INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

PACIFIC GAS & ELECTRIC COMPANY

REPLACEMENT OF DISTRIBUTION FEEDER MAIN 0630 (DFM-0630/R-1385) ACROSS THE SACRAMENTO RIVER

June 2022

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

Applicant:
Pacific Gas & Electric Company
4636 Missouri Flat Road
Placerville, California 95667

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 based on the principles of equity, sustainability, and resiliency, through preservation, restoration, enhancement, responsible economic development, and the promotion of public access.

CEQA DOCUMENT WEBSITE

www.slc.ca.gov/ceqa/

Geographic Location (Eastern Bank)

Latitude: 39°08'49.4" N
Longitude: 121°54'59.5" W
WGS84 Datum

Cover Photo:
Existing PG&E Pipeline Alignment Looking East Across the Sacramento River
(Photo courtesy of Padre Associates, Inc.)

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A	AB	Assembly Bill
	ACID	Anderson-Cottonwood Irrigation District
	ACOE	U.S. Army Corps of Engineers
	ACM	Asbestos Containing Material
	AE	Agricultural Exclusive
B	BLM	Bureau of Land Management
	BMP	Best Management Practices
	BSA	Biological Study Area
C	C	Celsius
	CAAQS	California Ambient Air Quality Standards
	CalEnviroScreen	California Communities Environmental Health Screening Tool
	CAL FIRE	California Department of Forestry and Fire Protection
	Caltrans	California Department of Transportation
	CARB	California Air Resources Board
	CBIA	California Building Industry Association
	CCAA	California Clean Air Act
	CCAPCD	Colusa County Air Pollution Control District
	CCRD	Confidential Cultural Resources Database
	CDC	California Department of Conservation
	CDFW	California Department of Fish and Wildlife
	CDWR	California Department of Water Resources
	CESA	California Endangered Species Act
	CEQA	California Environmental Quality Act
	CFR	Code of Federal Regulations
	CFS	Cubic feet per second
	CGS	California Geologic Society
	CH_4	Methane
	CNDDB	California Natural Diversity Database
	CNEL	Community noise equivalent level
	CO	Carbon Monoxide
	CO_2	Carbon Dioxide
	CO_2E	Carbon Dioxide Equivalent
	CRHR	California Register of Historical Resources
	CRPR	California Rare Plant Rank
	CSLC	California State Lands Commission
	CV	Central Valley
	CVFPB	Central Valley Flood Protection Board
	CVFPP	Central Valley Flood Protection Plan
	CVRWQCB	Central Valley Regional Water Quality Control Board
D	dB	Decibel
	dBA	A-weighted Decibel

	Delta	Sacramento-San Joaquin River Delta
	DEPM	Division of Environmental Planning and Management
	DPM	Diesel Particulate Matter
	DTSC	Department of Toxic Substances Control
E	EIR	Environmental Impact Report
	EMFAC	Emission Factors
	ESU	Evolutionary Significant Units
	ETS	Electronic Test Stations
F	FRAQMD	Feather River Air Quality Management District
	FESA	Federal Endangered Species Act
	FWARG	Far Western Anthropological Research Group, Inc.
G	GGS	Giant Gartersnake
	GHG	Greenhouse Gas
	GLO	General Land Office
	GSA	Groundwater Sustainability Agencies
H	HCP	Habitat Conservation Plan
	HDD	Horizontal Directional Drilling
	H_2S	Hydrogen Sulfide
I	IND	Industrial
	IPaC	Information for Planning and Consultation
	IS	Initial Study
K	kW	Kilowatt
L	L_{dn}	Day-Night Average Sound Level
	L_{eq}	Equivalent Sound Level
	L_{max}	Maximum Sound Level
	LOS	Level of Service
M	mg/L	micrograms per liter
	mg/m^3	Microgram per cubic meter
	MM	Mitigation Measure
	MND	Mitigated Negative Declaration
	MRHCP	Multi Region Habitat Conservation Plan
N	NAAQS	National Ambient Air Quality Standards
	N_2O	Nitrous Oxide
	NAHC	Native American Heritage Commission
	NMFS	National Marine Fisheries Service
	NO	Nitric Oxide
	NO_2	Nitrogen Dioxide
	NO_x	Nitrogen Oxides
	NOI	Notice of Intent
	NPDES	National Pollutant Discharge Elimination System
	NRCS	Natural Resources Conservation Service
	NRHP	National Register of Historic Places
	NTSB	National Transportation Safety Board
	NTU	Nephelometric Turbidity Units

O	O_3	Ozone
	OEHHA	Office of Environmental Hazard Assessment Operations
	O&M	and Maintenance
	OPR	Office and Planning and Research
P	PFMC	Pacific Fishery Management Council
	PG&E	Pacific Gas & Electric Company
	PM	Particulate Matter
	PM_{10}	Particulate Matter Less Than 10 Micrometers in Diameter
	$PM_{2.5}$	Particulate Matter Less Than 2.5 Micrometers in Diameter
	ppb	parts per billion
	ppm	parts per million
	PPV	Peak Particle Velocity
	PRC	Public Resources Code
	PWSP	Project Work and Safety Plan
R	RD	Reclamation District
	ROG	Reactive Organic Gases
	ROC	Reactive Organic Compounds
	ROV	Remote Operated Vehicle
	RTP	Regional Transportation Plan
	RWQCB	Regional Water Quality Control Board
S	SB	Senate Bill
	SCAQMD	South Coast Air Quality Management District
	SLF	Sacred Lands File
	SMAQMD	Sacramento Metropolitan Air Quality Management District
	SO_2	Sulfur dioxide
	SPL	Sound Pressure Level
	SR	State Route
	SRFCP	Sacramento River Flood Control Project
	SVAB	Sacramento Valley Air Basin
	SWPPP	Stormwater Pollution Prevention Plan
	SWRCB	State Water Resources Control Board
T	TAC	Toxic Air Contaminant
	TPH	Total Petroleum Hydrocarbons
U	USEPA	U.S. Environmental Protection Agency
	USFWS	U.S. Fish and Wildlife Service
	USGS	United States Geological Survey
V	VELB	Valley Elderberry Longhorn Beetle
W	WPT	Western Pond Turtle
Y	YSAQMD	Yolo-Solano Air Quality Management District

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 (PG&E) Replacement of Distribution Feeder Main 0630 (DFM-0630/R-1385)[1] across the Sacramento River Project (Project) in the town of Meridian, California. The Project area is located within portions of Colusa and Sutter Counties, California (Figure ES-1). The easternmost portion of the Project area is located at the northwestern side of the town of Meridian, near the intersection of North Meridian Road and Alameda Street, and extends from that location across the eastern levee, the Sacramento River, the western levee, and into agricultural land west of the western levee (Project area) (Figure ES-2).

Pipeline replacement, decommissioning, and removal activities would result in the temporary disturbance of 4.46 acres during pipeline replacement activities (Phase 1) of the Project and the disturbance of 8.17 acres during decommissioning activities (Phase 2) of the Project, for a total temporary disturbance footprint of approximately 11.01 acres combined and accounting for the overlap between the Phase 1 and Phase 2 work areas. Within this temporary disturbance area, a total excavation footprint of approximately 0.22 acre would occur, 0.01 acre of excavation associated with Phase 1 and 0.21 acre of excavation associated with Phase 2.

CSLC has prepared this 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 (PG&E) would avoid or mitigate those impacts to a point where no significant impacts occur.

DFM-0630 PIPELINE CONFIGURATION

The existing DFM-0630 pipelines were originally installed by PG&E in 1938 and provide natural gas to this area and the city of Colusa. Within the Project area, the existing DFM-0630 consists of a single 4-inch-diameter pipeline that tees into two 3-inch-diameter pipelines within a valve box on the western levee of the Sacramento River. DFM-0630 runs in two parallel pipelines underneath the Sacramento River and then merges back into a single 3-inch-diameter pipeline within a valve box on the eastern levee (Figure ES-2).

[1] DFM-0630 refers to the name of the gas pipeline alignment. R-1385 is the PG&E project identifier.

PROPOSED PROJECT

The proposed Project would be conducted in two distinct phases. During Phase 1, PG&E is proposing to replace the existing DFM-0630 pipelines that cross the Sacramento River with a replacement pipeline using Horizontal Directional Drilling (HDD) techniques in a location just north of and parallel to the existing pipeline crossing alignment. After installation, the replacement pipeline would consist of a single 4-inch-diameter pipeline connected (tied-in) to the existing terrestrial pipeline network on each side of the Sacramento River. Phase 2 of the Project would include subsequent decommissioning of the original DFM-0630 Sacramento River pipelines, which would be conducted in five separate segments.

Phase 1 of Work: Replacement Pipeline Installation

Phase 1 consists of the construction of a 4-inch-diameter pipeline installed under the Sacramento River using HDD methods. The length of the pipeline and tie-ins measure approximately 1,200 feet. Following completion of the borehole and reaming of the alignment, the newly fabricated 4-inch-diameter pipeline string would be pulled into the boring from the West Work Area to the East Work Area. The replacement pipeline would then be tied into the existing terrestrial pipeline network with short sections of pipe installed in open trench connections. Once the replacement pipeline is tied into the pipeline network, odor fade conditioning would be conducted as a standard safety procedure.

Phase 2 of Work: Existing Pipeline Decommissioning

Following Phase 1, the existing DFM-0630 crossings would be decommissioned. For planning purposes, Phase 2 has been divided into five pipeline decommissioning segments as further described below (Figure ES-3). Prior to the start of decommissioning activities, Segments 1 through 5 of the pipelines would be pigged and flushed to remove any remaining contaminants.

- **Segment 1 – West Field Segment** (approximately 265 feet of 4-inch-diameter pipeline):
    - Segment 1 begins where the existing pipeline was capped in Phase 1 adjacent to the west tie-in location and continues east to a point 10 feet away from the landside toe of the western levee.
    - This Segment would be purged of natural gas, filled with cement slurry, capped on both ends, and abandoned in place.
- **Segment 2 – West Levee Segment** (34 feet of 4-inch-diameter pipeline and 181 feet of two, 3-inch-diameter pipelines [396 feet of total pipeline]):

- Segment 2 begins at the end of Segment 1 and continues east up the landside slope, across and down the waterside slope of the western levee, down to the waterline of the Sacramento River. At the top of the levee (levee crown), there is an existing concrete valve box. A pipeline crossing sign is located adjacent to the concrete valve box. Riprap rock is currently located along the pipeline alignment on the west bank.
- Within this Segment, the 4-inch-diameter pipeline and both 3-inch-diameter pipelines, as well as the concrete valve box within the West Levee Segment would be removed in their entirety. The pipeline crossing sign would be replaced with a new sign.

- **Segment 3 – Submerged Pipeline Crossing Segment** (approximately 240 feet of two, 3-inch-diameter pipelines [480 feet of pipeline total]):
  - Segment 3 begins at the end of Segment 2 at the waterline on the west bank of the Sacramento River and continues beneath the river to the waterside slope of the levee on the east side.
  - Both existing 3-inch-diameter pipelines in Segment 3 would be removed in their entirety from the western to eastern shoreline through the Sacramento River.
- **Segment 4 – East Levee Segment** (approximately 105 feet of two, 3-inch-diameter pipelines [210 feet total]):
  - Segment 4 begins at the end of Segment 3 at the waterline of the Sacramento River on the east bank waterside slope of the levee. There is an existing concrete valve box on the eastern levee crown where the two, 3-inch-diameter pipelines merge back into a single 3-inch-diameter pipeline. A pipeline crossing sign is located adjacent to the concrete valve box. Grouted riprap rock is currently located along the pipeline alignment on the east bank.
  - All 3-inch-diameter pipelines and the concrete valve box would be removed in their entirety. The pipeline crossing sign would be replaced with a new sign.
- **Segment 5 – Meridian Road Segment** (approximately 25 feet of 3-inch-diameter pipeline and 15 feet of 4-inch-diameter pipeline)
  - Segment 5 begins at the end of Segment 4, at the end of Meridian Road and extends to the eastern tie-in location.
  - Decommissioning and removal of Segment 5 would occur during the Phase 1 connection/tie-in activities to prevent the need to re-excavate the paved street for removal of the pipe segment during Phase 2. Following

the tie-in of the replacement pipeline, Segment 5 would be removed in its entirety.

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 Mitigation Measures (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. The Mitigation Monitoring Program is included Appendix I.

Table ES-1. Environmental Issues and Potentially Significant Impacts

☒ Aesthetics	☒ Agriculture and Forestry Resources	☐ Air Quality
☒ Biological Resources	☒ Cultural Resources	☒ Cultural Resources – Tribal
☐ Energy	☒ Geology, Soils, and Paleontological Resources	☐ Greenhouse Gas Emissions
☒ Hazards and Hazardous Materials	☒ Hydrology and Water Quality	☐ Land Use and Planning
☐ Mineral Resources	☒ Noise	☐ Population and Housing
☐ Public Services	☒ Recreation	☒ Transportation
☐ Utilities and Service Systems	☐ Wildfire	☒ Mandatory Findings of Significance

Table ES-2. Summary of Proposed Project Mitigation Measures

Aesthetics
MM AES-1: Nighttime Illumination Shielding
Biological Resources
MM BIO-1: Swainson's Hawk Nesting Season Avoidance or Pre-Construction Surveys
MM BIO-2: Nesting Bird Season Avoidance or Pre-Construction Surveys
MM BIO-3: Giant Gartersnake Work Window and Pre-Construction Surveys
MM BIO-4: Western Pond Turtle Pre-Construction Surveys
MM BIO-5: Environmental Training Program
MM BIO-6: Biological Monitoring
MM BIO-7: Turbidity Monitoring Plan
MM BIO-8: Valley Elderberry Longhorn Beetle Training

MM BIO-9: Valley Elderberry Longhorn Beetle Habitat Avoidance MM BIO-10: Blue Elderberry Shrub Removal Documentation and Conservation MMM BIO-11: Site Restoration Plan
Cultural Resources
MM CUL-1/TCR-1: Cultural and Tribal Cultural Resources Awareness Training MM CUL-2/TCR-2: Cultural and Tribal Cultural Resources Management and Treatment Plan (CRMTP) MM CUL-3/TCR-3: Cultural and Tribal Cultural Resources Monitoring MM CUL-4/TCR-5: Discovery of Previously Unknown Cultural or Tribal Cultural Resources MM CUL-5/TCR-7: Unanticipated Discovery of Human Remains
Cultural Resources – Tribal
MM CUL-1/TCR-1: Cultural and Tribal Cultural Resources Awareness Training MM CUL-2/TCR-2: Cultural and Tribal Cultural Resources Management and Treatment Plan (CRMTP) MM CUL-3/TCR-3: Cultural and Tribal Cultural Resources Monitoring MM TCR-4: Monitoring and Inspection of Grading and Excavation MM CUL-4/TCR-5: Discovery of Previously Unknown Cultural or Tribal Cultural Resources MM TCR-6: Treatment of Tribal Cultural Resources MM CUL-5/TCR-7: Unanticipated Discovery of Human Remains
Geology, Soils, and Paleontological Resources
MM HYDRO-1: Stormwater Pollution Prevention Plan (SWPPP) MM BIO-11: Site Restoration Plan
Hazards and Hazardous Materials
MM HAZ-1: Project Work and Safety Plan MM HAZ-2: Inadvertent Release Contingency Plan MM HAZ-3: Pre- and Post-Project Bathymetric and Surficial Features Multi-Beam Debris Survey MM HAZ-4: Asbestos Handling Procedure
Hydrology and Water Quality
MM HYDRO-1: Stormwater Pollution Prevention Plan MM HAZ-1: Project Work and Safety Plan MM HAZ-2: Inadvertent Release Contingency Plan MM BIO-7: Turbidity Monitoring Plan MM BIO-11: Site Restoration Plan
Noise
MM N-1: Work Hours and Alternate Housing
Recreation
MM REC-1: Riverine Safety Measures MM REC-2: Advanced Notice to Mariners
Transportation
MM T-1: Traffic Control Plan

Figure ES-1. Project Vicinity Map

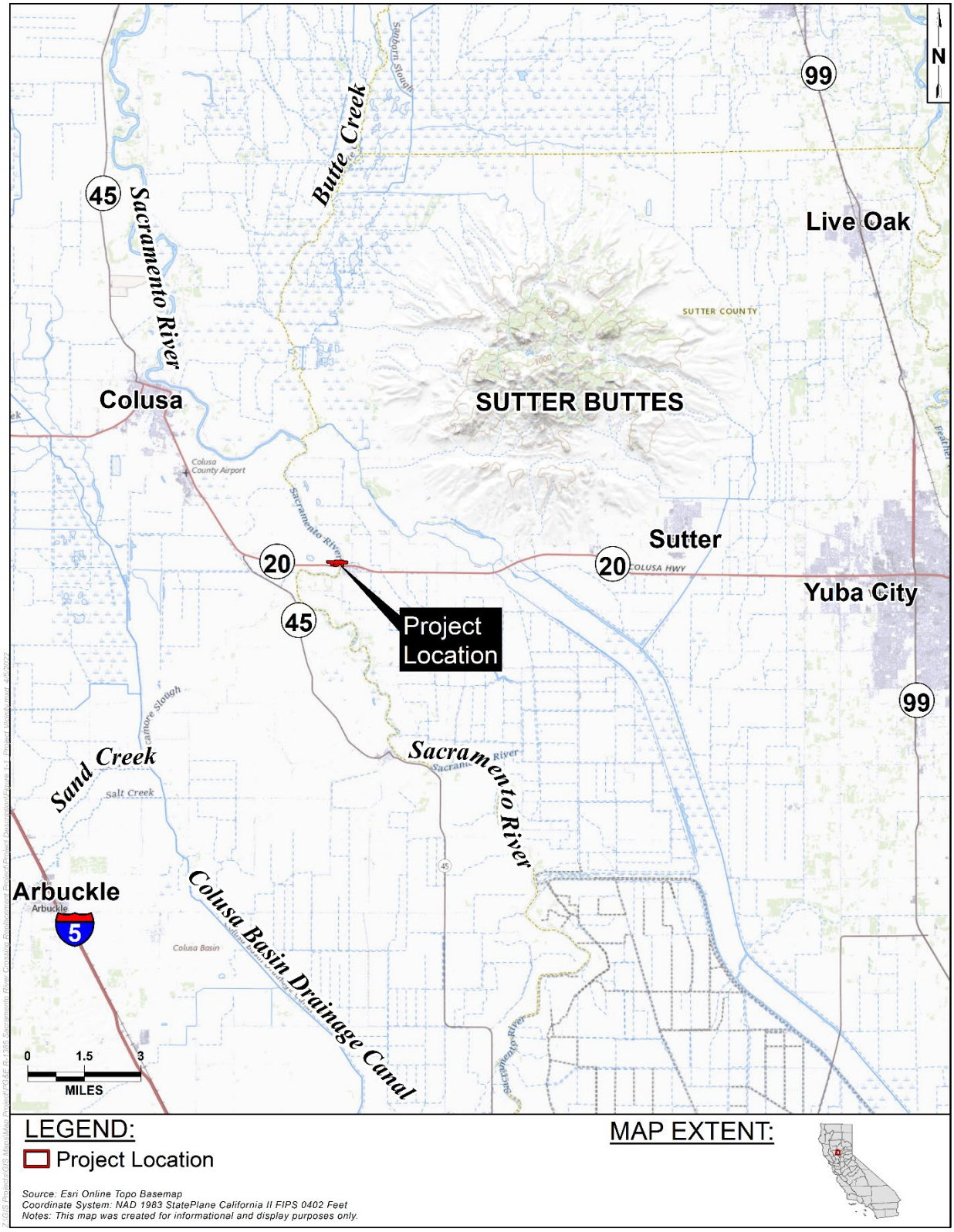


Figure ES-2. Project Overview Map

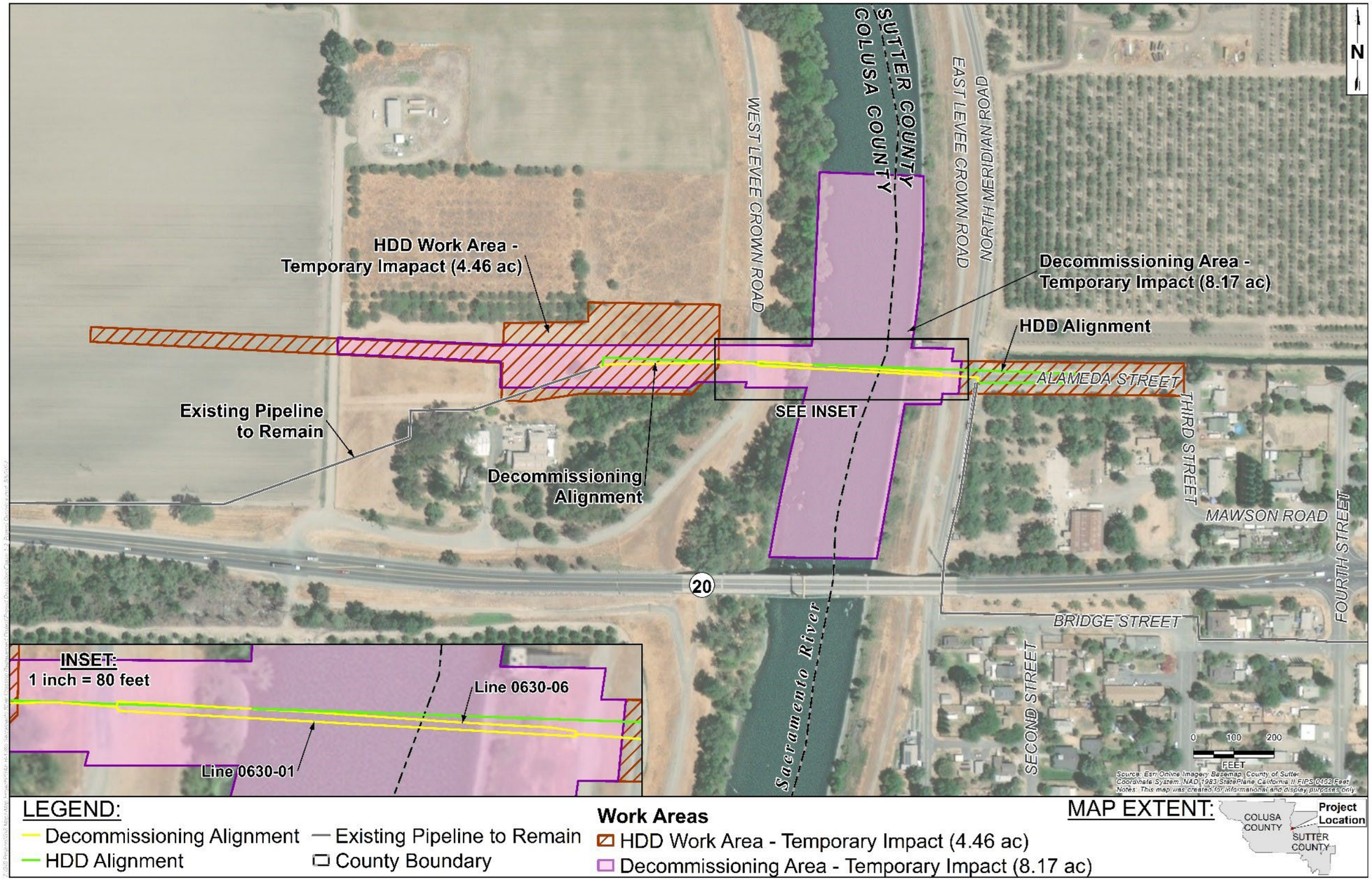
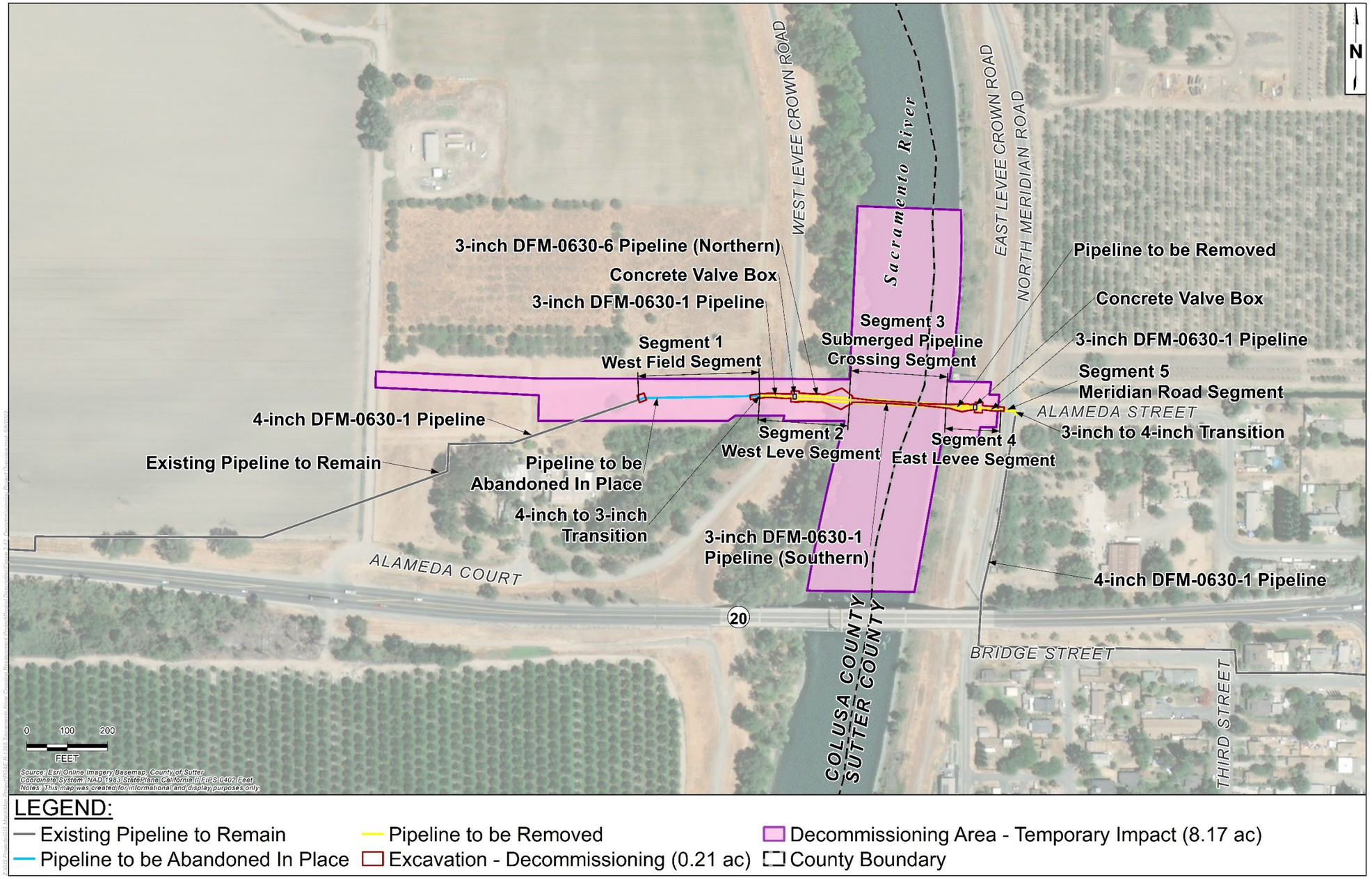


Figure ES-3. Decommissioning Project Overview



1.0 PROJECT AND AGENCY INFORMATION

1.1 PROJECT TITLE

PG&E Replacement of Distribution Feeder Main 0630 (DFM-0630/R-1385)[2] Across the Sacramento River (Project).

1.2 LEAD AGENCY AND PROJECT SPONSOR

Lead Agency

California State Lands Commission
100 Howe Avenue, Suite 100-South
Sacramento, CA 95825
Contact: Christine Day, Environmental Scientist
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(916) 562-0027

Applicant

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4636 Missouri Flat Road
Placerville, CA 95667
Contact: Kathleen Caringi
Senior Land Planner
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(916) 838-8712

1.3 PROJECT LOCATION

The Project area is located within portions of Colusa and Sutter Counties, California (Figure 1-1). The Project area is bordered by the unincorporated town of Meridian to the east, agricultural lands to the west, north, and south. The easternmost Project area is located at the northwestern side of Meridian, near the intersection of North Meridian Road and Alameda Street and extends through the eastern levee to the west across the Sacramento River into agricultural land west of the western levee (Project area) (Figure 1-2). State Route (SR) 20 is located approximately 500 feet south of the Project area.

[2] DFM-0630 refers to the name of the gas pipeline alignment. R-1385 is the PG&E project identifier.

Figure 1-1. Project Vicinity Map

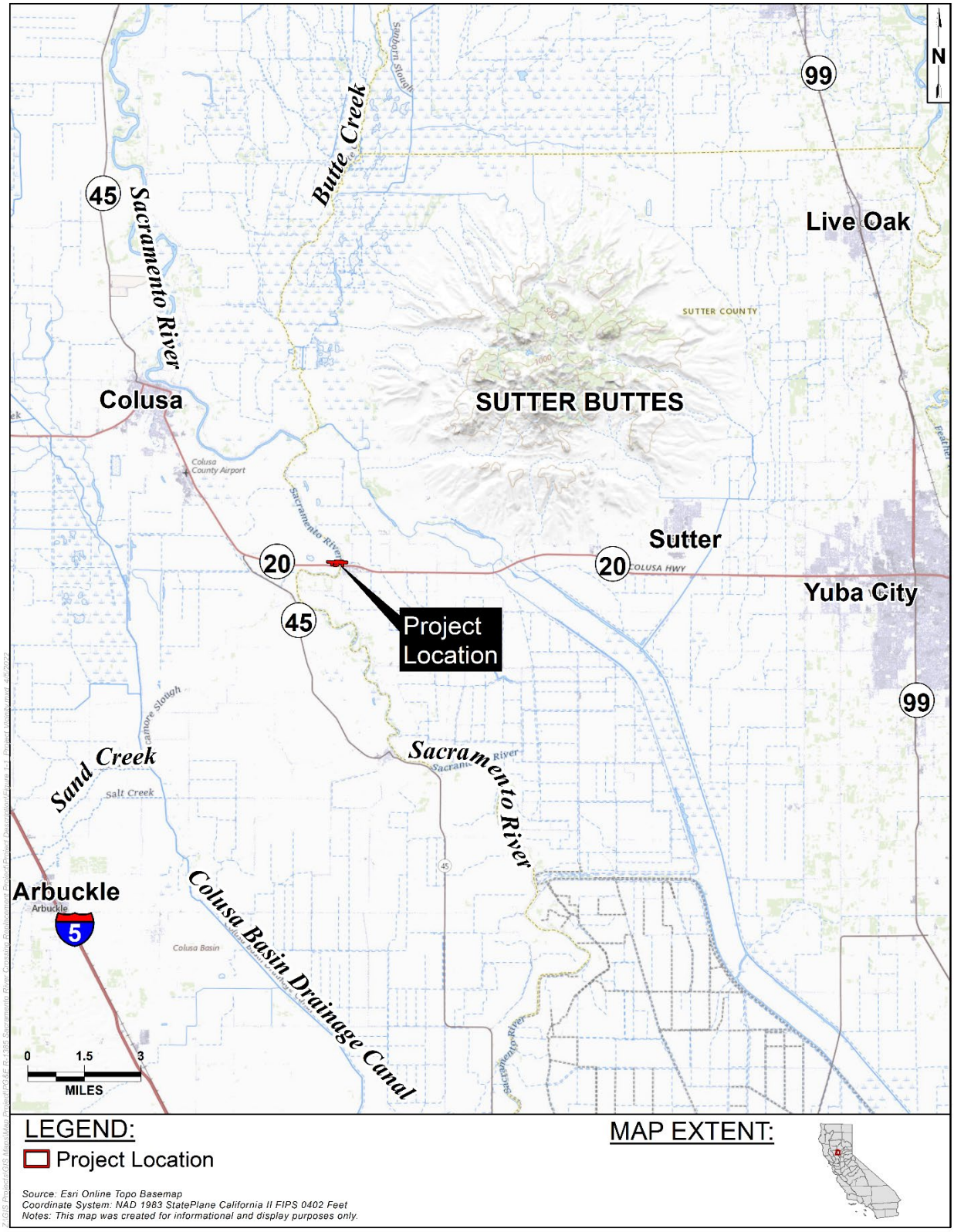
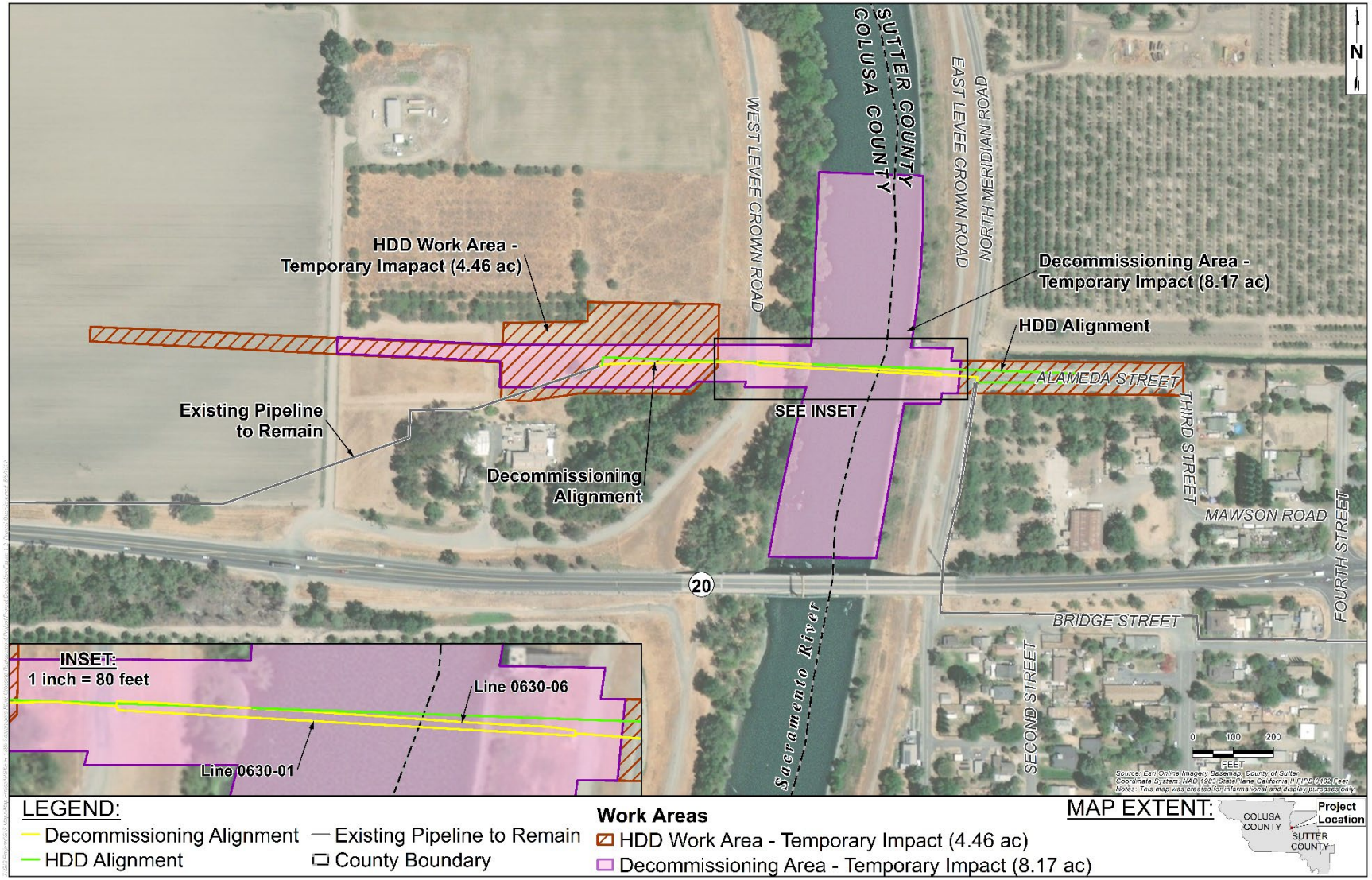


Figure 1-2. Project Overview Map



1.4 ORGANIZATION OF THE MITIGATED NEGATIVE DECLARATION

This Initial Study/Mitigated Negative Declaration (IS/MND) is intended to provide the California State Lands Commission (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.
- **Section 3** presents the IS, including the environmental setting, identification and analysis of potential impacts, and discussion of various Project changes and other measures that, if incorporated into the Project, would mitigate or avoid those impacts such that no significant effect on the environment would occur. CSLC staff prepared this IS pursuant to State CEQA Guidelines section 15063.[3]
- **Section 4** presents the Mitigation Monitoring Program.
- **Section 5** discusses other CSLC considerations relevant to the Project, such as climate change, environmental justice, and the CSLC Significant Lands Inventory that are in addition to review required pursuant to CEQA.
- **Section 6** presents information on report preparation and references.
- **Appendices** include specifications, technical data, and other information supporting the analysis presented in this MND:
    - Appendix A: Abridged List of Major Federal and State Laws, Regulations, and Policies Potentially Applicable to the Project
    - Appendix B: List of Local Regulations and Policies Potentially Applicable to the Project
    - Appendix C: Project Plans
    - Appendix D: Air Quality and Greenhouse Gas Emission Calculations
    - Appendix E: Biological Technical Report
    - Appendix F: Noise Modeling Results and Vibration Calculations
    - Appendix G: Geotechnical Investigation Report

[3] The State CEQA Guidelines are found in California Code of Regulations, title 14, section 15000 et seq.

- Appendix H: Inadvertent Release Contingency Plan
- Appendix I: Mitigation Monitoring Program

1.5 PROJECT BACKGROUND AND OBJECTIVES

The National Transportation Safety Board (NTSB) has issued a scheduled safety recommendation to PG&E requiring that the existing DFM-0630 pipelines be addressed by December 31, 2022. In response to this request, it was determined that an in-line (internal) inspection would not be possible due to the age and small diameter of the existing pipelines. In addition, portions of the existing pipelines were found to have shallow depth of burial through the Sacramento River which could pose future safety or service risks. PG&E therefore determined that the existing pipelines should be replaced prior to the NTSB's recommended assessment date of December 31, 2022, to comply with this requirement and to maintain uninterrupted natural gas service to customers.

Horizontal directional drilling (HDD) was selected as the preferred pipeline replacement installation method. HDD is a trenchless construction method that is used to install pipes underground without disturbing the ground surface. The drill is launched from one or both ends of a path and retrieved at the other end, and except for the entry and exit spaces above ground, the entire process takes place underground. The HDD installation method would eliminate potential temporary construction impacts, such as turbidity and disturbance to aquatic habitat, associated with traditional underwater trenching methods, and would ensure the new pipeline crossing maintains sufficient river bottom depth of cover even with potential future changes to the river bottom elevation. The 4-inch-diameter was selected for the replacement pipeline to match the existing pipeline connection and to create a consistent diameter pipeline network for use of in-line tool inspections.

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

1.7 APPROVALS AND REGULATORY REQUIREMENTS

1.7.1 California State Lands Commission

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

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

The Applicant submitted an application for a new lease agreement for the continuation of an existing use of State-owned land not previously under lease. The existing pipelines were installed in 1938, with permission granted by the 1938 War Department, and do not currently have a CSLC lease agreement. PG&E is seeking authorization under a new lease agreement to install a pipeline crossing under the Sacramento River in the same approximate alignment as the existing pipelines.

1.7.2 Other Agencies

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

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

Permitting Agency	Anticipated Approvals/ Regulatory Requirements
State	
California State Lands Commission	Lease Agreement and CEQA Lead Agency
California Department of Fish and Wildlife	Lake and Streambed Alteration Agreement (LSAA); Section 1600 of the California Fish and Game Code
California Office of Historic Preservation	National Historic Preservation Act; Section 106 Compliance
Central Valley Regional Water Quality Control Board (CVRWQCB)	Section 401 Water Quality Certification (Clean Water Act); National Pollutant Discharge Elimination System (NPDES) permits
Central Valley Flood Protection Board	California Water Code Sections 8520-8723, California Code of Regulations, Title 23; Levee Encroachment Permit
Federal	
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 Permission (Rivers and Harbors Act)
U.S. Fish and Wildlife Service	Section 7 Consultation (Federal Endangered Species Act (FESA))
National Marine Fisheries Service	Section 7 Consultation (FESA); Essential Fish Habitat Assessment
Local	
Sacramento River West Side Levee District (west bank)	Levee Encroachment Permit / Project Endorsement
Reclamation District 70 (east bank)	Levee Encroachment Permit / Project Endorsement

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2.0 PROJECT DESCRIPTION

Pacific Gas & Electric Company (PG&E) is proposing to replace their existing Distribution Feeder Main 0630 (DFM-0630/R-1385) Sacramento River pipeline (Project) located near the town of Meridian within Colusa and Sutter Counties. The existing pipelines were originally installed by PG&E in 1938 and provide natural gas to this area and the city of Colusa. The Project objective is to install a new 4-inch-diameter replacement pipeline underneath the Sacramento River and both the east and west levees using horizontal directional drilling (HDD) techniques, connect the replacement pipeline into the existing terrestrial pipeline network, and then decommission the existing pipelines. The Project would be conducted in two distinct but sequential phases: replacement pipeline installation and then decommissioning of the existing pipelines.

2.1 PHASE 1 (REPLACEMENT PIPELINE INSTALLATION)

This Phase would consist of the following major components (Figure 2-1):

- Drilling a pilot borehole for a 4-inch-diameter pipeline under the Sacramento River and both the east and west levees using HDD methods proceeding from east to west
- Pulling the 4-inch-diameter pipe string into the final borehole from West Work Area to East Work Area landing
- Excavating tie-in trenches along roads and in agricultural fields
- Connecting the new replacement pipeline to the existing terrestrial pipeline network via short sections of open trench-installed pipe

The following sections provide additional details regarding the HDD process and pipeline installation and connection (tie-in).

2.1.1 HDD Work Areas

Three HDD Work Areas (East Work Area, West Work Area, and Pipe Staging Area) occupying approximately 4.46 acres would be required during installation of the replacement pipeline. These areas would provide space for a drill rig, drilling equipment storage, and materials (Figure 2-1). No construction is proposed within the Sacramento River during Phase 1 activities. The HDD Work Areas would not be paved or surfaced with gravel. However, grading may be performed, and crane mats may be used beneath specific pieces of equipment which would be removed and restored to pre-Project conditions once Phase 1 of the Project has been completed.

2.1.1.1 East Work Area

The East Work Area is located along Alameda Street between Meridian Road and 3rd Street in the unincorporated town of Meridian. It would be accessed using the existing roads, and a traffic control plan would be developed and implemented to redirect traffic around the active work area. The East Work Area is already paved and no additional grading, paving, or placement of gravel is anticipated. Temporary crane mats may be placed below equipment to protect the existing pavement. Project activities that would occur in the East Work Area would include drilling, the construction and tie-in of open-trench-installed replacement pipeline, and odor fade conditioning of the pipeline. In addition, the removal of Segment 5 of the existing pipeline would occur within the East Work Area (refer to Section 2.2.2.3). A photograph of the East Work Area is shown below in Figure 2-2.

2.1.1.2 West Work Area

The West Work Area is in an agricultural field located west of the river and western levee and would be accessed using existing private roads and designated access routes through the agricultural field (Figure 2-3). The West Work Area would be used for HDD drilling operations, associated pipeline string staging and welding operations, and odor fade conditioning of the pipeline (see Sections 2.1.2 and 2.1.3 for more details). A photograph of the West Work Area is shown in Figure 2-3.

