5 ***c) Substantially increase hazards due to a geometric design feature (e.g., sharp***  
6 ***curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?***

7 **Less than Significant Impact**

8 Phases 1 and 2

9 The Project would not involve any roadway modifications or incompatible uses and  
10 would not increase traffic hazards. Although Project-related vehicle trips would occur on  
11 Crows Landing Road which operates near capacity (LOS E), few of these trips would  
12 occur during peak hour and increased traffic congestion that could substantially reduce  
13 traffic safety is not anticipated.

14 ***d) Result in inadequate emergency access?***

15 **No Impact**

16 Phases 1 and 2

17 The Project site is located in an agricultural area and affected roadways do not provide  
18 emergency access for local communities. In any case, the Project would not encroach  
19 into any roadways, reduce LOS or cause congestion that could affect emergency  
20 access.

#### 21 **3.18.4 Mitigation Summary**

22 The Project would have no significant impact to transportation; therefore, no mitigation  
23 is required.

### 1 3.19 UTILITIES AND SERVICE SYSTEMS

UTILITIES AND SERVICE SYSTEMS – Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a determination by the wastewater 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 2 3.19.1 Environmental Setting

3 The Project does not include permanent components that would require or alter existing  
4 utilities or service systems. Non-hazardous solid waste in the Project area is currently  
5 disposed of at Stanislaus County's Fink Road Landfill, located immediately west of the  
6 Interstate Highway 5/Fink Road interchange. This landfill has 7.2 million cubic yards of  
7 remaining capacity as of March 1, 2017. Hazardous materials in the region are usually  
8 disposed of at the Clean Harbors Buttonwillow facility. Clean Harbors is permitted to  
9 accept approximately 10,500 tons/day and is estimated to reach capacity in 2040.

#### 10 3.19.2 Regulatory Setting

11 Federal and state laws and regulations pertaining to utilities and service systems and  
12 relevant to the Project are identified in Appendix A. Local goals, policies, or regulations  
13 applicable to this area with respect to utilities and service systems are listed below.

1    3.19.2.1   Stanislaus County General Plan

2    Stanislaus County General Plan policies, and implementation measures related to  
3    utilities and service systems are listed below.

4    Land Use Element

5    **Policy Twenty-Two.** Future growth shall not exceed the capabilities/capacity of the  
6    provider of services such as sewer, water, public safety, solid waste management, road  
7    systems, schools, health care facilities, etc. Implementation measures:

8            2. Only development requests for which sewer service capacity that meets the  
9            standards of Measure X and domestic water are available shall be approved.

10           5. The current level of service of public agencies shall be determined and not  
11           allowed to deteriorate as a result of new development.

12           6. Rezoning of property for development prior to: 1) annexation to a special district;  
13           or 2) inclusion of such property into a newly formed special district that will  
14           provide urban services (i.e. sanitary sewer district, domestic water district, or  
15           community service district) shall be approved only if the Urban Services zoning  
16           district is used as a combining district or comparable requirements are  
17           incorporated into a Community Plan District.

18           7. Only development requests which have recognized and mitigated any significant  
19           impacts on solid waste reduction, recycling, disposal, reuse, collection, handling,  
20           and removal shall be approved.

21           9. The County will coordinate development with existing irrigation, water, utility and  
22           transportation systems by referring projects to appropriate agencies and  
23           organizations for review and comment.

24    Conservation/Open Space Element

25    **Policy Seven.** New development that does not derive domestic water from pre-existing  
26    domestic and public water supply systems shall be required to have a documented  
27    water supply that does not adversely impact Stanislaus County water resources.  
28    Implementation measures:

29           1. Proposals for development to be served by new water supply systems shall be  
30           referred to appropriate water districts, irrigation districts, community services  
31           districts, the State Water Resources Board and any other appropriate agencies  
32           for review and comment.

2. Review all development requests to ensure that sufficient evidence has been provided to document the existence of a water supply sufficient to meet the needs of the project without adversely impacting the quality and quantity of existing local water resources.

### 3.19.3 Impact Analysis

***a) Require or result in the relocation or construction of new or expanded water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?***

**No Impact**

#### Phases 1 and 2

The Project does not include activities or new facilities that require new or expanded water, wastewater treatment, stormwater drainage, electrical power, natural gas, or telecommunications facilities. Therefore, there would be no impact.

***b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?***

**No Impact**

#### Phases 1 and 2

The Project would require water for drilling, hydrostatic testing, dust control, and pipeline flushing. However, as discussed in Section 3.11, *Hydrology and Water Quality*, this water demand would be temporary and supplied by trucking. No long-term water demand would be created and no new or expanded water infrastructure or entitlements would be needed. Therefore, there would be no impact.

***c) Result in a determination by the wastewater 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?***

**No Impact**

#### Phases 1 and 2

As discussed in Section 3.11, *Hydrology and Water Quality*, wastewater generated by hydrostatic testing and pipeline flushing would be treated as needed and disposed on-site under the authorization of a general permit. Alternatively, wastewater would be

disposed off-site at a permitted facility. Portable restrooms would be provided on-site for workers and resulting domestic wastewater/sewage would be disposed at the nearest wastewater treatment plant (Patterson or Modesto). The Project would not generate wastewater following completion of pipeline replacement and would not affect the capacity of any wastewater treatment providers.

**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?**

**Less than Significant Impact**

Phases 1 and 2

The Project would generate solid waste including drill cuttings/fluids, removed pipeline sections, and miscellaneous debris and materials packaging. Steel pipe would be recycled if feasible, with the balance of generated solid waste disposed at the Fink Road Landfill. If drill cuttings are found to be hazardous, they would be disposed of at the Clean Harbors facilities in Buttonwillow. Both facilities have adequate remaining capacity to accept the waste from Project activities. Therefore, the impact would be less than significant.

**e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?**

**No Impact**

Phases 1 and 2

Solid waste would be disposed of in accordance with local, state and federal laws and regulations as required by the Project plans and specifications. Removed pipe and any associated debris would be recycled to the extent feasible. Non-hazardous waste would be disposed at the nearby Fink Road Landfill. Disposal of solid waste generated by the Project would not affect compliance of Stanislaus County with state-mandated solid waste diversion and recycling requirements.

### **3.19.4 Mitigation Summary**

The Project would have no significant impact to utilities and service systems; therefore, no mitigation is required.

### 1 3.20 WILDFIRE

<b>WILDFIRE</b> - If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks of, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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 on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 2 3.20.1 Environmental Setting

3 The Project site is served by two fire protection districts, with the West Stanislaus Fire  
 4 Protection District's service area located west of the San Joaquin River and the  
 5 Mountain View Fire Protection District's service area located east of the San Joaquin  
 6 River. Within the Project site, the River floodplain (between the ACOE levees) is  
 7 considered a moderate fire severity hazard area by the California Department of  
 8 Forestry and Fire Protection. Adjacent irrigated agricultural fields are not considered to  
 9 be a fire hazard.

#### 10 3.20.2 Regulatory Setting

11 There are no federal laws, regulations, or policies pertaining to wildfire that are relevant  
 12 to the Project. State laws and regulations pertaining to wildfire and relevant to the  
 13 Project are identified in Appendix A. There are no additional regulations at the local  
 14 level.

