

# BIOLOGICAL TECHNICAL REPORT

## PG&E I-195E L-021A NAPA RIVER PIPELINE CROSSING REPLACEMENT PROJECT NAPA COUNTY, CALIFORNIA

Project No. 2002-5661

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## 1.0 INTRODUCTION

Padre Associates, Inc. (Padre) has prepared this Biological Technical Report (Report) in support of the Pacific Gas and Electric (PG&E) Gas Transmission Division I-195E L-021A Napa River Pipeline Crossing Replacement Project (Project). The objectives of the Project are to install a new 26-inch diameter pipeline underneath the Napa River using horizontal directional drilling (HDD) techniques, tie the new crossing into the existing pipeline network using a combination of open cut trenching and pipe ramming, and then decommission the existing pipeline crossing. Replacement of the PG&E L-021A pipeline is scheduled to occur prior to December 31, 2024, in accordance with a National Transportation Safety Board (NTSB) recommendation to use in-line inspection (ILI) to assess the pipeline's integrity.

The purpose of this Biological Technical Report is to detail the findings of the biological reconnaissance surveys conducted for the proposed L-021A Replacement Project in Napa County, California. This technical report includes a review of pertinent literature, a review of regulatory requirements, results of reconnaissance field surveys, and a preliminary analysis of general impacts of the Project on biological resources.

Following this introduction, there is a description of the proposed Project, followed by the methodology section, which describes field studies and analytical methods used to assess the biological resources in the Project area. The methodology section includes a review of literature concerning special-status species, sensitive habitats, and general biological conditions, and a description of field survey methods. The environmental setting describes abiotic and biotic conditions at the Project area including climate, soils, typical habitats and associated plant and wildlife species, and special-status species reported in or near the Project area. A review of regulatory requirements is then provided, and the final section summarizes the anticipated impacts of Project implementation along with suggested applicant proposed avoidance and minimization measures to reduce Project impacts to less than significant levels.

## 2.0 BACKGROUND

The Project objective is to replace the pipeline segment at a new location using HDD methods and to decommission and remove the existing pipeline crossing. Replacement of the river crossing segment will allow for use of ILI to assess pipeline integrity to meet the NTSB recommendation, and the removal of the existing pipeline will address shallow depth of burial concerns on the existing pipeline river crossing.

### 2.1 LOCATION

The Project is located just south of the State Highway 12 bridge over the Napa River near the City of Napa, California (Project area) (Figure 1). The Project area is located primarily in Section 34, Township 5 north, Range 4 west of the Cuttings Wharf U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle. The approximate coordinates for the pipeline crossing at the Napa River are 38°14'23.68"N and 122°17'12.06"W.

#### 2.1.1 West Work Area

The Project area to the west of the Napa River is located in grazed pastureland within the California Department of Fish and Wildlife, Napa-Sonoma Marshes Wildlife Area and mowed grasslands between Stanly Lane and Highway 12 (hereafter referred to as "West Work Area").

Construction will access the West Work Area on Ranch Road, an existing private dirt road, an unnamed dirt road that goes east toward the river. In addition, a temporary crossing may be installed across the excavated channel that occurs between the pipe staging area and the West Work Area and a temporary access route will be constructed through the grazed pasture (Figure 2).

#### 2.1.2 East Work Area

The Project area to the east of the Napa River is within the Napa Sanitation District property (NapaSan), which includes developed lands used for wastewater treatment as well as undeveloped irrigated pasture and marsh lands surrounding NapaSan (hereafter referred to as "East Work Area"). A portion of the field east of the road adjacent to the East Work Area will be used for storage, treatment and land discharge of wastewater generated by the Project. Proposed work areas near Suscol Creek consist of a boring and receiving pit for the pipe ramming installation of the connecting pipeline and excavated tie-in trenches adjacent to the existing roadway south of Suscol Creek. These locations will be accessed using existing roads and bridges.

Construction will access the East Work Area using an unnamed existing dirt road that goes south from Soscol Ferry Road onto NapaSan property. The bridge that crosses Suscol Creek near the East Work Area cannot support heavy equipment loads, so access to the work areas south of Suscol Creek will be by Soscol Ferry Road further west and over the bridge which crosses Suscol Creek near the entrance to NapaSan, then traveling to the east using the existing south of Suscol Creek. An alternative access route to the work areas south of Suscol Creek is by

an existing unnamed dirt road at the eastern perimeter of the NapaSan property (Figure 2). See Appendix F for Project design details and plans, including construction access and staging.

## **2.2 PROJECT DESCRIPTION**

PG&E is proposing to replace natural gas pipeline L-021A where it crosses the Napa River. The Project objective is to replace the pipeline segment at a new location using HDD methods and to decommission and remove the existing pipeline crossing. Replacement of the river crossing segment will allow for use of ILI to assess pipeline long-term integrity and to address shallow depth of burial concerns on the existing pipeline crossing. PG&E intends to replace the pipeline prior to the December 31<sup>st</sup>, 2024 NTSB compliance date. Project Phase 1 will involve installing the new pipeline using HDD methods, and Phase 2 will involve decommissioning and removing the pipeline.