2.1.1.3 Pipe Staging Area

The Pipe Staging Area is connected to the West Work Area and extends approximately 1,200 feet to the west. The Pipe Staging Area would be accessed using the same private roads used to access the West Work Area. The Pipe Staging Area would be used to weld, coat, and test the pipe string that would be pulled into the HDD borehole. Figure 2-4 shows an example photograph of a pipe staging area that used a configuration similar to the proposed Project but consisted of much larger diameter pipe

Figure 2-1. Phase 1 Project Overview

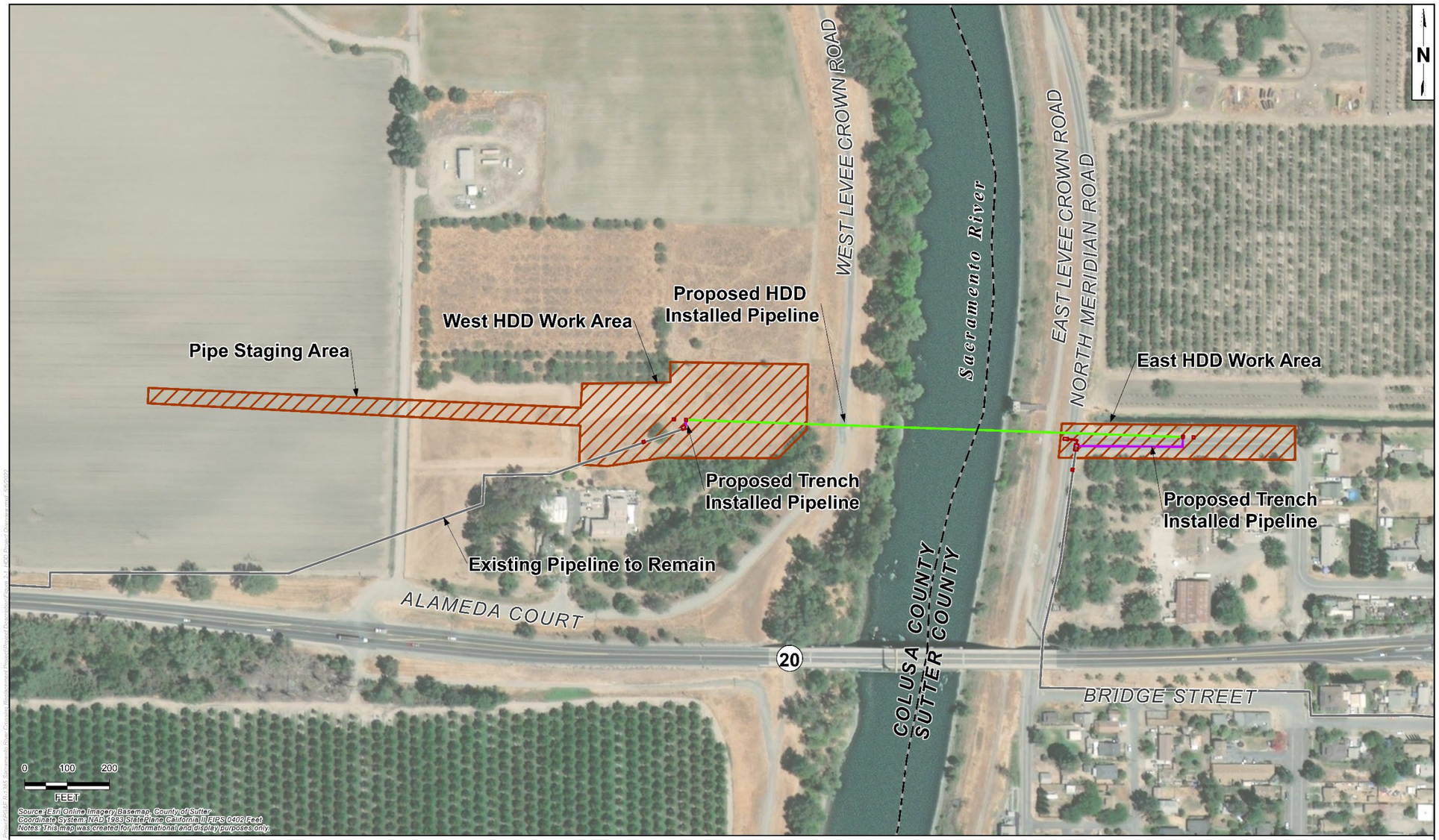

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Figure 2-2. Photograph of the East Work Area

Figure 2-3. Photograph of the West Work Area

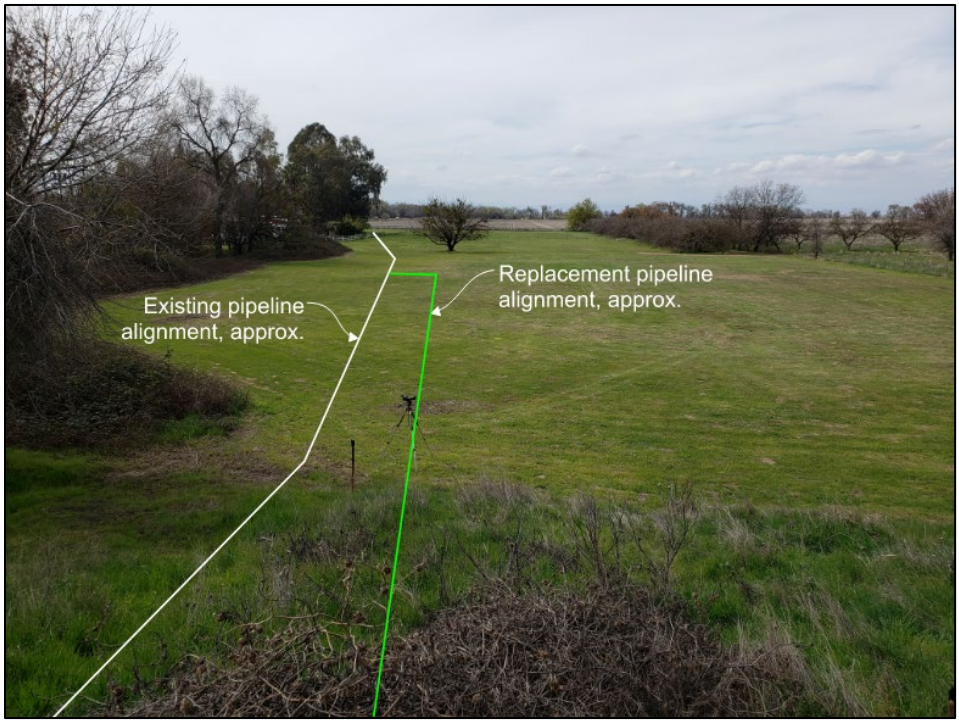


Figure 2-4. Photograph of Example Pipe Staging Area[4]

2.1.2 HDD Methods

PG&E proposes HDD construction methods that would minimize disturbance to the Sacramento River and adjacent east and west levee banks. The HDD procedures have been developed using site-specific geotechnical data to ensure the drilling would be successfully completed while minimizing the risk of inadvertent drilling fluid loss (frac-outs) into the river or upland areas. The following is a summary of key HDD-related activities required to install the proposed replacement pipeline:

- Bore pits (Eastern entry pit/Western exit pit) would be excavated at each end of the replacement pipeline alignment.
- One directional drilling rig would be mobilized to the East Work Area and the initial HDD pilot borehole would be drilled from east to west (Figure 2-5A).
- Once the initial pilot bore is completed, subsequent drill string passes (swab or reaming operations) would be performed to widen the bore to its final diameter (Figure 2-5B).
- Simultaneously with HDD operations, the replacement pipe string would be assembled within the West Work Area and Pipe Staging Area. Once the pipe

[4] Pipeline diameter represented in figure is larger than the proposed Project pipeline diameter

string assembly is completed, a preliminary hydrotest would be performed to verify the pipe string integrity.

- Once the final HDD borehole and the preliminary hydrotest are completed, the replacement pipe string would be pulled into the HDD borehole from west to east using the drill rig at the East Work Area (Figure 2-5C).
- Once the replacement pipeline is in place, a cement slurry would be pumped into the annulus (space between the borehole and the replacement pipeline) for a minimum of 10 vertical feet from the ground surface in the West and East Work Areas to secure the pipeline within the alignment.
- Short connection pipeline would be installed using terrestrial open trenching methods to connect the replacement pipeline to the existing pipeline system.
- The final hydrotest would be performed on the entire replacement pipeline (including trench-installed and HDD-installed pipeline segments) prior to the final tie-in welds on each end.
- Odor fade conditioning and monitoring would be performed on the newly installed pipeline.

Figure 2-5 shows a conceptual diagram of the basic HDD process. Figure 2-6 shows a conceptual HDD worksite layout.

Figure 2-5. HDD Conceptual Diagram

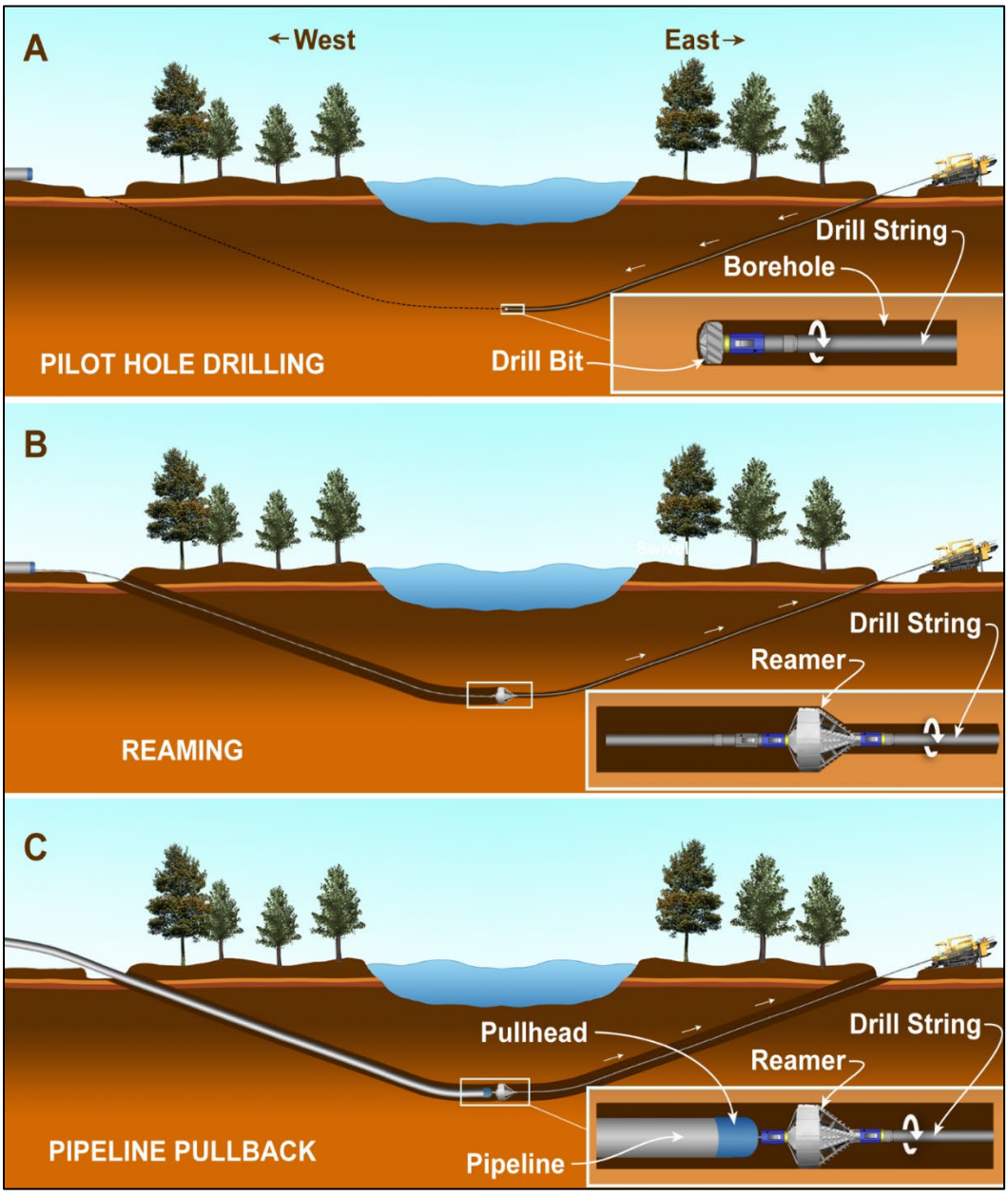
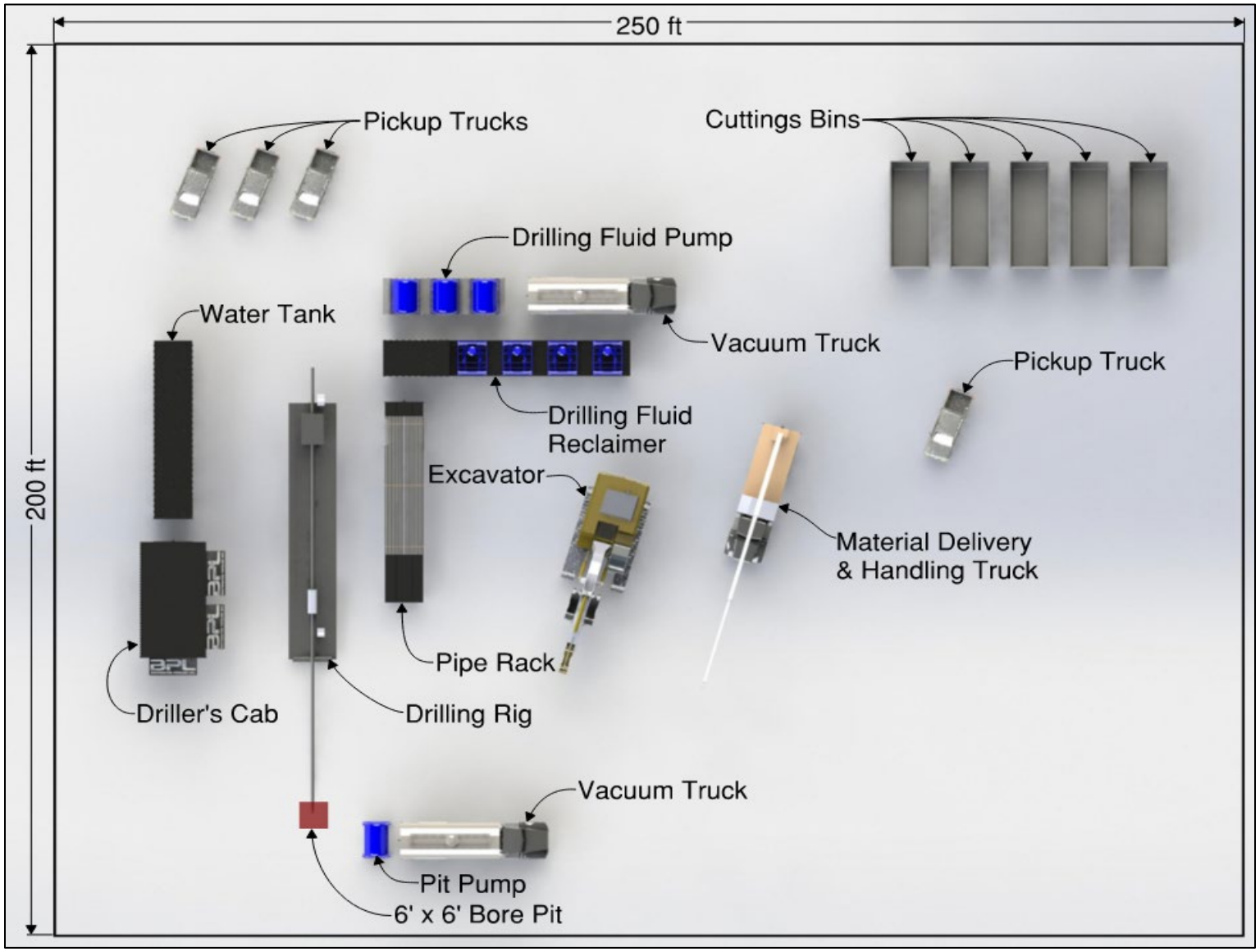


Figure 2-6. Conceptual HDD Worksite Layout: East Work Area



Phase 1 equipment requirements are estimated below in Table 2-1. Phase 1 materials pickups and deliveries are estimated separately in Table 2-2. Estimated Phase 1 personnel requirements are listed in Table 2-3.

Table 2-1. Estimated Phase 1 Equipment Requirements

Equipment Type	Quantity	Horsepower	Operating Hours per Day	Days
Light-Duty Truck (Crew)	6	200	2	60
Light Plant	4	15	6	60
Generator (40 kilowatt [kW])	2	60	10	45
Air Compressor (185 cfm)	2	50	2	45
Water Pump	1	20	2	45
Concrete Pump	1	250	2	2
Welding Machine	1	20	8	18
Hydroexcavator	1	300	6	2
Excavator	2	310	8	6
Wheeled Loader	2	240	8	6
Dozer	1	310	8	5
Drilling Rig	1	700	10	45
Mud Pump	2	600	10	45
Side-Boom Pipelayer	2	260	10	2

Table 2-2. Phase 1 Pickup and Delivery Estimates

Item	Trips	One-Way Miles per Trip
Pipe Delivery	1	60
Heavy Equipment Mobilization/ Demobilization	15	60
Water Deliveries / Disposal	10	20
Fill Import/Export	6	30
Solid Waste Disposal	6	140
Vacuum Trucks	6	30
Concrete Truck	2	40

Table 2-3. Estimated Phase 1 Personnel Requirements

Task	Quantity	Hours per Day	Days
Site support/Project Manager	3	10	60
Pipe/material procurement	2	10	5
Excavation	4	10	5
Pipeline string welding	4	10	15
Pipeline installation	8	10	5
HDD operation	8	10	45
Pipeline string pull-back	15	12	1
Strength test and caliper pigging	4	10	3
Backfill/site restoration	6	10	5

2.1.2.1 Bore Pit Excavation and Site Preparation

The HDD process would begin with excavating the two bore pits used to support initial drilling operations, including drilling fluid recovery. A bore pit approximately 6-feet wide, 6-feet long, and 4-feet deep would be excavated at the East Work Area HDD entry point along Alameda Street between Meridian Road and 3rd Street. A second bore pit approximately 6-feet wide, 6-feet long, and 4-feet deep would also be excavated at the West Work Area HDD exit point. Soils excavated from the pits would be either be stockpiled onsite for later backfill or transported to an offsite disposal facility.

Table 2-7 provides a summary of excavation footprints that would occur within the two work areas associated with the Phase 1 Activities. See Appendix C, *Project Plans* for additional detail.

2.1.2.2 Pilot Borehole Drilling

At the East Work Area, the drill rig would be positioned along the selected HDD alignment. The drill head and steering probe would be drilled into the soil at the bottom of the East entry pit. The borehole would be drilled approximately 50 feet deep beneath the Sacramento River bottom. The actual path of the pilot borehole would be monitored during drilling by taking periodic readings of the inclination and azimuth of the leading edge using a tracking system to calculate the horizontal and vertical coordinates relative to the initial entry point on the surface. Above-ground guide wires may be placed in terrestrial areas along the bore alignment to assist with positioning and steering the drill heads.

Water and drilling fluid additives, such as bentonite clay, would be mixed together and added to the circulating drilling fluid as the drill string advances and increases the volume of the borehole, which must remain filled with drilling fluid to maintain stability.

Approximately 10,000 gallons of freshwater would be required to produce the necessary drilling fluids and about 2,000 gallons would be required for hydrostatic pipeline testing. Fresh water (typically water suitable for agricultural use or potable water, depending on availability) would be trucked from an offsite source and stored in a portable water tank at the drill site. Drilling fluid must be constantly circulated in a loop during the drilling process. Starting at the drill head, the pressurized drilling fluid inside the drill string would exit through nozzles in the drill head and sweep cuttings (solids such as gravel, sand, and silt dislodged by the drill head) away from the drill head. The cuttings-laden drilling fluid would then flow back through the borehole to the bore pit. A pit pump would move the cuttings-laden drilling fluid from the bore pit to the reclaimer. The reclaimer separates the cuttings from the drilling fluid using screens and hydrocyclones, which are metal cones that use circular motion (centripetal force) to separate solids (drill cuttings) from the drilling fluid. Cuttings would be temporarily stored in cutting bins prior to being trucked offsite for disposal. Reclaimed drilling fluid would then be pumped back into the drill string to return to the drill head and start the cycle over again. Figure 2-7 shows an example photograph of an HDD drilling rig and bore pit, which was taken during a previous unrelated project. The pilot bore would proceed from east to west until it nears the surface in the West Work Area, where it would surface in the bore exit pit to complete the borehole.

To minimize the potential for inadvertent drilling fluid releases (unplanned movement of drilling fluid outside the pilot borehole), the annular pressure (i.e., pressure in the borehole during drilling) would be monitored and continuously recorded during drilling of the pilot borehole using an electronic sensor package and compared to a calculated expected annular pressure to maintain pressures that do not exceed the predetermined maximum annular pressure.

2.1.2.3 Reaming and Swabbing

After the drilling of the pilot borehole has been completed, the pilot borehole would be either reamed or swabbed to confirm the boring diameter to the desired size. The pipeline to be installed is relatively small (4-inch-diameter); therefore, the pilot borehole would likely be large enough to pull the replacement pipeline through without reaming. However, a reamer may be passed through the bore hole to ensure all drilling cuttings have been removed and that the bore is a consistent diameter. This process of passing a reamer through the borehole without widening the bore is typically called swabbing.

Figure 2-7. Photograph of an Example Drilling Rig and Bore Pit from a Previous Project

Reaming tools would include drilling fluid jets. Drilling fluid composed of non-toxic compounds, such as bentonite, would be used to help ream the pilot borehole. The pressurized drilling fluid serves three purposes: to cool the cutting tools, support the reamed borehole, and lubricate the trailing drill pipe. The drilling fluid returns coming back to the drill rig side would be pumped to the reclaimer and re-circulated.

2.1.2.4 Pipeline String Assembly and Testing

The 1,200-foot-long pipeline string would be assembled from individual 40-foot-long steel pipes (delivered by flatbed truck) and laid out on rollers in the Pipe Staging Area. Pipe segments would arrive with a fusion-bonded epoxy pipeline coating and abrasion resistant coating already applied at the factory. If needed, the rollers would be leveled through minor terrestrial excavation or by placement onto shims. The pipe segments would be welded together, and liquid epoxy coatings would be applied over the welded areas. Both the welds and coatings would be inspected as required by federal regulations and PG&E's standards. The welded pipe string would be hydrostatically tested by filling the completed replacement pipeline with water, pressurizing the water, and monitoring for pressure changes. The purpose of this preliminary hydrostatic test is to identify any issues when repairs are easier to perform prior to pulling the replacement pipeline into the bore hole. However, final hydrostatic testing would be conducted after

the pipeline replacement tie-in (see Section 2.1.3). Water used for preliminary hydrostatic testing would be stored on-site and re-used for the final test.

2.1.2.5 Pipeline Pullback and Annulus Grouting

After reaming operations and preliminary hydrostatic testing are completed, the welded pipe string (pull section) would be pulled into the open West Work Area borehole using the drill rig located in the East Work Area. The pullback process is similar to the reaming phase except that the pull section would be connected to a reamer, thus minimizing forces on the pull section of pipe. This reamer would then be used to pull the pipeline string back through the borehole to the east side of the Sacramento River crossing. The pull section would be supported by positioned pipeline rollers along the pipeline string in the West Work Area as it is pulled into the borehole. Side boom pipelayers with cradles would also support the pipeline entering the borehole. The lead side boom pipelayer would be used to align the pipe pullback string to the borehole. Figure 2-8 shows an artist's conception of pipeline being guided into the borehole during pullback.

After the pipeline pullback, a small diameter pipe or tube would be inserted into the annulus, and a cement slurry plug would be pumped into the annulus to secure the pipeline within the borehole.

2.1.3 Pipeline Tie-In

Trenches would be excavated from the ends of the HDD installed pipeline segment to tie-in (connect) the replacement pipeline to the existing terrestrial pipeline system. The western tie-in involves approximately 20 feet of open trench pipeline installation, and the eastern tie-in involves approximately 230 feet of open trench pipeline installation. Pipeline tie-in would require a small temporary excavation to expose the existing pipeline and provide space for welding and installation. If necessary, groundwater from the excavation would be dewatered into temporary tanks to create dry conditions for work in the excavation. Excess groundwater from the excavation would be discharged or disposed of at an approved location (see Section 2.1.8). Table 2-7 includes these excavations as part of each work area's footprint. Excavations would be stabilized as required by California's Occupational Safety and Health Administration (Cal/OSHA) regulations, which may include sloping, use of shoring, or trench shields.

Sections of pipe and fittings, such as bends (angled sections of pipe), would be lowered into trenches, welded, and coated similar to the process described in Section 2.1.2.4.

Figure 2-8. Photograph of Side-booms Supporting the Pipeline During Pullback[5]

[5] Pipeline diameter represented in photo is larger than proposed Project pipeline diameter

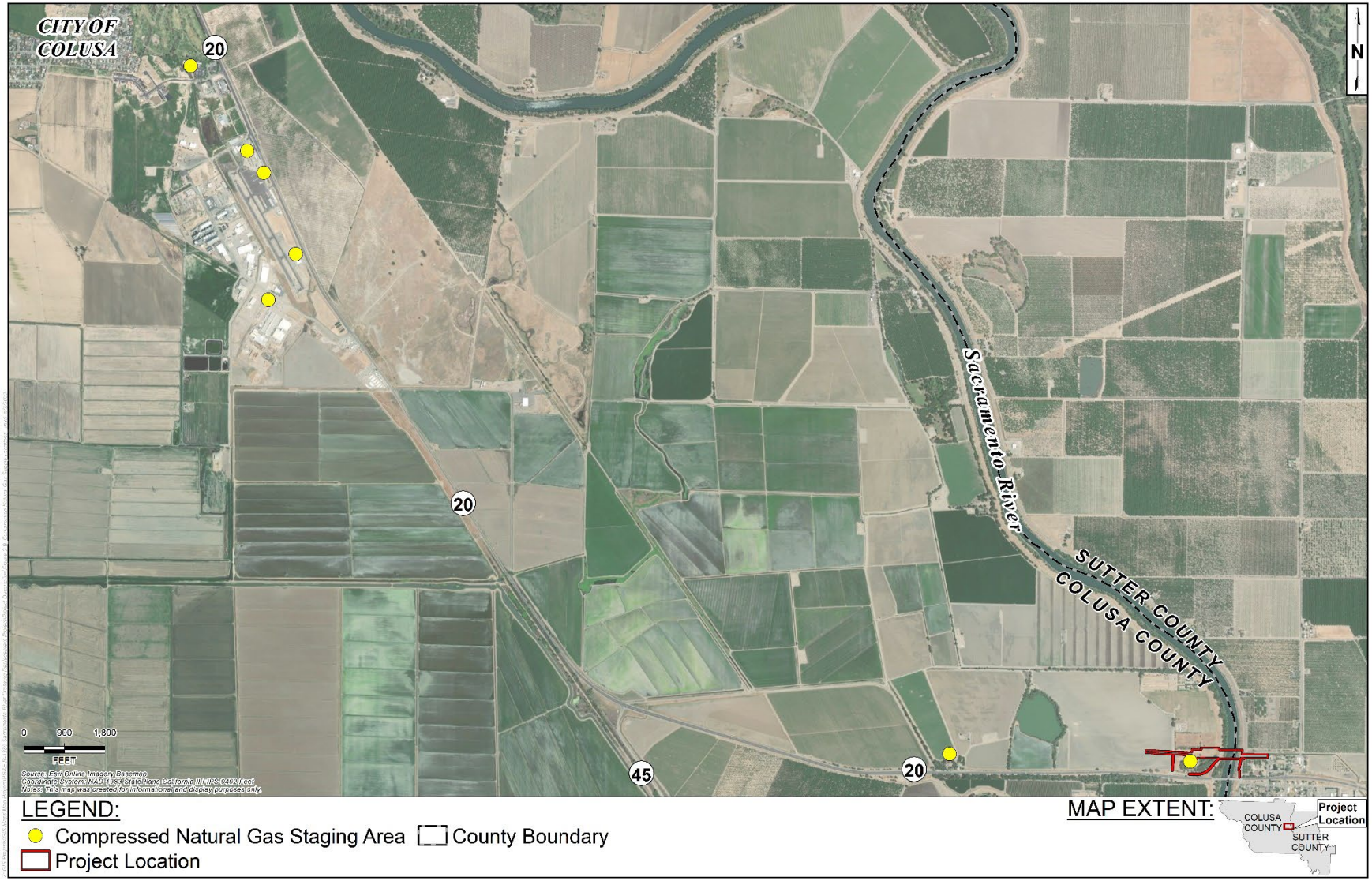
Prior to clearing the pipeline in preparation for the tie-ins, compressed natural gas (CNG) would be delivered to temporarily provide PG&E customers with natural gas service while service is disconnected from the pipeline network for the duration of the pipeline clearance (Figure 2-9). CNG equipment will be delivered to each location and placed in a designated staging area adjacent to existing above ground pipeline injection points all within developed footprints that include paved parking lots, an existing valve station and adjacent unpaved area, and an unpaved road and agricultural staging area. No excavation is necessary for delivery of CNG. If needed, temporary construction mats may be placed under the CNG equipment and temporary security fencing may be installed around CNG locations.

To begin the tie-in work, natural gas would be purged from the existing pipeline with nitrogen or other inert gas. Then the existing pipeline would be cut at the tie-in locations and short sections of the existing pipeline would be removed to provide space for the new pipeline to be connected. Segments of the existing pipeline that are planned for decommissioning would be capped on each end and left deactivated prior to being decommissioned.

Once the replacement pipeline and associated trench-installed pipeline are installed, with the exception of the final joint to connect to the existing pipeline, the replacement pipeline would be filled with water and hydrotested in accordance with federal, state, and PG&E standards. The hydrotest pressure would be at least 1.5 times the pipeline Maximum Allowable Operating Pressure and the test duration would be at least 8 hours. If the pressure within the pipeline section being tested falls below the minimum test pressure during the hydrotest, or if there are visible signs of leakage, the test would be considered failed, and repairs would be made prior to performing another hydrotest. Once a successful hydrotest is complete, the water would be removed from the pipeline and disposed of at an approved location (see Section 2.1.8). The final pipe joints would then be cut to the appropriate length and welded between the existing and new pipeline segments to complete the tie-in. The final tie-in girth welds would be coated with a liquid epoxy coating. At this point, gas would be reintroduced into the pipeline and the pipeline would be put into operation.

The odor conditioning and monitoring process consists of monitoring the levels of odorant in the pipeline at both tie-in locations and injecting additional odorant as required to maintain the appropriate level of odorization. Newly installed pipelines must be conditioned following their installation to ensure natural gas can be detected if there is a leak. Odor fade occurs when there is loss of the added odorant in natural gas pipelines to such a level that the gas becomes undetectable. To protect against potential odor fade, the natural gas odor conditioning and monitoring process would be implemented as a safety measure.

Figure 2-9. Compressed Natural Gas Staging Locations



The replacement pipeline would be odorized by dynamic conditioning, while the pipeline is in operation, within the footprint of the West Work Area and East Work Area. Each end of the replacement pipeline would have an injection and gas source connection to the existing pipeline system, along with a clamp-on ultrasonic meter. Odor conditioning and monitoring would occur until odor fade no longer occurs within the replacement pipeline. The duration of the conditioning and monitoring is typically about 2 weeks, but it could be substantially longer, as it is deemed complete based on the results of the monitoring, not a predetermined time. Temporary equipment to perform odorant measurement and injection would remain within the West Work Area and East Work Area at the tie-in locations for the duration of the process, which would require an area approximately 6-feet wide by 6-feet long.

2.1.4 Pipeline Removal Beneath Meridian Road

While existing pipeline removal would be typically addressed during Phase 2 of this Project, a section of the existing pipeline would be removed from beneath Meridian Road and replaced during Phase 1 as part of tie-in activities (refer to Section 2.2.1.5). Segment 5 of the existing pipeline would be removed during Phase 1, rather than Phase 2, to limit the street and traffic impacts to a single event. An approximately 40-foot-long section of existing pipeline would be removed using traditional trenching methods from the tie-in location to the edge of the pavement at the toe of the eastern levee.

2.1.5 Pipeline Markers and River Safety Crossing Signs

Pipeline markers consisting of a fiberglass stake labeled to indicate the presence of a natural gas pipeline and PG&E's emergency contact information would be installed along the replacement pipeline alignment at regular intervals so that at least one marker is visible from anywhere along the terrestrial, trench-installed pipeline alignment. See Project Plans (Appendix C), for detail.

The existing pipeline crossing signs would remain in place during Phase 1 of the Project. See Section 2.2.2.5 for a description of the replacement of pipeline crossing signs.

2.1.6 Site Restoration

Final site restoration to pre-Project conditions would be performed once pipeline Phase 2 decommissioning activities are complete, but Phase 1 site restoration tasks that do not overlap with the Phase 2 work areas would be performed prior to or in parallel with decommissioning. All site restoration would be completed in accordance with provisions established in conjunction with approval of pending temporary construction easements. All Phase 1 materials, equipment and debris would be removed from the Project area and all work sites would be restored to pre-Project conditions.

Phase 1 excavations that occur in paved areas, such as the East Work Area, would be backfilled with flowable fill, which does not require compaction, and the pavement and striping would be repaired to the pre-Project condition.

Phase 1 excavations within the agricultural field in the West Work Area would be backfilled with native soils that were stockpiled from the initial excavations. Fill may also be imported as needed for backfilling in addition to the native soils. The excavations would be compacted to match the surrounding undisturbed areas and contours restored to the pre-Project conditions.

2.1.7 Water and Waste Disposal Requirements

Approximately 10,000 gallons of freshwater would be required to produce the necessary drilling fluids and about 2,000 gallons would be required for hydrostatic pipeline testing. This water would be supplied and trucked from a local residential or agricultural well, if an agreement can be reached with a local landowner. Alternatively, water could be trucked to the site from an off-site source (likely within 20 miles of the Project area).

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 100 miles of the Project area.

The water collected from the hydrostatic testing operations would be stored in temporary tanks. Water recovered from terrestrial excavations, if necessary, would be stored in temporary tanks and separate from the hydrostatic test water. All water stored in temporary tanks 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 offsite wastewater treatment facility, or a combination thereof (on-site pre-treatment, then transportation). It is assumed hydrostatic test water or groundwater would be trucked to a wastewater treatment facility within 20 miles of the Project area for disposal, if required. If it is determined that on-site water could be treated and discharged on-site, 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 or groundwater. Discharge to land may be authorized under statewide 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 or excavation groundwater would be stored on-site until permit authorization is obtained.

Sections of pipe removed at the tie-in locations would be loaded onto trucks and transported to an approved recycling or disposal facility.

2.2 PHASE 2 (PIPELINE DECOMMISSIONING)

2.2.1 Pipeline Segments Descriptions, Activities, and Final Dispositions

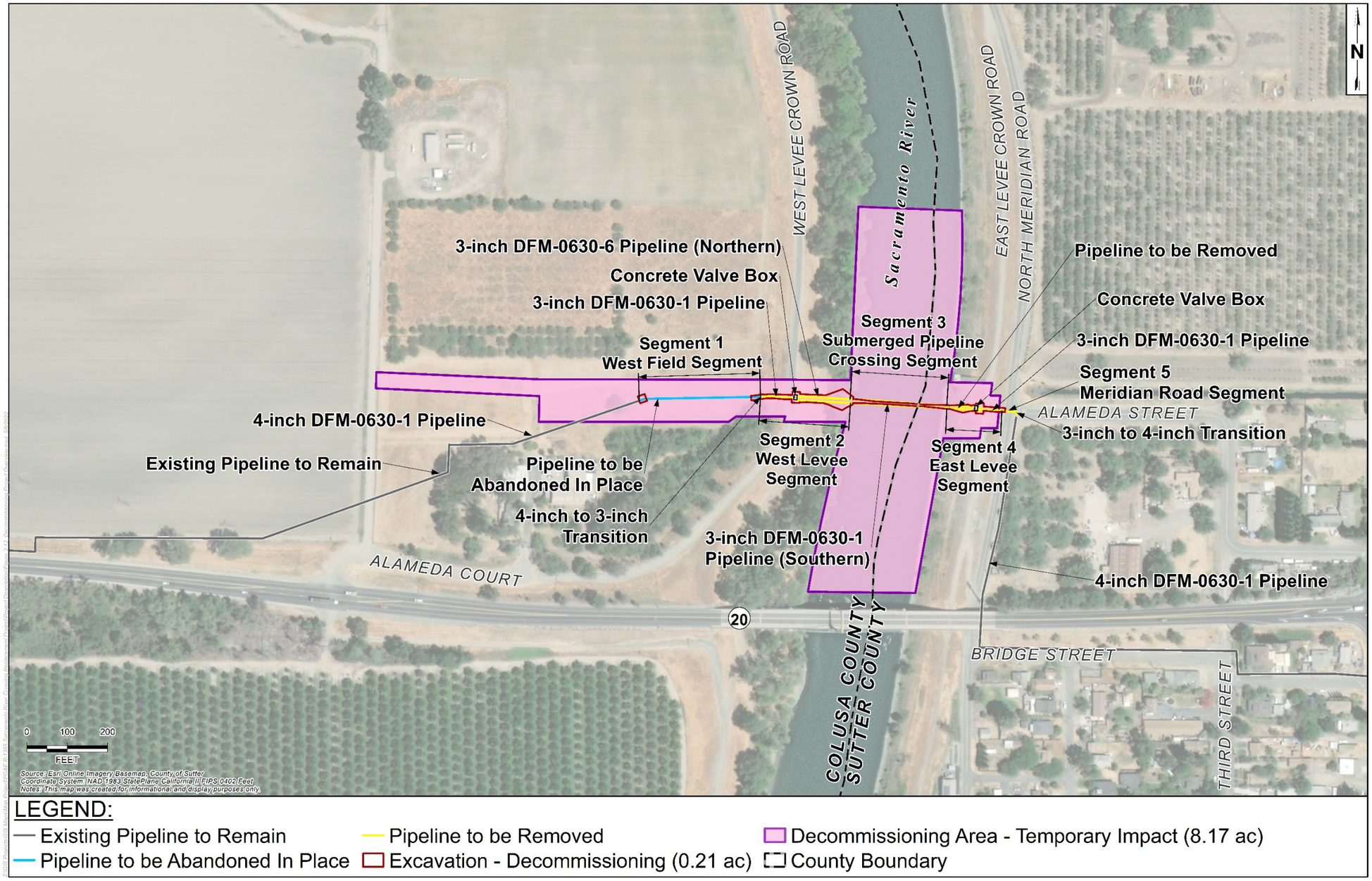
Once the replacement pipeline has been installed and connected to the existing pipeline system, decommissioning of the existing DFM-0630 pipelines would occur. Within the Project area, the existing DFM-0630 consists of a single 4-inch-diameter pipeline that tees into two 3-inch-diameter pipelines within a valve box on the western levee of the Sacramento River. DFM-0630 runs in two parallel pipelines underneath the Sacramento River and then merges back into a single 3-inch-diameter pipeline within a valve box on the eastern levee. Figure 2-10 illustrates the pipelines' configuration and an overview of the Phase 2 pipeline segments. Decommissioning would begin by pigging and flushing the existing pipelines to remove any potential contaminants. Specific pipeline segments would then be capped and abandoned in place, and other segments would be removed as described below.

All Phase 2 construction activities in surface water or on the banks of the Sacramento River will be conducted within the agency approved aquatic work windows for avoidance of special-status fish species (June 1 to October 31). This coincides with the timeframe when the aquatic work area is least likely to support special-status fish species based seasonal migration and spawning.

For planning purposes, Phase 2 is addressed in five segments that correspond with both the proposed final dispositions and the methods required to achieve those dispositions. The segments are numbered sequentially from the western end to the eastern end of the decommissioned pipeline, and would have the following final dispositions (See Project Plans (Appendix C), for additional details):

- Segment 1 – West Field Segment. 265 feet of 4-inch-diameter pipeline purged of natural gas, capped on both ends, and abandoned in place (see Section 2.2.1.1).
- Segment 2 – West Levee Segment. 34 feet of 4-inch-diameter pipeline, 82 feet of 3-inch-diameter pipeline west of valve box, and 140 feet of two, 3-inch-diameter pipelines east of valve box (362 feet of 3-inch-diameter total pipeline) removed in their entirety. Concrete valve box removed, and pipeline crossing sign replaced (see Section 2.2.1.2).
- Segment 3 – Submerged Pipeline Crossing Segment. 240 feet of two, 3-inch-diameter pipelines removed in their entirety (480 feet of total pipeline removal) (see Section 2.2.1.3).
- Segment 4 – East Levee Segment. 73 feet of two, 3-inch-diameter pipelines west of valve box, and 65 feet of 3-inch-diameter pipeline east of valve box removed in their entirety (211 feet of total pipeline removal). Concrete valve box removed, and pipeline crossing sign replaced (see Section 2.2.1.4).

Figure 2-10. Phase 2 Project Overview



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- Segment 5 – Meridian Road Segment. 25 feet of 3-inch-diameter pipeline and 15 feet of 4-inch-diameter pipeline to be removed in their entirety (40 feet of total pipeline removal) (see Section 2.2.1.5).

2.2.1.1 Segment 1 – West Field Segment

Segment 1 would consist of the 4-inch-diameter pipeline beginning where the existing pipeline was cut and capped during Phase 1 adjacent to the west tie-in location in the West Field Segment and continuing east approximately 265 feet to a point 20 feet away from the landside toe of the western levee. Segment 1 is buried approximately 5 to 6 feet deep. Segment 1 would be purged of natural gas, filled with cement slurry, capped on both ends, and abandoned in place. Figure 2-11 shows the Segment 1 alignment just west of the western levee.

Figure 2-11. Photograph of the Segment 1 Pipeline Alignment through the West Field Segment

2.2.1.2 Segment 2 – West Levee Segment

Segment 2 begins where Segment 1 ends, approximately 20 feet west of the landside toe of the western levee. It continues east approximately 255 feet up the landside slope, across the levee crown, and down the waterside slope to the Sacramento River waterline. Segment 2 is buried approximately 3 to 15 feet deep. A photograph of Segment 2 is shown in Figure 2-12.

There is a concrete valve box located near the top of the western levee crown. West of the valve box is a single 4-inch-diameter pipeline. The pipeline splits into two within the valve box, and east of the valve box there are two, 3-inch-diameter pipelines. A pipeline crossing sign is also located adjacent to the concrete valve box. There is also riprap located along the shoreline over the existing pipeline alignments (Figure 2-13).

The valve box, the 4-inch-diameter pipeline, and both 3-inch-diameter pipelines would be removed within Segment 2. The riprap would be removed during excavation of the pipeline but would be subsequently replaced in-kind along the shoreline in accordance with the request of the local Reclamation District. The pipeline crossing sign would be replaced with a new sign.

Figure 2-12. Photograph of the Segment 2 Pipeline Alignment on the Waterside Slope of Western Levee

2.2.1.3 Segment 3 – Submerged Pipeline Crossing Segment

Segment 3 begins at the Sacramento River's west levee waterside slope and continues east beneath the river approximately 240 feet to the waterline on the waterside slope of the levee on the east side of the river. This segment includes both 3-inch-diameter pipelines described in Section 2.2.1.2. Segment 3 is buried approximately 1 to 4 feet deep beneath the riverbed. Segment 3 would be removed in its entirety. A photograph of the Segment 3 alignment is shown in Figure 2-13.