#### 15 3.20.3 Impact Analysis

16 ***a) Substantially impair an adopted emergency response plan or emergency***  
 17 ***evacuation plan?***

1 ***b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks of,***  
2 ***and thereby expose project occupants to, pollutant concentrations from a wildfire***  
3 ***or the uncontrolled spread of a wildfire?***

4 ***c) Require the installation or maintenance of associated infrastructure (such as***  
5 ***roads, fuel breaks, emergency water sources, power lines, or other utilities) that***  
6 ***may exacerbate fire risk or that may result in temporary or ongoing impacts on***  
7 ***the environment?***

8 ***d) Expose people or structures to significant risks, including downslope or***  
9 ***downstream flooding or landslides, as a result of runoff, post-fire slope***  
10 ***instability, or drainage changes?***

11 **(a to d) No Impact**

12 Phases 1 and 2

13 The Project would not result in any change in land use, affect transportation facilities, or  
14 otherwise impair implementation of any emergency response or emergency evacuation  
15 plan. The Project does not include any habitable structures. The Project includes  
16 replacement of an existing in order to improve the existing facilities pipeline and would  
17 not exacerbate fire risk. The Project site and adjacent areas are level and not subject to  
18 landslides or post-fire slope instability. Overall, the Project would not increase the risk of  
19 wildfire and any associated impacts.

20 **3.20.4 Mitigation Summary**

21 The Project would have no impacts related to wildfire; therefore, no mitigation is  
22 required.

### 3.21 MANDATORY FINDINGS OF SIGNIFICANCE

The lead agency shall find that a project may have a significant effect on the environment and thereby requires an EIR to be prepared for the project where there is substantial evidence, in light of the whole record, that any of the following conditions may occur. Where, prior to commencement of the environmental analysis, a project proponent agrees to MMs or project modifications that would avoid any significant effect on the environment or would mitigate the significant environmental effect, a lead agency need not prepare an EIR solely because without mitigation the environmental effects would have been significant (per State CEQA Guidelines, § 15065).

MANDATORY FINDINGS OF SIGNIFICANCE –	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Does 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#### 3.21.1 Impact Analysis

***a) Does 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, 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?***

1 **Less than Significant with Mitigation.** As analyzed in Biological Resources (Section  
2 3.4), the Project would not significantly adversely affect fish or wildlife habitat, cause a  
3 fish or wildlife population to drop below self-sustaining levels, threaten to eliminate plant  
4 or animal community, or reduce the number or restrict the range of an endangered,  
5 rare, or threatened species. Mitigation measures **MM BIO-1** through **MM BIO-9**, would  
6 ensure that the minor, temporary, and localized impacts on special-status species and  
7 their habitats would be less than significant.

8 The Project's potential effects on historic and archaeological resources are described in  
9 Cultural Resources (Section 3.5) and Cultural Resources – Tribal (Section 3.6). Based  
10 on cultural resources records of the area, cultural resources are unlikely to be adversely  
11 affected. Implementation of mitigation measures **MM CUL-1/TCR-1**, **MM CUL-2/TCR-2**  
12 and **MM CUL-3/TCR-3** would reduce the potential for Project-related impacts on  
13 previously undiscovered cultural and Tribal cultural resources to a less than significant  
14 level.

15 ***b) Does the project have impacts that would be individually limited, but***  
16 ***cumulatively considerable? (“Cumulatively considerable” means that the***  
17 ***incremental effects of a project are considerable when viewed in connection with***  
18 ***the effects of past projects, the effects of other current projects, and the effects***  
19 ***of probable future projects.)***

20 **Less than Significant Impact.** As provided in this MND, the Project has the potential to  
21 significantly impact the following environmental disciplines: Aesthetics (Section 3.1);  
22 Biological Resources (Section 3.4); Cultural Resources (Section 3.5); Cultural  
23 Resources – Tribal (Section 3.6); Geology, Soils, and Paleontological resources  
24 (Section 3.8); Hazards and Hazardous Materials (Section 3.10), and Hydrology and  
25 Water Quality (Section 3.11). However, measures have been identified that would  
26 reduce these impacts to less than significant with mitigation.

27 Projects currently under review by the Stanislaus County Department of Planning and  
28 Community Development within 10 miles of the Project site are limited to:

- 29 • Proposed 0.8-acre truck parking area on an agricultural-zoned parcel: 8.3 miles  
30 to the northwest.
- 31 • Proposed 61,560 square foot walnut and almond storage facility on an  
32 agricultural-zoned parcel: 6.0 miles to the northwest.

33 For any impact to act cumulatively on any past, present, or reasonably foreseeable  
34 projects, these projects would have to have individual impacts in the same resource  
35 areas, some at the same time, or occur within an overlapping area as the proposed  
36 Project. Excluding air pollutant emissions, the other projects listed above would not

1 impact the same resources or the same population as the proposed Project. Cumulative  
2 impacts would be virtually the same as Project-specific impacts and not cumulatively  
3 considerable. Therefore, the impact is less than significant.

4 ***c) Does the project have environmental effects that would cause substantial***  
5 ***adverse effects on human beings, either directly or indirectly?***

6 **Less than Significant with Mitigation.** The Project's potential to impact human beings  
7 is addressed in Sections 3.1 through 3.20 of this document, including impacts that may  
8 affect resources used or enjoyed by the public, residents, and others in the Project area  
9 (such as aesthetics, public services, and recreation); those that are protective of public  
10 safety and well-being (such as air quality, geology and soils, GHG emissions, hydrology  
11 and water quality, and noise); and those that address community character and  
12 essential infrastructure (such as land use and planning, population and housing,  
13 transportation, and utilities). None of these analyses identified a potential adverse effect  
14 that could not be avoided or minimized through the mitigation measures described or  
15 compliance with standard regulatory requirements. As such, with mitigation in place,  
16 project impacts would be less than significant.

PAGE LEFT INTENTIONALLY BLANK

## 4.0 MITIGATION MONITORING PROGRAM

---

The California State Lands (CSLC) is the lead agency under the California Environmental Quality Act (CEQA) for the R-687 L-215 San Joaquin River Crossing Replacement Project (Project). In conjunction with approval of this Project, the CSLC adopts this Mitigation Monitoring Program (MMP) for implementation of mitigation measures (MMs) for the Project to comply with Public Resources Code section 21081.6, subdivision (a), and State CEQA Guidelines sections 15074, subdivision (d), and 15097.

The Project authorizes the Pacific Gas & Electric Company (PG&E or Applicant) to replace the existing natural gas 12-inch L-215 pipeline river crossing with the HDD installation of a 24-inch natural gas pipeline, and decommission and/or remove pipeline segments as required by regulatory agencies and the terms and conditions of its existing CSLC Lease No. 5438.1B.

### 4.1 PURPOSE

It is important that significant impacts from the Project are mitigated to the maximum extent feasible. The purpose of an MMP is to ensure compliance and implementation of MMs; this MMP shall be used as a working guide for implementation, monitoring, and reporting for the Project's MMs.

### 4.2 ENFORCEMENT AND COMPLIANCE

The CSLC is responsible for enforcing this MMP. The Project Applicant is responsible for the successful implementation of and compliance with the MMs identified in this MMP. This includes all field personnel and contractors working for the Applicant.

### 4.3 MONITORING

CSLC staff may delegate duties and responsibilities for monitoring to other environmental monitors or consultants as necessary. Some monitoring responsibilities may be assumed by other agencies, such as affected jurisdictions (County of Stanislaus). The CSLC or its designee shall ensure that qualified environmental monitors are assigned to the Project.

**Environmental Monitors.** To confirm implementation and success of the MMs, an environmental monitor must be on-site during all Project activities with the potential to create significant environmental impacts or impacts for which mitigation is required. Along with CSLC staff, the environmental monitor(s) are responsible for:

- Confirming that the Applicant has obtained all applicable agency reviews and approvals

- Coordinating with the Applicant to integrate the mitigation monitoring procedures during Project implementation
- Confirming that the MMP is followed

The environmental monitor shall immediately report any deviation from the procedures identified in this MMP to CSLC staff or its designee. CSLC staff or its designee shall approve any deviation and its correction.

**Workforce Personnel.** Implementation of the MMP requires the full cooperation of Project personnel and supervisors. Many of the MMs require action from site supervisors and their crews. To facilitate successful implementation, relevant mitigation procedures shall be written into contracts between the Applicant and any contractors.