### **2.2.1 Phase 1: Pipeline Replacement using HDD Methods**

The pipeline replacement involves the installation of a 26-inch pipeline under the Napa River using HDD techniques. The HDD method will involve excavating two bore pits, one at the HDD entry point in the East Work Area and one at the exit point in the West Work Area. A drilling rig will be used to drill a pilot bore under the Napa River from east to west. Above ground tracer wires may be placed along the bore alignment within terrestrial areas to assist with positioning and steering of the drill heads. The workspace associated with above ground tracer wires will not require excavation or vehicular or equipment access but may require temporary vegetation trimming and footpath access. Vegetation trimming will be completed in coordination with biological surveys in order to minimize impacts to sensitive salt marsh habitat along the HDD alignment. Once the pilot bore is completed, reaming operations will widen the bore to its final diameter in preparation for pullback of the new pipeline (see Figure 2 for the HDD Project Overview).

Concurrent with drilling activities above, steel pipe segments will be laid out on rollers then welded, coated, and inspected within the pipe staging area adjacent to Stanly Lane (Figure 2). After pipeline pullback, at least 100 feet of annulus between the bore and the pipeline will be grouted at each end of the HDD bore.

Phase 1 includes several measures to minimize the potential for inadvertent returns of drilling fluids. A geotechnical investigation has been completed to provide data to refine the HDD design. In addition, a Hydrofracture Risk Analysis and Inadvertent Returns Contingency Plan will be developed and included in the Project Work and Safety Plan. The length of the bore is relatively short (approximately 2,800 feet), which results in lower drilling fluid pressures within the bore, and the entry and exit pits are located in upland areas remote from the river. In addition, the Inadvertent Returns Contingency Plan developed for the Project will outline response and cleanup methods to be employed in the unlikely event of an inadvertent return of drilling fluid to the surface.

In order to avoid direct impacts to Suscol Creek at the pipeline crossing location, the pipeline will be installed using pipe ramming methods (Figure 2). To complete the pipe installation at this location, two pits will be excavated on either side of Suscol Creek where short segments

of pipe will be driven into the soil approximately eight feet below the creek using a pneumatic hammer and welded to the next segment until the welded pipe string reaches the receiving pit on the opposite side of the creek. Fabricated sections of pipe fittings will be lowered into the trenches, welded together, and coated. Once the pipeline is installed, soil will be removed from the interior of the pipeline using “pigs”, a type of pipeline cleaning tool, compressed air, or an auger.

Once installed, the newly replaced pipe will be hydrotested in accordance with federal and state requirements. The existing pipeline river crossing will be capped on each end while it is left deactivated prior to decommissioning.

After pipeline replacement is complete and reconnected to the existing gas system, all excavations will be backfilled with stockpiled native soils. In addition to the native soils, fill may be imported for backfilling as needed. Each excavation location will be compacted and restored to pre-Project contours matching the surrounding undisturbed areas and restored to pre-Project conditions. Pipeline markers will be installed at regular intervals along the new pipeline alignment, including markers on both banks of the Napa River at the new pipeline crossing location.

## **2.2.2 Phase 2: Pipeline Decommissioning**

After replacement of the L-021A Napa River crossing, the vintage pipeline segments that were deactivated and capped, will be decommissioned and removed during Phase 2 of the Project. The existing Napa River pipeline crossing consists of three buried, eight-inch diameter pipelines that extend approximately 500 feet under the Napa River. Above ground pipeline manifolds connect the river crossing segments to the terrestrial segments on both banks of the river.

For purposes of decommissioning planning, the pipeline to be decommissioned has been divided into five logical segments based on the proposed final dispositions and means and methods required to achieve the proposed final dispositions. Each segment is depicted on Figure 3 and the final disposition for each segment is outlined below.

**Segment 1 – West Field Segment.** Segment 1 consists of two sub-segments of 26-inch diameter pipe and 12-inch diameter pipe buried in terrestrial areas within the grazed pastureland between the HDD tie-in location and the manifolds on the west bank of the Napa River. Segment 1 will be purged of natural gas, pigged, and flushed, filled with cement slurry, capped at the ends, and abandoned in place.

**Segment 2 – River Crossing Segment.** Segment 2 consists of three, eight-inch diameter pipelines which are buried beneath the Napa River, valves and manifolds on both sides of the river, a concrete valve box to the east of the river, and two pipeline marine crossing signs. Segment 2 will be removed in its entirety requiring excavation of the bed and banks of the Napa River.

**Segment 3 – East Transition Segment.** Segment 3 consists of two sub-segments of pipeline: 12-inch diameter pipe and 26-inch diameter pipe between Segment 2 and the location where a four-inch distribution feeder main (DFM) branches off of the pipeline. The East Transition



Segment will be removed in its entirety requiring only terrestrial excavation within upland and developed areas.

**Segment 4 – East 26-inch Diameter Segment.** Segment 4 consists of a 26-inch diameter pipe between the DFM and the eastern tie-in location. Segment 4 will be purged of natural gas, pigged and flushed, filled with cement slurry, capped at the ends, and abandoned in place.

**Segment 5 – Four-inch Distribution Feeder Main Segment.** Segment 5 consists of a four-inch diameter pipe between the DFM branch and the DFM tie-in location. Segment 5 will be purged of natural gas, pigged, and flushed, filled with cement slurry, capped at the ends, and abandoned in place.