Figure 2-13. Photograph of the Segment 3 Pipeline Alignment Across the Sacramento River Taken from East Side of Sacramento River

2.2.1.4 Segment 4 – East Levee Segment

Segment 4 begins at the waterline on the waterside slope of the east levee. It continues approximately 140 feet across the levee crown and down to the landside slope of the levee, terminating at the edge of pavement of Meridian Road. Segment 4 is buried approximately 0 to 5 feet deep.

There is a concrete valve box located near the levee crown. West of the valve box (on the waterside slope of the levee) are the two, previously described 3-inch-diameter

pipelines. The pipeline merges from two pipelines down to one within the valve box. East of the valve box (down the landside slope of the levee) there is a single 3-inch-diameter pipeline. A pipeline crossing sign is also located adjacent to the valve box. There is grouted riprap located along the pipeline alignment near the shoreline. A photograph of the Segment 4 alignment is shown as Figure 2-14.

The valve box and all 3-inch-diameter pipelines within Segment 4 would be removed in their entirety. The riprap would be removed during excavation of the pipeline but will be subsequently replaced in-kind along the shoreline in accordance with the request of the local Reclamation District. The pipeline crossing sign would be replaced with a new sign.

Figure 2-14. Photograph of Segment 4 Pipeline Alignment through East Levee Taken from West Side of Sacramento River

2.2.1.5 Segment 5 – Meridian Road Segment

Segment 5 begins at the edge of Meridian Road and is approximately 40 feet long. Segment 5 ends adjacent to the east tie-in location. Segment 5 would be removed in its entirety following the Phase I installation and tie-in in the East Work Area; therefore,

eliminating the need to re-excavate the street during decommissioning work. Details discussing the removal of this segment are found in Section 2.2.2. A photograph of Segment 5 is shown in Figure 2-15.

Figure 2-15. Photograph of Segment 5 Pipeline Alignment along Meridian Road

Tables 2-4, 2-5, and 2-6 list equipment, vehicle trip, and personnel requirements for the Phase 2 decommissioning activities.

Table 2-4. Estimated Phase 2 Equipment Requirements

Equipment Type	Quantity	Horsepower	Operating Hours Per Day	Days
Light-Duty Truck (Crew)	6	200	2	60
Light Plant	2	15	4	60
Air Compressor (185 cfm)	2	50	2	30
Water Pump	1	20	2	4
Welding Machine	1	20	3	2
Hydroexcavator	1	300	6	2

Equipment Type	Quantity	Horsepower	Operating Hours Per Day	Days
Excavator	2	310	8	20
Wheeled Loader	2	240	8	20
Dozer	1	310	8	10
Concrete Pump	1	250	2	2
Survey Vessel	1	270	10	2
Onshore Crane	1	500	10	2
Barge Crane	1	330	12	15
Barge Generator	1	100	12	15
Barge Outboard Engines	2	250	2	4
Support Vessel Mains	1	500	2	15
Support Vessel Generator	1	75	12	15
Diving Air Compressor	1	50	12	15
Toyo Pump Generator	1	400	4	4

Table 2-5. Phase 2 Pickup and Delivery Estimates

Item	Trips	One-Way Miles per Trip
Portable Tank Deliveries/Return	2	60
Heavy Equipment Mobilization/ Demobilization	10	60
Water Deliveries / Disposal	8	20
Concrete Deliveries	2	40
Solid Waste Disposal	6	140
Vacuum Trucks	6	40
River Spread Mobilization/ Demobilization	8	50

Table 2-6. Estimated Phase 2 Personnel Requirements

Task	Quantity	Hours/ Day	Days
Site Support/Project Manager	3	10	60
Pigging and Flushing	3	10	5
Excavation	6	10	15
Backfill/Site Restoration	6	10	5
River Decommissioning	12	12	15
Survey	2	10	2

2.2.2 Decommissioning Methods

Decommissioning processes and removal methods for each affected segment of the existing pipeline are discussed below. Table 2-8 outlines the excavation footprints associated with the decommissioning activities (Figure 2-10). See Appendix C, *Project Plans* for additional detail.

2.2.2.1 Pre-Project Surveys and Notifications

A pre-Project bathymetric and surficial features debris survey of the entire underwater worksite would be performed prior to starting in-water decommissioning activities. This debris survey would serve as the baseline survey to be used in comparison to a post-construction debris survey (Section 2.2.2.7).

Anticipated notifications include pre-excavation 811 (DigAlert) and the U.S. Coast Guard Local Notice to Mariners. Other notifications to the U.S. Coast Guard would be performed as required by the Project's U.S. Coast Guard Vessel Traffic Plan.

2.2.2.2 Pipeline Pigging and Flushing

Prior to the start of decommissioning activities, Segments 1 through 5 of the pipelines would be pigged and flushed to remove any remaining contaminants. In preparation for this activity, the two capped pipeline segment ends in the West Work Area and East Work Area that were used to fill the pipeline with inert gas during HDD pipeline replacement activities would be re-opened to verify that no flammable gas exists inside the segments. The steel plates would be cut off the ends and flanges would be installed to connect the pig launchers and receivers.

Pigging and flushing would be performed for four individual pipeline sections because the pipelines are split into two separate crossings within the valve boxes. Segment 1 and 2 would be flushed from the west tie-in location to the western concrete valve box. The northern and southern pipelines of Segment 3 would each be pigged and flushed from valve box to valve box. The valves within the valve boxes would be removed and risers (short vertical sections of pipe with elbows and flanges that connect to pig launchers and receivers) would be connected to existing flanges. Segments 4 and 5 would be flushed from the eastern concrete valve box to the east tie-in location.

To facilitate pigging and flushing, each of the four sections would require a water truck, temporary tanks, pump, an empty vacuum truck, and temporary hoses and fittings that would connect to the pig launchers and receivers. In the interest of time and minimizing equipment requirements, sections of pipe would be pigged and flushed consecutively at points where the pipeline is excavated and cut to attach pig launchers. Pigs would be inserted into the pig launchers and pushed through the pipeline by water pumped into

the launcher and pipeline behind the pigs. When pigs reach the receiver, the pump would be shut off and a sample of water remaining in the pipeline would be obtained for measuring the level of total petroleum hydrocarbon (TPH) within the pipeline. The water sample would be sent to a State-certified testing laboratory. The existing pipeline segments would then be pigged until the flush water is found to have a TPH content of less than 15 parts per million (ppm).

The volume of water required to push the pigs all the way through the pipeline for one run is approximately 500 gallons. Approximately 5,000 gallons of freshwater would be required for pigging and flushing the five segments of pipeline. This water would be supplied and trucked from a local well, if possible, or a municipal water connection such as a fire hydrant with a temporary water meter installed on it. 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.

A temporary storage tank will be set up in the West Work Area to store wastewater generated during pigging and flushing. Wastewater may be treated on-site and discharged to land within the agricultural field. If wastewater cannot be treated and discharged within the Project area, wastewater will be trucked to a wastewater treatment facility within 20 miles of the Project area for disposal. Figure 2-16 is a photograph of a pig receiver and associated equipment from a previous project.

2.2.2.3 Terrestrial Pipeline and Valve Box Removal

Prior to terrestrial pipeline excavation, 0.05 acres of vegetation removal would be required to facilitate equipment access on the west levee waterside slope to remove Segment 2. Vegetation removal is not required to remove the other terrestrial pipeline segments. Conventional terrestrial excavation equipment (Table 2-4) would be used for terrestrial pipeline removal in Segments 2, 4 and 5 (Table 2-5). Pipe exposure, cutting and extraction with the use of a hydraulic shear mounted on an excavator, and backfilling and compaction using excavation spoils. The excavation equipment would then load the removed and cut pipe sections onto trucks for disposal. All excavation methods and slopes within the levees would be in compliance with agency permit requirements.

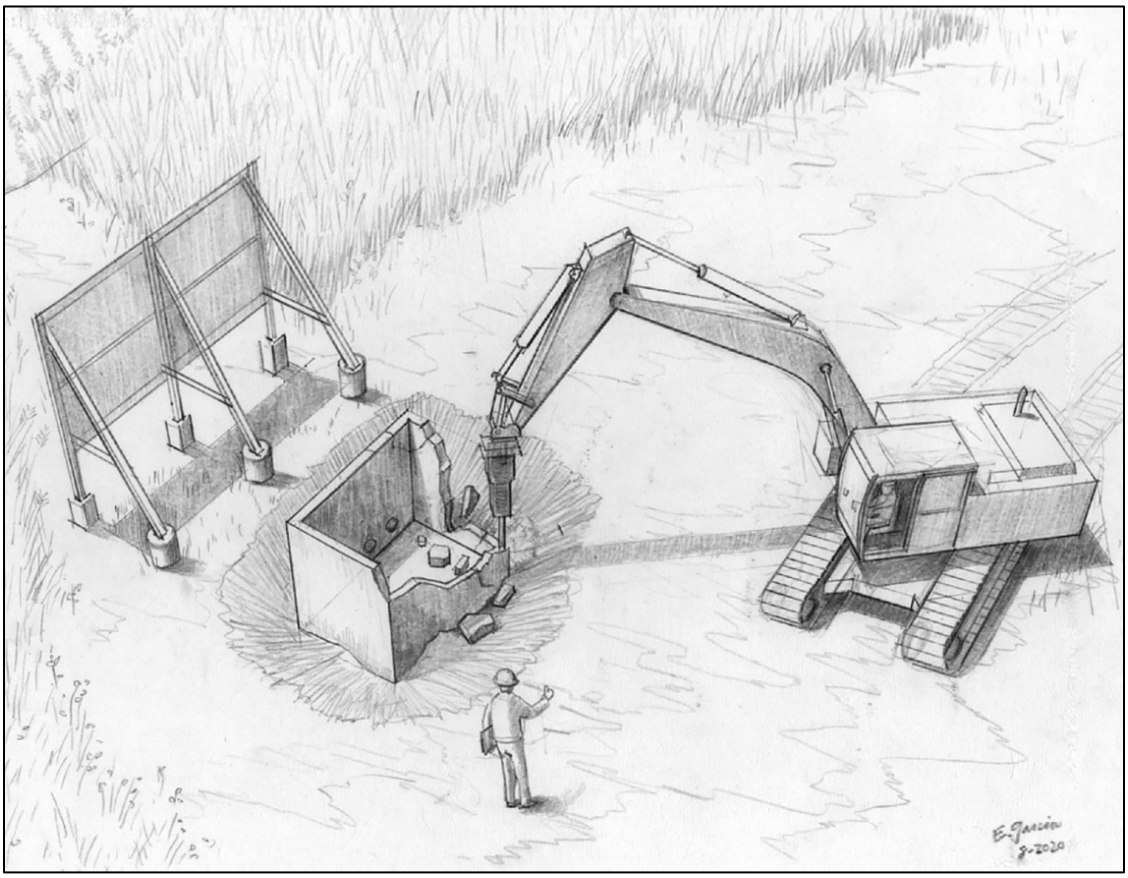
Figure 2-16. Photograph of a Sample Pig Receiver and Associated Equipment

Concrete valve boxes would be demolished using an excavator-mounted hydraulic concrete breaker. The excavator would then remove the concrete debris from the pit with a bucket. Concrete debris would be transported offsite to an approved disposal facility. Figure 2-17 is an artist's depiction of a concrete valve box demolition.

2.2.2.4 Submerged Pipeline Removal

A sectional barge would be mobilized to the worksite to support the submerged pipeline removal operations. A sectional barge is a portable barge that is smaller than a traditional barge and the sections of the barge can be transported on a truck. The barge sections, equipment, and support vessels would be trucked to a boat launch facility located upstream or downstream of the Project area where the barge would be assembled and launched with the assistance of a crane. The sectional barge would be equipped with a crane, outboard engines, shallow air diving spread, underwater excavation equipment, and spuds (movable steel piles attached to the barge which are lowered into the riverbed to anchor the barge in place). A supporting tow vessel would accompany the sectional barge to assist in maneuvering the barge and to serve as a crew transportation vessel. An inflatable skiff may also be used to support operations and crew transport.

Figure 2-17. Artist's Depiction of Concrete Valve Box Demolition



The barge crane would remove the pipeline from the Sacramento River by connecting to the end of the buried pipeline and lifting it vertically out of the riverbed to facilitate removal without excavation. Based on the small pipeline diameter and shallow depth of burial (0 to 4 feet), underwater excavation is not anticipated. If unanticipated conditions arise and underwater excavation is required, it would be limited to the segments of pipeline where the depth of burial or the nature of the river bottom prevents removal by vertical lifting. If excavation is required, it would be precision excavation performed using a submersible dredging pump (Toyo pump), narrowly following the buried pipeline alignment, and would be no deeper than necessary to remove enough excess burden from over the pipeline to facilitate continued removal by vertical lifting. Divers may also use hand jetting (use of a hand-held water jet to remove sediment) for underwater excavation, if necessary; however, the Toyo pump would be the primary method for underwater excavation.

The Toyo pump would be deployed using the barge crane, with the pump's inlet at the bottom. The Toyo pump would pull both sediment and water into the pump inlet, which mix and form a slurry. Hoses connected to the Toyo pump outlet would transport the

slurry away from the excavation where the slurry is released back into the water column and the sediment settles back to the bottom, also known as side-casting.

A Turbidity Monitoring Plan would be developed prior to Project execution to confirm that increases in turbidity due to the underwater excavation remain within the limits set by the permit conditions. It would be implemented during all in-water work to ensure that turbidity levels upstream and downstream of the Project area are compliant with regulatory requirements. Turbidity curtains, if determined to be necessary and feasible by a qualified environmental monitor, shall be installed around the in-water work area prior to continued work in surface waters.

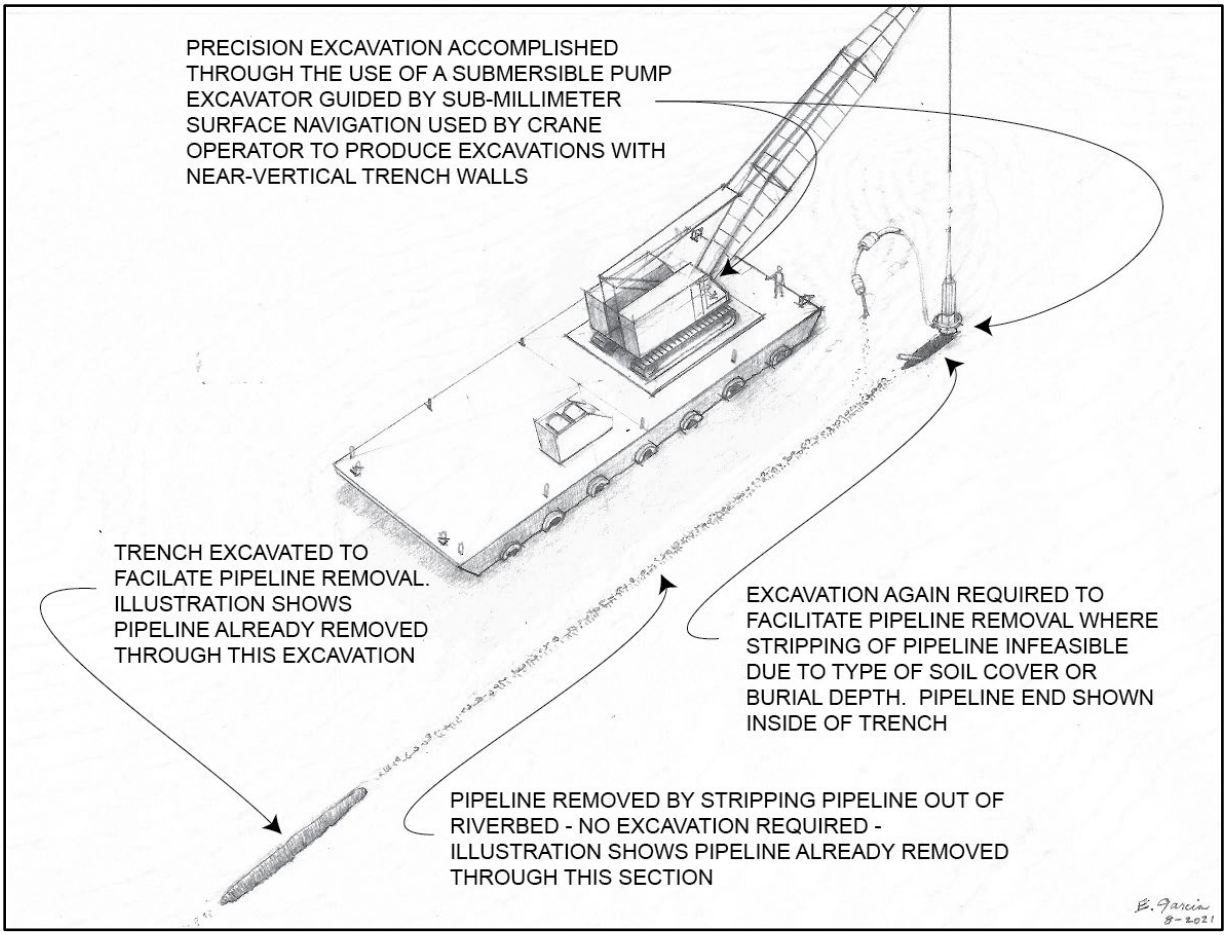
The barge would be equipped with state-of-the-art navigation equipment allowing the crane to position the Toyo pump precisely over the pipeline's center and be slowly lowered down onto the pipe. The pump would remove sediment as it is lowered, forming a vertical hole approximately 5 feet in diameter. Once the Toyo pump inlet reaches the intended depth it is pulled back up above the riverbed, moved along the pipeline alignment to the next location, and lowered again to repeat the process. This process would create a narrow trench with shear vertical walls. Once finished, the Toyo pump would be retrieved to the barge deck and the barge crane would resume lifting the pipeline up to the barge and cutting it into sections.

The underwater excavation area shown in Project Plans (Appendix C) shows the most conservative case (the largest area possible or the longest alignment possible) of potential excavation required above the pipeline alignment across the entire river. The actual area that would need to be excavated would be a smaller portion (shorter than the full alignment) but the actual in-water excavation area cannot be determined until as-found conditions are determined in the field. Figure 2-18 shows a sectional barge removing a pipeline for a pipeline decommissioning project in the Sacramento-San Joaquin River Delta, and Figure 2-19 is an artist's conception of a Toyo pump being used to perform underwater excavation.

Figure 2-18. Photograph of a Sectional Barge with Mounted Crane

Depending on site conditions, a winch may be used to remove the submerged pipelines instead of the barge. If a winch is used to remove the portions of the submerged pipelines instead of the sectional barge, the winch would be trucked to the Project area and a crane would unload the winch from the trailer and place it on the crown or waterside slope of one of the two levees. The terrestrial pipeline segments within the levees would be removed prior to mobilizing the winch. An excavator or other heavy equipment already onsite would be attached to the winch as an anchor. The wire rope on the winch would be connected to the submerged pipeline section near the waterline, in the existing terrestrial pipeline excavation. After the pipeline had been cut on the opposite side of the river, the winch would begin to pull the pipeline towards it. When the end of the pipeline is pulled close to the winch, the winch would stop, the pipeline would be disconnected from the winch, and the pipeline, which has been pulled onto the levee waterside slope, would be cut into sections and loaded onto a truck for disposal by an excavator with a hydraulic grapple. Loaded sections of pipeline would be hauled offsite for disposal. The winch would then be reconnected to the remainder of the pipeline and this process would be repeated several times until the submerged pipelines have been completely removed.

Figure 2-19. Artist's Conception of Toyo Pump Being Used to Perform Underwater Excavation



The recovered pipeline segments would be placed on a barge or truck and cut into smaller segments for truck transport. When all other Project activities are complete, the barge would be towed to a local boat landing, where the pipe sections would be offloaded and transported by truck to an approved recycling or disposal facility.

2.2.2.5 Pipeline River Crossing Safety Sign Replacement and Electronic Test Station Installation

The pipeline crossing safety signs located on either side of the river would be removed during valve box demolition on the levee crown and replaced with new signs that meet PG&E's current standards for pipeline crossing safety signs. Each sign would be 4-feet tall, 8-feet wide and would be supported by a wooden structure and cast-in-place concrete foundations.

One electronic test station (ETS) would be installed at the landside toe of the western levee and connected to the abandoned in place pipeline Segment 1 with electrical

wires. This ETS can be used to connect pipeline locating equipment in the future, as needed.

2.2.3 Site Restoration and Demobilization

Terrestrial excavations would be backfilled and compacted to match pre-Project conditions. Levee excavations would be backfilled in accordance with the levee encroachment permit requirements to be issued by the Central Valley Flood Protection Board (CVFPB) and Army Corps of Engineers (ACOE). Lastly, the top 6 to 12 inches of topsoil would be stockpiled and replaced as the final layer of backfill. All other excavation spoils would be disposed of offsite.

The levee crown roads and any other levee access road disturbed by the Project would be restored to pre-Project conditions. Any riprap disturbed by Project activities would be replaced and additional riprap may be imported as required to restore riprap to pre-Project conditions.

In the Sacramento River, the proposed vertical pipeline removal method allows the sediment to slough off the pipeline as it is lifted through the water column and fall back into the narrow depression, promoting immediate and natural partial backfill with native river sediment. Since minimal underwater excavation is anticipated, the remaining depression would be minor and naturally backfill when the shallow trench collapses after pipeline removal; therefore, underwater disturbances to the Sacramento Riverbed that result from submerged pipeline removal are expected to be minor.

All site restoration requirements defined in the pending temporary construction easements would be adhered to. All Phase 2 decommissioning materials, equipment, and debris would be removed from the Project area.

2.2.4 Post-Project Surveys and Reporting

After the decommissioning activities are complete, a post-Project bathymetric and debris survey of the underwater worksite would be performed. This survey would be compared to the pre-Project survey to verify that no debris related to the Project remains, and to verify the final river bottom conditions are consistent with pre-Project conditions. Any anomalous objects not found previously in the pre-Project survey that may be related to the Project would be positively identified by divers or remote operated vehicle (ROV), and all Project-related debris would be recovered.

A final Project report would be compiled and submitted to the CSLC following Project completion, including daily Project Manager’s reports, representative pictures/video, as-built drawings showing the post-Project disposition of the pipeline sections that were abandoned in place, surveys, and other relevant Project documentation.

2.3 ESTIMATED AREAS AND VOLUMES

Table 2-7 provides a summary of excavation footprints that would occur within the three work areas (East, West, and Pipeline Staging) and existing PG&E pipeline station associated with the HDD Replacement Activities. See Appendix C, *Project Plans* for additional detail.

Table 2-7. Excavation Footprints Associated with Phase 1 Activities

Excavation	Excavation Dimensions (ft)	Approximate Area (ft^2)	Excavation Volumes (cubic yards)
HDD East Entry Bore Pit	6 x 6	36	6
East Side Tie-in	9 x 16	144	12
East Side Trench	1 x 45	45	7
East Side Bell Hole (Alameda Street)	6 x 6	36	6
East Side Bell Hole (North Meridian Road)	6 x 6	36	6
HDD West Exit Bore Pit	6 x 6	36	6
West Bell Holes	2 - 6 x 6	72	12
West Side Tie-In	9 x 9	81	6
West Side Tie-In Trench	1.5 x 15	23	5
East Side Tie-In Trench	1.5 x 265	398	74
	Total	**907**	**140**

Note: Dimensions based on 60 percent Design Plans prepared by Longitude 123, Inc. dated 12-23-21 (Longitude 123, Inc., 2021).

Table 2-8 provides the excavation footprints associated with Phase 2. See Appendix C, Project Plans, for additional detail.

Table 2-8. Excavation Footprints Associated with Phase 2 Activities[6]

Excavation	Depth (feet)	Approximate Area (square feet)	Approximate Volume (cubic yards)
Segment 2 Pipeline Removal	2-15	5,822	549
Segment 3 Submerged Pipeline Removal	0-5	1,452	134
Segment 4 Pipeline Removal	0-5	2,033	140
Western Bell-hole (access for pigging and flushing)	6	324	24
Total Excavation Area		**9,631**	**847**

Note: Dimensions based on 60 percent Design Plans prepared by Longitude 123, Inc. dated 12-23-21 (Longitude 123, Inc., 2022).

2.4 SCHEDULE

Mobilization for the Phase 1 activities is currently planned for October 2022, with HDD drilling operations occurring from October through December 2022. The subsequent Phase 2 activities are currently planned to occur the following year beginning in June and concluding in August 2023; however, the construction schedule may be adjusted within the seasonal aquatic work window, if necessary. The decommissioning schedule would avoid listed fish species migration and spawning periods and coincides within the timeframe during which aquatic conditions are least favorable for listed fish that could occur within the aquatic work area. All decommissioning activities within waterways would occur within the seasonal aquatic work window that occurs from June 1 through October 31 for avoidance of listed fish species migrations.

Project work activities would generally be conducted Monday through Friday for approximately 10 hours each day. Longer shifts or additional shifts may occur, if necessary, to complete the Project within the defined seasonal constraints.

2.5 PRE-PROJECT PREPARATION ACTIVITIES AND APPROVALS

Once all permits and approvals have been received, a Project Work and Safety Plan (PWSP) would be submitted for CSLC approval prior to mobilization for the Phase 1

[6] 1.5 Height:1 Vertical slopes were used for all terrestrial decommissioning excavation calculations on the proposed Project.

replacement activities. The PWSP would provide additional details related to the means and methods that would be employed to comply with lease/permit conditions, safety requirements, and would apply to both the Phase 1 and the Phase 2 scopes of work.

PG&E would also provide notices to adjacent agricultural property owners within 1,000 feet of the East Work Area and Pipe Staging Area at least 2 months prior to Project implementation. This would allow crop planting and other cultivation practices to be adjusted to accommodate pipeline replacement activities and minimize crop loss, farmland access, and irrigation interference. Project notices would include PG&E Project manager contact information, as well as specifics regarding Project schedule and proposed hours of operation.

PG&E will also provide adjacent residents with advanced written notification of proposed construction activities, scheduling, and hours of construction. Signage shall also be posted at the Project area to notify the general public.

Once all regulatory permits are received, but prior to commencement of Project activities, technical plans and surveys to perform the work safely and in compliance with all regulatory permits and permissions, Cal/OSHA safety regulations, and owner's safety requirements would be completed.

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3.0 ENVIRONMENTAL CHECKLIST AND ANALYSIS

This section contains the Initial Study (IS) that was completed for the proposed Pacific Gas & Electric Company (PG&E) Replacement of Distribution Feeder Main 0630 (DFM-0630/R-1385) across the Sacramento River 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 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 2022 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.

Where appropriate, Project impacts are evaluated per the two phases of the Project: Phase 1 and Phase 2. Project phases may be discussed individually or combined based on the resource discussion.

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 the implementation of mitigation measures (MMs), that reduce the impact to "Less than Significant with Mitigation".

Table 3-1. Environmental Issues and Potentially Significant Impacts

☒ Aesthetics	☒ Agriculture and Forestry Resources	☐ Air Quality
☒ Biological Resources	☒ Cultural Resources	☒ Cultural Resources – Tribal
☐ Energy	☒ Geology, Soils, and Paleontological Resources	☐ Greenhouse Gas Emissions
☒ Hazards and Hazardous Materials	☒ Hydrology and Water Quality	☐ Land Use and Planning
☐ Mineral Resources	☒ Noise	☐ Population and Housing
☐ Public Services	☒ Recreation	☒ Transportation
☐ Utilities and Service Systems	☐ Wildfire	☒ Mandatory Findings of Significance

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

AGENCY DETERMINATION

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.

6/3/22

Signature
Christine Day, Environmental Scientist
Division of Environmental Planning and Management
California State Lands Commission

Date

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?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) In nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the Project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☒	☐	☐

3.1.1 Environmental Setting

The Project area is bordered by the town of Meridian to the east and agricultural lands to the west, north, and south. The East Work Area is located east of the Sacramento River along Alameda Street between Meridian Road and 3rd Street in the unincorporated town of Meridian. The Project area continues west across the Sacramento River and into the West Work Area which is located in an agricultural field west of the western levee. Figures 2-2, 2-3, 2-12, 2-13, and 2-14 provide photos that show views of the Project area.

The nearest residence is located approximately 56 feet east of the East Work Area. The residence is located at the end of Alameda Street and accompanies three other residences along 3rd Street.

Public views of the Project area are limited to motorists on public roadways (Alameda Street, North Meridian Road, and State Route (SR) 20) and boaters on the Sacramento River. The nearest scenic highway is a section of SR 20, which is approximately 500 feet south of the Project area (Caltrans 2022).

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 policies or regulations applicable to the Project with respect to aesthetics are identified in Appendix B.

3.1.3 Impact Analysis

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

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

(a and b) No Impact

Phases 1 and 2

There are no scenic vistas in the Project area. In addition, there are no trees, rock outcroppings, historic buildings, or other scenic resources within SR 20 in the Project area. Project-related activities, equipment, and materials would not be visible when viewing a scenic vista, and there would be no damage to aesthetics from Project activities. Therefore, there would be no impact.

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

Less than Significant Impact

Phases 1 and 2

Project activities would temporarily introduce terrestrial and marine construction equipment to these public viewsheds. However, the Project is short-term and there are no above-ground permanent elements that would be visible following completion of the Project. Additionally, vegetation disturbance would be limited to the area necessary for decommissioning and removal of the existing pipeline. Minor tree pruning and removal would occur on the west bank within the existing PG&E easement, an area that is subject to routine vegetation removal activities associated with maintenance of the pipeline corridor, as depicted in Figure 2-12. Project-related changes in visual quality would be minor and temporary in nature (up to 6 non-consecutive months due to the Project phases occurring in 2 separate years). Therefore, the impact would be less than significant.

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

Phases 1 and 2

Residential land uses in the Project area are limited to housing located within the vicinity of the West and East Work Areas. Although Project work activities would be conducted predominantly during daylight hours (from approximately 7:00 a.m. to 7:00 p.m. per workday), limited nighttime operations (a few hours after sunset) may be required, specifically during certain Project components (e.g., pipeline pullback). If needed, lighting requirements for nighttime operations could adversely affect nighttime views from nearby residences as well as the general public; 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.

MM AES-1 Nighttime Illumination Shielding. 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.

3.1.4 Mitigation Summary

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

- MM AES-1: Nighttime Illumination Shielding

3.2 AGRICULTURE AND FORESTRY RESOURCES

AGRICULTURE AND FORESTRY RESOURCES[7] - 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?	☐	☐	☒	☐
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined 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))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
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?	☐	☐	☐	☒

3.2.1 Environmental Setting

The Project area is located within Colusa and Sutter Counties. Agriculture is an important industry in both counties. In Colusa County, 75 percent of the County's total land acreage is being used for agricultural purposes and 90 percent in Sutter County (Colusa County 2012a, Sutter County 2011a). In 2019, Colusa County was ranked 17th in the state for almonds, rice, English walnuts, and tomatoes (processing) as the leading commodities. In 2019, Sutter County was ranked 20th in the state for rice, English walnuts, dried plums, and tomatoes (processing) as the leading commodities (California

[7] 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).

Department of Food and Agriculture 2021). As shown in Figure 3.2-1, a portion of the proposed Pipe.

Staging Area and East Work Area are located within designated Prime Farmlands (1.87 acres). The remaining portion of the Pipe Staging Area and the West Work Area are located within farmlands of local importance (3.11 acres). The Prime Farmland within the Project area is in active cultivation, with English walnuts as the main crop adjacent to the East Work Area and row crops in the Pipe Staging Area. Remaining Project areas are urban or other lands and water areas (California Department of Conservation 2022).

The portion of the Project within Colusa County is zoned AE or agriculture exclusive (Colusa County 2022). The closest Williamson Act contract area in Colusa County is located approximately 5 miles to the northwest near the town of Colusa (Colusa County 2012c, Land Use Map).

The portion of the Project within Sutter County is within an area zoned IND for industrial use, and adjacent to agriculturally zoned land north of Alameda Street. The closest Williamson Act contract area in Sutter County is located approximately 0.25 mile east of Segment 5 (Sutter County 2011a, Figure 6.3-2 of the General Plan).

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. Colusa and Sutter Counties are a party to and enforce the contracts on lands within their unincorporated areas. Local policies or regulations applicable to the Project with respect to agriculture are identified in Appendix B.

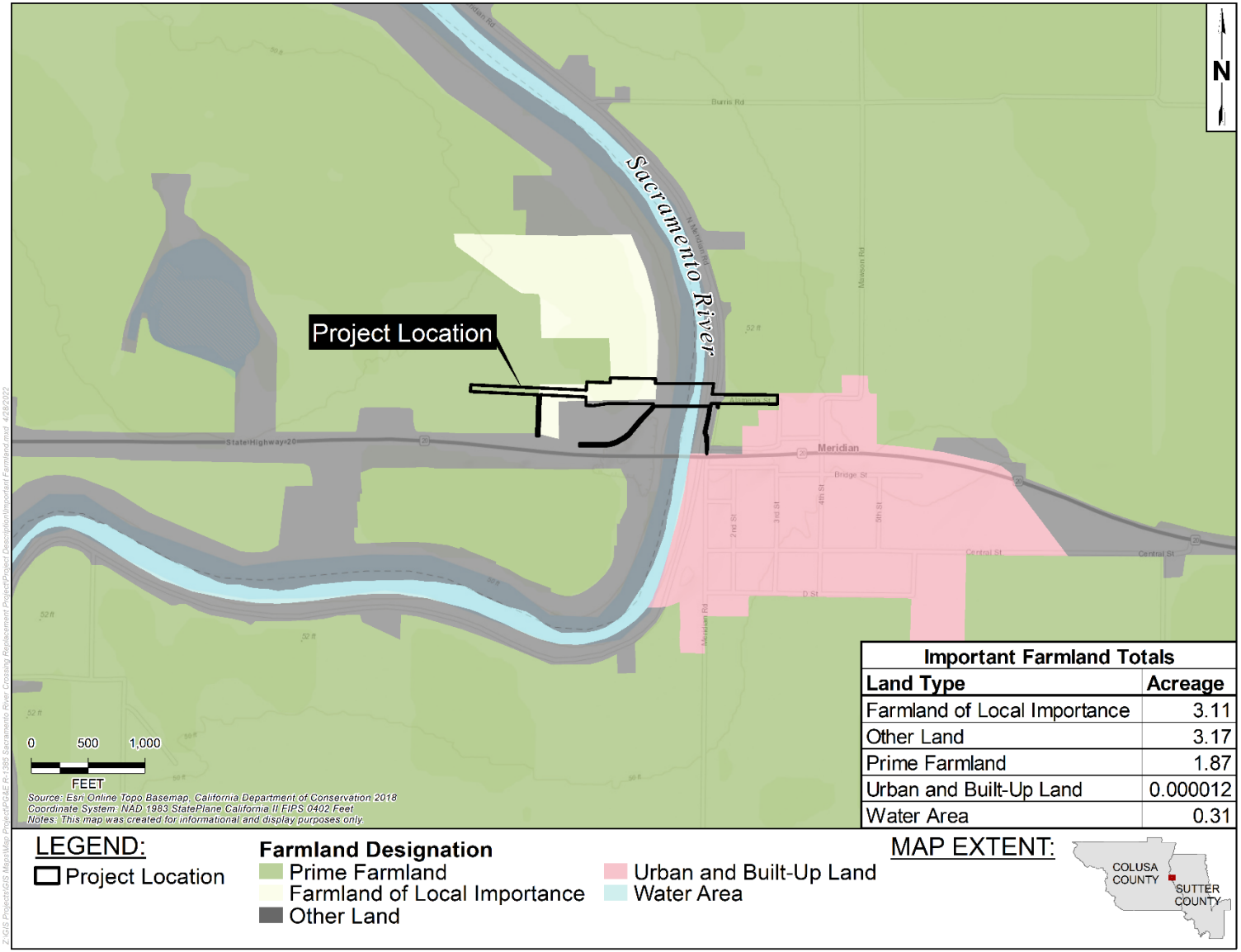
3.2.3 Impact Analysis

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?

Less Than Significant Impact

The Project area is located within agricultural lands, waterways, levee embankments, and an existing roadway. Both the West Work Area and Pipe Staging Area are located within actively farmed areas. The East Work Area is also located adjacent to active walnut orchards north and south of Alameda Street, which will not be impacted by the Project.

Figure 3.2-1. Important Farmland Map



Phase 1

Phase 1 Project activities on Prime Farmland are limited to staging and temporary soil disturbance in the annual row crop field within the Pipe Staging Area during HDD pipeline installation. Above ground facilities associated with the newly installed pipeline would be limited to replacement pipeline markers, which would be located in areas that do not conflict with agricultural activities. No permanent loss of agricultural soils or conversion of farmland would occur.

Although permanent conversion of farmland is not proposed, Phase 1 activities would require the temporary removal of 0.8-acre of crops (if present) or would prevent production of fall and winter crops in the western extent of the Pipe Staging Area within Prime Farmland. In addition, Project-related activities may interfere with cultivation of adjacent farmlands since pipe laydown would restrict access to areas surrounding the Pipe Staging Area, and construction would occur adjacent to lands in active agricultural production. However, land use will have been coordinated with each landowner prior to work activities. Additionally, PG&E will provide adequate noticing to adjacent property owners within 1,000 feet of the Project area at least 2 months prior to work activities including PG&E contact information would ensure appropriate coordination opportunities are provided. PG&E's advance notice to local landowners would reduce the impacts of short-term loss of crop production and access to a less than significant impact.

Phase 2

Decommissioned pipeline segments would be removed entirely or abandoned in-place underground. Ground disturbance in Locally Important Farmland would occur during Phase 2 to access the cut end of the existing pipeline for pigging and flushing operations, and to fill the pipeline with cement slurry. The total disturbance would be approximately 324 square feet. No permanent loss of agricultural soils or conversion of farmland would occur. Project-related activities may temporarily restrict access and any planned cultivation; however, as discussed above, landowner coordination and adequate noticing to adjacent property owners will reduce the impact to less than significant.

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

No Impact

Phases 1 and 2

There are no Project areas within or directly adjacent to a Williamson Act contract area. Project activities would be short-term and would not result in any permanent above-

ground impacts. The Project does not represent a change in land use and would not conflict with existing Agricultural Exclusive (AE) zoning in Colusa County or Industrial (IND) zoning in Sutter County, agricultural practices, or result in cancellation of any Williamson Act contract. No impact would result.

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))?

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

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?

(c, d, and e) **No Impact**

Phases 1 and 2

Forest land or timberland does not occur in the region and would not be rezoned, adversely affected, or converted to non-forest use. In addition, there would be no conversion of the Project area agricultural land to non-agricultural use. Therefore, there would be no impact.

3.2.4 Mitigation Summary

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

3.3 AIR QUALITY

AIR QUALITY - 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:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

3.3.1 Environmental Setting

The federal government has established ambient air quality standards to protect public health (primary standards) and welfare (secondary standards). The state of California has established separate, more stringent standards. Federal and state standards have been established for ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), suspended particulate matter (PM) (e.g., PM_{10} refers to course particles such as dust), and lead. In addition, California has standards for ethylene, hydrogen sulfide, sulfates, and visibility-reducing particles.

3.3.1.1 Local Climate and Meteorology

The California Air Resources Board (CARB) has divided California into regional air basins according to topographic air drainage features. The Project area spans the Sacramento River which forms the boundary between Colusa County (to the west) and Sutter County (to the east). Pipeline Segments 1 and 2 (and the West Work Area) are located in Colusa County, pipeline Segment 3 spans the River and is located in both counties, while pipeline Segments 4 and 5 (and the East Work Area) are located in Sutter County (see Figures ES-3 and 2-9).

Both counties are included in the Sacramento Valley Air Basin (SVAB). The SVAB consists of 11 counties: Placer, Sacramento, Shasta, Tehama, Colusa, Yolo, Butte, Yuba, Sutter, Glenn, and Eastern Solano counties. The SVAB is defined by the Coast Ranges to the west (averaging 3,000 feet in elevation), Cascade Ranges to the north (9,000 to 14,000 feet in elevation), and the Sierra Nevada Mountains to the east (8,000 to 14,000 feet in elevation). The Sacramento Valley could be considered a “bowl” open

only to the southwest, as it opens to the sea at the Carquinez Strait where the San Joaquin-Sacramento River Delta empties into San Francisco Bay.

In the summer, marine air or Delta breeze generally flows into the SVAB from the San Joaquin-Sacramento River Delta. Air pollution can be transported via the Delta breeze into the Basin from the Bay Area and the San Joaquin Valley. When the wind blows from the north, air from the Sacramento Metro Area can be transported to the San Joaquin Valley.

3.3.1.2 Criteria Pollutants

Criteria air pollutants are those contaminants for which ambient air quality standards have been established for the protection of public health and welfare. Criteria pollutants include CO, NO_2, SO_2, particulate matter with a diameter of 10 micrometers or less (PM_{10}), and particulate matter with a diameter of 2.5 micrometers or less ($PM_{2.5}$).

Ozone. This pollutant is formed in the atmosphere through complex photochemical reactions involving nitrogen oxides (NO_X), reactive organic compounds (ROC), and sunlight that occur over several hours. Since ozone is not emitted directly into the atmosphere but is formed as a result of photochemical reactions, it is classified as a secondary or regional pollutant. These ozone-forming reactions take time, and therefore peak ozone levels are often found downwind of major source areas. Ozone is considered a respiratory irritant and prolonged exposure can reduce lung function, aggravate asthma, and increase susceptibility to respiratory infections. Children and those with existing respiratory diseases are at greatest risk from ozone exposure.

Carbon Monoxide. CO is primarily formed through the incomplete combustion of organic fuels. Higher CO values are generally measured during winter when dispersion is limited by morning surface inversions. Seasonal and diurnal variations in meteorological conditions lead to lower values in summer and in the afternoon. CO is an odorless, colorless gas. CO affects red blood cells in the body by binding to hemoglobin and reducing the amount of oxygen that can be carried to the body's organs and tissues, which can cause health effects for people with cardiovascular disease and can affect mental alertness and vision.

Nitric Oxide (NO) and Nitrogen Dioxide (NO_2). NO is a colorless gas formed during combustion processes which rapidly oxidizes to form NO_2, a brownish gas. The highest nitrogen dioxide values are generally measured in urbanized areas with heavy traffic. Exposure to 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. SO_2 is a colorless, reactive gas that is produced from burning sulfur-containing fuels, such as coal and oil, as well as by other industrial processes. Generally, the highest concentrations of SO_2 are found near large industrial sources. SO_2 is a respiratory irritant that can cause narrowing of the airways, leading to wheezing and shortness of breath. Long-term exposure to SO_2 can cause respiratory illness and aggravate existing cardiovascular disease.

Particulate Matter. Ambient air quality standards have been set for PM_{10} and $PM_{2.5}$. Both consist of different types of particles suspended in the air, such as metal, soot, smoke, dust, and fine mineral particles. The particles' toxicity and chemical activity can vary, depending on the source. The primary source of PM_{10} emissions appears to be from the soil via road use, construction, agriculture, and natural windblown dust. Other sources include sea salt, combustion processes (such as those in gasoline or diesel vehicles), and wood burning. Primary sources of $PM_{2.5}$ emissions come from construction sites, wood stoves, fireplaces, and diesel truck exhaust. Particulate matter is a health concern because when inhaled it can cause permanent lung damage. While both sizes of particulates can be dangerous when inhaled, $PM_{2.5}$ tends to be more damaging because it remains in the lungs.

3.3.1.3 Local Air Quality

The nearest ambient air quality monitoring station is located in Colusa, approximately 5.2 miles to the northwest of the Project area. Ambient air quality data from this station is presented in Table 3.3-1, which indicates PM_{10} concentrations monitored at the Colusa monitoring station regularly exceed the California ambient air quality standard and occasionally exceed the national ambient air quality standard.