**General Reporting Procedures.** A monitoring record form shall be submitted to the Applicant, and once the Project is complete, a compilation of all the logs shall be submitted to CSLC staff. CSLC staff or its designated environmental monitor shall develop a checklist to track all procedures required for each MM and shall confirm that the timing specified for the procedures is followed. The environmental monitor shall note any issues that may occur and take appropriate action to resolve them.

**Public Access to Records.** Records and reports are open to the public and are to be provided upon request.

#### 4.4 MITIGATION MONITORING TABLE

This section presents the mitigation monitoring table (Table 4-1) for Aesthetics; Biological Resources; Cultural Resources; Cultural Resources – Tribal; Hazards and Hazardous Materials and Hydrology and Water Quality. All other environmental factors were found to have less than significant or no impacts; therefore, they are not included in the table. The table lists the following information by column:

- Potential Impact
- Mitigation Measure (full text of the measure)
- Location (where impact occurs and where MM should be applied)
- Monitoring/Reporting Action (action to be taken by monitor or lead agency)
- Timing (before, during, or after construction, during operation, etc.)
- Responsible Party (entity responsible to ensure MM compliance)
- Effectiveness Criteria (how the agency can know if the measure is effective)

Table 4-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Phase	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
<b>Aesthetics</b>						
Create a new source of substantial light or glare	<b>MM AES-1: Nighttime Illumination Limitations.</b> Project lighting shall be as low an intensity as possible to meet Project needs and safety requirements, be focused on work areas, and equipped with shielding to minimize glare and spillover into adjacent areas.	Phases 1 and 2	Observe nighttime lighting for compliance	Lighting glare minimized	PG&E, contractors	During any nighttime work
<b>Biological Resources</b>						
Special-Status Fish Species	<b>MM BIO-1: Worker Environmental Awareness Training.</b> An environmental training program shall be developed, approved by CSLC staff prior to Project implementation, and presented by a qualified biologist. All contractors and employees involved with the Project shall attend the training. At a minimum, the training shall address special-status species that could occur on the site, their distribution, identification characteristics, sensitivity to human activities, legal protection, penalties for violation of state and federal laws, reporting requirements, and required Project avoidance, minimization, and mitigation measures. A copy of the training sign-in sheets shall be provided to CSLC staff when training has been concluded.	Phase 2	Signatures of trained employees for compliance	All construction workers complete the program, special-status fish avoidance	PG&E, contractors	Prior to and throughout Phase 2 Project activities
Special-Status Fish Species	<b>MM BIO-2: In-River Work Period Restrictions.</b> Pipeline removal activities in surface water or on the banks of the San Joaquin River shall be conducted during the period when migratory fish are less likely to be present (July 1 to September 30). This	Phase 2	Observe in-river work, complete observation reports	Compliance with work period restrictions, special-status fish avoidance	PG&E, contractors	Prior to and throughout Phase 2 in-river work

Potential Impact	Mitigation Measure (MM)	Phase	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	work period shall be modified as required following consultation between the ACOE and NMFS conducted as part of Project permitting. In-river pipeline removal shall be prioritized for occurrence in the earlier part of the work period, and if feasible, completed prior to September 15.					
Special-Status Species and Habitats	<p><b>MM BIO-3: Biological Monitoring.</b> A qualified biological monitor, approved by CSLC staff, shall survey the onshore work area for sensitive species or other wildlife that may be present no more than 24 hours prior to the commencement of Project activities. In addition, the biological monitor shall monitor Project activities within surface water and riparian habitats, and other activities that have the potential to impact special-status species on a daily basis before Project activity begins.</p> <p>If at any time during Project decommissioning any special-status wildlife species are observed within the Project area, work around the animal's immediate area shall be stopped or work shall be redirected to an area within the Project site that would not impact these species until the animal is relocated by a qualified biologist. Listed species would be allowed to leave on its own volition, unless coordination with USFWS and/or CDFW provide authorization for relocation by qualified biologists with appropriate handling permits. Work would resume once the animal is clear of the work area. In the unlikely event a special-status species is injured or killed by Project-related activities, the biological monitor would stop</p>	Phase 2	Observation reports	Special-status species avoidance	PG&E, contractors	Prior to the start and throughout Phase 2 work within the river floodplain

Potential Impact	Mitigation Measure (MM)	Phase	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	work and notify CSLC and consult with the appropriate agencies to resolve the impact prior to re-starting work in the area.					
Special-Status Fish and Aquatic Species and Habitats	<b>MM BIO-4: Turbidity Monitoring Plan.</b> A Turbidity Monitoring Plan shall be developed and submitted to CSLC staff 30 days prior to in-water work. The plan shall be implemented during all in-river work to ensure that turbidity levels upstream and downstream of the Project site do not exceed Basin Plan water quality objectives. The Plan shall include methods to reduce turbidity during in-river pipeline removal and removal of pipeline from the riverbanks, if determined to be necessary by turbidity monitoring results. These methods could include the application of materials such as silt fences and straw waddles to control erosion and sediment release or in-water silt curtains. The Applicant or its contractor shall send weekly electronic copies of the turbidity monitoring results for review by CSLC during in-river Project activities.	Phase 2	Submit plan to CSLC for review and approval at least 30 days prior to in-river work, and weekly monitoring results.	Special-status fish and aquatic species avoidance	PG&E, contractors	Prior to the start of and throughout in-river work
Western Pond Turtle	<b>MM BIO-5: Western Pond Turtle Avoidance.</b> A qualified biologist shall conduct a pre-construction survey for western pond turtle within 24 hours prior to any ground disturbance within the River floodplain (between the ACOE levees). If western pond turtle is observed, barrier fencing shall be constructed around the affected work areas to preclude the species. Should western pond turtle be found within the work areas, a qualified biologist in consultation with CDFW shall relocate the	Phase 2	Submit pre-construction survey report to CSLC prior to ground disturbance, observation reports	Barrier fencing in place if needed, turtles relocated as needed, no western pond turtle mortality	PG&E, contractors	Prior to the start and throughout Phase 2 work within the river floodplain

Potential Impact	Mitigation Measure (MM)	Phase	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	species outside of work area barriers.					
Burrowing Owl	<b>MM BIO-6: Burrowing Owl Avoidance.</b> A qualified biologist with demonstrable experience surveying and monitoring active burrowing owl burrows shall conduct focused burrowing owl surveys no more than 72 hours prior to any ground disturbance within the Project area. If burrowing owls are found at the Project site, a qualified biologist shall establish an exclusion zone of 160 feet during the non-nesting season and 250 feet during the nesting season. If exclusion zones would preclude Project implementation, an experienced burrowing owl biologist in consultation with CDFW shall develop and implement a site-specific plan (i.e., a plan that considers the type and extent of the proposed activity, the duration and timing of the activity, the sensitivity and habituation of the owls, and the dissimilarity of the proposed activity with background activities) to minimize the potential to affect the reproductive success of the owls.	Phases 1 and 2	Submit pre-construction survey report to CSLC prior to ground disturbance, submit site-specific plan to CSLC for review if needed, observation reports	Compliance with buffers and site-specific plan	PG&E, contractors	Prior to the start and throughout Project activities
Swainson's Hawk and White-tailed Kite	<b>MM BIO-7: Swainson's Hawk and White-tailed Kite Avoidance.</b> A qualified biologist shall conduct a pre-construction nest survey for Swainson's hawk and white-tailed kite no more than 72 hours prior to any ground disturbance. If a Swainson's hawk nest or white-tailed kite nest is found within 0.25 mile of any work areas, a qualified biologist shall evaluate the adverse effects of the planned activity in consultation with CDFW. If the biologist determines that the activity would disrupt nesting, a buffer between the activity and the nest shall be established and limited	Phases 1 and 2	Submit pre-construction survey report to CSLC prior to ground disturbance, submit proposed buffers to CSLC for review if needed, observation reports	Compliance with buffers	PG&E, contractors	Prior to the start and throughout Project activities