All pipeline segments will be internally cleaned and flushed prior to the Phase 2 decommissioning and removal of the waterway crossing segments. Portions of the pipeline proposed for retirement in place outside the Napa River will be filled with cement slurry in compliance with Utility Standards.

Phase 2 decommissioning will require excavation for removal of the L-021A pipeline on the west bank of the Napa River, through the river crossing, on the east bank of the Napa River in addition to excavation in terrestrial areas. Removal of the pipeline from the waterway crossing will involve underwater excavation using a Toyo pump or hand jets, depending on site conditions, to remove excess overburden from the buried pipeline. In-water excavation will be precision excavation using a Toyo pump narrowly excavating along the buried pipeline alignment and will be no deeper than necessary to remove enough excess overburden (estimated to be anything greater than 10 feet) from the pipeline to facilitate removal by vertical lifting of the pipeline from the waterway using a derrick barge equipped with a crane. The excavation area within the Napa River as depicted in Figure 5B is the entire alignment and is considered the maximum underwater excavation footprint that could be necessary, though actual excavation is anticipated to be less in areas that are shallowly buried or exposed. Excavations to retrieve the pipeline will be vertical, and removal of the pipeline through lifting techniques will allow sediments to slough off the pipeline and excavated areas to collapse into the void as the pipeline is removed, promoting rapid and natural backfill of underwater excavation areas. Any additional backfilling to pre-existing contours will occur relatively rapidly through natural hydrogeomorphic processes.

A Turbidity Monitoring Plan will be developed for the Project, which will include provisions for monitoring turbidity during underwater excavation and other project activities that have the potential to increase turbidity. Turbidity curtains may be used if turbidity monitoring indicates that turbidity levels would exceed regulatory thresholds and their use is feasible given the existing site conditions at the time of construction. In addition, intakes for any submersible water pumps (i.e., Toyo pump or hand jets) that pull water from the environment to remove substrates from pipelines underwater will be fitted with fish screens that meet agency criteria to prevent entrainment or impingement of small fish.

The recovered pipe segments will be placed on the deck of the barge and cut into segments. Upon completion of the Project, they will be transported to port and offloaded to trucks for transport to an approved recycling or disposal facility. The concrete valve box will be

demolished using an excavator-mounted hydraulic concrete breaker. Debris will be removed from the pit with a bucket and hauled offsite for disposal to an approved disposal facility.

Terrestrial staging and laydown areas and excavation footprints associated with both pipeline replacement and pipeline decommissioning activities have been established within developed and disturbed lands whenever possible and within areas supporting upland habitat to minimize impact to waters and wetlands. Access to terrestrial work areas will be from existing roadways or through areas designated as workspace (Figures 2 and 3).

### **2.2.3 Project Schedule**

Pipeline replacement is scheduled to begin in Summer 2024 so that pipeline replacement and tie-in to the existing pipeline network will be completed prior to decommissioning and removal activities that are planned for the seasonal aquatic work window. HDD replacement is scheduled to be completed prior to December 2024 as recommended by the NTSB. Pipeline decommissioning and removal is planned for implementation following the completion of the HDD, possibly as early as late summer/fall of 2024 or in a subsequent year, depending on the timing of completion of the HDD. In-water work associated with decommissioning activities will be limited to August 1 to October 31 to coincide with the period when special-status fish species are least likely to occur. Work activities will generally be conducted Monday through Saturday (occasionally Sunday) with approximately 10 hours per workday. Longer shifts or weekend work may occur, if necessary, to complete the Project within the defined seasonal constraints.

### 3.0 METHODOLOGY

#### 3.1 LITERATURE REVIEW

Padre biologists reviewed available Project design information, Napa County soil survey maps, National Wetland Inventory (NWI) Maps, the U.S. Geological Survey (USGS) 7.5-minute topographic map for the Cuttings Warf quadrangle, and other environmental documents. The California Natural Diversity Database (CNDDDB) and California Department of Fish and Wildlife Biogeographic Information and Observation System (BIOS) were queried for records of special-status species reported within a five-mile radius surrounding the Project area (California Department of Fish and Wildlife [CDFW], 2022) (Appendix B). A list of federally listed Threatened and Endangered species was obtained from the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS), and is included under Appendix A (USFWS, 2022a, b; NMFS, 2020a). Special-status taxa that are known to exist or have the potential to exist on the Project area were also identified through a review of relevant literature (California Native Plant Society [CNPS], 2022; Zeiner et al., 1988; 1990a, b).

Padre biologists reviewed previously prepared biological documents provided by PG&E including California black rail (*Laterallus jamaicensis coturniculus*) and California Ridgway's rail (*Rallus obsoletus obsoletus*) habitat assessments, biological constraints analysis, and aquatic resource delineation report for the HDD portion of the Project. (Garcia and Associates [GANDA], 2020; Swaim Biological, 2020; Applied Technology & Sciences 2020). Padre biologists also reviewed PG&E's Bay Area Operations and Maintenance Habitat Conservation Plan (BAHCP) (ICF, 2017) for incorporation of Avoidance and Minimization Measures (AMMs) from the BAHCP for protection of covered species potentially impacted by the Project.