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

Air Pollutant/Parameter	Standard	2018	2019	2020
Ozone (parts per million)				
Maximum 1-hour concentration monitored (ppm)	N/A	0.073	0.062	0.085
Number of days exceeding State standard	0.095 ppm	0	0	0
Maximum 8-hour concentration monitored (ppm)	N/A	0.062	0.055	0.068
Number of days exceeding 2015 Federal 8-hour standard	0.070 ppm	0	0	0
Number of days exceeding State 8-hour standard	0.070 ppm	0	0	0

Air Pollutant/Parameter	Standard	2018	2019	2020
PM_{10} (micrograms/cubic meter)				
Maximum sample (µg/m^3, California samplers)	N/A	274.6	119.9	299.2
Number of samples exceeding State 24-hour standard	50 µg/m^3	66	45	77
Number of samples exceeding Federal 24-hour standard	150 µg/m^3	2	0	7
$PM_{2.5}$ (micrograms/cubic meter)				
Maximum sample (µg/m^3, California samplers)	N/A	113.2	26.5	96.7
Number of samples exceeding Federal 24-hour standard	35 µg/m^3	ID	0	23

Notes:
N/A: not applicable
ID: insufficient data collected
ppm: parts per million
µg/m^3: micrograms per cubic meter air

3.3.1.4 Sensitive Receptors and Surrounding Area Land Use

Some land uses are considered more sensitive to air pollution than others due to population groups or activities involved. Sensitive population groups include children, the elderly, acutely ill, and chronically ill, especially those with cardio-respiratory diseases. Residential areas are also considered to be sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present.

Recreational land uses may be considered moderately sensitive to air pollution. Although exposure periods are generally short, exercise places a high demand on respiratory functions, which can be impaired by air pollution. In addition, noticeable air pollution can detract from the enjoyment of recreation.

Industrial and commercial areas are considered the least sensitive to air pollution. Exposure periods are relatively short and intermittent, as the majority of the workers tend to stay indoors most of the time. In addition, the working population is generally the healthiest segment of the public.

Residences of the community of Meridian (including 3rd Street, 4th Steet, and Mawson Road) are located as close as 56 feet to the East Work Area. A residence on Alameda Court is located 200 feet south of the West Work Area. The Meridian Elementary School is located approximately 0.4 miles southeast of the East Work Area.

3.3.1.5 Toxic Air Contaminants (TAC)

Over 800 substances have been identified by the U.S. Environmental Protection Agency (USEPA) and the CARB that are emitted into the air and may adversely affect human health. Due to the cancer risk associated with exposure to diesel particulate matter (DPM), this substance has been targeted for risk reduction by the CARB.

The combustion of diesel fuel in truck engines (as well as other internal combustion engines) produces exhaust containing a number of compounds that have been identified as hazardous air pollutants by USEPA and toxic air contaminants by the CARB. PM from diesel exhaust has been identified as a toxic air contaminant. The Multiple Air Toxics Exposure Study in the South Coast Air Basin (MATES IV) indicated DPM is a major contributor to cancer risk associated with toxic air contaminants, accounting on average for 68 percent of the total risk in the southern California group sampled (SCAQMD 2015). DPM is currently controlled through the use of selective catalytic reduction control systems (with diesel exhaust fluid) on all new diesel trucks and heavy equipment. In addition, fleets of older trucks are required to phase-in installation of exhaust particulate filters.

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

3.3.2 Regulatory Setting

Federal and state laws and regulations pertaining to air quality relevant to the Project are identified in Appendix A. Air pollution control is administered on three governmental levels. The USEPA has jurisdiction under the Clean Air Act. The CARB has jurisdiction under the California Health and Safety Code and the California Clean Air Act (CCAA), which is relegated (in part) to local air districts. The Project area is located in Colusa County which is under the jurisdiction of the Colusa County Air Pollution Control District (CCAPCD) and in Sutter County which is under the jurisdiction of the Feather River Air Quality Management District (FRAQMD).

3.3.2.1 Air Quality Standards

Air basins are classified by the USEPA as in “attainment” or “non-attainment” based on meeting the National Ambient Air Quality Standards (NAAQS). The CARB established more stringent California Ambient Air Quality Standards (CAAQS), which also requires air basins to be designated as in “attainment” or “non-attainment” based on meeting the CAAQS. NAAQS and CAAQS have been established for ozone, CO, NO_2, SO_2, suspended particulate matter (e.g., dust), and lead. In addition, California has standards

for hydrogen sulfide (H_2S), sulfates, and visibility-reducing particles. 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	1-Hour	0.09 ppm	N/A
Ozone	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_2)	Annual Arithmetic Mean	0.030 ppm	0.053 ppm
Nitrogen Dioxide (NO_2)	1-Hour	0.18 ppm	100 ppb
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	N/A	0.030 ppm
Sulfur Dioxide (SO_2)	24-Hour	0.04 ppm	0.14 ppm
Sulfur Dioxide (SO_2)	3-Hour	N/A	0.5 ppm (secondary)
Sulfur Dioxide (SO_2)	1-Hour	0.25 ppm	75 ppb
Respirable Particulate Matter (PM_{10})	Annual Geometric Mean	20 µg/m^3	N/A
Respirable Particulate Matter (PM_{10})	24-Hour	50 µg/m^3	150 µg/m^3
Fine Particulate Matter ($PM_{2.5}$)	Annual Geometric Mean	12 µg/m^3	12.0 µg/m^3
Fine Particulate Matter ($PM_{2.5}$)	24-Hour	N/A	35 µg/m^3
Hydrogen Sulfide (H_2S)	1-Hour	0.03 ppm	N/A
Vinyl Chloride	24-Hour	0.01 ppm	N/A
Sulfates	24-Hour	25 µg/m^3	N/A
Lead	30-Day Average	1.5 µg/m^3	N/A
Lead	Calendar Quarter	N/A	1.5 µg/m^3
Lead	Rolling 3-Month Average	N/A	0.15 µg/m^3

Pollutant	Averaging Time	California Standard	Federal Standard
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.	N/A

Notes:
N/A: not applicable
ppb: parts per billion
ppm: parts per million
µg/m^3: micrograms per cubic meter air

3.3.2.2 Air Quality Regulation and Planning

The CCAA requires air districts which have been designated as a nonattainment area for the CAAQS for ozone, CO, SO_2, or NO_2 to prepare and submit a plan for attaining and maintaining the standards. The CCAA also requires that districts review their progress made toward attaining the CAAQS every 3 years. The Project area includes portions of both Colusa County and Sutter County; therefore, local regulations are discussed below separately for these areas.

Colusa County. Currently, Colusa County is designated as in attainment with respect to the NAAQS and CAAQS, with the exception of the state PM_{10} standard. The CCAPCD manages stationary sources of air pollutants within the Colusa County portion of the SVAB to protect air quality and facilitate attainment of the state PM_{10} standard. The CCAPCD develops regulations to improve air quality and protect the health and welfare of Colusa County residents and their environment. The CCAPCD also monitors air quality, prepares clean air plans, responds to citizen complaints concerning air quality, and regulates agricultural burning.

CCAPCD regulations include permit requirements, emissions limits for specific source categories, requirements for open burning, and air toxics control measures for several source categories including stationary compression ignition engines (i.e., diesel engines). CCAPCD regulates nuisance conditions under Rule 200, which states that “no person shall discharge from any non-vehicular source such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public or which endanger the comfort,

repose, health or safety of any such persons or the public or which cause or have a natural tendency to cause injury or damage to business or property."

Colusa County adopted a comprehensive update to their General Plan on July 31, 2012. The General Plan details the County's guiding principles for a variety of planning topics and is the roadmap for future development in the county. The Conservation Element addresses the conservation, development, and utilization of natural resources, which includes forests, soils, rivers and other waters, wildlife, and minerals. Energy conservation, air quality, and the preservation of cultural and historical resources are also addressed in the conservation element. The Colusa County General Plan air quality goals, policies, and actions are not applicable to the proposed Project.

Sutter County. Currently, Sutter County is designated as in attainment with respect to the NAAQS and CAAQS, with the exception of:

- State PM_{10} standard
- State 1-hour ozone standard
- National 8-hour ozone standard (southern portion of the County only, Sacramento Federal Ozone Nonattainment Area)

With respect to regional air quality, the southern portion of Sutter County has been included within the Sacramento Federal Nonattainment Area (Feather River Air Quality Management District), but the portion of the County that the Project area is located is not included.

As a nonattainment area, the Sacramento Federal Ozone Nonattainment Area is required to submit rate-of-progress milestone evaluations in accordance with the Federal Clean Air Act. Milestone reports were prepared for 1996, 1999, 2002, 2006, 2010 and most recently in 2012 for the 8-hour ozone standard. These milestone reports include compliance demonstrations that the requirements have been met for the Sacramento Federal Ozone Nonattainment Area. These reports present comprehensive strategies to reduce emissions of ROC, NO_x, and PM_{10} from stationary, area, mobile, and indirect sources. Such strategies include the adoption of rules and regulations; enhancement of CEQA participation; implementation of a new and modified indirect-source review program; adoption of local air quality plans; and control measures for stationary, mobile and indirect sources.

Similar to the CCAPCD, the FRAQMD manages stationary sources of air pollutants within the Sutter County and Yuba County portion of the SVAB to protect air quality and facilitate attainment of the NAAQS and CAAQS. FRAQMD Rule 3.16 regulates fugitive dust emissions which would be generated by the proposed Project during pipeline installation and decommissioning activities.

Sutter County adopted their 2030 General Plan on March 29, 2011. The General Plan Policy Document provides goals and policies addressing air quality concerns. However, none of these goals or policies are applicable to the proposed Project.

3.3.2.3 Significance Thresholds

Colusa County. CCAPCD has not developed air quality thresholds of significance. The County's General Plan states the County should coordinate with CCAPCD to develop thresholds associated with construction activities and to develop best management practices to be implemented during construction. CCAPCD has not yet developed any thresholds but has recommended using significance thresholds adopted by the Butte County AQMD due to their proximity within the SVAB. The Butte County AQMD Guidelines for Addressing Air Quality and Greenhouse Gas Impacts for Projects Subject to CEQA include the following thresholds of significance for construction projects:

- NO_x: 137 pounds per day or 4.5 tons per year
- ROC: 137 pounds per day or 4.5 tons per year
- PM_{10}: 80 pounds per day

Sutter County. The FRAQMD Indirect Source Review Guidelines provide the following thresholds of significance for Type 2 projects (no change in land use):

- NO_x: 25 pounds per calendar day averaged over the construction period, not to exceed 4.5 tons per year.
- ROC: 25 pounds per calendar day averaged over the construction period, not to exceed 4.5 tons per year.
- PM_{10}: 80 pounds per day

As indicated in Section 2.3, the duration of both Phases 1 and 2 would be about 3 months each and completed within a 12-month period. Therefore, the NO_x and ROC threshold would be 2.25 tons (25 pounds * 180 days/2,000 pounds/ton).

3.3.3 Impact Analysis

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

No Impact

<u>Phases 1 and 2</u>

The Project is comprised of the replacement and decommissioning of a 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, would

not affect population-based emissions inventory projections or otherwise result in long-term air pollutant emissions that may affect attainment of the NAAQS and CAAQS. The Project does not conflict with or obstruct implementation of the Sutter or Colusa County air district plans; therefore, no impact would result.

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

The primary sources of pollutant emissions for the Project would result from the use of internal combustion engines during pipeline replacement and decommissioning activities. Specifically, conventional construction equipment such as, dozers, excavators, generators, drill rigs, loaders, and trucks would be utilized during construction activities. Additional sources of air pollutant emissions include exhaust emissions from construction vessels, on-road motor vehicles used to transport materials and personnel, and fugitive dust emissions from activities involving soil disturbance.

Criteria pollutant emissions for heavy construction equipment and vessels proposed to be utilized during each major task phase for both Phases 1 and 2 were estimated using CARB's Emission Factors (EMFAC) 2021 and OFFROAD 2021 web-based models. In addition, exhaust emissions from engines used on construction vessels were estimated using emissions factors from the San Pedro Bay Emissions Inventory Methodology Report.

Tables 3.3-3 and 3.3-4 list the daily and total estimated Project air pollutant emissions for each work task for both Phases 1 and 2. Phase 1 (HDD Operations) and Phase 2 (pipeline decommissioning) would have the greatest daily and total air pollutant emissions. However, CCAPCD-adopted or FRAQMD significance thresholds would not be exceeded. The Project would not result in any change in land use or increase pipeline maintenance activities; therefore, no new long-term emissions would be generated. Overall, the Project would have a less than significant impact on air quality and progress towards regional attainment of the CAAQS and NAAQS.

Table 3.3-3. Estimated Air Pollutant Emissions (Tons)

Work Task	NO_x	ROC	PM_{10}	$PM_{2.5}$
Phase 1 – Exhaust Emissions				
Site Mobilization and Excavation	0.033	0.003	0.001	0.001

Work Task	NO_x	ROC	PM_{10}	$PM_{2.5}$
Pipe String Welding	0.035	0.004	0.001	0.001
HDD Operations	0.314	0.038	0.011	0.011
Pipe String Testing, Tie-in, Meridian Road Pipe Removal	0.014	0.004	0.001	0.001
Demobilization and Restoration	0.021	0.002	0.001	0.001
Phase 1 – Fugitive Dust	0.00	0.00	1.72	1.72
Total Phase 1	**0.417**	**0.051**	**1.735**	**1.735**
Phase 2 – Exhaust Emissions				
Mobilization, Pigging and Flushing	0.009	0.001	0.001	0.001
Excavation	0.104	0.011	0.003	0.003
Backfill, Restoration and Demobilization	0.017	0.002	<0.001	<0.001
Decommissioning and Demobilization	0.217	0.069	0.025	0.025
River Survey	0.017	0.001	0.001	0.001
Phase 2 – Fugitive Dust	0.00	0.00	0.50	0.50
Total Phase 2	**0.364**	**0.085**	**0.503**	**0.503**
Total Project	**0.78**	**0.14**	**2.24**	**2.24**
Lowest Significance Threshold	***2.25***	***2.25***	**--**	**--**

Table 3.3-4. Estimated Air Pollutant Emissions (Pounds per Day)

Work Task	NO_x	ROC	PM_{10}	$PM_{2.5}$
Phase 1 – Exhaust Emissions				
Site Mobilization and Excavation	19.31	1.92	0.59	0.57
Pipe String Welding	21.27	2.03	0.84	0.78
HDD Operations	32.53	3.30	1.20	1.15
Pipe String Testing, Tie-in, Meridian Road Pipe Removal	11.28	2.73	0.96	0.79
Demobilization and Restoration	10.08	0.95	0.26	0.26
Phase 1 – Fugitive Dust	0.00	0.00	69.08	69.08
Peak Day Phase 1	**32.53**	**3.30**	**70.28**	**70.23**
Phase 2 – Exhaust Emissions				
Mobilization, Pigging and Flushing	3.64	0.66	0.25	0.20

Work Task	NO_x	ROC	PM_{10}	$PM_{2.5}$
Excavation	19.34	2.04	0.63	0.61
Backfill, Restoration and Demobilization	8.05	0.65	0.19	0.19
Decommissioning and Demobilization	40.71	25.69	9.31	9.22
River Survey	17.31	1.35	0.86	0.86
Phase 2 – Fugitive Dust	0.00	0.00	16.54	16.54
Peak Day Phase 2	**40.71**	**25.69**	**25.85**	**25.76**
Significance Threshold	***137***	***137***	***80***	**--**

c) Expose sensitive receptors to substantial pollutant concentrations?

Less than Significant Impact

Phases 1 and 2

Residential receptors within the community of Meridian are located as close as 56 feet to the East Work Area. Project-related air pollutant emissions near these residences would be temporary and reduced by fugitive dust reduction measures required by FRAQMD Rule 3.16. Project-related air pollutant emissions in close proximity to these residences would be primarily associated with HDD operations and be limited to about 45 workdays. Based on data collected at the nearest weather station (Williams) operated as part of the California Irrigation Management Information System, typical wind speeds in the region in the fall (when HDD operations would occur) average 5.5 miles per hour. Due to the short-term nature of exposure and expected dispersion of pollutants by fall winds, impacts from air pollutant emissions to nearby residential receptors are considered less than significant.

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

Once operational, the pipeline will include an odor conditioning and monitoring process that will monitor the levels of odorant in the pipeline at both tie-in locations. This odorant is added to the gas as a safety precaution and will only be detectable as designed in the event of a gas leak. Odorant levels in the pipeline will be monitored, and additional odorant will be added as required to maintain the appropriate level of odorization.

As such, Project-related odors would be limited to construction-related diesel exhaust and possibly reduced sulfur compounds in exposed saturated soil and sediments. These odors would be very similar to those generated by cultivation of adjacent agricultural fields. Persons potentially exposed to these odors would be limited to residences located in close proximity to Project activities. Due to the temporary nature of Project activities and small size of the affected population, odor impacts are considered less than significant. Project-related odors would not create a nuisance or violate CCAPCD Rule 200.

3.3.4 Mitigation Summary

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

3.4 BIOLOGICAL RESOURCES

BIOLOGICAL RESOURCES – Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, State Lands Commission, or California Coastal Commission?	☐	☒	☐	☐
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?	☐	☒	☐	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (including essential fish habitat)?	☐	☒	☐	☐
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?	☐	☒	☐	☐

The following discussion contains a summary of information from the Biological Technical Report prepared for the Project by Padre Associates, Inc. (2021), which is included as Appendix E.

3.4.1 Environmental Setting

This section describes the ecological setting and biological resources in the terrestrial and aquatic Project areas. The Project area spans the Sacramento River and is bordered by the unincorporated town of Meridian to the east, and agricultural lands to the west, north, and south. The easternmost Project area is located at the northwestern

side of Meridian, near the intersection of North Meridian Road and Alameda Street and extends from the eastern levee to the west across the Sacramento River into agricultural land west of the western levee (see Figures 2-1 and 2-2). Biological field surveys were conducted on the east and west sides of the Sacramento River within the Project area. The biological study area (BSA, Figure 3.4-1) includes all temporary impact areas, staging areas, access routes, and the surrounding areas.

Prior to biological field surveys, the California Natural Diversity Database (CNDDB) Biogeographic Information and Observation System (BIOS) query was reviewed to identify occurrences of special-status plant and animal species in the Project vicinity (CDFW 2020a) (Appendix E).

Biological field surveys were conducted on March 17, 2021, to assess the biological resources occurring within the BSA, determine the likelihood of occurrence for special-status species or sensitive and regulated habitats on the site, and provide a preliminary aquatic resource delineation. Species detection methods, vegetative cover types, significant habitat features, such as wetlands, potential nest trees, and potential dens or burrows, and lists of plants and wildlife associated with the various cover types were compiled and are also included in Appendix E. Plants not identified in the field were collected and returned to the lab for identification using standard taxonomic references, when possible (Baldwin et. al. 2012). A targeted survey for blue elderberry (*Sambucus nigra* ssp. *caerulea*) shrubs was conducted by Padre biologists on April 27, 2021, during the shrub's blooming window, to ensure detection of all blue elderberry shrubs that were difficult to locate during the non-blooming season because they were covered in dense grape vines. Supplemental surveys for identification of biological resources within an expanded study area were conducted on July 20, 2021.

In addition, the BSA was examined for evidence of regulated habitats, such as waters and wetlands under regulatory authority of the ACOE under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899. A Preliminary Aquatic Resource Delineation was conducted in October 2020 for the Project (Padre 2021).

3.4.1.1 Habitat Descriptions and Vegetation

The area surrounding the Project area consists of annual non-native grassland, riverine waters, riparian forest, agricultural land, developed land, and rural residential development. A small rural residential property is located on the west side of the Sacramento River. On the east side, the land is predominantly residential development surrounded by orchards.

Seven vegetation communities and cover types were identified within the BSA during field surveys. Vegetation communities were determined based on species composition and the *Preliminary Descriptions of the Terrestrial Natural Communities of California*

(Holland 1986) but were modified as needed to accurately describe the existing habitat observed onsite. Additional detail regarding vegetation communities and plant species lists is provided in Appendix E. Below is a brief description of the seven vegetation communities and cover types mapped within the Project area.

Agriculture

This cover type is not a natural community and consists of land currently used in crop cultivation that is routinely disturbed by agricultural practices. This community is located in the westernmost portion of the Pipe Staging Area. This field was planted in melons at the time of summer surveys.

Great Valley Mixed Riparian Forest

The Great Valley mixed riparian forest community is dominated by broadleaved winter-deciduous trees that form in soil-types found on the borders of river channels. This community often floods but not so often or severe as to cause significant losses to tree cover. Within the Project area, this community was present on the west bank of the Sacramento River in the West Work Area.

Great Valley Oak Riparian Forest

The Great Valley oak riparian forest community consists of broad-leafed, winter-deciduous trees that form a closed canopy. The dominant tree in this community type is the valley oak. This community is located on the highest reaches of floodplains of rivers in California's Sacramento and San Joaquin valleys where the community is less subject to physical disturbance from flooding. Within the Project area, this community was present in the southernmost portion of the West Work Area within a remnant pocket of riparian vegetation present at the landside toe of the levee. Because of the isolated nature of this small stand, it is likely that the vegetation community present in the Project area may be a relic riparian forest.

Great Valley Willow Scrub

The Great Valley willow scrub is a riparian community consisting of dense, broad-leafed, winter-deciduous riparian thickets dominated by several willow species (Holland 1986). The community is generally sub-mature, which is maintained by frequent heavy flooding and may transition into Great Valley riparian forests if undisturbed for several decades. Within the Project area, Great Valley willow scrub was present in the East Work Area along the east bank of the Sacramento River within the active floodplain where it is susceptible to flooding.

Non-Native Grassland

Non-native grasses that were introduced during European settlement of the Central Valley dominate the grasslands in the Project area. Within the Project area, non-native annual grassland is the predominant community in the West Work Area and occurs on the west levee slopes and throughout the rural residential area adjacent to the agricultural field.

Riverine Waters

The Sacramento River flows from north to south through the Project area and supports an open water aquatic community. Within the area mapped as riverine waters, the channel is perennial and is largely devoid of any vegetation. The Sacramento River is a navigable waterway. A steeply sloped levee is present on the east bank, and a steep cliff below the levee is present on the west bank of the Sacramento River in the BSA. The Riverbed declines steeply below the waterline. Substrates along the Sacramento Riverbed in the Project area consist of silt and clay and do not contain cobble, gravel, or other hardbottom substrates. There is minimal shallow water habitat within the Project area, and the area is devoid of submerged aquatic vegetation and emergent wetland vegetation along the riverbank. The velocity of river currents in the Project area average at 18,000 cubic feet per second (cfs) with maximum velocity of 48,800 cfs during winter flows (USGS 2022).

Ruderal

This community is not a natural community and is typically associated with human disturbance. In the Project area, ruderal/disturbed cover types were present in several locations, primarily along roadways and throughout the East and West Work Areas and support a dominance of weedy herbaceous non-grass plant species. The species composition and cover density of this community varied significantly within the Project area. In the West Work Area, this cover type occurs along the gravel roadway located on top of the levee where very limited vegetation was present. In the East Work Area, the ruderal/disturbed community occurs on the levee above the active floodplain and along Alameda Street.

3.4.1.2 Waters and Wetlands

A Preliminary Aquatic Resource Delineation was conducted in March 2021 for the Project, with additional surveys completed in July 2021. The Preliminary Aquatic Resource Delineation identified and delineated the geographic extent of Federal jurisdictional waters of the U.S. and wetlands and aquatic features under State jurisdiction (Padre 2021). Padre identified a total of 1.62 acres of Federal jurisdictional waters and wetlands, 1.62 acres of waters of the State, and 1.71 acres of stream

features within the 8.46-acre wetland delineation study area. Activities within these delineated areas are regulated by the Federal government or the State of California.

Within the BSA, there are two wetland types and one deep-water habitat type both of which were defined as "other waters of the U.S." under the Federal jurisdictional determination. Wetland types are defined both by their abiotic features such as water regime and topography as well as biotic factors like vegetation communities and determined by the *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin 1979). The wetland types found within the Project area were a palustrine scrub-shrub wetland and a palustrine forested wetland (Figure 3.4-2). Both wetland types were located below the OHWM and are therefore considered "other waters of the U.S." Neither wetland type met the three-parameter definition for consideration as a federal jurisdictional wetland under Section 404 of the Clean Water Act. In addition to these two vegetated areas, "other waters of the U.S." present in the unvegetated portion of the BSA are classified as lower perennial riverine wetlands (in the Sacramento River low flow channel). A description of the wetland types and of the other waters present in the Project area can be found in Appendix E.

3.4.1.3 Wildlife

Wildlife observed within the Project area was characteristic of the region and of the riverine and agricultural habitats that occur onsite. A comprehensive list of wildlife species observed during the surveys is included in Appendix E.

The open agricultural landscape found in the western reaches of the Project area provides forage and cover for passerine birds and small mammals. These species, in turn, provide a portion of the prey base that attracts common and special-status raptors such as northern harrier (*Circus hudsonius*) and Swainson's hawk (*Buteo swainsoni),* as well as mammalian predators like coyote (*Canis latrans*). Agricultural production can increase insect populations that can also be prey for Swainson's hawk and egrets (*Ardea* sp*).* In the eastern portion of the Project area, the rural residential community provides limited habitat diversity. However, there are several species present that have adapted well to human disturbance including rock pigeon (*Columba livia*), house sparrow (*Passer domesticus*), European starling (*Sturnus vulgaris*), Brewer's blackbird (*Euphagus cyanocephalus*), and raccoon (*Procyon lotor*).

The Sacramento River, which bisects the Project area, provides habitat for a wide variety of aquatic and terrestrial species that are closely tied to the aquatic environment. A range of fish species utilize the Sacramento River at the Project area including striped bass (*Morone saxatalis*), American shad (*Alisa sapidissima*), green sturgeon (*Acipenser medirostris*), and salmonid species (*Oncorhynchus* sp.). Terrestrial species that are closely tied to the water and prey upon fish species include belted kingfisher

(*Megaceryle alcyon*), Caspian tern (*Hydroprogne caspia*), double-crested cormorant (*Phalacrocorax auritus*), and North American river otter (*Lontra canadensis*).

Within the BSA, there is limited nesting habitat that can be utilized by bird species. However, along the west bank of the Sacramento River inside the BSA and adjacent to the Project area, large riparian trees including California sycamore (*Platanus racemosa*) and Fremont cottonwood (*Populus fremontii*) occur in tall enough stands to provide potential nesting habitat for large raptors.

3.4.1.4 Special-Status Species

Special-status species include those species that are State- or federally listed as endangered or threatened, species proposed for such listing, candidate species, and state or local species of concern. For the purposes of this analysis, special-status species are those species that could be found in the BSA that meet any of the following criteria:

- Listed as endangered or threatened species under the federal Endangered Species Act (FESA) (50 Code of Federal Regulations [CFR] 17.11 [listed animals], 50 CFR 17.12 [listed plants], and various notices in the Federal Register [FR])
- Species that are candidates for possible future listing as threatened or endangered under FESA (FR, November 16, 2020)
- Species that are listed or proposed for listing by the state of California as threatened or endangered under the California Endangered Species Act (CESA) (CESA) (Cal. Code Regs, tit.14, § 670.5)
- Animals listed as fully protected species or California Species of Special Concern on CDFW's Special Animals List (CDFW 2022a)
- Plants listed as rare under the California Native Plant Protection Act (Fish & G. Code 1900 et seq.)
- Plants with a California Rare Plant Rank (CRPR) of 1A, 1B, 2A, and 2B (CDFW 2022b), and that the scientific community considers threatened or endangered in California
- Plants designated as CRPR 3 and 4 with a locally significant population that meets the criteria under State CEQA Guidelines, section 15380, subdivision (d)
- Species considered rare, threatened, or endangered under CEQA Guidelines 15380(d) as the species' survival and reproduction in the wild are in immediate jeopardy, present in such small numbers throughout all or a significant portion of its range that it may become endangered, or likely to become endangered within the foreseeable future throughout all or a significant portion of its range

Based on the literature review and species lists obtained from U.S. Fish and Wildlife Service (USFWS) (Information for Planning and Consultation [IpaC] Trust Resource Report) (Sacramento Office Consultation code: 08ESMF00-2021-SLI-1157) and from National Marine Fisheries Service (NMFS) (NMFS 2021) for Meridian quadrangle, 20 special-status species have been reported within a 5-mile radius surrounding the Project area. The determinations for the potential to occur in the Project area are based on the species' range and habitat requirements, the habitats present within the Project area, and observed vegetation and wildlife present during field visits. In addition, species typically associated with other regional habitat types may use the highly disturbed, riparian corridor along the Sacramento River as a movement corridor. In total, seven federally threatened or endangered species and six State threatened or endangered species, as well as 10 other special-status or rare species, have the potential to occur. A complete detailed list of special-status species known to occur in the Project region, preferred habitat, and potential habitat occurrence in the Project area is included in Table 3.4-1. Biological resources related to Phase 1 and Phase 2 are illustrated in Figures 3.4-1 and 3.4-2, respectively.

Special-Status Plants

Padre conducted surveys of the BSA on March 17, April 27, and July 20, 2021. Field survey and desktop study results determined that the soil and habitats within the BSA do not provide suitable habitat for special-status plant species that occur within 5 miles of the Project area. Based on a lack of suitable habitat, no special-status plant species are expected to occur within the Project area.

Special-Status Wildlife

This section includes a discussion of special-status wildlife species that are known to occur or have the potential to occur within the BSA based on habitat availability and known locations of species within the vicinity. Certain species, such as vernal pool invertebrate and amphibian species, may occur within the quadrangle or within 5 miles of the BSA; however, based upon a thorough analysis, these species were determined to be absent due to a lack of suitable habitat and therefore, are not included in this section. Other species may have been eliminated from consideration because the BSA is beyond the recorded geographic or elevational range for these species. Based upon habitats and vegetation communities observed and the criteria described above, the following special-status wildlife species have the potential to be found in the BSA: Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), green sturgeon (*Acipenser medirostris*), white sturgeon (*Acipenser transmontanus*), Central Valley steelhead (*Oncorhynchus mykiss irideus*), chinook salmon (*Oncorhynchus tshawyscha*) (the Central Valley spring-, and fall-run, and Sacramento River winter-run Evolutionarily Significant Units (ESU's) have the potential to occur in and around the Project area), river lamprey (*Lampetra ayresi*), Pacific lamprey (*Entosphenus tridentatus*), Sacramento

splittail (*Pogonichthys macrolepidotus*), hardhead (*Mylopharodon conocephalus*), western pond turtle (*Emys marmorata*), giant gartersnake (*Thamnophis gigas*), Swainson's hawk (*Buteo swainsoni*), northern harrier (*Circus cyaneus*), western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), white-tailed kite (*Elanus leucurus*), bank swallow (*Riparia riparia*), and western red bat (*Lasiurus blossevillii*).

Phase 1 is planned to occur between October and December 2022, depending on the timing of regulatory permit issuance. No in-water construction would occur during Phase 1 replacement of the pipeline. All in-water work associated with Phase 2 would be conducted during the seasonal aquatic work window of June 1 to October 31 the year following the Phase 1 pipeline replacement. The seasonal aquatic work window is an agency approved work window for avoidance and minimization of special-status fish species seasonal migrations and spawning periods, which are discussed below. The seasonal work window may be modified based on conditions of permits issued by regulatory agencies.

Table 3.4-1. Potential Occurrence of Special-Status Species in the Project Area

Scientific Name	Common Name	Status[1]	Habitat	Probability of Occurrence
PLANTS				
Atriplex cordulata var. cordulata	Heartscale	1B.2	Chenopod scrub, valley and foothill grassland, meadows and seeps in alkaline flats and sandy soils.	**Absent**. Suitable soils and habitat are not present within the Project area. The nearest recent recorded occurrence is a 2002 CNDDB occurrence for which an exact location is unknown, but is mapped along SR 20, three miles southeast of Colusa and just west of the Project area (CalFlora 2021; CDFW 2021).
Hibiscus lasiocarpos var. *occidentalis*	Woolly rose-mallow	1B.2	Freshwater soaked riverbanks, marshes, and swamps with low peat islands in sloughs or riprap levees.	**Low.** Low value habitat is present in Project area. The nearest recorded occurrence is from 1977 (CNDDB Occ. #5) and located approximately four miles northeast of the Project area where it was observed in an irrigation ditch, which has likely been disturbed since the time of the recorded observation.
Trichocornonis wrightii var. wrightii	Wright's trichocoronis	2B.1	Marshes and swamps, riparian forest, meadows and seeps, mud flats of vernal lakes and drying riverbeds.	**Absent.** Low value habitat is present in Project area. The nearest occurrence was documented in 1953 (Occ. #7) in a rice field approximately 9.5 miles south of the Project area.

Scientific Name	Common Name	Status[1]	Habitat	Probability of Occurrence
INVERTEBRATES				
Branchinecta conservatio	Conservancy fairy shrimp	FE	The habitat characteristics typical of the pools that support the longhorn fairy shrimp are clear to turbid pools often in alkaline soils. These include clear-water depressions in sandstone outcroppings, grass-bottomed pools, and claypan pools.	**Absent.** No suitable habitat is present onsite or adjacent to the Project area for this species. Nearest recent recorded occurrence (Occ. #13) is from 2004 is approximately 21 miles northwest of the Project area in the Sacramento National Wildlife Refuge. No modeled habitat on or near site in PG&E's Multi Region Habitat Conservation Plan (MRHCP) (ICF 2020).
Branchinecta lynchi	Vernal pool fairy shrimp	FT	Endemic to the grasslands of the central valley, central coast mountains, and south coast mountains, in astatic rain-filled pools. Regionally inhabits small, clear-water sandstone depression pools and grassed swale, earth slump or basalt-flow depression pools.	**Absent.** No suitable habitat is present onsite or adjacent to the Project area for this species. Nearest recent recorded occurrence (Occ. #397) is from 2012 is approximately 3.5 miles northwest of the Project area at the Dolan Ranch Conservation Bank. No modeled habitat on or near site in MRHCP (ICF 2020).
Lepidurus packardi	Vernal pool tadpole shrimp	FE	Found in seasonally ponded habitats including vernal pools, swales, and ephemeral drainages. May occur in stock ponds, reservoirs, and ditches that provide suitable hydrologic	**Absent.** No suitable habitat is present onsite or adjacent to the Project area for this species. Nearest recent recorded occurrence (Occ. #168) is from 2012 is approximately 3.5 miles northwest of the Project area at the

Scientific Name	Common Name	Status[1]	Habitat	Probability of Occurrence
			conditions.	Dolan Ranch Conservation Bank. No modeled habitat on or near site in MRHCP (ICF 2020).
Desmocerus californicus dimorphus	Valley elderberry longhorn beetle	FT	Occurrences of the VELB are primarily in the vicinity of moist valley oak woodlands associated with riparian corridors in the lower Sacramento River and upper San Joaquin River drainages (U.S. Fish and Wildlife Service 1984). Elderberry plants are obligate hosts for the VELB, providing a source of food and brood wood.	**High.** VELB was not observed during biological surveys; however, two elderberry shrubs were mapped within the Project area and at least one shrub will need to be removed for completion of the Project. Nearest recent recorded occurrence of VELB (CNDDB Occ. #267) is from 2011 is approximately 2.5 miles southwest of the Project area. MRHCP modeled habitat for VELB occurs on the west bank of the Sacramento River at the Project location (ICF 2020).
FISH				
Acipenser medirostris	Green sturgeon – Southern DPS	FT, CSC	Anadromous fish species found in nearshore marine and estuarine environments from Alaska to Baja California, Mexico. Juveniles have been collected in the San Francisco Bay up to the lower reaches of the Sacramento and San Joaquin Rivers. Green	**High.** Suitable migration habitat occurs at the Project area. Juvenile and adult green sturgeon have been recorded migrating up the Sacramento River to the remaining spawning grounds north of the Highway 162 bridge; however, the Project area is south of the species' known spawning range. Green sturgeon have been detected using biotelemetry at the

Scientific Name	Common Name	Status[1]	Habitat	Probability of Occurrence
			sturgeon depend on large rivers to spawn, typically in deep pools in large turbulent mainstem rivers. Spawning is documented in Sacramento River, but little is known about specific spawning locations.	Butte City Bridge and juveniles are annually observed at the Red Bluff fish passage monitoring station, suggesting that fish move through the Project area during migration to spawning habitat (NOAA 2021).
Acipenser transmontanus	White Sturgeon	CSC	Spend most of their time in estuary habitat and migrate up the Sacramento and San Joaquin Rivers to spawn.	**High.** This species has been documented migrating through the Sacramento River between February and March; however, site does not provide suitable spawning habitat.
Entosphenus tridentata	Pacific lamprey	CSC	The adults live at least one to two years in the ocean and then return to fresh water to spawn. Require gravel for spawning.	**Moderate**. Pacific lamprey are known to occur in major river systems on the west coast, including the Sacramento and San Joaquin Rivers. The species could be found in the vicinity of the Project area; however, habitat onsite is not suitable for spawning.
Hypomesus transpacificus	Delta smelt	FT, SE	Endemic to the upper Sacramento/San Joaquin Delta, it mainly inhabits the freshwater-saltwater mixing zone of the estuary, except during its spawning season, when in moves into freshwater during the early	**Absent.** Suitable habitat is not present in Project area. Project area is outside of species current northern range. Nearest recorded occurrence is over 25 miles downstream of the Project area.

Scientific Name	Common Name	Status[1]	Habitat	Probability of Occurrence
			spring months from March until May. The most upstream spawning location is confluence of the Sacramento and Feather Rivers at Verona Marine, Sutter County, located downstream of the Project area (CDFG 2012).	
Lampetra ayresi	River lamprey	CSC	Lower Sacramento, San Joaquin, and Russian Rivers. Spawning may occur in gravelly riffles in permanent streams with sandy backwaters for ammocoetes (larvae).	**Moderate**. River lamprey is known to occur in the San Francisco Bay-Delta; however, detailed information on their distribution is lacking. Appears to be concentrated only in particular rivers, and only in the lower portions of large rivers. Nearest occurrences are reported north of the City of Sacramento in the Sacramento- Lower Thomas and Stone Corral Watersheds (CDFW 2020a). There is potential that this species could migrate through the Project area; however, habitat onsite is not suitable for spawning.
Mylopharodon conocephalus	Hardhead	CSC	Sacramento, San Joaquin, and Russian River habitats, side pools, and creeks/tributaries where clear, deep pools with sand-gravel-boulder bottoms	**Moderate.** This species could be found during seasonal migrations to upstream spawning tributaries. Nearest recorded occurrences (CNDDB Occ. # 19, 20, and 21) are 2007 occurrences located on

Scientific Name	Common Name	Status[1]	Habitat	Probability of Occurrence
			occur with slow water velocity. Spawn where substrates include sand, gravel, and decomposed granite.	the north fork of the Feather River approximately 55 miles northeast of the Project area.
Oncorhynchus mykiss irideus pop. 11	Central Valley DPS steelhead	FT	Sacramento and San Joaquin River systems, Sacramento-San Joaquin Delta, and San Francisco Bay	**High**. The species occurs in the Project area seasonally during migration to spawning habitat upstream of the Project area; however, habitat onsite is not suitable for spawning. The species was detected intermittently between late fall and early spring at the Tisdale Middle Sacramento Monitoring Station, approximately 10 miles downstream of the Project area (CDFW 2020b).
Oncorhynchus tshawytscha	Central Valley spring-run chinook salmon ESU	FT, ST	Sacramento River, Sacramento-San Joaquin Delta, and San Francisco Bay	**High.** The species occurs in the Project area seasonally during migration to spawning habitat upstream of the Project area. The species was detected at the Tisdale Middle Sacramento River Monitoring Station approximately 10 miles downstream of the Project area and its abundance peaks in March and April (CDFW 2020b).
	Central Valley fall-run	CSC	Sacramento River, Sacramento-San Joaquin	**High.** The species occurs in the Project area seasonally during

Scientific Name	Common Name	Status[1]	Habitat	Probability of Occurrence
	chinook salmon ESU		Delta, and San Francisco Bay	migration to spawning habitat upstream of the Project area. The species was detected at the Tisdale Middle Sacramento Monitoring Station between January and May (CDFW 2020b).
Oncorhynchus tshawytscha	Sacramento winter-run chinook salmon ESU	FE, SE	Sacramento River, Sacramento-San Joaquin Delta, and San Francisco Bay	**High.** The species is known to occur in the Sacramento River and is likely to occur in the Project area during migration to spawning habitat upstream of the Project area. Habitat onsite is not suitable for spawning. The species was detected October through March at the Tisdale Middle Sacramento River monitoring station approximately 10 miles downstream from the Project area and their abundance peaks during December (CDFW 2020b).
Pogonichthys macrolepidotus	Sacramento splittail	CSC	Commonly occur in Sacramento River, Sacramento-San Joaquin Delta. Occasionally will migrate out to San Francisco and Pablo Bay during high flow years.	**High.** The species is known to occur in the Sacramento-Stone Corral Watershed (HUC 18020104) and is likely to occur during migration; however, habitat on-site is not suitable for spawning.