Potential Impact	Mitigation Measure (MM)	Phase	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	operation period (reduced level of disturbance) during the nesting season (March 15 to June 30) shall be implemented. If work cannot be postponed, the active nest shall be monitored by a qualified biologist to establish a smaller buffer if warranted and approved by CDFW.					
Breeding and Migratory Birds	<b>MM BIO-8: Breeding Bird Avoidance.</b> Should Project activities occur during the breeding season (March 1 through August 1), a qualified biologist shall conduct breeding bird surveys to identify active nests. A buffer shall be established between the active nest and work activities in coordination with CDFW. Work within the established buffer shall be avoided. If work cannot be postponed, the active nest shall be monitored by a qualified biologist to establish a smaller buffer if warranted and approved by CDFW.	Phases 1 and 2	Submit breeding bird survey report to CSLC for work during the breeding season, submit proposed buffers to CSLC for review if needed, observation reports	Avoid breeding season if feasible, compliance with buffers	PG&E, contractors	Prior to the start and throughout Project activities
Wetlands and Riparian Habitat	<b>MM BIO-9: Wetlands and Riparian Habitat Restoration.</b> A Riparian Site Restoration Plan developed in coordination with the ACOE and CDFW shall be implemented to replace wetland and riparian habitat removed by the Project. A copy of the plan shall be submitted to CSLC staff 30 days prior to Phase 2 Project implementation. The Applicant shall also obtain and comply with all necessary permits for impacts to jurisdictional aquatic resources from the ACOE, RWQCB, and CDFW prior to Phase 2 Project implementation. Compensatory mitigation must be consistent with the regulatory agency standards pertaining to mitigation type, location, and ratios. After	Phase 2	Submit Site Restoration Plan to CSLC for review and approval at least 14 days prior to work in the river floodplain, observation reports	Restoration of disturbed wetlands and riparian habitats	PG&E, contractors	Prior to the start and throughout Phase 2 work within the river floodplain

Potential Impact	Mitigation Measure (MM)	Phase	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	decommissioning and pipeline removal activities are completed, all disturbed areas shall be seeded or hydroseeded with a seed mix appropriate for the area.					
	Implement <b>MM HYDRO-1: Stormwater Pollution Prevention Plan (SWPPP)</b> (see below)					
Cultural and Tribal Resources						
Nearby Cultural Resource Site	<b>MM CUL-1/TCR-1: Cultural Resource Monitoring.</b> Prior to Phase 1 ground-disturbing activities, including any ground disturbance (including equipment setup and materials staging) of the West HDD Work Area and West HDD Staging Area, the Applicant shall prepare a Cultural Resources Monitoring Plan and submit it to the Northern Valley Yokuts Tribe and CSLC staff for review, input, and concurrence. The Plan shall include, but not be limited to the following measures: <ul style="list-style-type: none"><li>• The Applicant shall retain a qualified archeologist and a representative of a California Native American tribe that is culturally affiliated to the Project site to monitor all ground disturbing activities (including setup of equipment) at the West HDD Work Area and any excavation within the West HDD Staging Area.</li><li>• The Applicant shall provide a minimum 5-day notice to the archeologist and tribal monitor prior to all activities requiring monitoring.</li><li>• The Applicant shall provide the archeologist and tribal monitor safe and reasonable access to the Project site.</li><li>• Guidance on identification of potential</li></ul>	Phase 1	Submit qualifications of the archeologist and name of tribal monitor to CSLC at least 14 days prior to the start of ground disturbance, observation reports, signatures of trained employees for compliance	All construction workers complete the program, cultural resources avoidance	PG&E, contractors, CSLC	Prior to and throughout Phase 1 activities

Potential Impact	Mitigation Measure (MM)	Phase	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	<p>cultural resources that may be encountered.</p> <p>The archeologist and Native American representative shall provide Phase 1 construction personnel with an orientation on the requirements of the Plan, including the probability of exposing cultural resources, guidance on recognizing such resources, and direction on procedures if a find is encountered.</p>					
Unknown Cultural or Tribal Resources	<p><b>MM CUL-2/TCR-2: Discovery of Previously Unknown Cultural or Tribal Resources.</b> In the event that potential cultural or tribal resources are uncovered during Project implementation, all earth-disturbing work within 100 feet of the find shall be temporarily suspended or redirected until an approved archaeologist and tribal monitor, if retained, has evaluated the nature and significance of the discovery. In the event that a potentially significant cultural or tribal cultural resource is discovered, PG&amp;E, CSLC and any local, state, or federal agency with approval or permitting authority over the Project that has requested/required notification shall be notified within 48 hours. The location of any such finds must be kept confidential and measures shall be taken to secure the area from site disturbance and potential vandalism. Impacts to previously unknown significant cultural or tribal cultural resources shall be avoided through preservation in place if feasible. Damaging effects to tribal cultural resources shall be avoided or minimized following the measures identified in Public Resources Code section</p>	Phases 1 and 2	Qualified archeologist and tribal monitor to evaluate the find, report to CSLC, prepare and submit treatment plan to CSLC if needed	Avoidance of disturbance of any found cultural resources	PG&E, contractors, CSLC	Prior to and throughout Project activities

Potential Impact	Mitigation Measure (MM)	Phase	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	<p>21084.3, subdivision (b), if feasible, unless other measures are mutually agreed to by the lead archaeologist and culturally affiliated tribal monitor that would be as or more effective.</p> <p>A treatment plan, if needed to address a find, shall be developed by the archaeologist and, for tribal cultural resources, the culturally affiliated tribal monitor, and submitted to the Northern Valley Yokuts Tribe and CSLC staff for review, input, and concurrence prior to implementation of the plan. If the archaeologist or Tribe determines that damaging effects on the cultural or tribal cultural resource shall be avoided or minimized, then work in the area may resume.</p> <p>Title to all archaeological sites, historic or cultural resources, and tribal cultural resources on or in the tide and submerged lands of California is vested in the state and under CSLC jurisdiction. The final disposition of archaeological, historical, and tribal cultural resources recovered on State lands under CSLC jurisdiction must be approved by the CSLC.</p>					
Unanticipated Discovery of Human Remains	<p><b>MM CUL-3/TCR-3: Unanticipated Discovery of Human Remains.</b> If human remains are encountered, all provisions provided in California Health and Safety Code section 7050.5 and California Public Resources Code section 5097.98 shall be followed. Work shall stop within 100 feet of the discovery, and both an archaeologist and CSLC staff must be contacted within 24 hours. The archaeologist shall consult with</p>	Phases 1 and 2	Notification of County Coroner and NAHC as required, copy to CSLC	Avoidance of disturbance of any found human remains	PG&E, contractors, CSLC	Prior to and throughout Project activities

Potential Impact	Mitigation Measure (MM)	Phase	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	the County Coroner. If human remains are of Native American origin, the County Coroner shall notify the Native American Heritage Commission (NAHC) within 24 hours of this determination, and a Most Likely Descendent shall be identified. No work is to proceed in the discovery area until consultation is complete and procedures to avoid or recover the remains have been implemented.					
Geology, Soils, and Paleontological Resources						
Temporary Loss of Topsoil/Erosion	Implement <b>MM BIO-9: Wetland and Riparian Habitat Restoration</b> (see above) Implement <b>MM HYDRO-1: Stormwater Pollution Prevention Plan (SWPPP)</b> (see below)					
Hazards and Hazardous Materials						
Project Planning	<b>APM-1: Project Work and Safety Plan.</b> A Project Work and Safety Plan (PWSP) for Phases 1 and 2 shall be submitted to CSLC staff and all other pertinent agencies for review and approval at least 30 days prior to the implementation of each Project Phase. The PWSP will include the following information (at a minimum): <ul style="list-style-type: none"><li>• Contact information</li><li>• Hazardous Spill Response and Contingency Plan</li><li>• Emergency action plan</li><li>• Summary of the Project Execution Plan</li><li>• Project management plan</li><li>• Site safety plan. <u>Will include measures for proper handling of hazardous materials including, but not limited to soils containing residual pesticides.</u></li><li>• Permit condition compliance matrix</li></ul>	Phases 1 and 2	CSLC Review and approval of PWSP 30 days prior to work activities	Avoidance of potential impacts	PG&E, contractors	Phase 1 and Phase 2