#### 3.2 FIELD SURVEYS

Previous field surveys for the HDD work areas include an aquatic resource delineation, biological constraints analysis, and a California black rail and California Ridgway's rail habitat assessment. A preliminary delineation of Federal jurisdictional waters of the U.S. and wetlands was conducted by Applied Technology & Sciences (A-T-S) for the Phase 1 HDD work areas in 2020 (Applied Technology & Sciences, 2020). Swaim Biological prepared a Biological Constraints Report for three alternatives considered for the HDD portion of the Project (Swaim Biological, 2019). GANDA biologists conducted a habitat assessment in the Project area and in adjacent areas to identify California black rail and California Ridgway's rail individuals and/or suitable habitat. Results of this survey are presented in the Napa PG&E Strength Test Rail Assessment (GANDA, 2020).

The previously completed survey reports were reviewed by Padre biologists to inform reconnaissance level survey efforts to encompass the entire Project area (including both the HDD and decommissioning work areas). Survey results for all field surveys are compiled into this Report and were used to support the Project impact analysis.

Padre biologists conducted reconnaissance-level field surveys for the purposes of site characterization and preliminary aquatic resources delineation on May 16 and 17, 2022 and botanical surveys on May 24 and 26, and August 18, 2022. The biological resources study area (study area) consisted of all areas potentially impacted by the Project including a supplemental study area that extended beyond the survey areas covered in previous surveys to include decommissioning work areas. The study area includes all temporary impact areas, staging areas, access routes, and the surrounding areas. Boundaries of the study area are depicted in Figures 4 and 5. Surveys of the study area were conducted to assess the potential for biological resources and to determine the likelihood of occurrence for special-status species and/or sensitive and regulated habitats on the site. Detection methods included direct observation with binoculars; examination and identification of tracks, scats, previous years' nests, burrows/diggings, and carcasses/skeletal remains; and identification of vocalizations (calls and songs). No trapping or netting was performed during surveys. 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). During the field surveys, vegetative cover types and significant habitat features, such as wetlands, potential nest trees, and potential dens or burrows, were noted. Lists of plants and wildlife observed during surveys within the study area were compiled and are included in Appendix C and Appendix D.

## 4.0 ENVIRONMENTAL SETTING

### 4.1 GEOLOGY/GEOMORPHOLOGY

The Project area is located within the San Pablo Bay Flats subsection of the Northern California Coast ecological section of California (Miles and Goudey, 1997). The San Pablo Bay Flats subsection occurs on a Quaternary bay-fill on parts of the plain north and west of the San Pablo Bay. The geomorphology of this subsection is mostly flat, and it is only present less than 10 feet above mean sea level (msl). Coastal marine and fluvial erosion and deposition are the main geomorphic processes.

Six soil types have been mapped by the Natural Resources Conservation Service (NRCS) and are distributed across the site, as described in Section 4.3 below. The Project is located within the Central Coast subregion of the Central Western California floristic region (Baldwin et al., 2012). The elevation range on the Project site is 0 to 15 feet msl.

### 4.2 CLIMATE

The Project area is situated in Climate Zone 17, which includes northern California's marine effected areas (Clark, 1985). The site has a climate that is moderated by the Pacific Ocean approximately 98 percent of the time. The climate is characterized by cool, wet winters, and cool summers with frequent fog or wind. The fog tends to roll in high above the ground creating a cooling and humidifying affect that lowers the intensity of solar radiation. There is seldom frost in this climate zone. Most of the rainfall occurs during the period from November through April.

In nearby Napa, the average maximum temperature for the 129-year period between 1893 and 2022 was 70.9°F, with a range of 57.3° in January to 82.4° in September. The average minimum temperature was 46.0° with a range of 38.5° in January and 53.6° in July. The average annual precipitation is 25.00 inches with a range of 0.02 inch in July to 5.12 inches in January. No precipitation falls as snow within this area of California (Western Regional Climate Center, 2022).

### 4.3 SOILS

The soils in the San Pablo Bay Flats subsection are mostly somewhat poorly drained, although there is a gradient to well drained soils. Soil temperature regimes are isomesic: An isomesic soil temperature regime refers to soils with a mean annual soil temperatures of 8° Celsius (C) or more, but a difference between mean summer and mean winter soil temperatures of less than 5°C at 50 centimeters (cm) from the soil surface. Soil moisture regimes are aquic: An aquic moisture regime refers to soil that is free of dissolved oxygen due to saturation in groundwater. There are no criteria for how long the soil must be saturated and it is implicit that soil temperatures must be above 5°C.

Based on a review and analysis of the U.S. Department of Agriculture's Web Soil Survey for Napa County (NRCS, 2022), the Project area is underlain by Clear Lake clay, overwashed,

Reyes silty clay loam, Bale clay loam, 0 to 2 percent slopes, Coombs gravelly loam, 2 to 5 percent slopes, Haire loam, 2 to 9 percent slopes, and Hambright rock-Outcrop complex, 30 to 75 percent slopes. These soil mapping units are described below in Table 4-1.