Scientific Name	Common Name	Status[1]	Habitat	Probability of Occurrence
AMPHIBIANS				
Ambystoma californiense	California tiger salamander	FT, ST	Occurs in grassland habitat. Needs underground refuges, especially ground squirrel burrows during summer and vernal pools or other seasonal water sources for breeding in winter.	**Absent. T**he Project area is outside the currently recognized range for the species. Nearest recent occurrence (Occ. #1085) is recorded near the Dunnigan Hills, approximately 19 miles southwest of the Project Area in Yolo County (CDFW 2021). No modeled habitat on or near site in MRHCP (ICF 2020).
Rana draytonii	California red-legged frog	FT, CSC	Found in marshes, lakes, reservoirs, ponds, slow parts of streams, and other usually permanent water in lowlands, foothill woodlands, and grasslands. Require areas with extensive emergent vegetation. High value habitats are deep-water ponds with dense stands of overhanging willows and a fringe of cattails.	**Absent.** Project area is known to be outside of species current range and no suitable habitat occurs in the Project area. Nearest recent recorded occurrence (Occ. #1657) is from 2013 is approximately 45 miles east in Yuba County. No modeled habitat on or near site in MRHCP (ICF 2020).
REPTILES				
Emys marmorata	Western pond turtle	CSC	Ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Needs basking sites and suitable upland	**Moderate.** Riverine habitat within the Project area provides potentially suitable habitat for the species. Basking habitat is present in the form of woody debris and

Scientific Name	Common Name	Status[1]	Habitat	Probability of Occurrence
			habitat (sandy banks, grassy open fields) for egg laying	logs, and individuals may be able to access limited terrestrial habitat on the east bank. Upland nesting habitat in the Project area is extremely limited due to high level of human disturbance and limited access to terrestrial locations from the riverbanks at the Project area.
Thamnophis gigas	Giant gartersnake	FT, ST	Freshwater marshes and streams. Has adapted to drainage canals and irrigation ditches.	**Moderate.** The riverine aquatic habitat within the Project area provides atypical and marginal habitat elements for giant gartersnake. Levees on either side of the River provide marginal basking habitat and limited nearby upland refugia for protections from predators. There is no emergent wetland vegetation in the Sacramento River at this location to offer preferred foraging habitat. The west bank is steep and supports riparian cover making this area unsuitable for basking or dispersal. Aquatic habitat within an irrigation ditch adjacent to the eastern Project area supports seasonal flows associated with agricultural irrigation. The ditch is concrete-lined and managed and cleared of

Scientific Name	Common Name	Status[1]	Habitat	Probability of Occurrence
				vegetation on the banks on a regular basis. The adjacent agricultural land on west and east Project areas consist of pastureland and walnut orchards which does not provide suitable habitat. Rice is grown in the region and offers the most suitable giant gartersnake habitat in the area. The nearest rice fields are approximately 0.5-mile east of the Project area east of the town of Meridian. The nearest recorded occurrence is located about two miles south of the Project area and is a 2002 occurrence (CNDDB Occ. #218) along Buster Road. A more recent occurrence from 2015 occurs 2.5 miles southwest of the Project area on a levee road surrounded by irrigation ditches (Occ. #411). Several more occurrences are documented in the same proximity ranging from 1997 to 2015. These occurrences have restricted hydrologic connectivity to the Sacramento River (Occ. #223, #381). MRHCP modeled habitat

Scientific Name	Common Name	Status[1]	Habitat	Probability of Occurrence
				for giant gartersnake occurs on the Sacramento River at the Project location (ICF 2020).
BIRDS				
Agelaius tricolor	Tricolored blackbird	ST, CSC	Breeding habitat is often found near a source of water and in a grassland, woodland, or agricultural cropland.	**Low**. Suitable nesting habitat is not present in the Project area; however, individuals may transit through the Project area. The nearest recorded occurrence (Occ. #112) is in the town of Meridian including the Project area but was last seen in 1935.
Antigone canadensis tabida	Greater sandhill crane	ST, FP	Nests in wetland habitats in northeastern California; winters in the Central Valley where it prefers grain fields within four miles of a shallow body of water used as a communal roost; irrigated pasture used as loafing sites.	**Low**. Suitable nesting and roosting habitat is not present in the Project area; however, individuals may transit through the Project area in route to Gray Lodge Wildlife Management Aera colonial wintering roost. The nearest recent recorded occurrence (Occ. #530) is located at the Gray Lodge Wildlife Management Area approximately 14 miles northeast of the Project area.
Branta hutchinsii leucopareia	Cackling goose	FD	Winters on seasonally flooded wetlands and semi-permanent wetlands present in the Butte Sink. Forages on natural pasture or harvested grain fields. Loafs	**Low**. Suitable winter foraging habitat occurs in pasture adjacent to Project area; however, riverine aquatic habitat is not suitable for loafing and Project area is outside of nesting range. Nearest recorded

Scientific Name	Common Name	Status[1]	Habitat	Probability of Occurrence
			on still water including lakes, reservoirs, and ponds.	occurrence (Occ. #1) is from 1978 and is located approximately 1.2 miles southwest of the Project area within a cornfield. Geese are observed annually roosting in the Butte Sink area as well as historic records (Occ. #2 and #4 1978 and 1985), approximately 3.4 miles north of the Project area.
Buteo swainsoni	Swainson's hawk	ST	Nests in riparian forests, remnant riparian trees, planted wind breaks, residential shade trees, and solitary upland oaks. Requires adjacent suitable foraging areas such as grasslands, alfalfa, or grain fields supporting rodent populations.	**Present.** This species was observed during biological surveys and is likely to nest and forage within 0.5-mile of the Project area. Suitable nest trees occur on and immediately adjacent to the Project area. Nesting sites were documented in close proximity to the Project area. A 2004 nest occurrence (Occ.# 2087) was documented along SR 20 approximately 1.4 miles west of the Project area. Historic nests on the Sacramento River within 0.2 miles of the site were recorded in 1986 (Occ. # 26 and #230) within tall cottonwood trees surrounded by riparian habitat. Nesting occurrences were not observed during 2021 surveys, but mating behavior was observed during March surveys and foraging

Scientific Name	Common Name	Status[1]	Habitat	Probability of Occurrence
				individuals were observed during all survey efforts.
Circus hudsonius	Northern harrier	CSC	Forages and nests in freshwater and brackish marshes and their adjacent grasslands.	**Present.** Species was observed during surveys foraging in fields adjacent to the Project area. Suitable nesting habitat does not occur onsite due to the level of disturbance and lack of vegetation in terrestrial habitat within the study area, but suitable nesting habitat occurs in the area surrounding the Project area.
Coccyzus americanus occidentalis	Western yellow-billed cuckoo	FT, SE	Riparian forest nester, along broad, lower flood-bottoms of large rivers. Nest in riparian jungles of willow, often mixed with cottonwood, with a lower story of black berry, nettles, or wild grape.	**Moderate.** Suitable habitat for this species is present on-site; however, riparian habitat is lacking preferred size and density for nesting. Nearest recorded occurrence is from 1976 (Occ. #140) and is located approximately 4 miles north of the Project area; however, a more recent observation (Occ. #27) was documented in 2013 near the town of Colusa, approximately 7 miles northwest of the Project area.
Elanus leucurus	White-tailed kite	FP	Rolling foothills / valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Forages over	**Moderate.** The species is relatively common in the Project area and suitable nesting habitat is present in the riparian habitat on the west bank of the Sacramento

Scientific Name	Common Name	Status[1]	Habitat	Probability of Occurrence
			grasslands, marshes, and oak savannas close to isolated, dense-topped trees for nesting and perching.	River.
Riparia riparia	Bank swallow	ST	Colonial nester which nests primarily in riparian and other lowland habitats. Requires vertical banks/sheer cliffs with fine-textured/sandy soils near streams, rivers, lakes, or ocean to dig nesting hole.	**Moderate.** Suitable nesting habitat is not present within the Project area; however, species could forage onsite given proximity to nesting colony known to occur on the Sacramento River south of the Project area. Nearest recent occurrence (Occ. #220) is located 1.4 miles south of the Project area.
MAMMALS				
Lasiurus blossevillii	Western red bat	CSC	Roosts primarily in trees and prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.	**Moderate.** Suitable roosting habitat in cottonwood and sycamore trees near Project area. Nearest recorded occurrence (Occ. #62) is from 1999 and is located approximately 3.2 miles northwest of the Project area within a similar riparian corridor along the Sacramento River. The Project does not involve the removal of trees that provide suitable habitat.

Status Codes[1]:

BCC United States Fish and Wildlife Service (USFWS) Bird of Conservation Concern
CSC California Species of Special Concern
FD Federally Delisted
FE Federal Endangered

FP CDFW Fully Protected
FT Federal Threatened
SE California State Endangered
ST California State Threatened
CRPR 1B.1 = Threatened in California and elsewhere, seriously threatened in California
CRPR 1B.2 = Threatened in California and elsewhere, moderately threatened in California
CRPR 2B = Plants rare, threatened, or endangered in California but more common elsewhere

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Figure 3.4-1. Phase 1 Biological Impacts Map

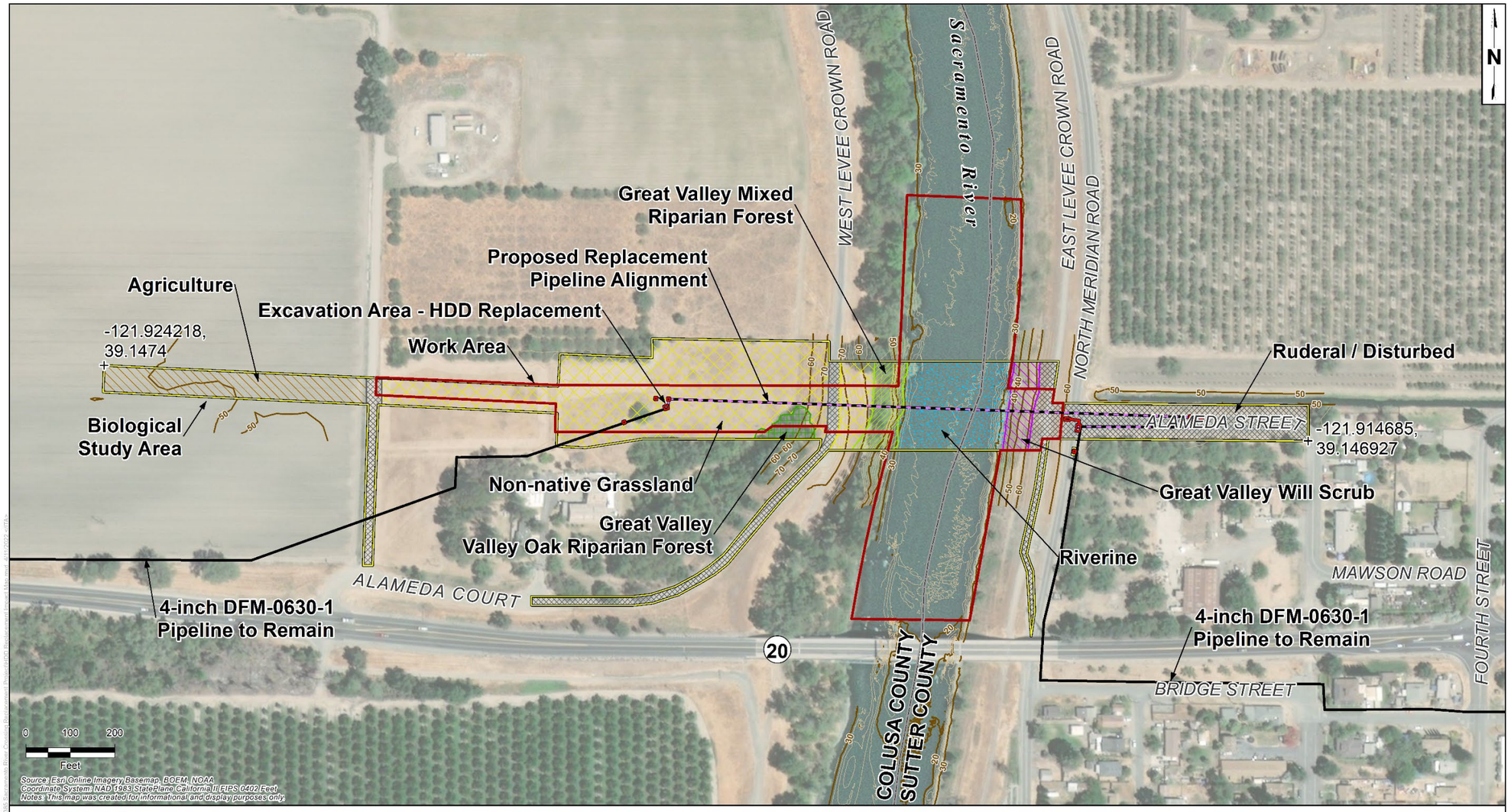
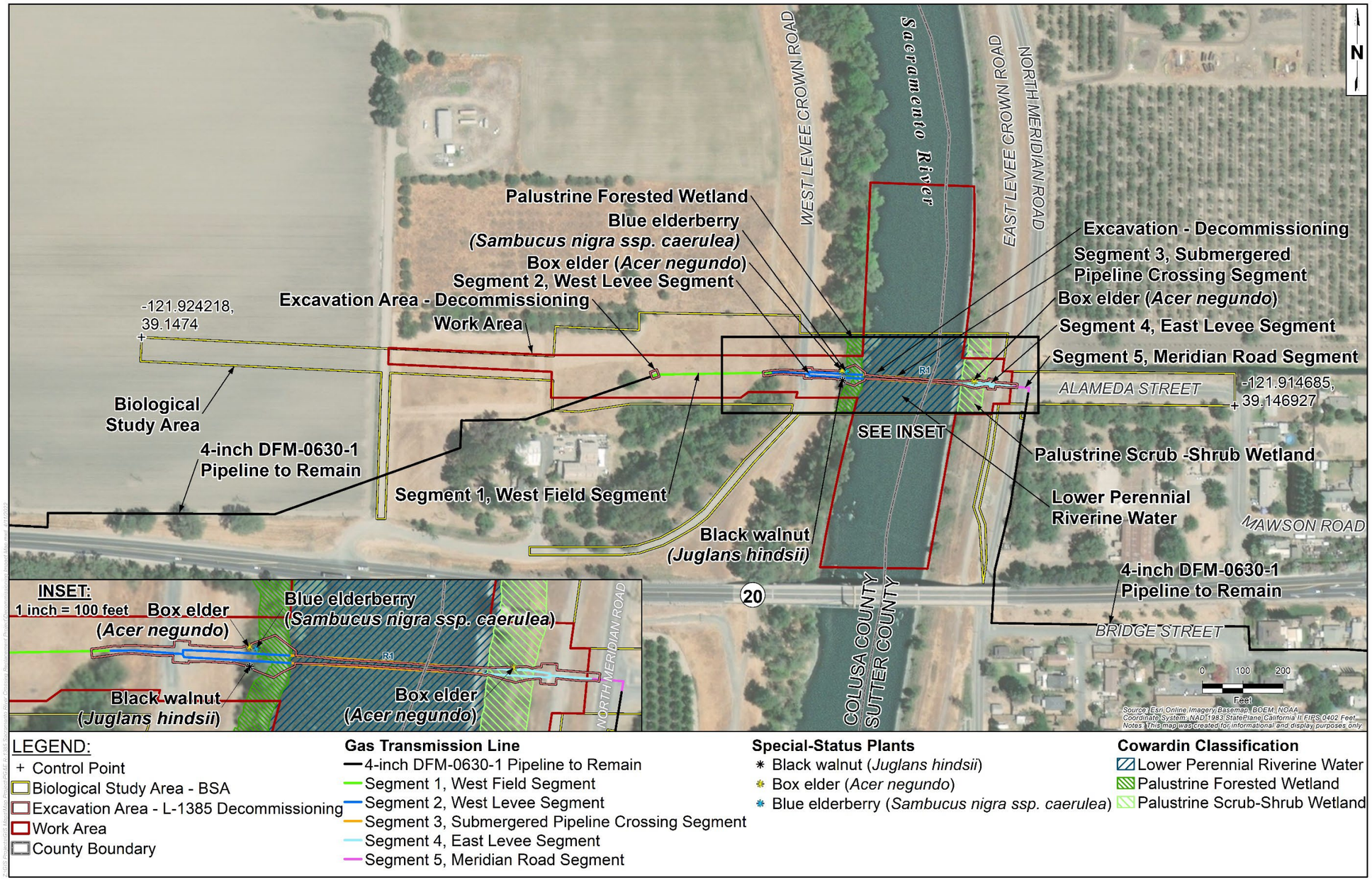


Figure 3.4-2. Phase 2 Biological Impacts Map



3.4.1.5 Wildlife Corridors

Wildlife migration corridors are generally defined as connections between fragmented habitat patches that allow for physical and genetic exchange between otherwise isolated wildlife populations. Migration corridors may be local, such as those between foraging and nesting or denning areas, or they may be regional in extent. Migration corridors are not unidirectional access routes; however, reference is usually made to source and receiver areas in discussions of wildlife movement networks. “Habitat linkages” are migration corridors that contain contiguous strips of native vegetation between source and receiver areas. Habitat linkages provide cover and forage sufficient for temporary inhabitation by a variety of ground-dwelling animal species. Wildlife migration corridors are essential to the regional fitness of an area as they provide avenues of genetic exchange and allow animals to access alternative territories as fluctuating dispersal pressures dictate.

The middle reach of the Sacramento River, including the Project area, is centered between several protected and managed wildlife refuges including the Gray Lodge Wildlife Area and the Sacramento River, Delevan, Colusa, and Sutter National Wildlife Refuges. The Sacramento River provides an important migration and dispersal corridor for mammals, reptiles, and birds to these refuges, particularly areas with contiguous riparian vegetation through a portion of the state where the majority of land is agricultural land use. Mammals and reptiles present within this area likely use the upland agricultural and range lands as well as riparian cover as a travel corridor regardless of the season. Birds such as warblers, hummingbirds, etc. migrate to higher elevations of the adjacent Cortina Ridge and Sierra Nevada ranges in the spring, and lower elevations in the fall. The riparian habitat offers shelter, forage, and water for migrating species traversing to the Sierra Nevada Range to nest. Resident species may make local migrations for foraging or nesting habitat along the river. Additionally, the Sacramento River provides seasonal migration habitat for anadromous and other native fish species moving upstream to spawning grounds and provide connections for resident fish species to other aquatic habitats within the watershed.

3.4.2 Regulatory Setting

Federal and State laws and regulations pertaining to biological resources and relevant to the Project are identified in Appendix A. Local policies or regulations applicable to the Project with respect to biological resources identified in Appendix B.

3.4.2.1 PG&E Habitat Conservation Plans

PG&E has USFWS-approved Habitat Conservation Plans (HCPs) that provide a comprehensive framework to conserve and protect federally listed species in support of a federal incidental take permit for the covered species for PG&E Operations and

Maintenance (O&M) activities in the San Joaquin Valley Region, Bay Area Region, and Multiple Regions (Sacramento Valley and Foothills, North Coast, and Central Coast) (Jones & Stokes 2007; ICF 2017; ICF 2020). The Project activities in both Sutter and Colusa counties would be covered in the Multi Region Habitat Conservation Plan (MRHCP). The PG&E MRHCP was developed in collaboration with the USFWS and was implemented in 2020. The MRHCP is a model-based HCP that incorporates the use of modeled habitat developed in collaboration with the USFWS for covered species. Modeled habitat is used as a tool to facilitate automatic screening of an impact area to determine covered species occupancy and apply take coverage of the appropriate HCP.

For the purposes of species evaluated in this analysis, the MRHCP shows modeled habitat for two species: the VELB and GGS. Listed species-related impacts of the Project cannot be entirely covered by the MRHCP because listed fish species that occur within the Project area are not covered by the HCP. Because the Project area includes modeled habitat for VELB and GGS, all relevant MRHCP field protocols and avoidance and minimization measures would be implemented by the Project. These measures are considered to be practicable where physically possible and not conflicting with other regulatory obligations or safety considerations. A list of field protocols can be found in the PG&E MRHCP and Appendix E (ICF 2020).

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

Heavy equipment operation and associated noise, riverbed disturbance, dust from ground disturbance including grading and excavation, and an increase in human presence have the potential to disrupt special-status wildlife species and their habitat.

<u>Phase 1</u>

Mobilization for the Phase 1 activities is currently planned for October 2022, with HDD drilling operations to be completed in December 2022. No in-water construction would occur during Phase 1. Effects on special-status species and their habitat during Phase 1 primarily include temporary impacts associated with excavation for HDD bore pits and presence of heavy drilling equipment. Following pipeline replacement, all HDD bore pits would be backfilled with native soils, and the site restored at the conclusion of work. There would be no permanent impact to habitat as part of the Project. Temporary direct impacts associated with the Project include ground disturbance and presence of work

crews and equipment in agricultural, grassland, and disturbed areas (Figure 3.4-2). Indirect impacts include invasion of non-native plants into natural areas, noise disturbances, and temporary declines in air quality.

Disturbance from Ground Disturbance and Construction Equipment. Construction activities during Phase 1 have the potential to indirectly impact nesting Swainson's hawk and other nesting birds, specifically in riparian habitats adjacent to the Sacramento River, if they occur during the nesting season.

Swainson's Hawk and Nesting Birds. The State-threatened Swainson's hawk occurs in the Project vicinity and could nest in proximity to construction areas. There are known nesting occurrences of Swainson's hawk within 0.5 mile of the Project area and it is likely that active nests could occur in proximity to construction activities, if conducted during the nesting season. Terrestrial impacts would occur to annual grassland, agricultural fields, and riparian habitat in the West Work Area, all of which provide suitable Swainson's hawk nesting and foraging habitat; however, terrestrial impacts would be short term and temporary and would not result in permanent impacts or loss of foraging habitat. Additionally, no trees that provide suitable nesting habitat would be removed.

Because Swainson's hawk is a State-listed species, and there are known nesting occurrences in the vicinity of the Project area, there is the potential that construction near a Swainson's hawk nest could disrupt breeding activities if construction occurs during the nesting season. Any Project activities that take place outside the Swainson's hawk nesting season would avoid potential impacts. For any construction occurring during the nesting season, **MM BIO-1** would require Project activity postponement or, if infeasible, active monitoring to protect active Swainson's hawk nests and nestlings. With the implementation of this measure, impacts would be less than significant.

MM BIO-1: Swainson's Hawk Nesting Season Avoidance or Pre-Construction Surveys. For Project activities within Swainson's hawk nesting season (March 1 to September 15), a qualified biologist, approved by CSLC staff, shall conduct pre-construction Swainson's hawk surveys within one week prior to any construction disturbance. If active Swainson's hawk nests are identified near the Project area, then based on nest protection buffers outlined in PG&E's Nesting Bird Management Plan the following shall be required:

- Postpone Project activities within 0.25 mile of the nest until after the young have fledged and are no longer dependent on the nest tree; and
- If it is not possible to postpone Project activities, construction activities may only proceed with both CDFW approval and nest monitoring by a qualified raptor biologist. If the monitoring biologist observes signs of

distress, then they shall have the authority to stop construction work. If the nest is abandoned due to Project-related disturbance, but the nestlings are still alive, PG&E is required to fund the nestlings' recovery, rearing in captivity, and subsequent controlled release.

Ground disturbing activities and the presence of heavy equipment during Phase 1 could indirectly impact bird species protected under the Migratory Bird Treaty Act (MBTA) of 1918 (16 USC 703-711) and Fish and Game Code (Sections 3503, 3503.5, and 3800) or raptors or other special-status bird species such as northern harrier or white-tailed kite that may nest in the riparian habitats present in the Project area. The laws and regulations prohibit the take, possession, or destruction of birds, their nests, or eggs. Disturbance that causes nest abandonment or loss of reproductive effort could be considered a "take." **MM BIO-2** would reduce impacts to less than significant levels by scheduling ground disturbing activities outside of nesting season or requiring pre-construction surveys to identify and protect active nests, if present.

MM BIO-2: Nesting Bird Season Avoidance or Pre-Construction Surveys. If Project-related vegetation removal and ground-clearing activities are scheduled between March 1 and August 1, then pre-construction surveys shall be conducted within one week prior to the start of construction in potential nesting habitat within 350 feet of the Project area to identify nest sites. If an active raptor or passerine bird nest is identified, an appropriate species-specific nest protection buffer shall be identified based on PG&E's Nesting Bird Management Plan and site-specific conditions. A pre-construction nesting survey report shall be prepared and submitted to CDFW and CSLC within one week of pre-construction surveys, that outlines the surveys conducted, nest locations identified, and recommended nest protection buffers. Construction activities shall be prohibited within the established buffer zones until the young have fledged.

Inadvertent Releases. Although Phase 1 equipment would be located in the upland areas, the pilot borehole drilling and reaming have the potential for drilling fluids (predominantly bentonite clay) to migrate from the drill hole to surrounding fractured rock and sediments and be discharged to the surface water along the HDD alignment in the Sacramento River. This inadvertent release could impact water quality and aquatic species through increased turbidity. **MM HAZ-2** requires an Inadvertent Release Contingency Plan that monitors and records the drilling fluid volumes, pressures, and flow rates as well as including equipment that will be on-site to contain and clean up a drilling fluid spill. The Inadvertent Release Contingency Plan also includes the procedure to follow if a release occurs, including halting drilling operations, documenting the drilling fluid release, notifying stakeholders, and containing the spill. With the implementation of this measure, the impact would be less than significant.

Phase 2

Effects on biological resources during the Project's Decommissioning Phase include primarily temporary impacts associated with pigging and flushing of the existing pipeline, pumping of concrete slurry into sections of pipeline designated to be retired in place, and excavation and removal of segments of pipeline from the Sacramento River and adjacent upland areas. There would be no permanent impact to habitat as part of the Project.

Temporary direct impacts associated with the Project include habitat disturbance and vegetation removal. Indirect impacts include invasion of non-native plants into natural areas, noise disturbances, and temporary declines in air and water quality. Removal of pipelines and associated debris from the riverbed would result in restored underwater habitat at these locations once the Project is complete.

All in-water work associated with Phase 2 would be conducted during the agency-approved aquatic work window of June 1 to October 31, which is a combined species work window for avoidance and minimization of special-status fish species seasonal migrations and spawning periods (resident fishes and anadromous fishes). Phase 2 is currently planned to occur the year following Phase 1, beginning in June and concluding in August 2023; however, the construction schedule may be adjusted within the seasonal aquatic work window, if necessary.

Habitat Disturbance and Vegetation Removal. Project decommissioning may result in impacts to special-status raptors and nesting birds as well as reptile, fish, and insects that may occur within the Project area. Disturbance would occur during vegetation removal, excavations to remove pipeline and valve boxes within levees, as well as potential increased turbidity due to disturbance of riverbed sediments during in-water work.

Swainson's Hawk and Nesting Birds. Nesting Swainson's hawks and other migratory birds have the potential to be impacted by ground disturbance, noise, and vegetation removal activities during Phase 2 activities. Implementation of **MM BIO-1** and **MM BIO-2** would reduce impacts to nesting birds and Swainson's hawk to less than significant levels by scheduling vegetation removal and ground disturbance outside of nesting season or requiring pre-construction surveys to identify and protect active nests.

Giant Gartersnake (GGS). Based on the review of pertinent literature, the proximity to known occurrences, and biological surveys, GGS has a moderate likelihood of occurrence within aquatic habitat in the Project area. Furthermore, the Sacramento River in the Project Area is modeled habitat for GGS in the PG&E MRHCP. Implementation of the Project may result in short-term temporary impacts to the GGS but will not result in permanent impacts or loss of habitat. **MM BIO-3** would be

implemented to ensure GGS are not directly impacted, and habitat is avoided to the extent practicable. Implementation of **MM BIO-3** is consistent with the PG&E MRHCP and would reduce impacts to less than significant levels.

MM BIO-3: Giant Gartersnake Work Window and Pre-Construction Surveys. Project activities shall be conducted during the GGS active season (May 1 to October 1) to the extent practicable. A qualified biologist, approved by CSLC, shall conduct a survey and identify where exclusion fencing is needed within the Project area. If needed, a solid exclusion fence shall be installed around the perimeter of work sites and shall be inspected weekly. Burrows and other refuge habitat shall be avoided to the extent practicable.

If work will be conducted during the inactive period (October 2 to April 30), then PG&E shall conduct preparation work during the snake's active period to make construction areas ready for work during the inactive season. Preparation work can include, at a minimum, adding baserock to access roads and work sites, grading access roads and work sites, and installing work zone exclusion fencing. If GGS are encountered during construction activities, snakes shall be allowed to move away from construction activities, or if relocation is required, a biologist shall follow USFWS handling protocols and move snakes to the nearest appropriate habitat out of harm's way.

Western Pond Turtle (WPT). Based on the review of pertinent literature, the proximity to known occurrences, and biological surveys, WPT has a moderate potential for occurrence, particularly in aquatic habitat on the Sacramento River. Implementation of the Project would result in short-term temporary impacts to WPT and is not likely to impact nests due to the high level of existing human disturbance in upland habitats. However, no permanent impact or loss of aquatic habitat would occur because of the Project. **MM BIO-4** would ensure that impact to WPT and their habitat are reduced to less than significant levels by making sure work areas near aquatic habitats are clear of individual animals prior to work and exclude WPT from work areas following clearance surveys.

MM BIO-4: Western Pond Turtle (WPT) Pre-Construction Surveys. A qualified biologist, approved by CSLC, shall conduct pre-construction surveys for WPT within 48 hours prior to ground disturbance to ensure that individuals are not present in the work area. Prior to ground disturbance activities, a barrier, such as wildlife exclusion fencing, shall be placed around the excavation area to prevent WPT from moving into work areas. A qualified biological monitor shall be present to monitor Project activities during all in-water work and initial ground disturbance that has the potential to impact special-status species. Should WPT be found within the work areas, a qualified biologist shall relocate the species outside of work area barriers.

Special-status Fish Species. The in-water work for the removal of the existing pipelines from the Sacramento River associated with Phase 2 could impact special-status fish species, if present, in the Project area. Water quality is an important factor in determining habitat suitability for special-status fish species, particularly salmonids. The primary water quality concern for fish during in-water excavation is turbidity. Bell (1991) noted that salmon suffer more physical distress in turbid water than other species. Harvey and White (2008) reported an overall reduced benthic feeding and drift feeding in juvenile cutthroat trout and coho salmon in an artificial stream as turbidity increased from 0 to 400 Nephelometric Turbidity Units (NTU). No change in feeding was observed at the 50 NTU level but declined by 15 percent in coho and 7 percent in cutthroat at 100 NTU. At 200 NTU, feeding declined precipitously by 92 percent in coho and 43 percent in cutthroat. Neither species fed at 400 NTU. Drift feeding was more adversely affected with increasing turbidities as salmonids rely on sight. Turbidity in the range of 50 to 100 NTU did not severely inhibit benthic feeding by juvenile salmonids, which was consistent with data reported by Gregory and Northcote (1993) for juvenile Chinook salmon at turbidities of 35, 70, and 150 NTU in aquaria studies. Chronic turbidity levels of 25 to 50 NTU are physiologically damaging to salmonids and turbidity levels over 50 NTU result in decreased feeding in salmonids (Sigler et al. 1984).

Winter and spring flows associated with increased River stages result in higher turbidity because increased flows have more energy to scour and suspend sediments in the River. Turbidity levels are higher in the middle reach of the Sacramento River in winter, probably because of upstream tributary input. Water quality data from 2020 to 2021 at the Tisdale Middle Sacramento River monitoring station, report that turbidity levels can range from 1.5 to 6.0 NTUs during fall and early winter, and spike to 8.0 to 23.1 NTUs, presumably during discrete high flow events in late-January through March (CDFW 2020c). In addition, historic data from the USGS station Sacramento River at Colusa (1977 to 1980) shows that historically turbidity is lower from May through November (72 to 97 milligrams per liter [mg/L] suspended sediment concentration) and increases between December and March (143 to 259 mg/L) (USGS 2022). Increases in turbidity associated with Project-related in-water excavation would be expected to result in a turbidity plume in the area immediately surrounding the excavation, but typically settle out of the water column within a short distance downstream. Based on previous experience with similar projects, the increase in turbidity resulting from in-water excavation is expected to remain within the normal range for the highly variable turbidity levels that naturally occur in the Sacramento River.

In-water work would temporarily increase turbidity to the aquatic environment immediately surrounding the pipeline removal location. Increases in turbidity may result in physical effects that adversely affect habitat and temporary suspension of sediments, organic matter, or contaminated constituents contained within the sediments could be introduced into the water column. Large-scale increases of organic matter within a water

column, usually associated with fine sediments, such as silts and clays, may increase dissolved nutrient concentrations, resulting in increased algal blooms and decreased dissolved oxygen when the suspended sediments are anoxic or have a high chemical oxygen demand.

Special-status fish species may use the Project area as a migration corridor; however, the Project area does not support suitable spawning habitat and is not expected to impact spawning populations of special-status fish. Because special-status fish species may use the Project area as a migration corridor and thus could be adversely impacted, the Project's in-water work window from June 1 to October 31 will avoid both disturbance during peak fish migration and overall species impacts that would contribute to diminished spawning success. Implementation of **MM BIO-5** through **MM BIO-7** would reduce impacts to less than significant levels by requiring environmental training for all Project personnel, having biological monitors present during all in-water work to monitor turbidity levels and recommend the use of a turbidity curtain, if determined to be necessary, to be deployed at the in-water work sites to minimize the effects of increased turbidity to surrounding areas.

MM BIO-5 Environmental Training Program. An environmental training program shall be developed and presented by a qualified biologist, approved by CSLC. All contractors and employees involved with the Project shall be required to attend the training program prior to work on the Project. At a minimum, the program shall cover 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.

MM BIO-6 Biological Monitoring. 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 sensitive habitats, and other activities that have the potential to impact special-status species on a daily basis once Project activity begins. If at any time during Project activities 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 area that would not impact these species until the animal is relocated by a qualified biologist. Listed species would be allowed to leave of their own volition, unless immediate action is required to avoid injury or death. Should any listed species require relocation, a qualified biologist shall relocate the species outside of work area barriers and notify USFWS or CDFW.. 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 work and notify CSLC and consult with the appropriate agencies to resolve the impact prior to re-starting work in the area.

MM BIO-7 Turbidity Monitoring Plan. PG&E shall implement a Turbidity Monitoring Plan during all in-water work to ensure that turbidity levels upstream and downstream of the Project area are compliant with regulatory requirements. A CSLC-approved environmental monitor shall be present during in-water work to regularly monitor turbidity levels upstream and downstream of in-water work activities. If the results of the turbidity monitoring plan detect a Project-related increase in turbidity that exceeds the allowable thresholds for increased turbidity, as defined by regulatory permits, corrective measures will be implemented. Corrective measures may include the use of a turbidity curtain or other sediment control devices, alteration to the timing and duration of in-water work and excavation, or minor modifications in methodology that result in a reduction of in-water excavation.

Valley Elderberry Longhorn Beetle. Vegetation removal activities during Phase 2 could impact VELB, if they are present in the Project area. VELB was not observed during biological surveys; however, two host plants, blue elderberry shrubs, were mapped within the Project area and at least one blue elderberry shrub occurs on the existing pipeline alignment and will need to be removed during the decommissioning phase of the Project. The shrub had stems greater than 1 inch in diameter and would be considered potential VELB habitat located within riparian habitat. Implementation of **MM BIO-8** through **MM BIO-10** are consistent with the PG&E MRHCP and would reduce impacts to less than significant levels by requiring environmental training for all Project personnel, identifying blue elderberry shrubs in the Project area and creating work exclusion zones, avoiding the removal of blue elderberry shrubs where feasible, and implementation of MRHCP Conservation Strategies.

MM BIO-8 Valley Elderberry Longhorn Beetle Training. All personnel, including PG&E employees and contractors, who are likely to encounter blue elderberry plants or VELB, especially during vegetation removal activities, are required to receive training on VELB. A qualified biologist, approved by CSLC staff, shall provide training to all contractors prior to the start of work on the Project.

MM BIO-9 Valley Elderberry Longhorn Beetle Habitat Avoidance. When ground-disturbing activities will be implemented within 20 feet of blue elderberry, a qualified biologist, approved by CSLC staff, will identify a work exclusion zone (i.e., 5 to 20 feet of the dripline of all blue elderberry shrubs), with pin flagging or other appropriate means, within which ground disturbance, tree felling, and equipment and vehicle operation will be avoided or minimized. Except for cut

stump treatment of removed trees (non-elderberry), herbicides will not be used within this zone. When performing vegetation maintenance work in compliance with Public Resources Code Sections 4291–4293, pruning, rather than removal of blue elderberry plants, will be performed where feasible.

MM BIO-10 Blue Elderberry Shrub Removal Documentation and Conservation. Permanent impacts due to blue elderberry shrub removal will be overseen and documented by a qualified biologist, approved by CSLC, using the PG&E MRHCP Valley Elderberry Longhorn Beetle Habitat Impact Report Field Form. Removal of blue elderberry shrubs during Project activities will be included in the MRHCP annual report for the purposes of PG&E's regional impact and mitigation tracking for VELB. Compensatory mitigation is provided for permanent impacts to the VELB in accordance with the MRHCP Conservation Strategies.

Western Red Bat. Large trees, such as cottonwood and sycamore, occurring in the riparian corridor adjacent to the Project area may provide habitat for roosting bats, including western red bat. Construction disturbance during vegetation removal and ground clearing during the Phase 2 decommissioning activities could impact a maternal roosting colony, if present. Although the work may be conducted during the maternal roosting season (May through August), it is scheduled to occur only during daylight hours when roosting bats are less sensitive to noise impacts. Additionally, vegetation removal consists of California grape and Himalayan blackberry vines, small trees and shrubs that do not provide suitable roosting habitat for bats and the Project would not temporarily or permanently remove or destroy any potential roosting habitat. Therefore, Project impacts would be less than significant.

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

Proposed ground disturbance and vegetation removal associated with Phase 1 would be limited to agricultural and developed areas (Figure 3.4-1). Riparian habitat or other sensitive natural communities would not be directly affected during Phase 1. In addition, **MM HAZ-2** would reduce the likelihood of impacts from inadvertent releases of drilling fluids to riparian or riverine habitats to less than significant.; therefore, impacts would be less than significant.

Phase 2

The Project will result in temporary impacts to 0.07 acre of vegetation, consisting of 0.02 acre of Great Valley willow scrub community and 0.05 acre of Great Valley mixed riparian community, on the banks of the Sacramento River for pipeline decommissioning and removal. These communities within the Project area are not sensitive natural communities but are considered riparian habitat. A narrow band of riparian vegetation occurs along the west bank of the Sacramento River at the pipeline crossing location. Vegetation, primarily consisting of vines, shrubs, and small trees, will need to be cleared for equipment access and removal of the decommissioned pipeline on the west bank of the Sacramento River. One small tree will also need to be removed from the east bank. Tree removal will include riparian species such as boxelder, Northern California black walnut, and blue elderberry. No oak trees occur within the excavation footprint or are planned for removal.

Implementation of **MM BIO-11** would require the preparation of a Project-specific Site Restoration Plan to restore the temporary impact to riparian habitat to pre-Project conditions and reduce potential impacts due to vegetation removal to less than significant

> **MM BIO-11: Site Restoration Plan.** A Site Restoration Plan will be developed that will include the replacement of vegetation removed for completion of the Project, subject to approval by levee authorities for consistency with vegetation allowed to grow within an adopted plan of flood control. A Site Restoration Plan shall provide for restoration of the site to pre-existing conditions to the extent feasible and establish performance criteria and monitoring to ensure restoration to pre-Project conditions. If replacement of large woody vegetation is restricted onsite for consistency with levee authority requirements, offsite replacement for tree removal may be considered. The Site Restoration Plan shall be submitted to the CSLC for approval 30 days prior to the start of construction.

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

Proposed ground disturbance associated with Phase 1 would be limited to agricultural and developed areas. State or federally protected waters and wetlands would not be directly affected. Implementation of **MM HAZ-1** would reduce the potential for impacts

resulting from spills of other hazardous materials to less than significant. Although the likelihood of an inadvertent release of drilling fluids is low, implementation of **MM HAZ-2** would reduce the likelihood of impacts from inadvertent releases to protected waters and wetlands to less than significant.

Phase 2

Phase 2 of the Project would result in temporary impacts to up to 0.09-acre of waters of the U.S and waters of the State and 0.11-acre of CDFW stream features. Figure 3.4-2 depicts temporary impacts to aquatic resources during Phase 2.

These are short-term, temporary impacts, and implementation of **MM BIO-11** will restore and revegetate the site after construction is complete. In addition, **MM HYDRO-1** would reduce erosion, turbidity, and sedimentation to waters and wetlands by ensuring that water quality is protected with standard BMPs and implementation of **MM HAZ-1** would reduce the potential for impacts resulting from spills of hazardous materials to less than significant. With the implementation of these measures, the impacts would be less than significant.

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?

Less than Significant with Mitigation

Phase 1

Proposed ground disturbance associated with Phase 1 would be limited to agricultural and developed areas that are characterized by open spaces and do not provide preferred movement corridors due to their lack of cover. Heavy equipment and staging areas would be limited to the upland areas of the Project footprint, which would allow wildlife to avoid work activities by transiting around the Project area in adjacent riparian habitat corridors. Riparian or riverine habitats would not be affected by Phase 1 activities. Work would not be conducted at night when most mammal movement occurs. Therefore, no impact to other fish or wildlife movement would occur during Phase 1.

Phase 2

Impacts to potential daily or seasonal migrations may occur due to ground disturbance within GGS modeled habitat and WPT aquatic habitat, but not result in permanent impacts or loss of habitat. **MM BIO-3** would be implemented to ensure GGS are not directly impacted, and habitat is avoided to the extent practicable. Implementation of **MM BIO-4** would ensure WPT does not become trapped within work areas and if found

during work activities, is relocated to the nearest location with suitable habitat. With the implementation of these measures, the impact would be less than significant. In addition, implementation of **MM BIO-3** is consistent with the PG&E MRHCP and will reduce impacts to less than significant levels.

VELB has an active adult period from mid-March to June; outside of those months, the species larvae is isolated within the blue elderberry host plant. Vegetation removal associated with Phase 2 activities could occur as early as June and may overlap with late emergent VELB. Implementation of **MM BIO-8** through **MM BIO-10** will ensure VELB habitat is avoided outside of the designated impact areas, and where habitat is impacted it will be compensated for through PG&E MRHCP. With the implementation of these measures, the impacts would be less than significant.

Implementation of Phase 2 of the Project may result in short-term temporary impacts to the special-status and native fish migrations in the Sacramento River. Decommissioning activities within the Sacramento River would be conducted during the agency-approved aquatic work window (June 1 to October 31) when anadromous and resident migratory fish are unlikely to be present. In addition, in-water work activities would occupy a small portion of the 240-foot pipeline removal crossing at any one time, such that fish would have free passage during Project activities. Due to the short-term nature of the Project and with implementation of **MM BIO-5** through **MM BIO-7**, as well as work within the agency-approved work window, fish migration impacts would be less than significant.

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

Less than Significant with Mitigation

Phases 1 and 2

Colusa County and Sutter County General Plan Policies seek to protect wetlands, riparian vegetation, oak woodlands, wildlife corridors, special-status species habitat, and other natural habitats. As discussed under questions a) through d), above, the Project has the potential to adversely impact terrestrial and aquatic sensitive habitats and to potentially impact other sensitive terrestrial and aquatic wildlife. Implementation of **MM BIO-1** through **MM BIO-11** would provide Project planning, surveys, and monitoring to minimize and avoid Project impacts to wildlife and native habitats, which would also meet the intent of the relevant local government goals, objectives, and policies. With the implementation of these measures, the impact would be less than significant.

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?

Less than Significant with Mitigation

Phases 1 and 2

The Project activities in both Sutter and Colusa counties would be covered in the MRHCP. The MRHCP shows modeled habitat for two species in the Project area: the VELB and GGS. Implementation of **MM BIO-3, MM BIO-8, MM BIO-9** and **MM BIO-10** would ensure that Project avoidance of these species is consistent with the MRHCP and would reduce Project impacts to less than significant. In addition, consistent with implementation practices of the MRHCP, standard field protocols would be implemented, where practicable, for all PG&E O&M Projects because they are effective in reducing impacts to covered species. These measures are considered to be practicable where physically possible and not conflicting with other regulatory obligations or safety considerations. A list of field protocols can be found in the PG&E MRHCP and Appendix E (ICF 2020). Therefore, the Project would not be in conflict with these or any other HCPs.

3.4.4 Mitigation Summary

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

- MM BIO-1: Swainson's Hawk Nesting Season Avoidance or Pre-Construction Surveys
- MM BIO-2: Nesting Bird Season Avoidance or Pre-Construction Surveys
- MM BIO-3: Giant Gartersnake Work Window and Pre-Construction Surveys
- MM BIO-4: Western Pond Turtle Pre-Construction Surveys
- MM BIO-5: Environmental Training Program
- MM BIO-6: Biological Monitoring
- MM BIO-7: Turbidity Monitoring Plan
- MM BIO-8: Valley Elderberry Longhorn Beetle Training
- MM BIO-9: Valley Elderberry Longhorn Beetle Habitat Avoidance
- MM BIO-10: Blue Elderberry Shrub Removal Documentation and Conservation
- MM BIO-11: Site Restoration Plan
- MM HAZ-1: Project Work and Safety Plan

- MM HAZ-2: Inadvertent Release Contingency Plan
- MM HYDRO-1: Stormwater Pollution Prevention Plan

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?	☐	☐	☒	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☒	☐	☐
c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

3.5.1 Environmental Setting

3.5.1.1 Precontact Context

There is no single chronology that encompasses the entire precontact record of the Central Valley; however, a generalized cultural sequence collaborated by Rosenthal et al. (2007) includes the Paleo-Indian Period (13,500 to 10,500 calibrated Before Present [cal BP]), Lower Archaic Period (10,500 to 7,500 cal BP), Middle Archaic Period (7,500 to 2,500 cal BP), Upper Archaic Period (2,500 cal BP to calibrated Anno Domini [cal AD] 1000), and Emergent Period (cal AD 1000 to Historic).