Potential Impact	Mitigation Measure (MM)	Phase	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
Drilling Fluid Migration	<b>APM-2: Inadvertent Release Contingency Plan.</b> An Inadvertent Contingency Plan shall be implemented to detect and address any inadvertent drilling fluid migration outside of the HDD drill hole, including potential drilling fluid migration into the River. At least 30 days prior to Phase 1 implementation, PG&E will submit a Final Plan to CSLC staff for review and approval.	Phase 1	Submit Plan 30 days prior to Phase 1. Monitoring during HDD activities	Mitigation of Drilling Fluid Migration (if occurs)	PG&E, HDD Drilling Contractor	Prior to Phase 1
Utility Disturbance	<b>APM-3: Utility Location Survey.</b> The Applicant or their contractor shall conduct an 811 Utility Location Survey of all planned areas of excavation. Affected local utility companies shall be notified through this process and utility locators shall identify and mark the approximate location of buried lines with flags or paint. Marked utility locations shall be avoided.	Phases 1 and 2	Documentation of 811 Utility Survey	Avoidance of Utilities	PG&E, contractors	Prior to Phases 1 and 2
Existing Pipeline/Utility Disturbance (Riverbed)	<b>APM-4: Pre- and Post-Project Geophysical Debris Survey.</b> The Applicant or its contractor shall conduct pre- and post-Project Geophysical Debris Surveys of the riverbed using a vessel equipped with a multi-beam sonar system. The pre-Project survey, with previously collected data, shall serve to fully identify pre-Project bottom contours, debris, and any exposed utilities, and a copy of the survey shall be submitted to CSLC staff for review 30 days prior to Project implementation. The post-Project survey results shall be submitted to CSLC staff 30 days after Project completion.	30 days prior to Project implementation and 30 days after Project completion	Geophysical Debris Survey Results	Avoidance of Pipelines and Utilities and debris	PG&E, contractors	Prior to Phase 1 and after Phase 2 completion

Potential Impact	Mitigation Measure (MM)	Phase	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
Asbestos Exposure	<b>MM HAZ-1: Asbestos Handling Procedures.</b> Construction personnel shall be informed of the potential presence of asbestos-containing material (ACM) at the Project site prior to their assignment. After exposing the existing pipeline for removal and prior to the start of cutting and tie-in activities, a certified asbestos inspector / consultant shall test whether the coating consists of ACM greater than 1 percent by weight. If testing reveals the coating contains ACM less than 1 percent by weight, the pipeline segment shall be treated as normal construction waste and no additional measures are required. If testing reveals the coating contains ACM greater than 1 percent by weight, the materials shall be abated by a certified asbestos abatement contractor in accordance with the regulations and notification requirements of SJVAPCD Rule 4002 and in accordance with applicable worker safety regulations. All ACM removed from the pipeline segment shall be labeled, transported, and disposed of at a verified and approved ACM disposal facility.	Phase 2	Asbestos pipeline coating test report to be submitted to CSLC, with abatement plan if required	Proper containment of ACM	PG&E, contractors	During all pipeline removal and tie-in activities
<b>Hydrology and Water Quality</b>						
Stormwater Pollution	<b>MM HYDRO-1: Stormwater Pollution Prevention Plan (SWPPP).</b> The Applicant shall develop and implement a SWPPP consistent with the Statewide NPDES Construction General Permit (Order No. 2012-0006-DWQ). At a minimum, the SWPPP shall include measures for: <ul style="list-style-type: none"> <li>• Maintaining adequate soil moisture to prevent excessive fugitive dust emissions,</li> </ul>	Phases 1 and 2	Submittal of the SWPPP to CSLC, observation reports	Minimize erosion, siltation and turbidity	PG&E, contractors	During all Project activities

Potential Impact	Mitigation Measure (MM)	Phase	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	<p>preservation of existing vegetation, and effective soil cover (e.g., geotextiles, straw mulch, hydroseeding) for inactive areas and finished slopes to prevent sediments from being dislodged by wind, rain, or flowing water.</p> <ul style="list-style-type: none"> <li>• Installing fiber rolls and sediment basins to capture and remove particles that have already been dislodged.</li> <li>• Establishing good housekeeping measures such as construction vehicle storage and maintenance, handling procedures for hazardous materials, and waste management BMPs, including procedural and structural measures to prevent the release of wastes and materials used at the site.</li> </ul> <p>The SWPPP shall also detail spill prevention and control measures to identify the proper storage and handling techniques of fuels and lubricants, and the procedures to follow in the event of a spill. The SWPPP shall be provided to CSLC staff for review a minimum of 30 days prior to Project implementation.</p>					
<b>Recreation</b>						
Recreational Boaters	<p><b>MM REC-1. Local In-Water Construction Notice.</b> Prior to in-water activity, PG&amp;E or its designated contractor shall post information on Project locations, times, and other details of activities that may pose hazards to recreational boaters. At all times while construction activities are taking place in the San Joaquin River, warning signs and buoys shall be installed upstream and downstream of the construction site to provide notice to</p>	Phase 2	Documentation of compliance		PG&E, contractors	During all in-River work

*Mitigation Monitoring Program*

Potential Impact	Mitigation Measure (MM)	Phase	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	public that construction activities are taking place and to exercise caution.					

PAGE LEFT INTENTIONALLY BLANK

## 5.0 OTHER STATE LANDS COMMISSION CONSIDERATIONS

---

In addition to the environmental review required pursuant to the California Environmental Quality Act (CEQA), a public agency may consider other information and policies in its decision-making process. This section presents information relevant to the California State Lands Commission's (CSLC) consideration of the Project. The considerations addressed below are:

- Climate change
- Recreational fishing
- Environmental justice
- Significant Lands Inventory

Other considerations may be addressed in the staff report presented at the time of the CSLC's consideration of the Project.

### 5.1 CLIMATE CHANGE

The project area is not tidally influenced and, therefore, would not be subject to sea-level rise. However, as stated in *Safeguarding California Plan: 2018 Update* (California Natural Resources Agency 2018), climate change is projected to increase the frequency and severity of natural disasters related to flooding, drought, and storms. The lease area is submerged land under the San Joaquin River. The leased lands and surrounding land may be vulnerable to these weather events; however, these projected climate change effects are not expected to affect the relocation of the new pipeline and decommissioning the old pipeline. The projected climate change is also not expected to affect the new pipeline in the future since it would be horizontally directional drilled as much as 100 feet beneath the San Joaquin River avoiding river processes such as scour and erosion.

### 5.2 RECREATIONAL FISHING

The San Joaquin River supports recreational fishing, with fisherman launching their boats at the Las Palmas River & Fishing Access Park. This launch ramp is approximately 5.7 River miles downstream of the Project site, and it is unclear if boats can reach the Project site during most water conditions due to intervening sand bars.

In-river work would be conducted during periods when larger fish are unlikely to be present. At any one time, in-river pipeline removal would occupy about 100 feet of the existing 250-foot-long pipeline channel crossing. The sectional barge proposed to remove in-river pipeline segments would not block access for boaters cruising or fishing the San Joaquin River. Overall, the Project is not anticipated to affect recreational

1 fishing opportunities in the San Joaquin River; however, **MM REC-1** has been included  
2 to address in-river construction safety concerns during Phase 2.