#### 4.4 WATER QUALITY

Water quality and temperatures are important factors in determining habitat suitability for special-status fish species, particularly salmonids. The primary water quality concern for fish during in-water excavation is turbidity. Some fish survive better in turbid water while others, particularly visual predators, do better in clear water (Nobriga, 2008). Nobriga (2008) reported that in the Sacramento-San Joaquin River Delta (Delta), turbid habitats have higher proportions of native fishes, while clear water habitats have higher abundance of submerged aquatic vegetation and nonnative centrarchid fishes like largemouth bass, which are efficient predators on small nearshore fish; however, Bell (1991) noted that salmon, who forage by sight and smell, suffer more physical distress in turbid water than other species. Carp and bullhead can thrive in waters rendered quite turbid by decaying vegetation and other organic material.

The U.S. Fish and Wildlife Service (2010a) note that the delta smelt evolved in naturally turbid environments in the Delta and rely on certain background levels at different life stages. Feyrer et al. (2007) reported that delta smelt (*Hypomesus transpacificus*) are positively associated with highly turbid water, which is required for feeding and predator avoidance. Baskerville-Bridges et al. (2004) found that delta smelt increased feeding activity with increased levels of turbidity in a laboratory setting. Turbidity levels exceeding 10 NTU are thought to cue the delta smelt to upstream spawning migration at the high discharge “first-flush” events in fall and winter (Grimaldo, et al., 2009). Feyrer et al. (2007) and CSTAR (2012) suggest that water quality changes, particularly the reduction in turbidity in the Delta, may be an important factor in the decline of the species. The authors noted that delta smelt habitat quality has not declined as substantially in the lower San Joaquin River as in the Sacramento River, and that the region upstream from the confluence of the rivers has remained relatively stable.

Harvey and White (2008) reported an overall reduced benthic feeding and drift feeding in several salmonid species within an artificial stream as turbidity increased from 0 to 400 NTU. Drift feeding was 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 25-50 NTU are physiologically damaging to salmonids and turbidity levels over 50 NTU result in decreased feeding in salmonids (Sigler et al., 1984).

In estuarine areas, turbidity is greatest while tides are going in and out because the increased flows have more energy to scour and resuspend sediments. Similarly, higher flows associated with increased river stages also results in higher turbidity because of the high flow energies suspending sediments.

**Table 4-1. Soil Mapping Units and Characteristics at the I-195E L-021A Napa River Pipeline Crossing Replacement Project Area**

Soil Mapping Unit (Taxonomic Class)	Location	Munsell Soil Color (by horizon)	Drainage Class <sup>1</sup>	PERM <sup>2</sup>	AWC <sup>3</sup>	Runoff <sup>4</sup>	ERD <sup>5</sup>	Hydric
Bale clay loam (104)	<ul style="list-style-type: none"> <li>HDD Entry Pit</li> </ul>	0-6" 10YR 4/1 dry 10YR 2/1 wet 6-17" 10YR 5/2 dry 10YR 3/2 wet 17-24" 10YR 5/3 dry 10YR 3/2 wet 24-33" 10YR 5/1 dry 10YR 2/1 wet 33-44" 10YR 5/1 dry 10YR 3/2 wet	5	4	3	3	-	Yes
Clear Lake clay, overwashed (117)	<ul style="list-style-type: none"> <li>HDD Exit Pit</li> <li>Portion of Pipe Staging Area</li> </ul>	0-45" N 4/0 dry N 3/0 wet 45-60" 2.5Y 5/2 dry 2.5Y 5/4 wet	6	1-2	4	4	-	Yes
Coombs gravelly loam, 2 to 5 percent slopes (123)	<ul style="list-style-type: none"> <li>Southeastern HDD Work Area</li> <li>Southeastern Decommissioning Work Area</li> </ul>	0-4" 10YR 5/3 dry 10YR 3/3 wet 4-13" 10YR 6/3 dry 10YR 3/2 wet 13-25" 10YR 5/3 dry 10YR 3/3 wet 25-35" 7.5YR 6/4 dry 7.5YR 3/4 wet 35-43" 7.5YR 6/4 dry 7.5YR 4/4 wet	3	3	4	3	-	No
Haire loam, 2 to 9 percent slopes (146)	<ul style="list-style-type: none"> <li>West end of Pipe Staging Area</li> </ul>	0-7" 10YR 5/1 dry 10YR 3/2 wet 7-12" 10YR 5/2 dry 10YR 3/2 wet 12-24" 10YR 5/2 dry 10 YR 3/2 wet 24-36" 10YR 6/3 dry 2.5Y 4/2 wet	4	1	3	5	-	Yes
Hambright rock-outcrop complex, 30 to 75 percent slopes (152)	<ul style="list-style-type: none"> <li>Middle Portion of HDD Guide Wire</li> </ul>	0-1" 10YR 4/2 dry 7.5YR 3/2 wet 1-6" 10YR 4/3 dry 5YR 3/2 wet	3	4	1	5	-	No