Paleo-Indian Period (13,500 BP to 10,500 cal BP). Evidence of this period comes from scattered surface locations in the southern portion of the Great Valley basin. People during this period operated in small mobile groups with low population densities. The dating of projectile points and analysis of obsidian artifacts from the Witt site (CA-KIN-32) suggest that these small groups crossed very large subsistence areas with extensive foraging ranges. This evidence indicates that wide ranging expeditions to distant areas were made for trade or direct procurement of obsidian sources from Napa Valley and near Tulare Lake (Rosenthal et al. 2007).

Lower Archaic Period (10,500 BP to 7,500 cal BP). The Lower Archaic Period is characterized by isolated finds of stemmed points (like Borax Lake, Lake Mojave, Silver Lake, and Pinto wide stem types), stone crescents, and other distinctive, formalized, flaked stone artifacts (Rosenthal et al. 2007). Such artifacts were found in the Sacramento Valley as an isolated crescent on an ancient alluvial fan, further south at the Buena Vista Lake Site (CA-KER-116), and the shorelines of Tulare Lake at the Witt Site. In the foothills of the Sierra Nevada and Coast Ranges, Lower Archaic sites exhibit milling equipment such as handstones, milling slabs, and various cobble core tools that suggest an increased reliance on seasonal plant resources (Rosenthal et al. 2007).

Middle Archaic Period (7,500 BP to 2,500 cal BP). The Middle Archaic climate was characterized by warmer and drier conditions facilitating the reduction or complete desiccation of lakes in the Central Valley. This period is categorized by notched, stemmed, thick-leaf, and narrow concave base projectile points, groundstone, pottery, twined basketry, basketry awls, and polished stone plummets (Rosenthal et al. 2007). During this period, the Windmiller Pattern burial mounds appear suggesting permanent, year-round habitation sites (Rosenthal et al. 2007). The fauna and flora remains from this period indicate the use of marshes, grasslands, and riverine forests of the valley region (Rosenthal et al. 2007).

Upper Archaic Period (2,500 cal BP to cal AD 1,000). Specialized technologies appeared during the Upper Archaic Period such as bone tools and implements, the production of shell beads and ornaments, and ceremonial obsidian blades. A large amount of obsidian was obtained from the eastern side of the Sierra Nevada, and lanceolate-shaped bifaces were widely traded (Rosenthal et al. 2007). Artifact assemblages from the period include temporally diagnostic forms of beads (Olivella) and ornaments (Haliotis), charm stones (often found cached), cobble mortars, chisel-ended pestles, and dart points. Other diagnostic artifacts include a wide array of bone tools including awls, fish spears, saws, and flake tools. Populations were characterized by geographically complex sociopolitical organizations as evident from archaeological burial data (e.g., contrasting burial postures), artifact styles, and other items of material culture (Rosenthal et al. 2007).

Emergent Period (cal AD 1,000 to Historic). The Emergent Period is characterized by the appearance of bow and arrow technology, the rise of wealth-linked social status, the specialization of bead manufacturing, and increased social complexity as indicated by increased variation in burial types and furnishings (Rosenthal et al. 2007). This period is also marked by the importance of fish and plant resources, and the use of the mortar and pestle. Archaeological deposits from this period have yielded diverse subsistence resources such as fish bone, various mammal and bird remains, and plant resources such as acorn, pine nut, and manzanita. Artifact assemblages are characterized by small corner-notched and side-notched projectile points, Olivella lipped and clam disc beads and bead drills, magnesite cylinders, hopper mortars, pottery, clay balls, and village sites with house pits (Rosenthal et al. 2007).

3.5.1.2 Regional Historical Context

Spanish exploration of the Central Valley did not begin until the late 1700s, and the eastern edges of the Central Valley and the Sierra Nevada were not explored until the early 1800s. In 1808, Gabriel Moraga explored the Mokelumne, Cosumnes, and American Rivers, passing near modern-day Folsom (Beck and Haase 1974). Subsequent exploration of the area is credited to individuals such as Jedediah Smith, Ewing Young, Joseph Walker, John Fremont, and Christopher “Kit” Carson, who soon

followed Smith. In 1844, Fremont crossed the Sierra Nevada near Lake Tahoe and descended the west slope in proximity to the American River, which he eventually followed to Sutter's Fort. Early explorers were soon followed by groups of Euro-American immigrants moving west.

The discovery of gold at Sutter's Mill in Coloma in 1848 caused a dramatic alteration of both Native American and Euro-American cultural patterns in California. Euro-American immigration continued through the latter half of the nineteenth century, driven by business opportunities related to gold mining, agriculture, and ranching. Steamboats began traveling the Feather and Sacramento Rivers by the 1850s, though excessive hydraulic mining and logging made navigating the rivers dangerous by the 1860s. In 1884, a court order curtailed the hydraulic mining activities to protect navigable channels, and by the early 20th century, dredging became a major industry. To further combat the risk of flooding in a region with constantly increasing populations, dredged sediments were used to erect a system of levees along major rivers, including the Sacramento River.

The Western Pacific Railroad began operating in Colusa County in 1904. Joined by the Northern Electric Railroad in 1906 and later the Southern Pacific and Sacramento Northern Railroads through switching agreements, railroads soon supplanted steamboats for regional transportation, supporting the growth of a farming and ranching economy in the upper Sacramento Valley. Railroads, in turn, faced financial hardship during the Great Depression and the general decline in demand following the end of World War II as well as competition from trucking. Rail service was steadily reduced in response to this reduced demand, and railroads have been largely replaced by the highway system today (Stantec 2022).

Mexican land grants brought permanent Euro-American settlers to the area in the mid-nineteenth century. In 1841, Johann Sutter established a large ranch south of Yuba City and began to range large numbers of cattle and horses throughout the area. Initially, Sutter's was the only residence, but settlements were established in Grimes and Nicolaus shortly thereafter (Doty 1964).

Jack Robinson, or Jack Donagree, settled just south of present-day Meridian in 1849 (Doty 1964). The settlement at present-day Meridian was originally called Keokuk. After J.F. Fouts established a post office and ferry crossing in Meridian in 1857, the town came to be called Fouts Ferry. The name was permanently changed to Meridian after the United States Public Land Survey System established the Mount Diablo Meridian, which crosses just east of the town (Doty 1964).

The 1853 General Land Office (GLO) plat map depicts the Project area west of the Sacramento River as undeveloped land in unsectioned portions of the Jimeno Rancho. On the east side of the river, structures in Meridian and the "Fouts Ferry" crossing are

present south of the Project area prior to 1853 (Bureau of Land Management 2021). The GLO maps do not depict any other development within or immediately adjacent to the Project area.

Historic topographic maps from 1888 and 1891 depict a small number of structures within Meridian as well as an unnamed road following the approximate alignment of present-day SR 20. A ferry crossing is noted in 1912 near the current SR 20 bridge location, and a road is present along the east bank of the Sacramento River within the Project area. The 1895 topographic map depicts extensive wetlands immediately east of the Project area. The 1912 topographic map continues to show wetlands east of the Project area. By 1912, urban development within Meridian expanded to include additional roads and structures.

The Sacramento River channel appears to have been generally stable from 1888 to the present and is depicted in the same location on all available topographic maps. Levees are visible on the 1912 topographic map but are not clearly depicted until 1952, when improved levee crest roads are also present.

3.5.1.3 Cultural Resources Surveys

Archaeologists conducted intensive pedestrian surveys of the Project area and 100-foot buffer around proposed excavation, staging, and laydown areas on August 13, 2020, and September 7, 2021. The field surveys were conducted by walking parallel transects spaced at 10 to 49 feet. All exposed soils, including the edges of paved areas, rodent spoils, and other areas of recent disturbance, were examined for evidence of precontact or historic-period cultural resources, including any evidence of buried cultural deposits. Ground visibility varied from 0 to 100 percent with gravel, asphalt, and vegetation accounting for areas of lesser visibility. Recent agricultural tilling, vegetation management, and rodent burrows provided sufficient opportunities for soil assessment (Stantec 2022).

The entire survey area east of the river has been previously disturbed by levee and road construction and maintenance, the installation of existing buried utilities, and the construction of an approximately 15-foot-wide irrigation channel along the north side of Alameda Street. Rodent burrows were common in the survey area west of the river, and all spoils were spread and carefully examined in addition to regular trowel scrapes taken where grass and other vegetation was present. No evidence of new cultural resources or buried deposits was observed in or around the Project area (Stantec 2022).

In 2020, archaeologists completed a cultural resources inventory for the proposed PG&E Colusa Junction #1 60 kV (Towers A005/111 and A005/112) Mast Tower Replacement Project, which is immediately adjacent to the current Project area (Meyer and Izzi 2020). During the inventory, two exploratory core samples were collected

immediately south of the current Project area on the west side of the Sacramento River and a buried archaeological site sensitivity assessment was prepared.

Archaeologists used the core samples to prepare a buried archaeological site sensitivity analysis to assess the likelihood of the presence of and potential for encountering subsurface cultural resource deposits during Project construction. For the analysis, the concept of sensitivity applies to the potential for soils to contain buried cultural resources. For example, an area with a high potential to contain buried resources is considered to have a high sensitivity while an area with little to no potential to contain buried resources has low sensitivity.

Precontact or historic-period archaeological materials were not identified in recovered core samples, and no evidence of buried soils suggesting the presence of formerly stable landforms were identified. Observed materials were determined to have been deposited within a formerly active channel of the Sacramento River where encountering intact precontact archaeological materials is highly unlikely due to the dynamic nature of the environment. For these reasons, the sensitivity for the presence of buried archaeological sites should be considered low and further archaeological investigations are not recommended (Meyer and Izzi 2020).

3.5.1.4 Records Search Results

An initial records search was conducted on August 12, 2020, using PG&E's Confidential Cultural Resources Database (CCRD). A supplemental records search was performed through the CCRD on August 6, 2021. The National Register of Historic Places (NRHP) and the California Register of Historical Resources (CRHR) were also reviewed. The records search did not identify any previously recorded resources within the Project area. In January 2021, an archeological historian recorded the Colusa Junction #1 60 kV Transmission Line, a segment of the Reclamation District (RD) 0070 and RD 1660 Sutter Basin North Levee System, and a segment of the Sacramento River West Bank Levee System within the Project area in support of the proposed PG&E Colusa Junction #1 60 kV (Towers A005/111 and A005/112) Mast Tower Replacement Project (Allen 2021). Six built environment resources were identified within 0.25-mile of the Project area. Table 3.5-1 lists and describes all previously recorded cultural resources.

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

Primary Site Number	Description	Location
P-51-000098	The Meridian Depot, 1213 Third Street	Outside Project disturbance area
P-06-000565	Site of Former Residential Structures, 7831 SR 20	Outside Project disturbance area
-	Residential Structure, 1181 Third Street	Outside Project disturbance area
-	Residential Structure, 1180 Fourth Street	Outside Project disturbance area
-	Residential Structure, 1185 Fourth Street	Outside Project disturbance area
-	Residential Structure, 16028 Bridge Street	Outside Project disturbance area
-	Colusa Junction #1 60 kV Transmission Line	Within Project disturbance area
-	RD 0070 and RD 1660 Sutter Basin North Levee System (segment)	Within Project disturbance area
-	Sacramento River West Bank Levee System (segment)	Within Project disturbance area

Source: Stantec 2022

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. Local policies applicable to the Project with respect to cultural resources are identified in Appendix B.

3.5.3 Impact Analysis

a) Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?

Less than Significant

Phases 1 and 2

The proposed Project would impact approximately 5,845 square feet of a segment of the Sacramento River West Bank Levee System and 2,062 square feet of a segment of the RD 0070 and RD 1660 Sutter Basin North Levee System. The Sacramento River

West Bank Levee System was initially developed in the late nineteenth and early twentieth centuries as part of early reclamation efforts, and the RD 0070 and RD 1660 Sutter Basin North Levee System was initially constructed by RD 0070 and RD 1660 in the early twentieth century as part of the initial agricultural reclamation of the North Sutter Basin. Both levees were modified and enlarged by the ACOE in the 1940s and 1950s as part of the Sacramento River Flood Control Project (SRFCP).

For the purposes of this Project, both levees are assumed eligible for listing on the NRHP / CRHR under Criterion A/1 for their association with the SRFCP within the context of flood control and thus qualify as historical resources under CEQA.

Phase 1 of the Project would install a new 4-inch-diameter pipeline using HDD techniques underneath both levee segments at a depth of approximately 90 feet below the current ground surface. A tie-in trench on the segment of the Sacramento River West Bank Levee System would impact approximately 23 square feet and a portion of a bell hole would impact approximately 29 square feet of the segment of the RD 0070 and RD 1660 Sutter Basin North Levee System.

Once Phase 1 of the Project is complete, Phase 2 would impact 5,822 square feet of the segment of the Sacramento River West Bank Levee System and 2,033 square feet of the segment of the RD 0070 and RD 1660 Sutter Basin North Levee System to accommodate removal of the existing pipelines and concrete valve boxes. All excavation is proposed to be restricted to the existing pipeline corridors and valve box footprints. Once Phases 1 and 2 are complete, the Project excavation areas would be backfilled with native soils, in accordance with permit conditions, and restored to pre-Project contours and conditions.

The topography of these resources within the Project area has already been previously impacted by ground disturbance related to the existing pipelines and valve boxes and levee maintenance. Therefore, the Project would not cause destruction or damage to these resources, nor change their function or design. No change in setting would occur, as both resources will be returned to their pre-Project status. Finally, the Project would not result in the sale or neglect of a historic property.

The Colusa Junction #1 60 kV Transmission Line is not eligible for listing on the NRHP or the CRHR because of a lack of significance under any of the criteria and a lack of physical integrity. Thus, this resource does not qualify as a historical resource under CEQA.

A segment of the transmission line crosses over an existing private driveway that would be used to access the Project's west work areas. One transmission pole is located adjacent to the west side of the access route; however, no ground-based structures or features associated with the line are in areas of planned ground disturbance. Project

activities are not expected to impact the transmission line; therefore, impacts would be less than significant.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?

Less than Significant with Mitigation

Phases 1 and 2

No archeological resources were identified in proximity to the Project area. The buried archaeological site sensitivity assessment did not identify precontact or historic-period archaeological materials in recovered core samples, and no evidence of buried soils suggesting the presence of formerly stable landforms were identified. Observed materials were determined to have been deposited within a formerly active channel of the Sacramento River, where encountering intact precontact archaeological materials is highly unlikely due to the dynamic nature of the environment. For these reasons, it was determined that the sensitivity for the presence of buried archaeological sites should be considered low (Meyer and Izzi 2020).

However, archaeological resources may still be discovered during Project activities. **MM-CUL-1/TCR-1** through **MM-CUL-4/TCR-5** would ensure that in the event of an accidental discovery, further disturbance would halt until the resource had been appropriately assessed and treated, if necessary. With the implementation of these measures, impacts to archeological resources would be less than significant.

MM CUL-1/TCR-1: Cultural and Tribal Cultural Resources Awareness Training. Prior to Project implementation, a consultant and construction-worker cultural and tribal cultural resources awareness training program for all personnel involved in Project implementation shall be developed in coordination with the PG&E Cultural Resource Specialist (CRS), the qualified on-site archaeologists and consulting Native American tribe, Yocha Dehe Wintun Nation. The training will be conducted by the Project archaeologist and Tribal Representative(s) and must be provided to all Project employees, contractors, subcontractors, and other workers prior to their involvement in any ground disturbing activities, with subsequent training sessions to accommodate new personnel becoming involved in the Project. Evidence of compliance with this mitigation measure shall be documented within pre-Project compliance documentation materials prior to Phase 1 and Phase 2 mobilizations.

The purpose of the training will be to educate on-site construction personnel as to the sensitivity of archaeological and tribal cultural resources in the Project area, including understanding the difference between non-Native

archaeological resources (cultural resources) and resources that are Native American in nature (tribal cultural resources). The training will also cover the requirements of the plan identified in MM CUL-2/TCR-2, including the possibility of exposing cultural or tribal cultural resources, guidance on recognizing such resources, and direction on procedures if a potential resource is encountered. PG&E will instruct all Project personnel that touching, collecting, or removing cultural materials from the property is strictly prohibited. The program will also underscore the requirement for confidentiality and culturally appropriate treatment of any find of significance to Native Americans, consistent with Native American tribal values and customs.

The training shall include, at a minimum:

- A brief overview of the cultural sensitivity of the Project site and surrounding area;
- What resources could potentially be identified during ground disturbance;
- The protocols that apply in the event unanticipated cultural or tribal cultural resources are identified, including who to contact and appropriate avoidance measures until the find(s) can be properly evaluated;
- Consequences in the event of noncompliance; and,
- Safety procedures when working with monitors.

MM CUL-2/TCR-2: Cultural and Tribal Cultural Resources Management and Treatment Plan (CRMTP). Prior to implementation of Phase 1 and Phase 2 activities, PG&E shall develop a comprehensive Cultural Resources Management and Treatment Plan (CRMTP) for review and concurrence by CSLC staff and the consulting tribe(s). No tribal cultural resources shall be collected, relocated, or otherwise impacted until the approved CRMTP is in place. The purpose of the CRMTP is to describe the procedures and requirements for protection and treatment of both non-Native American archaeological or historic resources and tribal cultural resources that may be discovered during Project implementation. The CRMTP shall be provided to the CSLC and representatives from the consulting tribe (Yocha Dehe Wintun Nation) for review and concurrence at least 45 days before the start of construction. The Applicant shall fully carry out, implement, and comply with the CRMTP throughout all phases of construction.

The CRMTP shall include at a minimum:

- A description of the roles and responsibilities of cultural resources personnel, including the PG&E Cultural Resource Specialist (CRS), the qualified on-site archaeologists, and Tribal Representatives (who may also be monitors), and the reporting relationships with Project construction management, including lines of communication and notification procedures;
- Description of how the monitoring shall occur and the frequency of monitoring, consistent with the recommendations submitted by the consulting tribe during consultation on the Project (pursuant to Public Resources Code Sections 21080.3.2 and 21082.3) and reflected in the criteria listed in these mitigation measures;
- Description of what resources may be inadvertently encountered;
- Description of procedures for halting work on the site, establishment of buffer zones around potential finds, and notification procedures;
- Description of the respective authorities of the PG&E CRS, on-site archaeologist, and Tribal Representative(s) to evaluate and determine significance of discoveries, and authority to determine appropriate treatment, depending on whether the discovery is Native American in nature;
- Provisions for treatment of tribal cultural resources consistent with MM TCR-6 (Treatment of Tribal Cultural Resources) and the recommended treatment protocols submitted by the consulting tribes during consultation on the Project (pursuant to Public Resources Code Sections 21080.3.2 and 21082.3);
- Provisions for the culturally appropriate handling of tribal cultural resources, if avoidance is infeasible, including procedures for temporary custody, processing materials for reburial, minimizing handling of cultural materials, and development of a reburial plan and agreement for returning materials to a suitable location in the Project area where they would not be subject to future disturbance;
- Procedures for the appropriate treatment of human remains, pursuant to California Health and Safety Code section 7050.5 and California Public Resources Code section 5097.98, which include procedures for determination of a most likely descendant by the Native American Heritage Commission;
- A description of monitoring reporting procedures including the requirement that reports resulting from the Project be filed with the Northwest

Information Center (NWIC) and the North Central Information Center (NCIC) and copies provided to CSLC, ACOE, and the consulting tribe (Yocha Dehe Wintun Nation), consistent with their geographic affiliation, within one year of Project completion.

MM CUL-3/TCR-3: Cultural and Tribal Cultural Resources Monitoring. In addition to providing the training required by MM CUL-1/TCR-1, the PG&E CRS, or their on-site archaeologist, shall provide monitoring during implementation of Phase 1 and Phase 2 activities, as may be specified in the CRMTP required by MM CUL- 2/TCR-2. The Applicant shall also retain a Yocha Dehe Wintun Nation Tribal Representative, if one is available, who will monitor all Project construction areas. Activities to be monitored include, but are not limited to, the Phase 1 HDD bore pits excavated for the East and West Work Areas as well as terrestrial trenching for both Phase 1 and Phase 2. The Tribal Representative(s) shall each have the authority to temporarily halt or redirect construction in the event that potentially significant cultural resources or tribal cultural resources are discovered during Project related activities. The work stoppage or redirection shall occur to an extent sufficient to ensure that the resource is protected from further impacts. Detailed monitoring procedures, including criteria for increasing or decreasing monitoring and the location and scope of monitoring activities agreed to by both PG&E CRS designated onsite archaeologist and tribal monitor(s), will be outlined in the CRMTP identified in MM CUL-2/TCR-2. The Applicant shall provide a minimum two week notice to the on-site archaeologist and designated representatives from the consulting tribe(s) prior to all activities requiring monitoring and shall provide safe and reasonable access to the Project site. The monitors, if available, shall work in collaboration with the inspectors, Project managers, and other consultants hired/employed by the PG&E or their Contractor.

MM CUL-4/TCR-5: Discovery of Previously Unknown Cultural or Tribal Cultural Resources. If any potential tribal cultural resources, archaeological resources, other cultural resources, or articulated or disarticulated human remains are discovered by the Tribal Monitor(s)/designated on-site archaeologist, or other Project personnel during construction activities, all work shall cease within 100 feet of the find, or an agreed upon distance based on the Project area and nature of the find. Work stoppage shall remain in place until the Tribal Monitor, PG&E CRS and the designated on-site archaeologist have jointly determined the nature of the discovery, and the significance of the discovery has been determined by either the archaeologist/cultural resources specialist (for cultural resources) or the Tribal Monitor (for tribal cultural resources), as detailed in the CRMTP identified in MM CUL-2/TCR-2. Tribal cultural resources shall not be photographed nor be

subjected to any studies beyond such inspection as may be necessary to determine the nature and significance of the discovery. If the discovery is confirmed as potentially significant or a tribal cultural resource, an Environmentally Sensitive Area (ESA) will be established using fencing or other suitable material to protect the discovery during subsequent investigation. No ground-disturbing activities will be permitted within the ESA until the area has been cleared for construction. The exact location of the resources within the ESA 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 and tribal cultural resources shall be avoided through preservation in place if feasible. If the on-site archaeologist or Tribal Monitor, as appropriate, determines that damaging effects on the cultural or tribal cultural resource can be avoided in place, then work in the area may resume provided the area of the discovery remains clearly marked for no disturbance. 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-5/TCR-7** 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 this measure, the impact would be less than significant.

MM CUL-5/TCR-7: Unanticipated Discovery of Human Remains. If human remains or associated grave goods (e.g., non-human funerary objects, artifacts, animals, ash or other remnants of burning ceremonies) are encountered, all ground disturbing activities shall halt within 100 feet of the discovery or other agreed upon distance based on the Project area and nature of the find; the remains will be treated with respect and dignity and in

keeping with all applicable laws including California Health and Safety Code section 7050.5 and California Public Resources Code section 5097.98. If representatives are not already on-site when a discovery is made, the Project Archaeologist or their designated on-site cultural resources specialist, Tribal Representative(s), the Applicant, and CSLC shall be notified immediately. The archaeologist shall contact the County Coroner within 24 hours. If human remains are determined by the County Coroner to be of Native American origin, the County Coroner shall notify the Native American Heritage Commission within 24 hours of this determination, and the Native American Heritage Commission shall identify a Most Likely Descendent. No work is to proceed in the discovery area until consultation is complete and procedures to avoid or recover the remains have been implemented. Unless otherwise required by law, the site of any reburial of Native American human remains shall not be disclosed and will not be governed by public disclosure requirements of the California Public Records Act, Cal. Govt. Code § 6250 et seq. The reburial agreement described in the CRMTP identified in MM CUL2/TCR-2 shall include specific details about temporary custody of remains, reburial location, confidentiality, and recordation in the California Historic Resources Inventory System.

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 and Tribal Cultural Resources Awareness Training
- MM CUL-2/TCR-2: Cultural and Tribal Cultural Resources Management and Treatment Plan (CRMTP)
- MM CUL-3/TCR-3: Cultural and Tribal Cultural Resources Monitoring
- MM CUL-4/TCR-5: Discovery of Previously Unknown Cultural or Tribal Cultural Resources
- MM CUL-5/TCR-7: Unanticipated Discovery of Human Remains

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:	☐	☒	☐	☐
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	☐	☒	☐	☐
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.	☐	☒	☐	☐

3.6.1 Environmental Setting

3.6.1.1 Ethnographic Context

The Project area is within the traditional territory of the Patwin (Kroeber 1925; Johnson 1978). The Patwin occupied an area measuring roughly 90 miles (north-south) by 40 miles (east-west) between the Sacramento River Valley and the San Pablo and Suisun Bays (Johnson 1978). Populations were denser along the river, and more seasonal in the plains which was prone to flooding during the winter.

The largest Patwin political unit was the tribelet, which consisted of one primary village and several satellite villages. Tribelets in the hills settled within numerous intermontane valleys, particularly along the drainages of Cache and Putah creeks (Kroeber 1925). Villages were most often located near permanent water sources and were primarily occupied in winter with the population moving to temporary camps in the summer and fall to take advantage of seasonally available resources (Johnson 1978). The nearest ethnographic village location is *No'pah*, which was located approximately 0.27 mile south of Meridian (Heizer and Hester 1970).

Village activities were directed by a chief, who managed a wide variety of village economic and ceremonial activities. As with other northern Californian native groups, the Patwin relied on hunting, fishing, and gathering a wide variety of foods, especially deer and salmon. Acorns were a particularly important staple food. These were gathered from hill and mountain oaks, pulverized, and leached with cold water for processing into bread or soup with cooking stones (Johnson 1978). Flat stone slabs and wooden mortars were used to process acorns. Baskets were used for transportation and as milling hoppers. Flaked obsidian and occasionally chert were used in the production of scrapers, knives, projectile points, and other tools. Bone was used to make basketry awls and harpoon points (Johnson 1978).

3.6.1.2 Tribal Coordination

Pursuant to Executive Order B-10-11 and N-15-19 affirming that state policy requires and expects coordination with tribal governments in public decision making (Appendix A), the CSLC follows its 2016 Tribal Consultation Policy, which provides guidance and consistency for staff in its interactions with California Native American Tribes (CSLC 2016). The Tribal Consultation Policy, which was developed in collaboration with tribes, other state agencies and departments, and the Governor's Tribal Advisor, recognizes that tribes have a connection to areas that may be affected by CSLC actions and "that these Tribes and their members have unique and valuable knowledge and practices for conserving and using these resources sustainably" (CSLC 2016).

Additionally, under Assembly Bill (AB) 52 (Gatto, Chapter 532, Statutes of 2014), lead agencies must avoid damaging effects on tribal cultural resources, when feasible, whether consultation occurred or is required. When considering whether a resource is a tribal cultural resource and determining the significance of potential impacts, the CSLC may consider, among other evidence, elder testimony, oral history, tribal archival information, testimony of an archaeologist or other expert certified by the tribe, official declarations or resolutions adopted by the tribe, formal statements by the tribe's historic preservation officer, or other historical notes and anthropological records (OPR 2017).

The CSLC contacted the Native American Heritage Commission (NAHC), which maintains two databases to assist cultural resources specialists in identifying cultural resources of concern to California Native Americans (Sacred Lands File and Native American Contacts). CSLC staff contacted the NAHC to obtain information about known cultural and Tribal cultural resources and request a list of Native American Tribal representatives who may have geographic or cultural affiliation in the Project Area. The NAHC responded on January 21, 2022, stating that the Sacred Lands File database did not include any previously identified sacred sites in the Project Area. The NAHC also forward a list of 14 tribal contacts for 9 Native American tribes, which the CSLC used for outreach and coordination. Two Tribes on the NAHC list have geographic or cultural affiliation in Sutter or Colusa Counties and had submitted a written request to the CSLC

for notification of CEQA projects pursuant to AB 52 (see generally, Pub. Resources Code, § 21080.3.1).

In March 2022, the CSLC sent Project notification letters and an invitation to consult under AB 52 to the United Auburn Indian Community of the Auburn Rancheria and the Wilton Rancheria. The CSLC also notified the seven other tribes on the NAHC contact list to ensure those tribes would have an opportunity to provide meaningful input on the potential for Tribal cultural resources to be found in the Project Area and recommend steps to be taken to ensure adverse impacts to Tribal cultural resources are avoided. The outreach letters sent in March 2022 included chairpersons and representatives of the following:

- Cachil Dehe Band of Wintun Indians of the Colusa Indian Community
- Cortina Rancheria – Kletsel Dehe Band of Wintun Indians
- Estom Yumeka Maidu Tribe of the Enterprise Rancheria
- Grindstone Rancheris of Wintun-Wailaki
- Paskenta Band of Nomlaki Indians
- Pakan'yani Maidu of Strawberry Valley Rancheria
- Yocha Dehe Wintun Nation

The CSLC received a response to the outreach letters from the Cachil Dehe Band of Wintun Indians of the Colusa Indian Community, the Estom Yumeka Maidu Tribe of the Enterprise Rancheria and the Yocha Dehe Wintun Nation. Yocha Dehe Wintun Nation requested consultation and is hereinafter referred to in this document as the "consulting tribe." The CSLC did not receive any responses to the AB 52 notification letters. The CSLC provided Project and cultural resources survey information to the consulting tribe in response to their letter and held a consultation meeting with them in May 2022. The consulting tribe provided recommended mitigation measures in writing and during the consultation meeting. The CSLC is ensuring, pursuant to Public Resources Code section 21080.3.2 and 21082.3, that the Cultural Resources Management and Treatment Plan (MM CUL-2/TCR-2, below) contains provisions and protocols consistent with these recommendations. The consulting tribe additionally provided information related to types of Tribal cultural resources that may be present in the Project area, which are briefly described in Section 3.6.3, *Impact Analysis,* below.

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. Local cultural resources policies are identified in Appendix B.

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:

> ***(i) Listed or eligible for listing in the California Register of Historical Resources (CRHR), or in a local register of historical resources as defined in Public Resources Code section 5020.1, subdivision (k), or***
>
> ***(ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.***

Less than Significant with Mitigation

Phases 1 and 2

No tribal cultural resources were identified in proximity to the Project area. Precontact archaeological materials were not identified in recovered core samples collected during the sensitivity assessment, and no evidence of buried soils suggesting the presence of formerly stable landforms were identified. Observed materials were determined to have been deposited within a formerly active channel of the Sacramento River, where encountering intact precontact archaeological materials is highly unlikely due to the dynamic nature of the environment. For these reasons, the sensitivity for the presence of buried archaeological sites should be considered low (Meyer and Izzi 2020).

However, proposed pipeline replacement and decommissioning activities could impact previously unrecorded tribal cultural resources. Potential discoveries during Project construction could consist of historical or archaeological resources that are Native American in nature or could consist of tribal cultural resources associated with Native American history, culture, and habitation of the area. In particular, the consulting tribe indicated that the levees could contain tribal cultural materials, because the fill used for levee construction is known to have been taken from areas of Native American habitation. As a result, the levees are considered sensitive for tribal cultural resources, and mitigation measures have been developed to ensure unanticipated discoveries are identified, protected, and treated in a culturally appropriate manner. A tribal cultural resource may or may not be considered an archaeological or historical resource. There is not complete overlap – a tribal cultural resource that is evaluated and determined “not

significant" by an archaeologist could be determined significant by a consulting tribe. **MM-CUL-1/TCR-1** though **MM-CUL-4/TCR-5** would ensure that in the event of accidental discovery, further disturbance would halt until the resource has been appropriately assessed and treated, if necessary. In addition, **MM TCR-4** requires specific monitoring protocols to address potential tribal cultural resource impacts from grading and excavations. **MM TCR-6** ensures that any discovered tribal cultural resources follow specific treatment protocols as set forth in the CRMTP in **MM CUL-2/TCR-2**.

MM TCR-4: Monitoring and Inspection of Grading and Excavation. To ensure previously unknown subsurface tribal cultural resources are avoided, identified, and protected, the following procedures shall be followed:

- Should any grading be performed within the Pipe Staging Area, it shall not exceed the 18-inch approximate depth of prior disturbance from agricultural discing and grading activities;
- Due to the potential for encountering buried or redeposited tribal cultural resources, excavation related to establishing the HDD bore pits or tie-ins shall proceed in a manner that allows for periodic inspection of the pits, trenches, and spoils by the Tribal Representative(s). Specific procedures for this excavation monitoring shall be detailed in the CRMTP required in MM CUL2/TCR-2 and shall, at a minimum, describe the depth of each "layer" that will be excavated between inspections, and procedures to ensure safety of the Tribal Representative(s) inspecting the pits, trenches, and spoils area.

MM TCR-6: Treatment of Tribal Cultural Resources. If it is determined that avoidance of an unanticipated discovery of a tribal cultural resource is infeasible, the resource will be treated in a culturally appropriate manner pursuant to the treatment protocols developed for the CRMTP identified in MM CUL-2/TCR-2. Such treatment may include, subject to landowner cooperation, temporary recovery and subsequent reburial of materials pursuant to an excavation and reburial plan developed by the Yocha Dehe Winton Nation (and other consulting tribes, as appropriate) in coordination with the Project Archaeologist and CSLC. Removal of tribal cultural resources shall be conducted by or in the presence of the Tribal Representative(s), unless otherwise directed by the tribe(s). Removed materials shall be temporarily curated on site, in a secure, climate-controlled location, or with a custodian agreed to by the Tribal Representative(s), until such time as the materials can be reburied as close to the original location as possible. If reburial within or near the original location is not feasible, reburial shall occur in accordance with the reburial agreement described in the CRMTP identified

in MM CUL-2/TCR-2, which will include, at a minimum, measures and provisions to protect the reburial area from any future impacts (vis a vis Project plans, conservation/preservation or cultural easements, etc.) and provisions for cultural access.

After completion of the Project a monitoring report that details the implementation of the CRMTP will be prepared and submitted to CSLC, ACOE, consulting tribes, and PG&E. The methods, results, and findings of all monitoring and treatment activities will be presented in this report that will include background information on the Project, document methods, actions implemented, results, and will summarize daily monitoring reports. The qualified consultant preparing this monitoring report shall seek input from the consulting tribes to ensure tribal perspectives are incorporated into the discussion.

3.6.4 Mitigation Summary

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

- MM CUL-1/TCR-1: Cultural and Tribal Cultural Resources Awareness Training
- MM CUL-2/TCR-2: Cultural and Tribal Cultural Resources Management and Treatment Plan (CRMTP)
- MM CUL-3/TCR-3: Cultural and Tribal Cultural Resources Monitoring
- MM TCR-4: Monitoring and Inspection of Grading and Excavation
- MM CUL-4/TCR-5: Discovery of Previously Unknown Cultural or Tribal Cultural Resources
- MM TCR-6: Treatment of Tribal Cultural Resources
- MM CUL-5/TCR-7: Unanticipated Discovery of Human Remains

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?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

3.7.1 Environmental Setting

3.7.1.1 Colusa County

PG&E is the main provider of electricity and natural gas to unincorporated Colusa County (Colusa County 2021). Approximately 94 percent of electricity produced within Colusa County originates from natural gas. There are two powerplants in Colusa County: Colusa Generating Station, which is owned by PG&E and runs on natural gas, and Wadham Energy LP, which is owned by Wadham Energy LTD Partners and runs on agricultural by-products (Find Energy 2022a). Colusa Generating Station is the main power plant within Colusa County and supplies energy to the vast majority of the County and surrounding areas. Colusa County's total energy consumption in 2020 was 322.634703 millions of Kilowatt hours (GWh) (California Energy Commission 2022a). Natural gas is a common fuel for commercial, industrial, and residential uses as well as electricity production. Gasoline is an important source of energy in the County as well, primarily for transit and automobiles.

3.7.1.2 Sutter County

PG&E generates, transmits, and distributes electric power to Sutter County. The electricity that is provided by PG&E originates from a combination of natural gas, hydropower, geo-thermal, nuclear, wind, and solar energies (Sutter County 2022). There are 10 power plants located in Sutter County which serve 95,583 people in 603 square miles (County Office 2022). These power plants run primarily on natural gas and sell any excess generated energy to PG&E. Sutter County's total energy consumption in 2020 was 672.551697 GWh (California Energy Commission 2022b).

3.7.2 Regulatory Setting

There are no federal laws, regulations, or policies pertaining to energy that are relevant to the Project. State laws and regulations pertaining to energy and relevant to the Project are identified in Appendix A. Local policies pertaining to energy that are applicable to the Project are identified in Appendix B.

3.7.3 Impact Analysis

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

Less than Significant Impact

Phases 1 and 2

The proposed Project involves the use of heavy equipment, motor vehicles, and vessels, all powered by non-renewable petroleum-based fuel sources. As such, Project activities would result in temporary consumption of energy resources (e.g., gasoline and diesel fuel) for the replacement pipeline installation and removal of the existing natural gas pipeline segments. The Project has been designed to conduct the proposed pipeline installation and decommissioning in an efficient manner, such that consumption of energy resources would not be wasteful, inefficient, or unnecessary. Project activities would not draw energy from the local power grid.

The Project has been proposed to improve the current pipeline configuration and inspection capabilities, which would benefit future maintenance needs of the pipeline and likely reduce maintenance-related use of energy resources (gasoline and diesel fuel) in the long term. Therefore, energy impacts would be less than significant.

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

No Impact

Phases 1 and 2

The Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. The Project would be consistent with the policies described in the Colusa County and Sutter County General Plans. The replacement pipeline would be fully buried and compatible with surrounding land uses; therefore, there would be no impact.

3.7.4 Mitigation Summary

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

3.8 GEOLOGY, SOILS, AND PALEONTOLOGICAL RESOURCES

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

3.8.1 Environmental Setting

3.8.1.1 Regional Overview

The Project area is located within the central portion of the Great Valley geomorphic province in Central California. The Great Valley geomorphic province is characterized by a long alluvial plain that extends approximately 400 miles through central California. The Great Valley can be further divided into the northern Sacramento Valley, drained by the Sacramento River, and the southern San Joaquin Valley, drained by the San

Joaquin River. The valleys were created as a result of the uplift of the two mountain ranges that flank them, the Coast Ranges to the west and the Sierra Nevada Mountain Range to the east.

3.8.1.2 Topography

The Project area is characterized by relatively flat terrain within a valley with elevations ranging from 35 to 80 feet above measured sea level. The only prominent topographic feature nearby is the Sutter Buttes, which rises abruptly 2,000 feet above the surrounding valley in the northern part of the County (Sutter County 2011a).

3.8.1.3 Site Geomorphology and Geology

The geology of the Great Valley is typified by thick sequences of alluvial sediments derived primarily from erosion of the mountains of the Sierra Nevada to the east, and to a lesser extent, erosion of the Klamath Mountains and Cascade Range to the north. These sediments were transported downstream and subsequently laid down as a river channel, floodplain deposits, and alluvial fans (Sutter County 2011a). The entirety of the Project area is underlain by Quaternary alluvium sediment deposits (Pleistocene-Holocene) on either side of the Sacramento River within the area east of the Great Valley Syncline (CGS 2010).

3.8.1.4 Soils

Based on a review and analysis of the Natural Resources Conservation Service (NRCS) Web Soil Survey for the Project area (NRCS 2022), the Project area in Colusa County is underlain by Vina Loam, 0 to 2 percent slopes (Map unit symbol 171). Vina Loam soils are associated with floodplain splays and noted as being well drained with a low runoff potential. The Project area in Sutter County is underlain by Columbia Loam, 0 to 2 percent slopes (Map unit symbol 122). Columbia Loam is associated with flood plains and is noted as somewhat poorly drained, with a very low runoff class.

3.8.1.5 Seismicity and Faulting

An active fault is a fault that has experienced seismic activity during historic time (approximately within the last 200 years) or exhibits evidence of surface displacement during the Holocene (within the last 11,700 years). There are two non-active faults identified in Sutter County, including a series of small Quaternary faults located in the northern section of the County within the Sutter Buttes, and another just east where Highway 99 enters the County (Sutter County 2010). The closest active faults to the Project area are the Hunting Creek Fault located approximately 35 miles southwest of the Project area, the Konocti Bay Fault Zone located approximately 46 miles to the southwest of the Project area, and the Cleveland Hill Fault located approximately 30

miles to the northeast of the Project area. There are no Alquist-Priolo earthquake hazard zones within the vicinity of the Project area (California Department of Conservation, California Geologic Survey 2022).

3.8.1.6 Subsidence

Subsidence is the gradual settling or sudden sinking of the land surface from changes that take place underground, primarily from groundwater or oil pumping. Groundwater extraction-induced subsidence is not considered an issue within the Project area. The Project area is not subject to high subsidence, as a number of factors needed to cause subsidence, such as drainage of organic soils, underground mining, and hydrocompaction, do not exist (Sutter County 2011a; Colusa County 2010).

3.8.1.7 Liquefaction

Liquefaction is defined as the sudden loss of soil shear strength due to a rapid increase of soil pore water pressures caused by cyclic loading from a seismic event. For liquefaction to occur, loose sandy soils or non-plastic fine-grained soils need to exist below groundwater. The California Geologic Survey (CGS) has designated certain areas within California as potential liquefaction hazard zones. These are areas considered at a risk of liquefaction related ground failure during a seismic event, based upon mapped surface deposits and the presence of a relatively shallow water table.

The Project area has not been identified as a liquefaction zone due to the relatively low occurrence of seismic activity, however the clean sandy layers paralleling the Sacramento River have lower soil densities and high overall water table and are potentially at a higher risk if major seismic activity were to occur (Sutter County 2011a). This is supported by information provided by Colusa County (2010) which indicated that logically, the Sacramento River corridor presents the greatest likelihood of loose sediment and saturated soils that would have the potential for liquefaction. In contrast, eastern Colusa County is the least prone to strong seismic ground shaking.

3.8.1.8 Paleontological Resources

Paleontological resources include fossil remains, as well as fossil localities and rock or soil formations that have produced fossil material. Fossils are the remains or traces of prehistoric animals and plants. The greater Sutter County area is underlain by Modesto (alluvium), Riverbank (alluvium), and Turlock Lake (sand, silt, and gravel) formations. The Riverbank Formation is generally located at the base of the Sutter Buttes and along the southern portion of the County. The University of California Museum of Paleontology has reported fossil specimens from sediments referable to the Modesto and Riverbank Formations. The occurrence of recorded vertebrate fossil remains in sediments referable to these two formations elsewhere in the Central Valley suggests there is a

potential for uncovering additional similar fossil remains during construction-related earth-moving activities within Sutter County according to their General Plan (Sutter County 2010).

However, it has been reported that when applying the Bureau of Land Management (BLM) Potential Fossil Yield Classification (PFYC) System, deposits such as those underlying the Project area would present a smaller probability of encountering fossils because they are too young to contain scientifically significant paleontological resources and are therefore considered to have lower paleontological sensitivity (BLM 2016; Tetra Tech 2021).

3.8.2 Regulatory Setting

Federal and state laws and regulations pertaining to geology, soils, and paleontological resources and relevant to the Project are identified in Appendix A. Local policies or regulations applicable to the Project are identified in Appendix B.

3.8.3 Impact Analysis

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

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

(ii) Strong seismic ground shaking?