### 3 **5.3 ENVIRONMENTAL JUSTICE**

4 In keeping with its commitment to environmental sustainability and access to all,  
5 California was one of the first states to codify the concept of environmental justice in  
6 statute. Beyond the fair treatment principles described in statute, CSLC staff would like  
7 to include individuals who are disproportionately affected by a proposed project's effects  
8 in the decision-making process. The goal is that, through equal access to the decision-  
9 making process, everyone has equal protection from environmental and health hazards  
10 and can live, learn, play, and work in a healthy environment.

11 In 2016, legislation was enacted to require local governments with disadvantaged  
12 communities, as defined in statute, to incorporate environmental justice into their  
13 general plans when two or more general plan elements (sections) are updated. The  
14 Governor's Office of Planning and Research (OPR) (the lead state agency on planning  
15 issues) is working with state agencies, local governments, and many partners to update  
16 the General Plan Guidelines in 2019 to include guidance for communities on  
17 environmental justice (OPR 2019).

18 Environmental justice is defined by California law as "the fair treatment of people of all  
19 races, cultures, and incomes with respect to the development, adoption,  
20 implementation, and enforcement of environmental laws, regulations, and policies"  
21 (Gov. Code, § 65040.12, subd. (e)). This definition is consistent with the Public Trust  
22 Doctrine principle that the management of trust lands is for the benefit of all people. The  
23 CSLC adopted an Environmental Justice Policy in December 2018 ([Item 75, December](#)  
24 [2018](#)) to ensure that environmental justice is an essential consideration in the CSLC's  
25 processes, decisions, and programs.<sup>6</sup> Through its policy, the CSLC reaffirms its  
26 commitment to an informed and open process in which all people are treated equitably  
27 and with dignity, and in which its decisions are tempered by environmental justice  
28 considerations. Among other goals, the policy commits the CSLC to, "Strive to minimize  
29 additional burdens on and increase benefits to marginalized and disadvantaged  
30 communities resulting from a proposed project or lease."<sup>7</sup>

31 Letters to various organizations within Stanislaus County informing them of, and  
32 seeking input on, the Project were sent out on August 22, 2019. To date, no responses  
33 have been received by CSLC staff.

---

<sup>6</sup> See <https://www.slc.ca.gov/envirojustice/>.

<sup>7</sup> Id.

**5.3.1 U.S. Census Bureau Statistics**

Table 5-1 presents income, employment, and race data of the regional and local study area in the Project vicinity, based on the most recently available information from U.S. Census 2018 American Community Survey 5-Year Estimates.<sup>8</sup> The Project corridor is located within Stanislaus County, but specifically falls within Census Tract Nos. 31.00 and 33.00, which include the larger regional vicinity surrounding the Project corridor.

**5.3.2 Population and Economic Characteristics**

**5.3.2.1 Demographics**

As indicated in Table 5-1, regionally the population in Stanislaus County is comprised of an approximately 75.8 percent white and 24.2 percent minority population. Demographics within the Census Tracts including and adjacent to the Project corridor are also predominantly white, ranging from 86.3 percent (Tract 31.00) to 90.5 percent (Tract 33.00). However, it is important to note that these three Tracts contain a significant number of persons (56.4 percent in Tract 31.00 up to 66.6 percent in Tract 33.0) who classify themselves as being of Hispanic or Latino decent. That percentage is higher than the percentage of Hispanic or Latino persons within Stanislaus County as a whole (45.6 percent) or the State of California (38.9 percent).

**5.3.2.2 Socioeconomics**

As shown in Table 5-1, from a regional standpoint, Stanislaus County has a lower than average median household income level (\$63,643) compared to the State of California (\$81,416). Census Tract 33.00 is similar to the County median (\$63,259), but Tract 31.00 falls well below the County average (\$49,471). Stanislaus County residents are primarily employed in educational, health care, retail, and manufacturing trades; however, residents in Census Tracts 31.00 and 33.00 within the Project vicinity are predominantly employed in the agriculture and forestry industry (as high as 17.1 percent in Census Tract 33.00). With respect to populations (all families) living below the established poverty level, Stanislaus County contains approximately 12.7 percent, which is higher than the State of California average of 10.4 percent. Census Tract 33.00 is similar to Stanislaus County (13.1 percent); however, Census Tract 31.00 is significantly higher (17.6 percent) than Stanislaus County and the State of California.

---

<sup>8</sup> U.S. Census 2018 American Community Survey estimates come from a sample population but are more current than the most recent full census of 2010. Because they are based on a sample of population, a certain level of variability is associated with the estimates. Supporting documentation on American Community Survey data accuracy and statistical testing can be found on the American Community Survey website in the Data and Documentation section available here: [census.gov/programs-surveys/acs](https://census.gov/programs-surveys/acs).

**Table 5-1. Environmental Justice Statistics**

Parameter	California	Stanislaus County	Census Tract 31.00	Census Tract 33.00
<b>Income and Population</b>				
Total population	39,148,760	539,301	4,431	5,650
Median household income	\$81,416	\$63,643	\$49,471	\$63,259
Percent (%) below the poverty level (all families) <sup>1</sup>	10.4%	12.7%	17.6%	10.4%
<b>Employment Industry (percentage of total population)</b>				
Agriculture, forestry, fishing and hunting, mining	2.3%	5.4%	16.8%	17.1%
Construction	6.2%	7.8%	16.3%	9.7%
Manufacturing	9.3%	12.2%	13.5%	12.4%
Wholesale trade	2.9%	3.9%	2.5%	2.2%
Retail trade	10.6%	12.9%	11.1%	12.4%
Transportation and warehousing, and utilities	5.1%	6.3%	5.7%	7.7%
Information	2.9%	1.2%	0.0%	0.7%
Finance and insurance, and real estate and rental and leasing	6.1%	3.7%	4.4%	2.6%
Professional, scientific, and management, and administrative and waste management services	13.4%	8.8%	9.1%	6.7%
Educational services and health care and social assistance	21%	21.3%	11.1%	9.3%
Arts, entertainment, and recreation, and accommodation and food services	10.5%	8.1%	2.9%	6.8%
Other services, except public administration	5.3%	4.7%	2.5%	6.7%
Public administration	4.4%	3.5%	4.3%	5.7%
<b>Race</b>				
White	60.1%	75.8%	86.3%	90.5%
Black or African American	5.8%	2.9%	0.0%	1.7%
American Indian and Alaska Native	0.8%	0.8%	1.8%	0.0%
Asian	14.3%	5.4%	3.2%	0.8%
Native Hawaiian	0.4%	0.7%	0.0%	0.2%
Some Other Race	13.8%	10.2%	8.8%	6.7%
Hispanic or Latino (of Any Race)	38.9%	45.6%	56.4%	66.6%

Notes:

<sup>1</sup> Poverty threshold as defined in the ACS is not a singular threshold but varies by family size. Census data provides the total number of persons for whom the poverty status is determined and the number of people below the threshold. The percentage is derived from this data.

Source: U.S. Census Bureau American Fact Finder accessed February 2020 (DP05 – ACS Demographic and Housing Estimates and DP03 – Selected Economic Characteristics; 2018 ACS 5-Year Estimates.