Soil Mapping Unit (Taxonomic Class)	Location	Munsell Soil Color (by horizon)	Drainage Class <sup>1</sup>	PERM <sup>2</sup>	AWC <sup>3</sup>	Runoff <sup>4</sup>	ERD <sup>5</sup>	Hydic
		6-12" 7.5YR 4/4 dry 5YR 3/2 wet 12" Bedrock						
Reyes silty clay loam (172)	• East and West Bank Decommissioning Work Areas	0-1" 10YR 5/3 dry 10YR 3/3 wet 1-7" 10YR 6/2 dry 10YR 4/3 wet 7-15" 10YR 5/3 dry 2.5Y 4/2 wet 15-24" 2.5Y 5/2 dry 2.5Y 3/2 wet 24-37" 2.5Y 5/2 dry 5Y 3/2 wet 37-45" 2.5Y 4/2 wet	6	-	4	1	-	Yes

<sup>1</sup>Drainage Class

1. Excessively drained
2. Somewhat excessively drained
3. Well drained
4. Moderately well drained
5. Somewhat poorly drained
6. Poorly drained
7. Very poorly drained

<sup>2</sup>PERM (Permeability)

- 1 Very slow (< 0.06 inch)
- 2 Slow (0.06 to 0.2 inch)
- 3 Moderately slow (0.2 to 0.6 inch)
- 4 Moderate (0.6 to 2 inches)
- 5 Moderately rapid (2 to 6 inches)
- 6 Rapid (6 to 20 inches)
- 7 Very rapid (>20 inches)

<sup>3</sup>AWC (Available Water Capacity)

- 1 Very low (0 to 2.5 inches)
- 2 Low (2.5 to 5 inches)
- 3 Moderate (5 to 7.5 inches)
- 4 High (7.5 to 10 inches)
- 5 Very High (> 10 inches)

<sup>4</sup>Surface Runoff

- 1 Negligible
- 2 Very low
- 3 Low
- 4 Medium
- 5 High
- 6 Very high

<sup>5</sup>ERD (Effective Rooting Depth)

- 1 Very deep (> 60 inches)
- 2 Deep (40 to 60 inches)
- 3 Moderately deep (20 to 40 inches)
- 4 Shallow (10 to 20 inches)
- 5 Very shallow (< 10 inches)



The U.S. Geological Survey (USGS) gage stations on the Napa River did not have available turbidity or water temperature data for the area. Turbidity data available from the Interagency Ecological Program (IEP) 20-mm sampling station (Site No. 345) in the Napa River near the Project area was reviewed and based on the most recent 10-year period of record (2009-2019), turbidity levels between the months of August and October, are relatively low when compared to winter months when background turbidity is higher because of riverine input. For the 10-year period of record, turbidity in summer months ranged from 9-32 NTU but was higher in winter months and increased to 150-200 NTU associated with high flow periods during discrete events (IEP, 2022). Increases in turbidity associated with in-water excavation are 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 of the excavation area. Based on previous experience with similar projects, the increase in turbidity resulting from in-water excavation remain within the normal range for the highly variable turbidity levels that naturally occur in large, tidal river systems in the Bay-Delta Region.

Water temperature also has a major effect on the physical condition of salmonids and plays a large role in habitat suitability. Salmonids are cold water species that have relatively low tolerance for elevated water temperatures. Water temperature in this portion of the Napa River experiences higher temperatures during the late summer months, with water temperatures exceeding 70°F Fahrenheit (F) (21° Celsius [C]) which are above the optimal temperature range for salmonids.

Steelhead are sensitive to elevated water temperature during all life stages and high temperatures of 75 to 80° F (24 to 27° C) are lethal to steelhead, except for very short exposures (Moyle, 2002). Typically, salmonids prefer cool streams and rivers with a maximum temperature of 68° F (20°C). Optimal thermal conditions for Chinook salmon adult migration is 50° to 68° F (10 to 20°C) and optimal thermal conditions for Chinook salmon juvenile rearing is 55° to 68° F (13 to 20°C), with lethal thermal conditions occurring at temperatures greater than 75° F (24°C) (McCullough, 1999). High water temperatures result in reduced levels of dissolved oxygen, which can impact growth and development of all life stages of salmonids. Salmon have been documented to have an avoidance response to unfavorable dissolved oxygen levels (Carter, 2005). Typical salmonid behavioral response when temperatures become too high is to move upstream to locations where conditions are more favorable or downstream into cooler estuary waters.

A review of the last 10 years of temperature data from the Napa River IEP sampling station (Site No. 345) indicates that water temperatures above 70°F are typical in June and July. However, it should be noted water temperature data was not available from the IEP sampling site after July as the survey season is typically finished by that time (IEP 2022).

Higher water temperatures observed at IEP sampling station 345 within Project area during summer months indicate suboptimal habitat conditions for salmonid species and a low likelihood of occurrence of salmonids at the Project location during summer months. Air temperatures in the Project region continue to rise in the summer and fall months, and without an influx of precipitation, it is likely that water temperatures remain above salmonid temperature

threshold during the seasonal aquatic work window of August 1 to October 31, which has been identified as the in-water work window for avoidance of listed fish species with seasonal spawning migrations.

#### **4.5 HABITAT DESCRIPTIONS AND VEGETATION**

Twenty vegetation communities were identified in the study area during field surveys (Figure 4). Vegetation communities were characterized and described using *A Manual of California Vegetation* (Sawyer et al., 2009) but were modified as needed to accurately describe the existing habitat observed onsite. Below is a brief description of each vegetation community identified in the study area. Comprehensive plant species lists, compiled from all survey efforts, are included in Appendix C. Vegetation Communities mapped within the study area are shown on Figure 4.