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

(i through iii) Less than Significant Impact

Phases 1 and 2

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

Project activities would not exacerbate existing geological conditions or the potential for seismic ground shaking. The HDD activities in particular would not be strong enough to trigger an earthquake, liquefaction, or landslides. No Alquist-Priolo earthquake fault zones occur in the Project area (California Department of Conservation, California Geologic Survey 2022). The nearest known fault (Clayton Fault) is approximately 35 miles southwest of the Project area. No long-term impacts to the area due to loss of slope stability or erosion would result from the Project. This analysis therefore does not evaluate existing environmental risks that could affect the Project because the Project would not exacerbate them, consistent with the Court's ruling in CBIA. Therefore, the impacts would be less than significant.

(iv) Landslides?

No Impact

Phases 1 and 2

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

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

Less than Significant with Mitigation

Phase 1

During Phase 1, approximately 0.01 acre of topsoil would be temporarily removed during excavation of bore pits, bell holes used for flushing and cementing pipeline segments, and excavations used for pipeline tie-in. However, this topsoil would be replaced as part of the backfilling process. Pipeline replacement activities would not involve construction of any steep slopes or removal of substantial amounts of vegetation that could increase soil erosion during rain events. The Project would obtain coverage under the National Pollutant Discharge Elimination System (NPDES) Statewide Construction General Permit (Order No. 2012-0006-DWQ). The NPDES Construction General Permit requires that a Stormwater Pollution Prevention Plan (SWPPP) be prepared and implemented, as outlined in **MM HYDRO-1** (Section 3.11, *Hydrology and Water Quality*). The SWPPP would include erosion and sediment control best management practices and housekeeping measures for control of contaminants. Erosion control best management practices would include source control measures such as wetting of dry and dusty surfaces to prevent 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. With implementation of **MM HYDRO-1**, Phase 1 of the Project would have a less than significant impact due to soil erosion or the loss of topsoil.

Phase 2

Topsoil would be temporarily removed during excavation of pipeline segments removed and bell holes used for flushing and cementing pipeline segments to be abandoned in-place. However, this topsoil would be replaced as part of backfilling. Pipeline segments buried within the riverbanks would be removed and the areas backfilled, compacted, and returned to pre-Project conditions, including the replacement of pre-Project riprap, which would prevent possible increased soil erosion during storm runoff events. Similar to Phase 1, PG&E would obtain coverage under the NPDES Statewide Construction General Permit (Order No. 2012-0006-DWQ) and implement a SWPPP. In addition, as noted in Section 3.4, *Biological Resources*, the pipeline decommissioning and removal activities would result in a small temporary impact in excavation of terrestrial areas and would not result in a permanent increase in erosion. Upon completion of Phase 2 activities, all soils disturbance areas would be stabilized in accordance with the Project Site Restoration Plan (**MM BIO-11**).

With implementation of **MM HYDRO-1** and **MM BIO-11**, the Project would have a less than significant impact due to soil erosion or the loss of topsoil.

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

Less than Significant Impact

Phases 1 and 2

See the discussion above related to landslides and liquefaction. Project activities would result in the short-term disturbance to the ground surface and would not result in any permanent changes to the Project area's topographic features. Excavations and areas of disturbance would be backfilled with native earth material and would not result in any changes to geologic units or soils, resulting in a less than significant impact.

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?

No Impact

Phases 1 and 2

Moderately expansive soils may occur within Project work areas. However, the replacement pipeline would be designed to safely withstand expansive soil-related movement, such that the Project would not increase the risk of potential pipeline failure or leakage. Therefore, there would be no impact.

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?

No Impact

Phases 1 and 2

The Project would not involve the use of septic tanks or on-site sewage disposal. Portable restrooms would be provided on-site for workers and would be regularly serviced to remove sewage which would be disposed of at a nearby municipal wastewater treatment facility. Therefore, no impact would result.

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

Less than Significant Impact

Phases 1 and 2

All Project excavations would occur within active channel deposits or basin deposits of the Sacramento River (Holocene age or younger Quaternary alluvium deposits). Although there are geologic formations that may contain fossils within the greater Project area, soils at the Project area have a low probability for paleontological resources. A less than significant impact would result.

3.8.4 Mitigation Summary

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

- MM HYDRO-1: Stormwater Pollution Prevention Plan (SWPPP)
- MM BIO-11: Site Restoration Plan

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?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒

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_2), methane (CH_4), nitrous oxide (N_2O), 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_2 and other GHGs, leading to significant global climate change in the future.

Unlike criteria pollutants and TACs, which are pollutants of regional and local concern, GHGs and climate change are a local, regional, and global issue. There is widespread international scientific consensus that human-caused increases in GHGs have and will continue to contribute to climate change.

CO_2 is also used as a reference gas for climate change. To account for different GHG global warming potentials, emissions are often quantified and reported as CO_2 equivalents (CO_2E). Currently, the CO_2 global warming potential is set at a reference value of 1, CH_4 has a global warming potential of 27.9 (i.e., 1 ton of methane has the same warming potential as 27.9 tons of CO_2), while nitrous oxide has a warming potential of 273.

3.9.1.1 Global Setting

Each of the last 4 decades has been successively warmer than any decade that preceded it since 1850. Global surface temperature in the first two decades of the 21st century (2001 to 2020) was 1.8°F higher than 1850 to 1900. Global surface temperature was 2.0°F higher in 2011 to 2020 than 1850 to 1900, with larger increases over land (2.9°F) than over the ocean (1.6°F). The current estimated increase in global surface temperature is greater than previous estimates principally due to further warming from 2003 to 2012.

Global mean sea level increased by 0.66 feet between 1901 and 2018. The average rate of sea level rise was 0.051 inches per year between 1901 and 1971, increasing to 0.075 inches per year between 1971 and 2006, and further increasing to 0.15 inches per year between 2006 and 2018. Human influence was very likely the main driver of these increases since at least 1971 (IPCC 2021).

3.9.1.2 National Setting

In 2021, the average contiguous U.S. temperature was 54.5°F, 2.5°F above the 20th-century average and ranked as the fourth-warmest year in the 127-year period of record. The six warmest years on record have all occurred since 2012. The December 2021 contiguous U.S. temperature was 39.3°F, 6.7°F above average, and exceeded the previous record set in December 2015.

3.9.1.3 California Setting

Climate change is having and will continue to have widespread impacts on California's environment, water supply, energy consumption, public health, and economy. Many impacts already occur, including increased fires, floods, severe storms, and heat waves. 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 and San Francisco Bay; warmer temperatures in Lake Tahoe, Mono Lake, and other major lakes; and plant and animal species found at changed elevations (OPR 2018b).

3.9.1.4 Sacramento Valley Setting

Climate change is already affecting agriculture, infrastructure, transportation, energy, recreation, industry, households, human health, and natural ecosystems in the Sacramento Valley; extreme weather and natural hazards will continue to impact these and other sectors in the 21st century. A general summary of climate risks facing the Sacramento Valley Region include warming air and water temperatures, more extreme heatwaves, drier landscapes, less snow, variable precipitation and seasonal shifts, more intense droughts and floods with less predictability, higher Delta water levels compounded by subsidence, increased risk of wildfire, and loss of ecosystem habitat (OPR 2018a).

3.9.2 Regulatory Setting

Federal and state laws and regulations pertaining to GHGs and relevant to the Project are identified in Appendix A. Various entities address this issue area at the state and regional levels. In efforts to reduce and mitigate climate change impacts, state and local governments are implementing policies and initiatives aimed at reducing GHG

emissions. California, one of the largest state contributors to the national GHG emission inventory, has adopted significant reduction targets and strategies.

3.9.2.1 California Regulation Summary

The primary legislation affecting GHG emissions in California is the California Global Warming Solutions Act of 2006 (Assembly Bill [AB] 32). AB 32 (Nuñez; Chapter 488, Statutes of 2006) focused on reducing GHG emissions in California and required the State to reduce GHG emissions to 1990 levels by 2020. CARB prepared a Draft Scoping Plan for Climate Change in 2008 pursuant to AB 32. The Climate Change Scoping Plan was updated in May 2014 and November 2017, and a 2022 Climate Change Scoping Plan is in progress.

In 2016, the State met the AB 32 target, 4 years early. The State Legislature passed Senate Bill (SB) 32 (Pavley; Chapter 249, Statutes of 2016), which codifies a 2030 GHG emissions reduction target of 40 percent below 1990 levels. With SB 32, the Legislature passed companion legislation AB 197 (Garcia; Chapter 250, Statutes of 2016), which provides additional direction for developing the Scoping Plan. The 2017 update to the Scoping Plan focused on strategies to achieve the 2030 target set by Executive Order B-30-15 and codified by SB 32.

3.9.2.2 Local Regulations

The Project area includes portions of both Colusa County and Sutter County; therefore, local regulations are discussed below separately for these areas.

Colusa County. Colusa County has not developed a climate action plan or any guidance related to the assessment of GHG emissions.

Sutter County. Sutter County developed a Draft Climate Action Plan in 2010, which included GHG inventories for 1990, 2008, 2020, and 2030, and recommended GHG emissions reduction programs and regulations for energy, solid waste, landscape, agriculture, transportation, and industrial sectors. The Draft Climate Action Plan did not include any GHG emissions reduction measures applicable to the proposed Project.

3.9.2.3 GHG Emissions Thresholds of Significance

Neither Colusa County, CCAPCD, Sutter County, or FRAQMD have adopted significance thresholds for GHG emissions. Therefore, this analysis uses the threshold of significance adopted by the Sacramento Metropolitan Air Quality Management District (SMAQMD) of 1,100 metric tons CO_2E per year for construction projects because it is the closest area with a threshold of significant to the Project site.

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

Given the global nature of climate change resulting from GHG emissions, GHG emission impacts are inherently cumulative in nature. The determination whether a project's GHG emissions impacts are significant depends on whether emissions would be a cumulatively considerable contribution to the significant cumulative impact.

The primary sources of GHG emissions are internal combustion engines to be used during Project implementation. Specifically, conventional construction equipment such as dozers, excavators, drill rigs, generators, loaders, and trucks would be utilized during construction activities. Additional sources of GHG emissions include construction vessels and on-road motor vehicles used to transport materials and personnel.

GHG emissions for on-road motor vehicles and off-road construction equipment proposed to be utilized for Phases 1 and 2 of the Project were estimated using emissions factors from CARB's EMFAC 2021 and OFFROAD 2021 web-based models. In addition, exhaust emissions from engines used on construction vessels were estimated using emissions factors from the San Pedro Bay Emissions Inventory Methodology Report (Starcrest, 2019). Table 3.9-1 lists the estimated GHG emissions calculated for each work task of both Phases 1 and 2 of the Project. Since the Project's total GHG emissions would not exceed the SMAQMD significance threshold, the Project's incremental increase in GHG emissions would not be cumulatively considerable and would have a less than significant impact on global climate change.

Table 3.9-1. Estimated GHG Emissions (Metric Tons)

Work Task	CO_2	CH_4	N_2O	CO_2E
Phase 1				
Site Mobilization and Excavation	11.3	0.0005	0.0004	11.4
Pipe String Welding	4.8	0.0002	0.0001	4.8
HDD Operations	147.9	0.0074	0.0033	149.0
Pipe String Testing, Tie-in, Meridian Road Pipe Removal	4.2	0.0002	0.0002	4.2
Demobilization and Restoration	9.2	0.0003	0.0005	9.3

Work Task	CO_2	CH_4	N_2O	CO_2E
Total Phase 1	177.2	0.009	0.004	178.7
Phase 2				
Mobilization, Pigging and Flushing	4.8	0.0001	0.0004	4.9
Excavation	32.1	0.0017	0.0007	32.3
Backfill, Restoration and Demobilization	7.2	0.0002	0.0004	7.3
Decommissioning and Demobilization	25.0	0.0012	0.0010	25.3
Riverine Survey	1.0	<0.0001	<0.001	1.0
Total Phase 2	70.1	0.003	0.003	70.9
Total Project	247.3	0.012	0.007	249.6
SMAQMD Significance Threshold				1,100

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

No Impact

Phases 1 and 2

The proposed Project would generate only temporary GHG emissions and would not conflict with the Sutter County Draft Climate Action Plan or any state or local policies, programs, or regulations.

3.9.4 Mitigation Summary

Project-related GHG emissions would not have a significant impact on the environment; therefore, no mitigation is required.

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?	☐	☒	☐	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☒	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within 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?	☐	☐	☐	☒
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	☐	☐	☒	☐

3.10.1 Environmental Setting

The Project area spans the Sacramento River, which forms the boundary between Colusa County and Sutter County; therefore, the Project area is located in both counties. This area is predominantly open space and agriculturally developed land with some industrial and residential development to the south of the Project corridor in Sutter County. The closest residence to the Project area is located approximately 56 feet east of the East Work Area in Sutter County. There is also an existing business (SF Metalworks) located directly adjacent to the south of the West Work Area in Colusa County. The nearest airport (Colusa County Airport, public) is located approximately 4 miles northwest of the Project area in Colusa County. Moronis Airport (private) is located approximately 5 miles to the southeast in Sutter County. The nearest school is

Meridian Elementary School located approximately 0.5 mile southeast of the East Work Area in Sutter County.

The State Water Resources Control Board (SWRCB) GeoTracker database did not identify any current hazardous waste sites within several miles of the Project area (SWRCB 2022). The closest open case is identified as Premier Mushroom (T10000000667) located approximately 3 miles northwest of the Project area in Colusa County, which has been open since 2009 and is noted as a "land disposal site" which includes solid or liquid wastes discharged to the land, which are regulated pursuant to the California Code of Regulations or California Water Code (SWRCB 2022).

Additionally, there are no properties located within Colusa County noted on the Department of Toxic Substances Control (DTSC) Hazardous Waste and Substances Site List – Site Cleanup (Cortese List). One active site is listed in Sutter County (Custom Chrome and Bumper, ID number 51340009) located at 335 Garden Highway in Yuba City, however that site is located over 15 miles east of the Project area.

3.10.2 Regulatory Setting

Federal and state laws and regulations pertaining to hazards and hazardous materials and relevant to the Project are identified in Appendix A. Local policies pertaining to hazards and hazardous waste are identified in Appendix B.

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

<u>Phases 1 and 2</u>

The Project would involve routine storage, transport, use, and disposal of small quantities of hazardous materials during Phases 1 and 2 of the Project. These materials may include gasoline, diesel, hydraulic fluids, lubricants, coolants, and solvents, all of which are regulated by federal, state, and local laws and regulations. Improper storage and handling of these materials during Project activities could be considered a potentially significant impact to the environment and nearby residences. **MM HAZ-1** would ensure the correct storage and handling of materials by requiring the development and inclusion of a Project Work and Safety Plan (PWSP). The PWSP would require separate storage for incompatible hazardous materials, secondary containment for hazardous materials storage, trained personnel for hazardous materials handling, on-site spill clean-up kits, and equipment refueling stations to be in specific

sites with appropriate spill containment equipment. With the implementation of this measure, the impact would be less than significant.

MM HAZ-1: Project Work and Safety Plan. A Project Work and Safety Plan (PWSP) 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 shall include the following information (at a minimum):

- Contact information
- Hazardous Spill Response and Contingency Plan
- Emergency Action Plan
- Summary of the Project Execution Plan
- Project Management Plan, including testing and proper disposal of used HDD fluids and drill cuttings
- Site Safety Plan, including measures for proper handling of hazardous materials including, but not limited to, soils containing residual pesticides
- Permit Condition Compliance Matrix

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?

Less than Significant with Mitigation

Phase 1

As noted above, **MM HAZ-1** would require a Hazardous Spill Response and Contingency Plan and Site Safety Plan as part of the PWSP to address the accidental release of hazardous materials including fuel spills. Phase 1 activities could result in the release of hazardous materials to the environment. Although HDD activities would be closely monitored, the potential exists for drilling fluids (predominantly bentonite clay) to migrate from the drill hole to surrounding fractured rock and sediments and be discharged to the land or surface water along the HDD alignment. Aquatic release and the associated biological impacts are analyzed in Section 3. Terrestrial releases of drilling fluid would have the potential to impact agricultural soils and affect terrestrial vegetation. However, the development and implementation of an Inadvertent Release Contingency Plan (**MM HAZ-2**) during Phase 1 replacement pipeline installation activities would reduce impacts to less than significant.

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

Phase 2

As noted in a), **MM HAZ-1** would require a Hazardous Spill Response and Contingency Plan and Site Safety Plan to address the accidental release of hazardous materials including fuel spills from Phase 2 equipment. Phase 2 would include pigging and flushing the existing pipelines to remove residual hydrocarbons, which would be captured in temporary tanks. Flush water could contain residual pipeline liquids but would be tested to identify levels of contamination and screened to determine if it should be disposed of at an appropriate facility or discharged at an authorized site. Potential impacts to water resources associated with discharge of any flush water would be addressed by implementation of **MM HAZ-1** and are further addressed in Section 3.11, *Hydrology and Water Quality*. The Segment 3 decommissioning would remove the pipelines from the riverbed and could dislodge existing debris, impact existing utilities, or leave behind debris, all of which would constitute a potential release of hazardous materials. **MM HAZ-3** would require a pre-Project Geophysical Debris Survey of the riverbed to identify pre-Project bottom contours as well as any debris or exposed utilities in order to avoid those areas during decommissioning. **MM HAZ-3** also includes a post-Project survey to ensure no Project-related debris is left at the site.

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 pipeline coating contains asbestos and asbestos fibers become airborne in the vicinity of nearby residences. Therefore, Asbestos Handling Procedures (**MM HAZ-4**) would be implemented during pipeline removal.

With implementation of **MM HAZ-1, MM HAZ-2, MM HAZ-3,** and **MM HAZ-4,** impacts due to hazardous materials would be reduced to less than significant.

MM HAZ-3: Pre- and Post-Project Bathymetric and Surficial Features Multi-Beam Debris Survey. Pre- and post-Project Bathymetric and Surficial Features Multi-Beam Debris Surveys of the riverbed shall be conducted using a vessel equipped with a multi-beam sonar system. The pre-Project survey, used in conjunction 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. A post-Project Bathymetric and Surficial Features Multi-

Beam debris survey shall also be performed, and the results compared to the initial baseline survey. Any anomalous objects that were not already found and identified in the pre-Project survey and that remain unidentified during the bathymetric and debris surveys would be positively identified using methods such as divers or ROV. All Project-related debris would be recovered. A Project close-out report with drawings shall be submitted to the CSLC within 60 days of work completion.

MM HAZ-4: Asbestos Handling Procedures. Construction personnel shall be informed of the potential presence of asbestos-containing material (ACM) at the Project area 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 equal to or 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 SMAQMD Rule 902 or Yolo-Solano Air Quality Management District (YSAQMD) Rule 4.3, 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

<u>Phases 1 and 2</u>

The Project area is located in an agricultural and industrial area, and there are no existing or proposed schools within 0.25 mile of the Project area. 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

The Project area is not located within or near any hazardous materials sites compiled pursuant to Government Code section 65962.5. Therefore, there would be no impact to the public or the environment.

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

No Impact

Phases 1 and 2

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

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

Less than Significant Impact

Phases 1 and 2

The Project area is located primarily within agricultural open space and would not affect any primary roadways or evacuation plans within Colusa or Sutter Counties. However, work activities within the East Work Area for pipeline installation during Phase 1 would necessitate closure of a portion of Alameda Street and North Meridian Road, and a portion of North Meridian Road during Phase 2 existing pipeline removal (see Figure 2-2 of the Project Description). Pipeline installation and removal in these areas would be accomplished using open trench excavation that would be hydraulically shored with vertical walls. During Phase 1, traffic would be redirected around the work area utilizing the roadway shoulder and other connecting portions of North Meridian Road and surface streets to SR 20 and the adjacent neighborhood streets. The short-term Project activities would not impair implementation of or physically interfere with an adopted emergency response or excavation plan, resulting in a less than significant impact.

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

Less than Significant Impact

Phases 1 and 2

The Project area is not considered to be a fire hazard by the California Department of Forestry and Fire Protection (CAL FIRE) and is located within a local responsibility area (CAL FIRE 2022). In the Project area, Colusa County is served by the Sacramento River Fire Protection District, and Sutter County is served by the Meridian Fire Protection District. In the event that a fire should break out at the Project area, both locations can be accessed quickly from SR 20. Project activities would occur within areas of irrigated agriculture or the Sacramento River floodplain, with relatively high soil moisture.

The Project does not involve any new development that could increase the number of persons or structures exposed to the existing wildland fire hazard. However, the Project involves potential ignition sources such as mobile and stationary equipment, vehicles, welders, and grinders. Standard safety features would be utilized, such as spark arrestor mufflers and grinder shields. In addition, potentially flammable vegetation within the designated work areas would be removed as part of work site preparation. Therefore, the Project-related increase in risk of property loss, injury, or death from wildland fires is considered a less than significant impact.

3.10.4 Mitigation Summary

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

- MM HAZ-1: Project Work and Safety Plan
- MM HAZ-2: Inadvertent Release Contingency Plan
- MM HAZ-3: Pre- and Post-Project Bathymetric and Surficial Features Multi-Beam Debris Survey
- MM HAZ-4: Asbestos Handling Procedure

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?	☐	☒	☐	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would:				
i) Result in substantial erosion or siltation on or off-site;	☐	☒	☐	☐
ii) Substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or off site;	☐	☐	☐	☒
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	☐	☐	☐	☒
iv) Impede or redirect flood flows?	☐	☐	☐	☒
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒

3.11.1 Environmental Setting

3.11.1.1 Surface Water Characteristics

The Project area spans the Sacramento River, which is the largest river in California in terms of flow volume, length, and drainage area. The Project area is located in the central reach of the Sacramento River at river mile 134 (Meridian), which represents a distance of 134 river miles from its confluence with the Sacramento/San Joaquin River Delta at Collinsville.

The Sacramento River within the Project area is part of the Sacramento Valley Subregion watershed that totals approximately 5,500 square miles. Shasta Dam, which

has a storage capacity of 4.5 million acre-feet, was built in 1944 and currently serves as the largest reservoir in the Central Valley. It works in conjunction with Trinity Reservoir which diverts its water through the Lewiston and Whiskeytown Reservoirs before it reaches the Sacramento River. Since construction of the Shasta Dam, flow rate is largely regulated and is typically lower in the winter months to mitigate for flooding, and higher in the summer months to accommodate irrigation needs (Sacramento River Watershed Program 2021).

3.11.1.2 Surface Water Quality

The Central Valley Regional Water Quality Control Board (CVRWQCB) has jurisdiction over the entire Sacramento River and San Joaquin River basins. To protect the quality of surface and ground waters in this region, the CVRWQCB has developed a Water Quality Control Plan, or "Basin Plan," which outlines beneficial uses for water in the region, establishes water quality objectives to protect beneficial uses, and describes programs implemented to meet the Basin Plan's objectives.

The Project area includes surface water (Sacramento River) in the reach between Knights Landing and Red Bluff which is considered impaired under Section 303(d) of the Clean Water Act due to elevated levels of mercury, dichlorodiphenyltrichloroethane (DDT), dieldrin, polychlorinated biphenyls (PCBs), and aquatic toxicity (SWRCB 2021). For a body of water to have an "impaired" status, data indicates that adopted water quality objectives are continually exceeded or that beneficial uses are not fully protected.

3.11.1.3 Flood Hazard

The Project area is included within two Flood Insurance Rate Maps with 06011C0575F in Colusa County and 06039400075B in Sutter County. As shown on the respective Flood Insurance Rate Maps, the Project area is located within Zone X (0.2 percent chance annual flood hazard), except the Sacramento River (extending up to 200 feet west of the western levee) is mapped as Zone A (special flood hazard area).

Federal levees occur on both sides of the Sacramento River at this location. The levees are federal flood control project levees and are federally regulated in accordance with ACOE criteria. The Central Valley Flood Protection Board (CVFPB) is the non-federal sponsor and is responsible for issuing the encroachment permit for work involving the federal levee and regulated stream (Sacramento River). Levee operations and maintenance are the responsibility of local agencies, which are Reclamation District 70 and the Sacramento River West Side Levee District for the Project area.

At the Project area, the eastern levee is known as Meridian - Unit 2 of the Sutter Basin North levee system, which was completed in 1964 and extends approximately 15.5

miles. The CVFPB is the federal levee's non-federal sponsor, and the levee is operated and maintained by Reclamation District 70.

The western levee is known as the Colusa Bridge to Tisdale Bypass section of the Sacramento River West Bank levee system, which extends approximately 22.98 miles. The CVFPB is the federal levee's non-federal sponsor, and the levee is operated and maintained by the Sacramento River West Side Levee District.

The Project would require an encroachment permit from the CVFPB and an ACOE Civil Works Section 408 review for both Phase 1 HDD pipeline replacement under the federal levees and Phase 2 decommissioning and removal of the pipeline and associated facilities from both the eastern and western levees. Both Reclamation District 70 and the Sacramento River West Side Levee District have reviewed and endorsed the Project as part of the CVFPB encroachment permit application.

3.11.1.4 Groundwater Environment

The Project area is located within the Sacramento Valley Groundwater Basin. The Sacramento River forms the boundary between two subbasins: the Colusa Subbasin to the west and the Sutter Subbasin to the east.

Colusa Subbasin. The Colusa Subbasin spans 1,131 square miles with approximately 6,092 groundwater wells. Approximately 340 square miles of the Colusa Subbasin supports irrigated cropland. The total groundwater usage in the Colusa Subbasin is estimated at 553,701 acre-feet per year, with nearly 99.9 percent used for agricultural irrigation. Hydrographs of wells in the Colusa Subbasin show groundwater level declines (California Department of Water Resources [CDWR] 2022a). Water bearing formations include Holocene stream channel and basin deposits, Pleistocene Modesto and Riverbank Formations, and Pliocene Tehama and Tuscan Formations. Water quality impediments include high levels of electroconductivity, total dissolved soils, adjusted sodium absorption ratio, nitrate, and manganese in the Colusa area (CDWR 2006a).

Sutter Subbasin. The Sutter Subbasin spans 446.6 square miles with approximately 4,468 groundwater wells. Approximately 359 square miles of the Sutter Subbasin supports irrigated cropland. The total groundwater usage in the Sutter Subbasin is estimated at 175,811 acre-feet per year, with 93.2 percent used for agricultural irrigation. No groundwater level declines have been documented in the Sutter Subbasin (CDWR 2022). Water bearing formations include pre-Cretaceous metamorphic and igneous rocks of the Sierra Nevada block and continental and marine-origin deposits of sedimentary rocks (CDWR 2006b).

3.11.1.5 Groundwater Management

The Sustainable Groundwater Management Act was passed in 2014 to help protect the State's groundwater resources. The Act focuses on local control of groundwater and initiated a decades-long process for communities to join together to understand the conditions of local groundwater basins, identify issues, and develop solutions. The Act requires the formation of groundwater sustainability agencies (GSAs) in high- and medium-priority groundwater basins and sub-basins, and preparation and submittal of groundwater management plans to CDWR.

Colusa Subbasin. The Colusa Subbasin has been designated a high priority basin such that a groundwater sustainability plan must be developed and implemented. The Subbasin has been subdivided into four GSAs to allow local management of groundwater resources:

- Reclamation District No. 1004 GSA
- Colusa Groundwater Authority GSA
- Glenn Groundwater Authority GSA
- County of Glenn GSA - Colusa

The portion of the Colusa Subbasin within the Project area is managed by the Colusa Groundwater Authority GSA. A single groundwater sustainability plan has been prepared for the entire Colusa Subbasin which is currently under review by CDWR.

Sutter Subbasin. The Sutter Subbasin has been designated a medium priority basin such that a groundwater sustainability plan must be developed and implemented. The Subbasin has been subdivided into five GSAs to allow local management of groundwater resources:

- County of Sutter GSA
- Reclamation District No. 1500 GSA
- City of Yuba GSA
- Reclamation District No. 70 GSA
- Reclamation District No. 1660 GSA

The portion of the Sutter Subbasin within the Project area is managed by the Reclamation District No. 70 GSA. A single groundwater sustainability plan has been prepared for the entire Sutter Subbasin which is currently under review by CDWR.

3.11.1.6 Potentially Affected Groundwater Basins

Phase 1 would require approximately 12,000 gallons of water. Phase 2 would require approximately 5,000 gallons of water, equating to approximately 0.05 acre-feet in total. Project water demands would be met by fresh water (typically water suitable for agricultural use or potable water, depending on availability) trucked from an off-site source, if an agreement can be reached with a local landowner. The source of this water has not yet been determined but would likely be one of the seven agricultural supply wells in the immediate vicinity of Meridian. Project water demands would most likely be met by groundwater from the Sutter Subbasin. However, groundwater from the Colusa Subbasin may be utilized.

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 regional and local permits and plans are discussed below.

3.11.2.1 National Pollutant Discharge Elimination System General Permits

Pursuant to the Porter-Cologne Act, the Regional Water Quality Control Boards issues National Pollutant Discharge Elimination System (NPDES) 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 applicable Basin Plan. Construction activities that disturb one 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) address potential discharges that have a low potential to threaten water quality. Project-related discharges that may be covered include pipeline flush water, hydrostatic test water, and construction dewatering (exposed groundwater within excavations). In accordance with this Statewide 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 Water Quality

Control 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, is also required.

Waste Discharge Requirements for Limited Threat Discharges to Surface Water (Order No. R5-2016-0076-01) address discharges that have a low potential to threaten water quality. Project-related discharges that may be covered include pipeline flush water, hydrostatic test 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 quarterly monitoring reports and filing a notice of termination upon completion of the activity, is also required.

3.11.2.2 Central Valley Flood Protection Plan

State Bill 5 (Central Valley Flood Protection Act of 2008, Machado; Chapter 364, Statutes of 2007) required the CDWR and the CVFPB to prepare and adopt a Central Valley Flood Protection Plan (CVFPP) and establish flood protection requirements for local land use decisions consistent with the CVFPP. The CVFPP serves as the guiding document for managing flood risk along the Sacramento and San Joaquin River systems, including a system-wide investment approach for sustainable, integrated flood management in areas currently protected by facilities of the State Plan of Flood Control. Regional flood management plans were also developed to specifically address more local issues. The Project area is located within the Upper Sacramento River Region of the CVFPP.

The CVFPP includes a Conservation Strategy (CDWR 2021) that aligns with and contributes to the attainment of all CVFPP goals, while focusing on improving ecosystem quality, quantity, function, and sustainability within the Systemwide Planning Area. Its purpose is to provide actionable and measurable targets to improve riverine, aquatic, wetland, and riparian habitat in the flood system through the integration of ecological principles with flood risk reduction projects, operation and maintenance activities, institutional support, and other means (e.g., the removal of fish passage barriers). The Conservation Strategy also provides data, information, and guidance to floodplain managers to assist in the development of multi-benefit flood infrastructure improvement projects by integrating project components and management strategies that benefit native species and their habitats.

3.11.2.3 Colusa County

Water resources and water quality policies of the Colusa County General Plan Conservation Element do not apply to the proposed Project because it is not a new development, would not generate a long-term water demand, or result in any long-term discharges to surface waters.

3.11.2.4 Sutter County

Water resources and water quality policies of the Sutter County 2030 General Plan Policy Document do not apply to the proposed Project because it is not a new development, would not generate a long-term water demand, or result in any long-term discharges to surface waters.

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

<u>Phase 1</u>

The HDD boring below the levees and river bottom has been designed to avoid potential breaches in drilling operations that could increase turbidity and degrade surface water quality. A risk analysis assessing the potential for drilling fluids to escape the borehole by inadvertent fracturing of surrounding earth materials (hydro-fracture) was performed for the proposed alignment for both an easterly and westerly directional drill to assess risks associated with the Project's HDD activities and determine the best borehole path. The potential for hydro-fracture was analyzed at the pilot borehole because this step in the HDD process yields the greatest risk due to an increase in fluid pressures. Risk evaluation is dependent on geotechnical condition and the geometry of the bore. Based on site conditions, it is anticipated that soft clay/silt soil layers will be contacted during bore drilling which increases the risk of hydro-fracture (Kleinfelder 2021). The hydro-fracture risk analysis indicates an elevated risk of fluid loss and poor circulation on the western side of the Sacramento River below an elevation of approximately 7 feet below mean sea level. The analysis also indicates that hydro-fracture has the potential to occur within 200 feet of the bore exit point, regardless of alignment orientation, and is a common risk of HDD. These risks are addressed in the Drilling Program Plan through Project design (directional drill from east to west), proper drilling fluid pressure monitoring during the HDD, and the use of an exit pit at the HDD exit location to provide a path of least resistance (Kleinfelder 2021).

During HDD operations, monitoring would be conducted to detect any inadvertent drilling fluid migration outside the bore hole. As discussed in **MM HAZ-2,** an Inadvertent Release Contingency Plan would be submitted to the CSLC at least 30 days prior to the start of Phase 1 for review and approval and would be implemented during Phase 1 to address possible fluid migrations during the HDD that could impact water quality.

The replacement pipeline would be hydrostatically tested before and after pullback installation using freshwater from local wells or other sources. Discharge of hydrostatic test water or flush water would also be conducted under the authorization of a General Permit and would meet the required water quality limits. With the implementation of **MM HAZ-2** and proposed HDD methods and monitoring, impacts to surface or groundwater quality would be reduced to less than significant during Phase 1.

Phase 2

The decommissioning and removal of segments of the gas pipeline crossing as currently proposed may require underwater excavation using a Toyo pump to expose segments of pipeline. This method precisely and accurately exposes buried pipelines to allow for efficient lifting by the crane through Sacramento River sediment in order to retrieve the pipeline. As the pipeline migrates vertically, sediment would slough off the pipeline and promote immediate and natural backfill with native Sacramento River sediment. The remaining hole would be allowed to collapse, further promoting this natural backfill.

As river sediment is disturbed, the concentration of local contaminants and water-born sediment may increase within the water column. If excavation through the use of a Toyo pump is necessary, increases in turbidity through the creation of holes may mobilize these particles which would migrate downstream with river flows. This has the potential to significantly affect surface water quality and clarity.

Implementation of **MM BIO-7**, which incorporates the use of a Turbidity Monitoring Plan, would provide corrective measures for reestablishing compliance with water quality objectives if an exceedance of the allowable threshold occurs. If an increase in turbidity that exceeds the allowable threshold is recorded by surface water sampling during in-water work, downstream turbidity levels would be compared with upstream turbidity levels to determine if the increase is a natural shift in turbidity in the waterway unrelated to Project activities. If a similar shift in turbidity levels is recorded in both directions, it would be assumed that this is a natural shift in background turbidity. If there is an increase in downstream turbidity levels over upstream turbidity levels, the increase would be assumed to be related to Project activities and turbidity would be monitored closely to ensure that the increase does not exceed the turbidity water quality objectives of the Basin Plan for the Central Valley Region. If an increase of turbidity exceeds the

allowable thresholds downstream of the in-water excavation, work activities would be stopped, and additional corrective measures would be implemented.

Corrective measures for turbidity levels exceeding the allowable threshold are outlined in **MM BIO-7** and may include the use of a turbidity curtain or other sediment control devices if feasible considering site conditions at the time of construction, alteration to the timing and duration of in-water work and excavation activities, or minor modifications in construction methodology that result in a reduction of in-water excavation. The turbidity curtain would provide a more immediate settlement of suspended sediment and minimize the amount of particle and contaminant transfer downstream. If turbidity levels exceed the allowable thresholds, turbidity levels would be monitored at a higher frequency at the downstream sampling location until they return to the baseline condition, at which time in-water work would be allowed to proceed and turbidity monitoring would continue to ensure compliance with water quality objectives once the corrective measures are in place. With the implementation of **MM BIO-7**, **MM HAZ-2**, and **MM HYDRO-1,** impacts to hydrology and water quality would be reduced to less than significant.

MM HYDRO-1: Stormwater Pollution Prevention Plan. PG&E or their contractor shall develop and implement a Stormwater Pollution Prevention Plan (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 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

Water used for hydrostatic testing, HDD fluids, and pipe flushing would likely be provided from groundwater resources of the Sutter Subbasin. The proposed 0.05-acre-foot total Project water demand would represent approximately 0.00003 percent of the annual groundwater usage (agricultural and urban) of this Subbasin (175,811 acre-feet per year). 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

Phase 1

The Project would not alter the drainage pattern of the Sacramento River or any other drainage. Stormwater run-off from Project work areas may result in short-term erosion and siltation which would be reduced by implementation of a SWPPP **(MM HYDRO-1)**. Erosion and siltation caused by pipeline removal would be further minimized by the proposed restoration of vegetation removed by the Project **(MM BIO-11)**, and adherence to regulatory permit conditions. With the inclusion of **MM HYDRO-1** and **MM BIO-11**, the impact would be less than significant.

Phase 2

The proposed removal of the existing pipeline from the riverbed results in the elimination of a potential long-term hazard should the pipeline become exposed due to dredging or scour during high flow events. Pipeline exposure in the riverbed has the potential to create “debris traps” along exposed areas of the pipeline that could result in accelerated erosion of the riverbed or banks. Complete pipeline removal within the riverbed and adhering to the methods and measures described in this document would reduce impacts to the Sacramento River during Phase 2 of the Project to less than significant.

After decommissioning and removal activities are complete, **MM BIO-11** would be implemented and the levee disturbance areas would be restored to pre-Project contours and conditions consistent with CVFPB and Local Maintaining Agency requirements and encroachment permits issued for the Project.

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

No Impact

Phases 1 and 2

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

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

No Impact

Phases 1 and 2

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

iv) Impede or redirect flood flows?

No Impact

Phase 1

Although the Project area is located within a flood hazard area, all Project components would be buried (except pipeline markers) and would not impede or redirect flood flows. Therefore, there would be no impact.

Phase 2

Both the western and eastern federal levees at the pipeline crossing location are regulated under Section 14 of the Rivers and Harbors Act of 1899. Permission under 33 U.S.C. section 408 requires an ACOE determination that the proposed Project involving

alteration of an ACOE Civil Works project does not interfere with the public interest and does not impair the usefulness of the Civil Works Project. Phase 2 activities involving removal of the pipeline facilities from the federal levees requires excavation to remove the pipeline; however, all construction impacts are temporary and would not interfere with the public interest nor permanently impair the usefulness of the federal levees.

The proposed pipeline removal during Phase 2 would not significantly impact the levees within the Project area. Pipeline decommissioning would involve shallow excavation in the levee and temporary construction disturbance that could increase potential flood risk; however, the proposed Project includes complete removal of the pipeline and valve box from the levee to eliminate potential seepage points along the pipeline alignment that may occur as a result of natural corrosion and pipeline degradation. Full removal of the pipeline and associated facilities is also a requirement of California Code of Regulations, Title 23, section 124(a). In order to minimize flood risk, excavation within the levee section for pipeline removal would be performed in small segments occurring sequentially across the levee and would not occur during flood season (November 1 to July 15) without prior approval from the CVFPB. Complete removal of the pipeline from the levee section would improve levee integrity at this location and would not result in a significant impact to flood facilities or increased risk of flooding.

After decommissioning and removal activities are complete, the shoreline and levee disturbance areas would be restored to pre-Project contours and condition, consistent with CVFPB and Local Maintaining Agency requirements and encroachment permits issued for the Project.

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

No Impact

<u>Phases 1 and 2</u>

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

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

No Impact

Phases 1 and 2

The Project may include discharge of hydrostatic testing water or pipeline flush water to the Sacramento River, which could exceed the water quality objectives of the Central Valley Region Water Quality Control Plan. However, this water would be tested and treated as needed to ensure it complies with the waste discharge requirements of applicable general permits. Discharge to land may be authorized under statewide General Order WQO-2003-003, while discharge to surface waters may be authorized under General Order R5-2016-0076-01 (NPDES No. CAG995002). Therefore, such discharge is not anticipated to conflict with the Central Valley Region Water Quality Control Plan.

The Project area is located within both the Colusa and Sutter subbasins of the Sacramento Valley Groundwater Basin. Although the Project water demand is likely to be supplied by the Sutter Subbasin, some of the water demand may be supplied from the Colusa Subbasin. Both of these subbasins have groundwater management plans under review by CDWR. Due to the relatively small and temporary nature of this water demand, the Project would not conflict or obstruct groundwater management in the area.

3.11.4 Mitigation Summary

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

- MM HAZ-1: Project Work and Safety Plan
- MM HAZ-2: Inadvertent Release Contingency Plan
- MM BIO-7: Turbidity Monitoring Plan
- MM BIO-11: Site Restoration Plan
- MM HYDRO-1: Stormwater Pollution Prevention Plan

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

3.12.1 Environmental Setting

The Project area is located in both Colusa and Sutter Counties. The land use designation within the Project area for Colusa County is Agricultural General and within Sutter County it is Agriculture and Open Space.

3.12.2 Regulatory Setting

There are no state or federal laws, regulations, or policies pertaining to land use and planning that are relevant to the Project. Since the Project does not involve a change in land use; local goals, policies, or regulations are not applicable.

3.12.3 Impact Analysis

a) Physically divide an established community?

No Impact

Phases 1 and 2

The Project area is located in an agricultural area with the nearest community (Meridian), immediately southeast of the East Work Area. The Project does not involve any new structures or roadways and would not divide any community. Therefore, there would be no impact.

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?

No Impact

Phases 1 and 2

The new permanent pipeline easement along the buried replacement pipeline alignment may be required but would not result in any change in land use or conflict with existing agricultural activities or any land use plan or policy. Therefore, there would be no impact.

3.12.4 Mitigation Summary

The Project would have no impact to land use and planning; therefore, no mitigation is 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?	☐	☐	☐	☒
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

3.13.1 Environmental Setting

3.13.1.1 Mineral Resources

Colusa County

The Project area is located in Colusa and Sutter Counties. According to the California Department of Conservation Mineral Land Classification, there are no mineral resource zones in Colusa County and no land within its borders has been included in the California Department of Conservation Mineral Land Classification Study Area (CDC Mineral 2022).

Sutter County

Sutter County does not contain any areas that are designated by California's Mining and Geology Board to have regional or statewide significance (Sutter County 2011a). Mineral resources in Sutter County include aggregate construction fill consisting of gravel, sand, soil, and crushed stone (Sutter County 2010). However, there is not a sufficient amount of mineral resources within the County that would trigger the preparation of Mineral Resource Management Policies per the Public Resources Code section 2762. The closest significant mineral deposit area to the Project area is located in Yuba City, approximately 12.5 miles east of the East Work Area, which includes Portland cement concrete-grade aggregate resources (CDC Mineral 2022). Natural gas resources in Sutter County are abundant and make up approximately five percent of all the natural gas produced in the state from the 252 wells (CSLC 2018a).

3.13.1.2 Mines

According to the California Department of Conservation, Division of Mine Reclamation, the closest active mine is in Sutter County and is approximately 6 miles east of the East Work Area (Mine ID# 91-51-0003 – WEST BUTTE QUARRY) (CDC Mines 2022). This mine is an active quarry for sand and gravel.

3.13.1.3 Oil or Gas Wells

According to the California Department of Conservation, Geologic Energy Management Division's online Well Finder, there are no active or idle wells near the Project area (CalGEM 2022).

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 area are identified in Appendix A. Since the Project does not involve a change in mineral resources, local goals, policies, or regulations are not applicable.

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 and b) No Impact

Phases 1 and 2

There are no mineral resource recovery sites or known mineral resources in or near the Project area. 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.

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?	☐	☒	☐	☐
b) Generate excessive ground-borne vibration or ground-borne noise levels?	☐	☐	☒	☐
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?	☐	☐	☐	☒

3.14.1 Environmental Setting

The Project area spans the Sacramento River which forms the boundary between Colusa County (to the west) and Sutter County (to the east). As per the Sutter County Code of Ordinances, noise sensitive uses are defined as residences, schools, motels, hotels, libraries, religious institutions, hospitals, and nursing homes. The nearest noise-sensitive receptors are:

- Residences in the community of Meridian: within 56 feet of the East Work Area.
- Meridian Elementary School: 0.4 miles southeast of the East Work Area.
- Residence on Alameda Court: 200 feet south of the West Work Area.