### 5.3.3 California Office Of Environmental Health Hazard Assessment (OEHHA) CalEnviroScreen Results

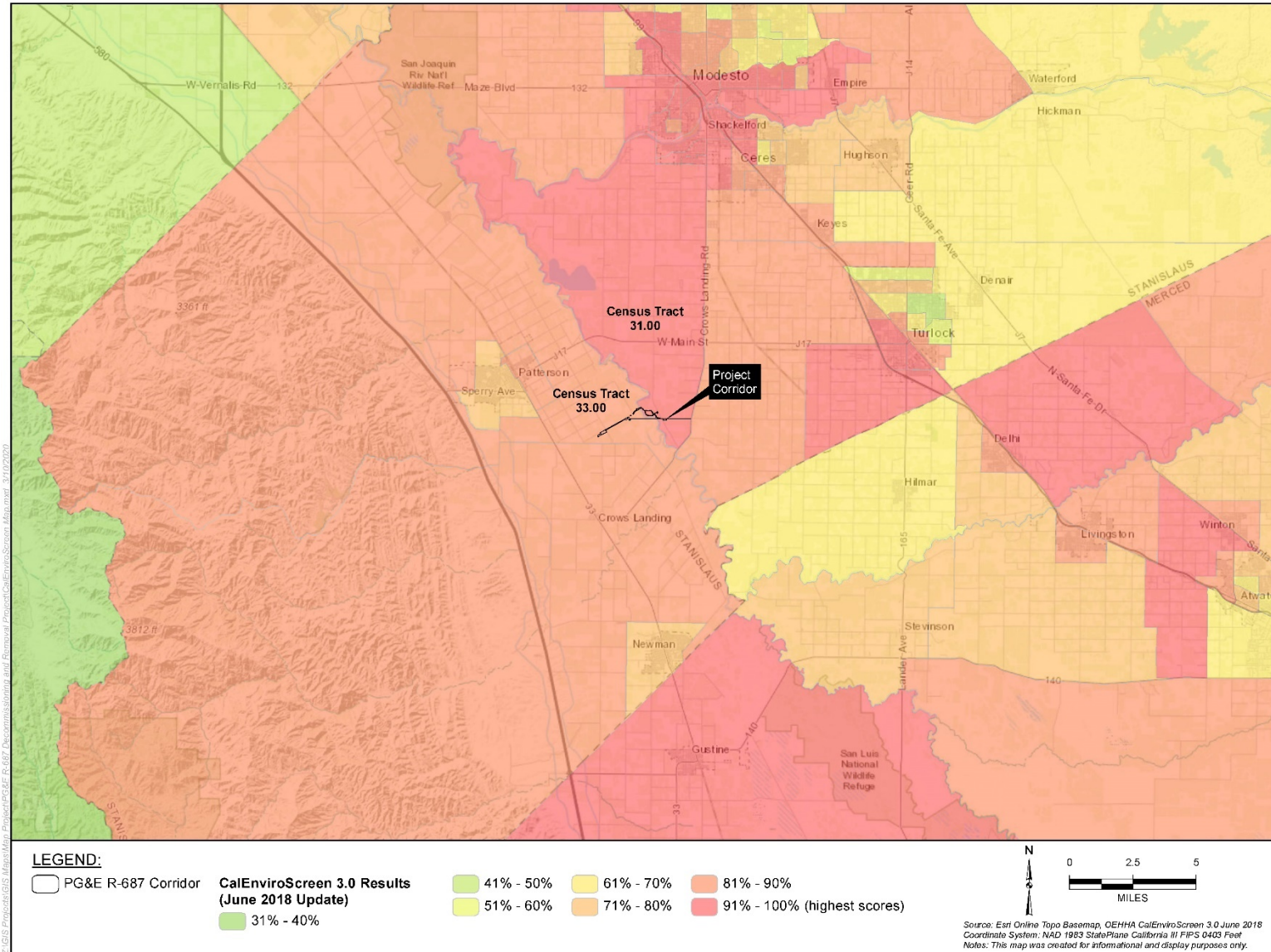
According to California Office of Environmental Health Hazard Assessment (OEHHA 2020) California Communities Environmental Health Screening Tool (CalEnviroScreen) data (June 2018 Update), the Project corridor is located within an area of existing environmental burden, scoring between 85 to 95 percent. This means that only 5 to 15 percent of all census tracts in California have greater population vulnerability and/or environmental burdens (Figure 5-1). This is primarily attributed to PM 2.5, pesticides, drinking water, groundwater threats, impaired water, and solid waste as factors with the highest scores; combined with socioeconomic community components (such as high unemployment rates ranging from 89 to 95 percent reported by OEHHA in the Project vicinity) that could result in increased pollution vulnerability.

### 5.3.4 Conclusion

Project decommissioning activities would occur in two phases during summer/fall of 2020 and 2021. Project activities would require short-term construction including pipeline installation/decommissioning during Phase 1 and remaining pipeline decommissioning during Phase 2. As noted above, the Project corridor is located within an area that has been identified as having a high existing environmental burden. Specifically, the Project vicinity is impacted by impaired ground and surface water as well as pesticides and solid waste. As such, Project activities that would have the potential to contribute to this burden would be considered significant.

As indicated in Section 3.0, *Environmental Checklist and Analysis*, the proposed Project would have the potential for short-term construction-related impacts to aesthetics, air quality/greenhouse gas emissions, water quality, noise, and transportation that have the potential to contribute to existing circumstances affecting environmental justice communities. However, following incorporation of identified mitigation measures, the proposed Project is not anticipated to create new burdens or add to existing pollution burdens felt by a vulnerable community; and there are no anticipated factors that would put any of the nearby populations at risk from this Project. No long-term or permanent impacts would result from incorporation of the proposed Project. The Project objective is to eliminate the risk of further pipeline exposure due to severe flooding, river scour, and channel migration that could lead to pipeline failure. Pipeline replacement is also needed to comply with Federal Pipeline Safety Regulations which require the operator to correct potentially hazardous conditions. Completion of the Project would result in a beneficial impact to public safety and reliability of the natural gas conveyance system in the area.

Figure 5-1. CalEnviroScreen Results



**5.4 SIGNIFICANT LANDS INVENTORY**

The Project involves lands identified as possessing significant environmental values within CSLC's Significant Lands Inventory, pursuant to Public Resources Code section 6370 et seq. The Project area is in the Significant Lands Inventory as parcel number 50-098-000, which includes the submerged land in the San Joaquin River. The subject lands are classified in use category Class B, which authorizes limited use. Environmental values identified for these lands are mostly biological, including endangered species habitat, migratory path for anadromous fish spawning on tributary streams, riparian habitat for wildlife support, but also scenic/aesthetic and recreational.

Based on CSLC staff's review of the Significant Lands Inventory and the CEQA analysis provided in this MND, the Project, as proposed, would not significantly affect those lands and is consistent with the use classification

PAGE LEFT INTENTIONALLY BLANK

## 6.0 MND PREPARATION SOURCES AND REFERENCES

This Mitigated Negative Declaration (MND) was prepared by the staff of the California State Lands Commission (CSLC) Division of Environmental Planning and Management (DEPM), with the assistance of Padre Associates, Inc. The analysis in the MND is based on information identified, acquired, reviewed, and synthesized based on DEPM guidance and recommendations.

### 6.1 CALIFORNIA STATE LANDS COMMISSION STAFF

Cynthia Herzog, Project Manager, Senior Environmental Scientist, DEPM  
Eric Gillies, Acting Chief, DEPM  
Mary Griggs, Retired Annuitant, DEPM  
Marlene Schroeder, Public Lands Management Specialist, Land Management Division  
Jennifer Mattox, Science Advisor/Tribal Liaison, Executive Office  
Emma Kennedy, Staff Attorney, Legal Division  
Joo Chai Wong, Associate Engineer, Mineral Resources Management Division

### 6.2 SECTION AUTHORS AND REVIEWERS

Name and Title	MND Sections
<b>Padre Associates, Inc.</b>	
Simon Poulter, Principal	Complete document
Matt Ingamells, Senior Project Manager	Complete document
Jennifer Leighton, Senior Project Manager	Complete document
Sarah Powell, Project Biologist	3.4, Biological Resources Complete document
Rachael Letter, Senior Archaeologist	3.5, Cultural Resources; 3.6, Cultural Resources – Tribal
Annette Varner, Word Processor / Technical Editor	Complete document

### 6.3 REFERENCES CITED

California Air Resources Control Board. 2020. Quality Assurance Air Monitoring Site Information. <https://ww2.arb.ca.gov>. Accessed March 2020.

\_\_\_\_\_. 2020. Attainment Status. Available: <https://ww3.arb.ca.gov/desig/adm/adm.htm>. Accessed March 2020.