##### **4.5.1 Alkali Heath Marsh**

Alkali heath marshes are found in a variety of habitats including coastal salt and brackish marshes, alkali meadows, and alkali playas. They can be found at elevations ranging from 0 to approximately 980 feet. These marshes are characterized by a dominance of alkali heath (*Frankenia salina*) in the herbaceous layer. Other species that may be associates or co-dominant include Pacific bent grass (*Agrostis avenacea*), saltbush (*Atriplex* sp.), alkali weed (*Cressa truxillensis*), saltgrass (*Distichlis spicata*), goldfields (*Lasthenia* sp.), peppergrass (*Lepidium* sp.), and pickleweed (*Salicornia pacifica*).

Within the study area, alkali heath marshes were present to the west of the Napa River in low-lying depressions. These marshes have been cut off from tidal influence through construction of levees so they rely on precipitation for hydrology and relict salinity in the soils to persist. As a result of their unique position, the alkali heath marshes found within the study area have a unique vegetation composition in addition to alkali heath including fat-hen (*Atriplex patula*), stinkwort (*Dittrichia graveolens*), rabbitfoot grass (*Polypogon monspeliensis*), and bird's-foot trefoil (*Lotus corniculatus*).

##### **4.5.2 Arroyo Willow Thicket**

Arroyo willow thickets are typical along temporarily flooded stream banks and can be found throughout most of California at elevations ranging from 0 to 7100 feet in elevation. This freshwater emergent wetland is characterized by stands of arroyo willow (*Salix lasiolepis*). Other riparian trees like the Fremont cottonwood (*Populus fremontii*) and California sycamore (*Platanus racemosa*) can also be found in this cover type.

Within the study area, arroyo willow thickets were present along the banks of Suscol Creek. In this area, arroyo willow formed a dense canopy with other shrubs and trees including valley oak (*Quercus lobata*) and blue elderberry (*Sambucus Mexicana*). The understory was relatively bare in many areas, but species commonly observed include poison hemlock (*Conium maculatum*), stinging nettle (*Urtica dioica*), Himalayan blackberry (*Rubus armeniacus*), and California rose (*Rosa californica*).

#### **4.5.3 Bare Ground/Trampled**

This cover type is not described in *A Manual of California Vegetation* because it is not a natural community and is defined by disturbance and a lack of vegetation cover. Within the study area, this cover type was used to distinguish a portion of the excavated channel to the west of the Napa River (W-09) that has been significantly disturbed by the cattle that graze the field. In this portion of the channel, where there would otherwise likely be wetland vegetation cover, there was no vegetation growing and it is therefore distinct from other portions of the channel. This channel conveys water throughout both vegetated and unvegetated segments.

#### **4.5.4 Cattail Marsh**

Cattail marshes are seasonally or semi-permanently flooded freshwater or brackish herbaceous communities that can be found in marshes throughout the lower elevations of California from 0 to approximately 1,150 feet in elevation. They are characterized by tall, often dense, stands of cattails (*Typha* sp.) and sometimes an association with hardstem bulrush (*Schoenoplectus acutus*). Cattail marshes are valuable habitat for a variety of wildlife.

A cattail marsh was present at the western end of the study area in a low-lying area along Highway 12. This community supported a dominance of cattail with associate species including rabbitfoot grass and curly dock (*Rumex crispus*) located along the edges of the marsh that are not always submerged. A cattail marsh was also present within a portion of the excavated channel to the west of the Napa River.

#### **4.5.5 Common Three-square Marsh**

Common three-square marshes are found along streams, ponds, and lakes as well as in sloughs and fresh and brackish marshes. They can be found at elevations ranging from 100 to approximately 4,900 feet. These marshes are characterized by a dominance of three-square (*Schoenoplectus americanus*). Associated species in this community are typically other obligate wetland plants like tule (*Schoenoplectus acutus* var. *occidentalis*), California bulrush (*Schoenoplectus californicus*), common reed (*Phragmites australis*), and cattail. These communities provide habitat for wildlife and are considered very important for wildlife food and cover.

Within the study area, common three-square marshes were present east of the Napa River in a variety of low-lying areas that are either tidally influenced or collect irrigation water. In some locations, the three-square marshes were surrounded entirely by pickleweed mats while, to the west of the Napa River, they were bordered by mesic grasslands. In all mapped locations, common three-square marshes were dominated by three-square with almost complete coverage and largely lacked associate species.

#### **4.5.6 Creeping Wildrye Turfs**

Creeping wildrye turfs are found in playads, valley bottoms, poorly drained floodplains, and marsh margins. This community can be found at elevations ranging from 0 to approximately 9,850

feet. These grasslands are characterized by a dominance of beardless wild rye (*Elymus triticoides*) or Great Basin wild rye (*Elymus cinereus*). Herbaceous associate species in this community can include a mix of native and non-native species including western ragweed (*Ambrosia psilostachia*), Yerba mansa (*Anemopsis californica*), wild oats (*Avena fatua*), brome (*Bromus* sp.), barley (*Hordeum* sp.), saltgrass, rye grass (*Festuca perennis*), and common arrowgrass (*Triglochin maritima*). Trees and shrubs may be present in this community but typically at lower cover.