Noise sources in the vicinity of the Project area include motor vehicle traffic on SR 20 and equipment and vehicles associated with planting, cultivation, and harvesting of crops at adjacent agricultural fields. Periodic recreational boating traffic noise on the Sacramento River and noise associated with occasional overflights of aircraft from the Colusa County Airport may also occur.

3.14.1.1 Basis of Environmental Acoustics and Vibration

<u>Sound, Noise, and Acoustics</u>

Sound is the mechanical energy from a vibrating object that is transmitted by pressure waves through a liquid or gaseous medium (e.g., air). Noise is defined as unwanted sound (i.e., loud, unexpected, or annoying). Acoustics is the physics of sound. A sound

source generates pressure waves, the amplitude of which determines the source's perceived loudness. Sound pressure level (SPL) is described in terms of decibel (dB), with near-total silence for human hearing corresponding to 0 dB. When two sources at the same location each produce the same pressure waves, the resulting sound level at a given distance from that location is approximately 3 dB higher than the sound level produced by only one source. For example, if one automobile produces a 70 dB sound pressure level when it passes an observer, two cars passing simultaneously do not produce 140 dB; rather, they combine to produce 73 dB.

The perception of loudness can be approximated by filtering frequencies using the standardized A-weighting network. The "A-weighted" noise level de-emphasizes low and very high frequencies of sound in a manner similar to the human ear's de-emphasis of these frequencies. There is a strong correlation between A-weighted sound levels (expressed as dBA) and community response to noise. All noise levels reported in this section are in terms of A-weighting.

In typical noisy environments, noise-level changes of 1 to 2 dB are generally not perceptible by the healthy human ear. However, people can begin to detect 3 dB increases in noise levels, with a 5 dB increase generally perceived as distinctly noticeable and a 10 dB increase generally perceived as doubling the loudness. Four sound level descriptors are commonly used in environmental noise analysis:

- Equivalent sound level (L_{eq}): The L_{eq} is the average sound level that contains the same acoustical energy as the time-varying sound that actually occurs during that period
- Maximum sound level (L_{max}): The highest instantaneous sound level measured during a specified period
- Day-night average sound level (L_{dn}): The energy average of A-weighted sound levels occurring over a 24-hour period, with a 10 dB penalty applied to A-weighted sound levels occurring during nighttime hours (10:00 p.m. to 7:00 a.m.)
- Community noise equivalent level (CNEL): Similar to L_{dn}, CNEL is the energy-average of the A-weighted sound levels occurring over a 24-hour period, with a 10 dB penalty applied to A-weighted sound levels occurring during the nighttime hours (10:00 p.m. to 7:00 a.m.) plus a 5 dB penalty applied to the A-weighted sound levels occurring during evening hours (7:00 p.m. to 10:00 p.m.). The CNEL is usually within one dB of the L_{dn}.

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

sources. Sound levels attenuate at a rate of 3 dB for each time the distance doubles from a line source. Therefore, noise from a line source decreases less with distance than noise from a point source. To limit population exposure to physically or psychologically significant noise levels, the state and various local cities and counties in the state have established guidelines and ordinances to control noise as discussed in the Regulatory Setting subsection below.

3.14.1.2 Ground-borne Vibration

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

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

Vibration is an oscillatory motion which can be described in terms of displacement, velocity, or acceleration. Displacement is the easiest descriptor to understand. For a vibrating floor, the displacement is simply the distance that a point on the floor moves away from its static position. The velocity represents the instantaneous speed of the floor movement and acceleration is the rate of change of the speed. The peak particle velocity (PPV) is defined as the maximum instantaneous positive or negative peak of the vibration signal. PPV is often used in monitoring of blasting vibration since it is related to the stresses that buildings undergo.

3.14.2 Regulatory Setting

Federal and state laws and regulations pertaining to noise and relevant to the Project are identified in Appendix A. Local noise policies and standards are provided below.

3.14.2.1 Colusa County

The policies of the Colusa County General Plan Noise Element do not apply to the proposed Project because it is not a new development and would not generate long-term noise. However, the Project is subject to Section 13-6 of the Colusa County Code which limits noise to 50 dBA between 9 p.m. and 7 a.m. and 55 dBA from 7 a.m. to 9

p.m. in residential areas. Construction activities are exempt from these noise limits if conducted between 7 a.m. and 7 p.m. on Mondays through Fridays and between 8 a.m. and 8 p.m. on Saturdays and Sundays if:

1. No individual piece of equipment produces a noise level exceeding 83 dBA at a distance of 25 feet.

2. The noise level at any point of the property plane of the project does not exceed 86 dB.

3.14.2.2 Sutter County

The noise policies of the Sutter County 2030 General Plan Policy Document do not apply to the proposed Project because it is not a new development, would not generate long-term noise, and would not generate transit or railroad-related vibration. In addition, construction projects conducted between 7 a.m. and 6 p.m. on weekdays and from 8 a.m. to 5 p.m. on Saturdays are exempted from Chapter 1500-21.5 (noise control) of the Sutter County Code of Ordinances. Construction work on Sundays is prohibited unless approved in advance by the County.

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 with Mitigation

<u>Phase 1</u>

The Federal Highway Administration's Roadway Construction Noise Model was used to estimate peak hour noise (L_{eq}) generated by Phase 1 activities (FHA 2006):

- HDD operations at the East HDD Work Area (Sutter County)
- Pipe stringing and welding at the West HDD Work Area and Pipe Staging Area (Colusa County)
- Removal of the Meridian Road pipe segment (Sutter County)

The results of the noise modeling are presented in Table 3.14-1. Model input and output data is provided in Appendix F.

Table 3.14-1. Phase 1 Noise Modeling Results

Activity	Nearest Sensitive Receptor	Estimated Peak Hour Noise Level (dBA Leq)
HDD operations	1341 3rd Street (residence)	71.7
HDD operations	Meridian Elementary School	52.5
Pipe stringing and welding	Residence on Alameda Court	67.5
Meridian Road pipe removal	1341 3rd Street (residence)	57.9

Colusa County. Phase 1 activities would generally comply with Section 13-6 of the Colusa County Code in that no piece of equipment with noise levels exceeding 83 dBA would be used and the estimated peak hour noise level would not exceed 86 dBA. However, work in the West Work Area and pipe staging area may occasionally occur before 8 a.m. on Saturdays or Sundays which would violate the Colusa County Code and is considered a significant impact. **MM N-1** is provided to avoid potential noise complaints and ensure noise levels would be less than significant.

Sutter County. Phase 1 activities would generally comply with the Sutter County Code of Ordinances. However, work in the East HDD Work Area may occasionally occur before 8 a.m. or after 5 p.m. on Saturdays or occur on Sundays which would violate the Sutter County Code of Ordinances and is considered a significant impact. However, **MM N-1** is provided to avoid potential noise complaints and ensure noise levels would be less than significant.

MM N-1: Work Hours and Alternate Housing. Work involving noise-generating equipment shall be conducted during the hours of 7:00 a.m. to 7:00 p.m. on weekdays and 8:00 a.m. to 5:00 p.m. on Saturdays. Work involving noise-generating equipment in Sutter County on Sundays shall be prohibited unless permission is granted by Sutter County in advance. If work involving noise-generating equipment is necessary (i.e., pipe pulling) outside of the work windows above, then PG&E will notify residents within 100-feet of the Project area and offer compensation for alternate housing for the time period when noise-generating work is scheduled to occur.

No new long-term noise sources would be created nor would existing noise levels be exacerbated. Therefore, no long-term noise impacts would result.

Phase 2

Colusa County. The Roadway Construction Noise Model was used to estimate peak hour noise (L_{eq}) generated by excavation associated with removal of pipe Segment 1

(see Figure ES-3) at the nearest residence (on Alameda Court, approximately 400 feet to the southwest). The modeled peak hour noise level is 60.6 dBA L_{eq}. Model input and output data is provided in Appendix F. Phase 2 activities would generally comply with Section 13-6 of the Colusa County Code in that no piece of equipment with noise levels exceeding 83 dBA would be used and the estimated peak hour noise level would not exceed 86 dBA. However, pipe decommissioning and removal activities may occasionally occur before 8 a.m. on Saturdays or Sundays which would violate the Colusa County Code and is considered a significant impact. **MM N-1** is provided to avoid potential noise complaints and ensure noise levels would be less than significant.

Sutter County. Phase 2 activities would generally comply with the Sutter County Code of Ordinances. However, pipe decommissioning and removal activities may occasionally occur before 8 a.m. or after 5 p.m. on Saturdays or occur on Sundays which would violate the Sutter County Code of Ordinances and is considered a significant impact. Implementation of MM N-1 is provided to avoid potential noise complaints and ensure noise levels would be less than significant.

No new long-term noise sources would be created nor would existing noise levels be exacerbated. Therefore, no long-term noise impacts would result.

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

Less than Significant Impact

Phase 1

Methodology provided in the California Department of Transportation (Caltrans) Transportation and Construction Vibration Guidance Manual (2013) was used to estimate ground borne vibration at the nearest potentially occupied structures, which are:

- 1341 3rd Street (residence) near the East HDD Work Area
- Steel building near the West HDD Work Area and Pipe Staging Area

The results of the vibration modeling are presented in Table 3.14-2. Model input and output data is provided in Appendix F.

Table 3.14-2. Phase 1 Vibration Modeling Results

Activity	Nearest Sensitive Receptor	Estimated PPV
HDD operations	1341 3rd Street (residence)	0.0413
Pipe stringing and welding	Steel building	0.0116

The estimated vibration level at 1341 3rd Street would be distinctly perceptible (>0.04 PPV) and less than required to damage older residual structures (0.3 PPV). The estimated vibration level at the steel building would be barely perceptible (>0.01 PPV) and less than required to damage even fragile buildings (0.1 PPV). Therefore, Phase 1-generated vibration is considered a less than significant impact.

Phase 2

Methodology provided in the California Department of Transportation (Caltrans) Transportation and Construction Vibration Guidance Manual (2013) was used to estimate ground borne vibration at the nearest potentially occupied structures, which are:

- Steel building near the West Levee pipe removal area
- Commercial building near the East Levee pipe removal area

The results of the vibration modeling are presented in Table 3.14-3. Model input and output data is provided in Appendix F.

Table 3.14-3. Phase 2 Vibration Modeling Results

Activity	Nearest Sensitive Receptor	Estimated PPV
West Levee pipe removal	Steel agricultural building	0.0024
East Levee pipe removal	Commercial building	0.0026

The estimated vibration level at these structures would not be perceptible (<0.01 PPV) and much less than required to damage even fragile buildings (0.1 PPV). Therefore, Phase 2-generated vibration is considered a less than significant impact.

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?

No Impact

Phases 1 and 2

The nearest public airport (Colusa County Airport) is located approximately 4.0 miles to the northwest of the Project area (Pipe Staging Area). The nearest private airstrip (Sanborn) is located approximately 2.7 miles to the southeast of the Project area (East HDD Work Area). Therefore, no impact to airports would result from the Project.

3.14.4 Mitigation Summary

Implementation of the following MM would reduce the potential for Project-related noise and vibration impacts to residential receptors to less than significant.

- MM N-1: Work Hours and Alternate Housing

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)?	☐	☐	☐	☒
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

3.15.1 Environmental Setting

According to the U.S. Census, Colusa County had a population of 21,839 in 2019. Sutter County had a population of 99,633 in 2019. (U.S. Census Bureau 2021a, 2021b).

3.15.2 Regulatory Setting

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

3.15.3 Impact Analysis

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)?

No Impact

Phases 1 and 2

The Project consists of replacing an existing natural gas pipeline in an agricultural area and would not expand natural gas service into new areas. Therefore, the Project would not induce population growth.

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

No Impact

Phases 1 and 2

The Project would be implemented in an agricultural area and would not displace any housing or create a long-term demand for housing. Construction workers and other field personnel involved with the pipeline installation and decommissioning may slightly increase the demand for temporary housing (hotels or rental housing). However, the demand would be temporary (a few months) and limited based on the small number of persons involved with Project activities. The Project would not generate a need for additional housing, generate new permanent jobs in the region, or displace existing housing or owners/tenants. Therefore, there would be no impact.

3.15.4 Mitigation Summary

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

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?	☐	☐	☐	☒
Police protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

3.16.1 Environmental Setting

The Project area is located in unincorporated Colusa County and Sutter County, within an agricultural area with minimal community services. The nearest incorporated town is Meridian, located southeast of the Project area in Sutter County.

Fire Protection. The Project area has several inhabited structures in close proximity; however, the area has a low fire risk due to generally high soil moisture content associated with the adjacent Sacramento River. In Sutter County, fire protection is provided by four county service areas and two independent fire protection districts (Sutter County 2011a). Colusa County has ten fire departments and fire stations. Fire service within the Project area is served by the Meridian Fire Protection District.

Police Protection. Law enforcement within unincorporated Colusa County is provided by Colusa County Sheriff's Department (Colusa County 2010). Law enforcement within unincorporated Sutter County is provided by the Sutter County Sheriff's Department. (Sutter County 2011a). The Sutter County Sheriff's Department provides specialized law enforcement services to Sutter County and local police protection to the unincorporated areas of the County, including the Project area.

Schools. The nearest school to the Project area is Meridian Elementary School located at 15898 Central Street in Meridian, approximately 0.4 miles southeast of the East Work Area.

Parks. The nearest park to the Project area is Colusa Veterans Memorial Park located in Colusa County approximately 7 miles northwest of the West Work Area. Lovey's Landing is the nearest RV Park located approximately 2.75 miles northwest of the West Work Area along the shoreline of the Sacramento River. Parks and recreation within Sutter County include several facilities that are owned and operated by either state, county, or private parties (Sutter County 2011a). Caldwell Hills is a nature preserve within Sutter County and is located approximately 7.75 miles northeast of the Project area.

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. Local policies pertaining to public services and applicable to the Project are identified in Appendix B.

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

<u>Phases 1 and 2</u>

The Project involves short-term pipeline installation and decommissioning and does not involve the construction of any residences, buildings, or other land uses requiring public services. 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.

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?	☐	☐	☐	☒
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?	☐	☐	☐	☒
Would the project interfere with existing use of in-river recreational boating opportunities?[8]	☐	☒	☐	☐

3.17.1 Environmental Setting

The Sacramento River is the largest river in California (Misachi 2018). It provides extensive recreational opportunities including boating and fishing. Surrounding land-use areas provide access to hiking, biking, camping, and wildlife viewing. Hunting also occurs in the area but mainly on private lands (Colusa County 2012d).

The Sacramento River intersecting the Project area is publicly accessible and currently constitutes the majority of the recreational opportunities within the vicinity of the proposed Project. Lovey's Landing is the nearest boat dock to the Project area and is located approximately 2.75 miles up-stream of the Project area.

As discussed in Section 3.16, *Public Services*, within Colusa County the nearest park to the Project area is Colusa Veterans Memorial Park, located approximately seven miles northwest of the West Work Area. Within Sutter County, Caldwell Hills is the nearest recreational open space park and is located approximately 7.75 miles northeast of the Project area.

3.17.2 Regulatory Setting

There are no federal or state laws, regulations, or policies pertaining to recreation that are relevant to the Project. Local policies with respect to recreation are identified in Appendix B.

[8] The CSLC 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).)

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 and b) No Impact

Phases 1 and 2

The Project would not result in population growth in the area or otherwise result in the increased use of existing recreational facilities. The Project does not include any recreational facilities and would not require the construction or expansion of recreational facilities or restrict use of existing recreational facilities. Therefore, there would be no impact.

c) Would the project interfere with existing use of in-river recreational boating opportunities?

No Impact

Phase 1

Mobilization for Phase 1 is currently planned for October 2022, with HDD drilling operations occurring from October through December 2022. HDD and related pipeline installation operations would not restrict access to terrestrial or Sacramento River-based recreational opportunities.

Less than Significant with Mitigation

Phase 2

Phase 2 is planned to occur June through August of 2023 for approximately 30 days. All decommissioning activities within the Sacramento River would occur within the seasonal aquatic work window that occurs from June 1 through October 31, 2023, for protection of listed fish species. Construction activity would take place Monday through Friday for approximately 10 hours each day. Longer shifts or additional shifts may occur, if necessary, to complete the Project within the defined seasonal constraints. The presence and operation of the derrick barge, materials barge, and vessels required for pipeline removal within the Sacramento River may temporarily limit access to

recreational activities within the Project area and raise safety concerns for recreational boaters. Such restricted access would be short-term and would not limit access to other surrounding recreational areas. **MM REC-1** and **MM REC-2** would be implemented to reduce this potential impact to less than significant.

MM REC-1. Riverine Safety Measures. Prior to in-water activity, PG&E or its designated contractor shall post information at all local marinas and launch facilities concerning Project work locations, times, and other details of activities that may pose hazards to recreational boaters. At all times while Project activities are taking place in the Sacramento River, warning signs and buoys shall be installed upstream and downstream of the work site to provide notice to the public that Project activities are taking place and to exercise caution.

MM REC-2: Advanced Notice to Mariners. All in-water activity shall be described in a Local Notice to Mariners to be submitted to the U.S. Coast Guard at least 15 days prior to Phase 2 activities. The Notice shall include:

- Type of operation (i.e., diving operations, construction)
- Location of operation, including latitude and longitude and geographical position, if applicable
- Duration of operation, including start and completion dates (if these dates change, the U.S. Coast Guard needs to be notified)
- Vessels involved in the operation
- VHF-FM radio frequencies monitored by vessels on the scene
- Point of contact and 24-hour phone number
- Chart Number for the area of operation

3.17.4 Mitigation Summary

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

- MM REC-1: Riverine Safety Measures
- MM REC-2: Advanced Notice to Mariners

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?	☐	☐	☐	☒
b) Conflict or be inconsistent with State CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☒	☐
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
d) Result in inadequate emergency access?	☐	☒	☐	☐

3.18.1 Environmental Setting

3.18.1.1 Colusa County

The West Work Area is located in an agricultural field west of the Sacramento River and western levee. Access to the West Work Area within Colusa County would be from existing private roads and designated access routes through the agricultural field.

Colusa County has three primary transportation corridors (Interstate 5, SR 20, and SR 45) that are operated and maintained by Caltrans. In addition to all state freeways and highways, there are a number of Colusa County roads in unincorporated Colusa County that mainly serve agricultural land and small communities. Colusa County covers a wide area, and the land use changes anticipated in most of the unincorporated areas are small in comparison to those forecasted for nearby jurisdictions and counties. This means that the growth in traffic from cities within Colusa County and in adjacent counties becomes the primary factor for anticipated increases in traffic volumes. Thus, increased traffic congestion is anticipated on freeways and major arterials that run through Colusa County, regardless of the land use activities in the unincorporated portions of the County.

Based on aerial imagery, there are no designated bikeways located within the vicinity of the Project area in Colusa County.

The Colusa County Transportation Commission updated the 2013 Regional Transportation Plan (RTP), which provided improved compliance measures pursuant to the California Transportation Commission's (CTC) 2017 RTP Guidelines (Colusa County 2019). Colusa County incorporates information drawn from this update to shape the circulation element of the General Plan. The RTP update:

- Emphasizes compliance with the Regional Transportation Improvement Program (RTIP) and the Interregional Transportation Improvement Program (ITIP), the land use transportation connection, and public participation activities.
- Includes additional policies and objectives, identifying feasible solutions to related issues.
- Includes programmed and recommended transportation improvements for:
    - Roadways
    - Public transit
    - Goods movement
    - Bicycle and pedestrian, and
    - Aviation

3.18.1.2 Sutter County

Access to the Project area within Sutter County would be through the existing roads in the Project vicinity. The East Work Area is located along Alameda Street between Meridian Road and 3rd Street in the unincorporated town of Meridian.

As noted in Chapter 6 of the Sutter County General Plan, transportation systems traversing around and through the County include state highways, local roads, urban arterials, rural highways and streets, bus transit services, freight rail, and airports (Sutter County 2011a). SR 20 is a major state highway that bisects Sutter County and crosses the Sacramento River approximately 485 feet south of the Project area. SR 20 is typically two lanes with portions built on top of levees including those within the Project vicinity. Although sections of SR 20 are scenic corridors, none are associated with the Project area.

Based on annual traffic counts conducted by Caltrans, the 2020 peak hour traffic volume on SR 20 at the Colusa/Sutter County line was 700 vehicles, with an annual average daily traffic count of 7,100 (Caltrans 2020).

In 2020, the average annual daily truck volume on SR 20 at the SR 45 junction, approximately 2.6 miles west of the Project area in Colusa County, was 746.5 trucks (average between two survey locations) which is 7.5 percent of the annual average daily traffic count of 10,050 total vehicles (Caltrans 2020).

No regional rail traffic passes through the Project area. Freight rail service to Sutter County is located in the northeastern and southeastern regions of the County and is provided by the Union Pacific Railroad (Sutter County 2011a).

There are no commercial shipping ports on the Sacramento River in the region surrounding the Project area.

3.18.2 Regulatory Setting

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

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 does not involve any new or modified land uses that may generate long-term vehicle trips or other features that may affect the local or regional circulation system.

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

Less than Significant Impact

Phases 1 and 2

CEQA Guidelines section 15064.3(b) indicates that Vehicle Miles Traveled (VMT) 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 Technical Advisory provides a small project screening threshold that indicates 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 2018c).

The Project would result in new (but temporary) vehicle trips on SR 20 within Colusa and Sutter Counties. The maximum number of Project-related one-way vehicle trips for deliveries and pickups is anticipated to be 88 trips during Phases 1 and 2 of the Project. Therefore, Project-related vehicle trips would represent a small percentage of existing trips on SR 20. Peak day trips would be below the daily level of service thresholds identified in the 2018 Colusa County Regional Transportation Plan Update; Sutter

County General Plan does not provide a daily level of service threshold. Therefore, the Project impacts would be less than significant.

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

No Impact

Phases 1 and 2

The Project would not involve any roadway modifications or incompatible uses and would not increase traffic hazards. Therefore, no impact would result.

d) Result in inadequate emergency access?

Less than Significant with Mitigation

Phase 1

During Phase 1 of the Project, Alameda Street and Meridian Road would be utilized within the East Work Area to the extent shown in Figure 2-1. Activities within the East Work Area would include excavation, drill rig operations, and removal of Segment 5 of the existing pipeline. Alameda Street would require temporary closure during Phase 1 activities. Residential homes are located on Alameda Street and North Meridian Road provides access to residential homes north of the Project area. Closure of Alameda Street and its intersection with Meridian Road may impact emergency access during Phase 1.

In addition, the pipe staging area within the West Work Area would temporarily intersect with a dirt residential and farm access road on the west side of the Project area.

Detour routes would be provided to ensure traffic could be easily routed around the Project work areas. The proposed detour for the East Work Area would address traffic flow from west to east: Southbound vehicles/bicycles on Meridian Road would take a left turn on Bridge Street, then left on 4th street, left on Mawson Road and then right on 3rd Street to access Alameda Street. The proposed detour for the West Work Area would include the use of designated construction access roads so vehicles would drive around the staged pipe.

Impacts to traffic and circulation affecting emergency access would be addressed through the implementation of **MM T-1,** which would provide a Traffic Control Plan including a detour route for vehicles and bicycles within the Project's vicinity. SR 20 provides emergency access for local communities.

MM T-1: Traffic Control Plan. Prior to commencement of Project activities, a Traffic Control Plan shall be submitted to the CSLC for review and approval. It shall include measures such as appropriate signage, detour routes, and lane closure to reduce potential hazards to motorists and workers during the Project. In addition, the Traffic Control Plan shall address measures to allow emergency vehicle access, and reduction of impacts to circulation, potential hazards to motorists, bicyclists, pedestrians, and workers during the Project.

Less than Significant with Mitigation

Phase 2

During Phase 2, equipment will be working on the east levee adjacent to the intersection of Alameda Street and Meridian Road. No road closures are warranted; however, lane closure along Meridian Road may be necessary. There are no roads that would be impacted on in the West Work Area during Phase 2. Implementation of **MM T-1** would reduce circulation impacts affecting emergency access to less than significant.

3.18.4 Mitigation Summary

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

- MM T-1: Traffic Control Plan

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?	☐	☐	☐	☒
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	☐	☐	☒	☐
c) Result in a determination by the 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?	☐	☐	☐	☒
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

3.19.1 Environmental Setting

The Project does not include components that would require or alter existing utilities or service systems. However, the Project would generate solid and liquid waste during construction. A discussion of liquid waste generation resulting from pipeline flushing activities is included in Section 3.11, *Hydrology and Water Quality*. Project-related solid waste would be recycled to the extent feasible and transported to a solid waste facility within 100 miles of the Project area. Non-recyclable, non-hazardous solid waste would likely be transported to the Recology Ostrom Road Landfill which is the nearest landfill to the Project area. The Recology Ostrom Road Landfill, located in Wheatland, is permitted for disposal of industrial and construction/demolition waste, and has 39,223,000 cubic yards of remaining capacity. The Recology Ostrom Landfill has enough capacity to meet demand through year 2066 (CalRecycle 2022a).

Alternatively, the Western Regional Landfill is located in Placer County and is within 100 miles of the Project area. The Western Regional Landfill is a total of 281 acres in size, with a permitted disposal area of 231 acres. The Western Regional Landfill is classified as a Class III municipal solid waste landfill facility and is permitted to accept sludge,

mixed municipal, and construction/demolition waste. The Western Regional Landfill has enough capacity to meet demand through the year 2058 (CalRecycle 2022b).

The nearest hazardous waste disposal site to the Project area is the Recology Butte Colusa Counties Transfer Station in Oroville, California, which is permitted to receive petroleum-based products such as contaminated pipeline flush water.

3.19.2 Regulatory Setting

Federal and state laws and regulations pertaining to utilities and service systems and relevant to the Project are identified in Appendix A. Applicable local policies are identified in Appendix B.

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 consists of the replacement of an existing natural gas pipeline and 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?

Less than Significant Impact

Phases 1 and 2

The Project would require water for dust control and pipeline flushing. As discussed in Section 2.1.7, *Water and Waste Disposal Requirements*, this water would be supplied and trucked from a local residential or agricultural well if an agreement cannot be reached with a local landowner. Alternatively, water would be trucked to the site from an off-site source (likely within 20 miles of the Project area). Approximately 10,000 gallons of freshwater would be required to produce the necessary drilling fluids and about 2,000 gallons would be required for hydrostatic pipeline testing. Approximately 5,000 gallons of freshwater would be required for pigging and flushing the five segments of pipeline.

No long-term water demand would be created, and no new or expanded water infrastructure or entitlements would be needed. Therefore, a less than significant impact would result.

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 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 a municipal wastewater treatment plant located within 20 miles of the Project area. The Project would not generate wastewater following completion of pipeline installation and decommissioning and would not affect the capacity of any wastewater treatment providers. No impact would result.

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 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 a permitted landfill. Facilities within 100 miles of the Project area 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 a nearby landfill. Disposal of solid waste generated by the Project would not affect regional compliance with state-mandated municipal solid waste diversion and recycling requirements. Therefore, no impact would result.

3.19.4 Mitigation Summary

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

3.20 WILDFIRE

WILDFIRE - If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks of, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☒
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts on the environment?	☐	☐	☐	☒
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

3.20.1 Environmental Setting

The Project site is not located in or near a state responsibility area or in lands classified by CAL FIRE as very high fire hazard severity zones. In addition, the Project area is located in a local responsibility area where local municipalities have financial responsibility for fire protection. In unincorporated Sutter County, fire protection is provided by four county service areas and two independent fire protection districts (Sutter County 2011b). Fire service within the Project area is served by the Meridian Fire Protection District.

3.20.2 Regulatory Setting

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

3.20.3 Impact Analysis

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

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?

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?

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?

(a through d) No Impact

Phases 1 and 2

The Project is not located in or near a fire hazard severity zone or a state responsibility area. For discussions on emergency response plans, emergency evacuations, and fire risk see Sections 3.10, *Hazards and Hazardous Materials*, and 3.18, *Transportation*. Therefore, there would be no impact.

3.20.4 Mitigation Summary

The Project would have no impacts related to wildfire; therefore, no mitigation is 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 require 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?	☐	☒	☐	☐
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.)	☐	☐	☒	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

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?

Less than Significant with Mitigation. As analyzed in Biological Resources (Section 3.4), the Project would not significantly adversely affect fish or wildlife habitat, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or reduce the number or restrict the range of an endangered, rare, or threatened species. Mitigation measures **MM BIO-1** through **MM BIO-11,** as well as **MM HAZ-2**, would ensure that the minor, temporary, and localized impacts on special-status species and their habitats would be less than significant.

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

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

Less than Significant Impact. As provided in this MND, the Project has the potential to significantly impact the following environmental disciplines: Aesthetics (Section 3.1), Biological Resources (Section 3.4); Cultural Resources (Section 3.5); Cultural Resources – Tribal (Section 3.6); Geology, Soils, and Paleontological Resources (Section 3.8); Hazards and Hazardous Materials (Section 3.10), Hydrology and Water Quality (Section 3.11), Noise (Section 3.14), Recreation (Section 3.17), and Transportation (Section 3.18). However, measures have been identified that would reduce these impacts to less than significant with mitigation.

Upon a query of Sutter County and Colusa County, no cumulative projects were identified that would result in a cumulative impact to the environment. Therefore, no cumulative impact would result.

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

Less than Significant with Mitigation. The Project's potential to impact human beings is addressed in Sections 3.1 through 3.20 of this document, including impacts that may affect resources used or enjoyed by the public, residents, and others in the Project area (such as aesthetics, public services, and recreation); those that are protective of public safety and well-being (such as air quality, geology and soils, GHG emissions, hydrology

and water quality, and noise); and those that address community character and essential infrastructure (such as land use and planning, population and housing, transportation, and utilities). None of these analyses identified a potential adverse effect that could not be avoided or minimized through the mitigation measures described or compliance with standard regulatory requirements. As such, with mitigation in place, Project impacts would be less than significant.

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4.0 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's) 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.

4.1 CLIMATE CHANGE

The Project area is not tidally influenced and therefore not subject to the effects of 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 Project area includes submerged land of the Sacramento River. As part of the decommissioning, portions of the existing pipeline would be removed from below the bed and banks of the river, and upland portions would be removed or abandoned in place at depth. The new pipeline would be installed via HDD and would be well below the bed of the river and therefore would not be affected by projected flooding or drought conditions.

4.2 RECREATIONAL FISHING

The Sacramento River supports recreational fishing and the closest access points for fishermen to launch their boats include Grimes Boat Landing approximately 8.6 river-miles south of the Project area and Lovey's Landing and RV Park located approximately 2.9 river-miles north of the Project area. In-water work would be conducted during periods when migratory fish are unlikely to be present. At any one time, it is estimated that in-water pipeline removal activities would temporarily affect only a small portion of the width of the Sacramento River along Segment 3. Therefore, fishermen would have free passage during Project activities. Overall, the Project is not anticipated to affect recreational fishing opportunities in the affected waterway; however, **MM REC-1** and **MM REC-2** have been included to address in-water construction safety concerns.

4.3 ENVIRONMENTAL JUSTICE

"Environmental justice" is defined by California law as "the fair treatment and meaningful involvement of people of all races, cultures, incomes, and national origins, with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies" (Gov. Code, § 65040.12, subd. (e)). This definition is consistent with the Public Trust Doctrine principle that the management of trust lands is for the benefit of all people. The CSLC adopted an Environmental Justice Policy in December 2018 (Item 75, December 2018) to ensure that environmental justice is an essential consideration in the CSLC's processes, decisions, and programs (CSLC 2018b).[9] Through its policy, the CSLC reaffirms its commitment to an informed and open process in which all people are treated equitably and with dignity, and in which its decisions are tempered by environmental justice considerations. Among other goals, the policy commits the CSLC to, "Strive to minimize additional burdens on and increase benefits to marginalized and disadvantaged communities resulting from a proposed project or lease."[10]

The available data revealed no significant environmental impact associated with the issuance of an amendment of General Lease – Right-of-Way Use, for either the installation or removal of PG&E gas pipes associated with R-1385 in the Sacramento River. Project staging areas and access would be coordinated with the respective landowners prior to use. The causal relationship between access and environmental burden appears largely unsupported by quantitative data, at this time. Therefore, community outreach was not conducted.

4.3.1 U.S. Census Bureau Statistics

Tables 5.3-1 through 5.3-3 present 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 2019 American Community Survey 1-Year and 5-Year Estimates.[11] The Project corridor is located within Colusa and Sutter Counties, but specifically falls within Census Tract No. 2 in Colusa and 509 in Sutter County; both of which include the larger regional vicinity surrounding the Project corridor.

[9] See https://www.slc.ca.gov/wp-content/uploads/2018/11/EJPolicy.pdf
[10] Id.
[11] U.S. Census 2019 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.

4.3.2 Population and Economic Characteristics

4.3.2.1 Demographics

As indicated in Table 4.3-1, regionally the population in Colusa and Sutter Counties is comprised of an approximately 68.0 to 88.3 percent white and 11.7 to 32.0 percent non-white population. Demographics within the Census Tracts including and adjacent to the Project corridor are also predominantly white, ranging from 89.0 percent (Tract 2 in Colusa County) to 91.8 percent (Tract 509 in Sutter County). However, it is important to note that this area also contains a significant number of persons (up to 59.4 percent in Colusa County) who classify themselves as being of Hispanic or Latino decent. That percentage is consistent with the percentage of Hispanic or Latino persons within Census Tract 2 (also in Colusa County), but higher than the percentage of persons representing Sutter County (31.9 percent), Census Tract 509 in Sutter County (42.4 percent) and the State of California.

Table 4.3-1. Environmental Justice Statistics (Percent Race[a])

Parameter	California	Colusa County	Sutter County	Census Tract 2	Census Tract 509
White	59.4	88.3	68.0	89.0	91.8
Black or African American	5.8	1.5	1.8	1.8	0.9
American Indian and Alaska Native	0.8	1.0	0.9	1.2	2.1
Asian	14.8	1.4	16.5	1.6	0.2
Native Hawaiian	0.4	0.2	0.2	0.2	0.0
Some Other Race	13.7	4.6	5.0	2.8	2.0
Hispanic or Latino (of Any Race)	39.4	59.4	31.9	50.1	42.4

Note: [a] Race alone or in combination with one or more other races

Source: U.S. Census Bureau American Fact Finder accessed January 2022 (DP05 – ACS 5 Year Estimates Data Profiles, Demographic and Housing Estimates).

4.3.2.2 Socioeconomics

As shown in Table 4.3-2, from a regional standpoint, Sutter County has a much lower-than-average median household income level ($54,688) compared to Colusa County ($81,472) and the State of California ($80,440). Similarly, Census Tract 2 in Colusa County ($49,464) is slightly lower than the Colusa County median and Census Tract 509 in Sutter County ($54,688). With respect to populations (all families) living below the established poverty level, Sutter County and Census Tract 509 in Sutter County

contain approximately 14.7 and 11.3 percent, respectively, which is higher than Colusa County (9.5 percent), Census Tract 2 in Colusa County (10.1 percent), and the State of California average of 8.2 percent.

Table 4.3-2. Environmental Justice Statistics (Income and Population)

Parameter	California	Colusa County	Sutter County	Census Tract 2	Census Tract 509
Total population	39,512,223	21,454	96,971	5,027	1,499
Median household income	$80,440	$81,472	$67,151	$49,464	$54,688
Percent (%) below the poverty level (all families)[1]	8.2%	9.5%	14.7%	10.1%	11.3%

Notes:

[1] 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 January 2022 (DP03 – Selected Economic Characteristics; 2019 ACS 1 Year Estimate and U.S. Census Bureau American Fact Finder accessed January 2022 (DP05 – ACS 5 Year Estimates Data Profiles, Demographic and Housing Estimates.

As shown in Table 4.3-3, Colusa and Sutter County residents are both primarily employed in the agricultural, manufacturing, and educational/healthcare services. Specifically, the agriculture, forestry, fishing and hunting, mining industry accounts for the majority of employment (as high at 27.2 percent) and represents a much higher average percent of the general population within the State of California (at 2.1 percent) in this industry.

Table 4.3-3. Environmental Justice Statistics (Employment Industry – Percentage of Total Population)

Parameter	California	Colusa County	Sutter County	Census Tract 2	Census Tract 509
Agriculture, forestry, fishing and hunting, mining	2.1%	26.7%	11.1%	19.8%	27.2%
Construction	6.8%	4.8%	7.6%	3.1%	6.9%
Manufacturing	8.7%	11.6%	7.0%	16.2%	5.5%
Wholesale trade	2.7%	2.3%	3.5%	2.3%	1.3%
Retail trade	10.2%	10.0%	11.3%	13.3%	6.1%

Parameter	California	Colusa County	Sutter County	Census Tract 2	Census Tract 509
Transportation and warehousing, and utilities	5.7%	4.6%	6.4%	3.0%	6.7%
Information	2.8%	0.3%	0.8%	0.0%	0.9%
Finance and insurance, and real estate and rental and leasing	5.8%	2.4%	4.1%	3.6%	5.0%
Professional, scientific, and management, and administrative and waste management services	14.2%	5.1%	8.0%	6.4%	12.2%
Educational services and health care and social assistance	21.2%	13.0%	21.6%	14.4%	15.8%
Arts, entertainment, and recreation, and accommodation and food services	10.3%	11.2%	8.5%	9.7%	5.8%
Other services, except public administration	5.0%	3.7%	4.0%	5.7%	1.9%
Public administration	4.5%	4.4%	6.2%	2.5%	4.8%

Source: U.S. Census Bureau American Fact Finder accessed January 2022 (DP03 – Selected Economic Characteristics; 2019 ACS 1 Year Estimate).

4.3.3 California Office Of Environmental Health Hazard Assessment (OEHHA) CalEnviroScreen Results

According to California Office of Environmental Health Hazard Assessment (OEHHA 2022) California Communities Environmental Health Screening Tool (CalEnviroScreen) data, the entire Project corridor is located within an area of existing environmental burden, scoring between 61 to 62 percent (pollution burden percentile of 60 to 79 percent). This means that 38 to 39 percent of all census tracts in California have greater

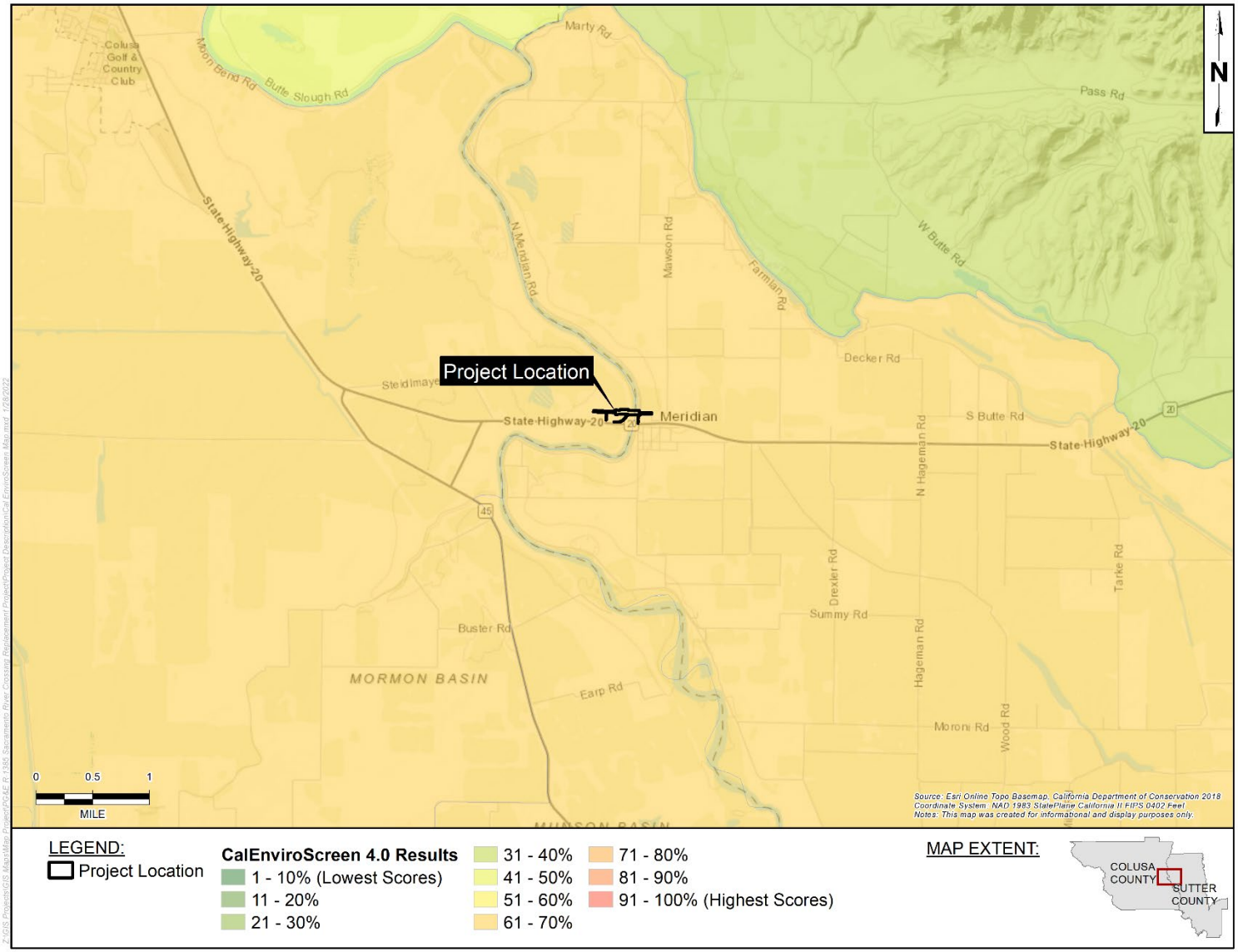
population vulnerability or environmental burdens (Figure 4.3-1). This is primarily attributed to pesticides, drinking water, groundwater threats, hazardous waste, and impaired water as factors with the highest scores; combined with socioeconomic community components such as education, linguistic isolation, and poverty reported by OEHHA in the Project vicinity that could result in increased vulnerability to environmental impacts.

4.3.4 Conclusion

Project activities would require short-term construction during the pipeline installation and decommissioning activities. As noted above, the Project corridor is located within an area that has been identified as having a higher-than-average existing environmental burden. Although there is a high percentage of white versus non-white population compared to the State as a whole, in Colusa County there is also a slightly higher percentage of people who identify themselves as being of Hispanic or Latino decent. Additionally, the portion of the Project corridor in Sutter County and Census Tract 509 is located within an area that has recorded significantly lower median family income and a higher percentage of persons below the established poverty level. A large percentage of people living within the Project area are employed in the agricultural industry, and Project activities would partially occur adjacent to and within agriculturally developed areas. As noted within Section 4.3.3 above, the Project vicinity is impacted by impaired ground, surface, and drinking water as well as pesticides and hazardous waste. As such, any 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, agriculture and forestry resources, biological resources, cultural resources, cultural resources-tribal, hazards and hazardous materials, hydrology and water quality, recreation, and noise, which have the potential to contribute to existing circumstances affecting environmental justice communities in this area. 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 improve the inspection capabilities within the pipeline and eliminate any interference with waterway navigation. Completion of the Project would result in a beneficial impact to public safety, recreation, and aesthetics by removing pipeline segments across the Project corridor that could become exposed over time.

Figure 4.3-1. CalEnviroScreen Results



4.4 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 site is in the Significant Lands Inventory as parcel numbers 06-097-000 (Sacramento River, Colusa County) and 51-097-000 (Sacramento River, Sutter County). The subject lands are classified as 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, and 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.

5.0 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.

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