\_\_\_\_\_. 2020. EMFAC 2017 web data base: [www.arb.ca.gov/emfac/2017](http://www.arb.ca.gov/emfac/2017). Accessed February 24, 2020.

- 1 \_\_\_\_\_. 2020. OFFROAD 2017-ORION web data base: [www.arb.ca.gov/orion](http://www.arb.ca.gov/orion). Accessed  
2 February 24, 2020.
- 3 California Climate Change Center. 2012. Reports on the Third Assessment. Available:  
4 [https://www.climatechange.ca.gov/climate\\_action\\_team/reports/third\\_assessment/in](https://www.climatechange.ca.gov/climate_action_team/reports/third_assessment/index.html)  
5 [dex.html](https://www.climatechange.ca.gov/climate_action_team/reports/third_assessment/index.html). Accessed May 2019.
- 6 California Department of Conservation. 1993. Mineral Land Classification of Stanislaus  
7 County, California.
- 8 \_\_\_\_\_. 2015. California Farmland Conversion Report 2015.
- 9 \_\_\_\_\_. 2018. Stanislaus County Important Farmland Map (2018 shapefiles).
- 10 \_\_\_\_\_. 2010. California Geological Survey Fault Activity map of California. Accessed on-  
11 site at <https://maps.conservation.ca.gov/cgs/fam> March 2020.
- 12 California Department of Food and Agriculture. 2019. California Agricultural Statistics  
13 Review 2017-2018.
- 14 California Department of Transportation (Caltrans). 2013. Transportation and  
15 Construction Vibration Guidance Manual.
- 16 California Department of Water Resources, California Data Exchange Center. 2020.  
17 [cdec.water.ca.gov/dynamicapp/QueryMM?Stations=SCL&SensorNums=41&End=2](http://cdec.water.ca.gov/dynamicapp/QueryMM?Stations=SCL&SensorNums=41&End=2020-04-03&span=2+years)  
18 [020-04-03&span=2+years](http://cdec.water.ca.gov/dynamicapp/QueryMM?Stations=SCL&SensorNums=41&End=2020-04-03&span=2+years), accessed February 4, 2020.
- 19 California Department of Water Resources, Water Data Library. 2020.  
20 [wdl.water.ca.gov/waterdatalibrary/groundwater/hydrographs](http://wdl.water.ca.gov/waterdatalibrary/groundwater/hydrographs), accessed February 19,  
21 2020.
- 22 California Natural Resources Agency. 2018. Safeguarding California Plan: 2018  
23 Update. California's Climate Adaptation Strategy, January 2018.
- 24 \_\_\_\_\_. 2019. Sustainable Groundwater Management Act basin prioritization dataset.  
25 [data.cnra.ca.gov/dataset/smg-a-basin-prioritization](http://data.cnra.ca.gov/dataset/smg-a-basin-prioritization), accessed April 8, 2020.
- 26 California State Lands Commission (CSLC). 2016. California State Lands Commission  
27 Tribal Consultation Policy.
- 28 Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of Wetlands  
29 and Deepwater Habitats of the United States. U.S. Department of the Interior, Fish  
30 and Wildlife Service, Office of Biological Services, FWS-OBS-79/31. Washington,  
31 D.C.

- 1 Department of Toxic Substances Control (DTSC). 2020. Envirostor Hazardous Waste  
2 and Substances (Cortese) Site List, Accessed March 2020.
- 3 Far Western Anthropological Research Group, Inc. 2020. Cultural Resources Study of  
4 PG&E L-215 Pipeline San Joaquin River Crossing Replacement Project, Patterson,  
5 Stanislaus County, California.
- 6 Farr, T., C. Jones and Z. Liu. 2016. Progress Report: Subsidence in California, March  
7 2015-September 2016. Jet Propulsion Laboratory.
- 8 Holland, R.F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of  
9 California.
- 10 Intergovernmental Panel on Climate Change (IPCC). 2014. Climate Change 2014:  
11 Impacts, Adaptation and Vulnerability.
- 12 Kleinfelder. 2019. Geotechnical Investigation Report Pacific Gas and Electric Company  
13 Line 215 at the San Joaquin River, Paterson, California.
- 14 Longitude 123. 2020. Project Execution Plan (Revision 1). Pacific Gas and Electric  
15 Company R-687 L-215 San Joaquin River Crossing Replacement Project. April  
16 2020.
- 17 Office of Environmental Health Hazard Assessment (OEHHA). 2018. Indicators of  
18 Climate Change in California.
- 19 \_\_\_\_\_. 2020. CalEnviroScreen. Available: <https://oehha.ca.gov/calenviroscreen>. Accessed  
20 March 2020.
- 21 Office of Planning and Research. 2018. General Plan Guidelines. Available:  
22 <http://www.opr.ca.gov/news/2018/11-20.html>. Accessed March 2020.
- 23 Padre Associates. 2020. Preliminary Federal Aquatic Resources Delineation and State  
24 Aquatic Resource Delineation Report. Pacific Gas and Electric R-687 L-215 San  
25 Joaquin River Crossing Replacement Project – Phase Two, Stanislaus County,  
26 California.
- 27 San Joaquin Valley Air Pollution Control District. 2009. Final Staff Report Addressing  
28 Greenhouse Gas Emissions Impacts under the California Environmental Quality  
29 Act.
- 30 \_\_\_\_\_. 2015. Guidance for Assessing and Mitigating Air Quality Impacts.
- 31 \_\_\_\_\_. 2016. 2016 Ozone Plan.

- 1 \_\_\_\_\_. 2018. 2018 Plan for the 1997, 2006, and 2012 PM<sub>2.5</sub> Standards.
- 2 Sawyer, J.O., T. Keeler-Wolf and J.M. Evens. 2009. A Manual of California Vegetation
- 3 Sowers, J.M, J.S. Noller and W.R. Lettis. 1993. Preliminary Maps showing Quaternary  
4 Geology of the Patterson and Crow's Landing Quadrangles, California.
- 5 Stanislaus County Agricultural Commissioner. 2019. Stanislaus County Agricultural  
6 Report 2018.
- 7 Stantec Consulting Services, Inc. 2019. PG&E L-215-1 MP 6.92-8.43 & L-215 MP 7.16-  
8 8.08 San Joaquin River Replacement Project Biological Resources Assessment.
- 9 State Water Resources Control Board. 2019.  
10 [https://www.waterboards.ca.gov/water\\_issues/programs/cwa401/wrapp.html](https://www.waterboards.ca.gov/water_issues/programs/cwa401/wrapp.html)
- 11 State Water Resources Control Board. 2016. 2014 and 2016 California Clean Water Act  
12 Section 303(d) List. Accessed online at:  
13 [https://waterboards.ca.gov/water\\_issues/programs/tmdl/integrated2014\\_2016.shtml](https://waterboards.ca.gov/water_issues/programs/tmdl/integrated2014_2016.shtml).  
14 March 2020.
- 15 Stuart, David R. 2016. The San Joaquin Historian. The Native Peoples of San Joaquin  
16 County, Indian Pioneers, Immigrants, Innovators, Freedom Fighters, and Survivors.  
17 Part Two, Winter 2016.
- 18 U.S. Census Bureau. 2018. American Fact Finder accessed February 2020.  
19 <https://www.data.census.gov/cedsci/>. DP05 – ACS Demographic and Housing  
20 Estimates and DP03 – Selected Economic Characteristics; 2018 ACS 5-Year  
21 Estimates.
- 22 U.S. Geological Survey. 2020. Land subsidence in the San Joaquin Valley (website),  
23 [usgs.gov/centers/ca-water-ls/science/land-subsidence-san-joaquin-valley](https://usgs.gov/centers/ca-water-ls/science/land-subsidence-san-joaquin-valley), accessed  
24 April 8, 2020.