Within the study area a relatively small creeping wildrye turf community was present north of Suscol Creek among the other grassland communities. In this location, beardless wild rye had almost complete coverage with sparse associates including poison hemlock, Italian thistle (*Carduus pycnocephalus* ssp. *pycnocephalus*), and soft chess (*Bromus hordeaceus*).

#### **4.5.7 Estuarine-Open Water**

This community is not described in *A Manual of California Vegetation* because it is an open water aquatic community with limited vegetation. Within the study area, the Napa River traverses the Project area, and is a perennial and navigable waterway. It is tidally influenced and has variable salinity levels. There was no emergent vegetation along the banks of the river and no submerged aquatic vegetation was observed. The estuarine-open water habitat provides important aquatic habitat for special-status fish species and seasonally provides a migration corridor for anadromous fish species that spawn upstream of the Project area.

#### **4.5.8 Eucalyptus Groves**

Eucalyptus groves are common as planted wind breaks and groves. They have become naturalized in habitats adjacent to streams, lakes, and levees. This community occurs at elevations ranging from 0 to approximately 6,230 feet. This community is characterized by a dominance of eucalyptus (*Eucalyptus* sp.) in the tree canopy. The shrub and herb layers tend to be sparse to intermittent.

Eucalyptus groves were present to the west of the study area along Stanly Lane, along the west bank of the Napa River, and to the east of the study area south of Suscol Ferry Road. In all these locations tall eucalyptus trees dominated the overstory and had created a significant layer of duff on the ground. Herbaceous species tended to be sparse but included wild oat (*Avena barbata*), rye grass, ripgut grass (*Bromus diandrus*), prickly lettuce (*Lactuca serriola*), and radish (*Raphanus sativus*). The eucalyptus grove growing along the west bank of the Napa River had an understory of pickleweed that grew in a narrow band along to the Napa River. The eucalyptus trees in this community provide suitable nesting habitat for special-status bird species, including Swainson's hawk (*Buteo swainsoni*) and other raptors.

#### **4.5.9 Harding Grass Swards**

Harding grass swards are found in variable topographic settings, often in areas that are seasonally wet and alkaline and along levees in the San Francisco Bay Area. They can be found from 0 to approximately 3,900 feet in elevation. The characteristic vegetation in this perennial

grassland community is Harding grass (*Phalaris aquatica*). Sparse shrubs may also be present in this community including coyote bush (*Baccharis pilularis*) and buckbrush (*Ceanothus cuneatus*).

Within the study area, harding grass swards were present to the west of the Napa River paralleling the east bound lane of Highway 12. This community had almost complete coverage of harding grass with sparse associate species including wild oats, coyote brush, and Italian thistle.

#### **4.5.10 Hardstem and California Bulrush Marshes**

Hardstem and California bulrush marshes can be found in brackish to freshwater marshes, shorelines, bars, streams, ditches, ponds, lakes, and channels of river mouth estuaries. Soils in this community have a high organic content and are poorly aerated. California bulrush and hardstem bulrush are the dominant or co-dominant species, with Indian hemp (*Apocynum cannabinum*), cattail common reed, water hyacinth (*Eichhornia crassipes*), and water primrose (*Ludwigia* sp.). Emergent trees and shrubs may be present in this community and may include species like white alder (*Alnus rhombifolia*), Fremont cottonwood, Gooding's black willow (*Salix goodingii*), California buttonwillow (*Cephalanthus occidentalis*), California rose, and Himalayan blackberry. The alliance is a widespread emergent marsh and although California bulrush and hardstem bulrush commonly occur in the same area, California bulrush tends to dominate on the outer exposed edges of marshes adjacent to open water and is more tolerant of brackish water conditions.

Hardstem and California bulrush marsh communities were present in the bed of Suscol Creek in locations where canopy cover from arroyo willow thickets and valley oak riparian woodland and forests was absent. The bed of Suscol Creek had very sparse vegetation cover. The lower banks of the creek supported hardstem and California bulrush growing in varying densities. Above the line of bulrushes, the banks of the creek were mostly covered with non-native species including perennial pepperweed (*Lepidium latifolium*) and rabbitfoot grass.

#### **4.5.11 Himalayan Blackberry Riparian Scrub**

Himalayan blackberry riparian scrub can be found in a variety of fringe habitats including pastures, roadsides, stream sides, river flats, fence lines, and right-of-way corridors. This shrubland community can be found at elevations ranging from 0 to 5,250 feet. The dominant shrub in this community is Himalayan blackberry. Himalayan blackberry is a nonnative shrub in the Rosaceae family and has a Cal-IPC rating of high.

A small Himalayan blackberry riparian scrub community was present to the east of the study area in a low-lying area with a common three-square marsh to the west and a smartweed patch to the east. This blackberry community was very dense with Himalayan blackberry and had no associate species growing with it.

#### **4.5.12 Perennial Pepperweed Patches**

Perennial pepperweed patches are often found in intermittently flooded fresh and saltwater marshes as well as in riparian corridors. These herbaceous patches can be found

throughout most of California at elevations ranging from 0 to approximately 6,200 feet. This cover type is characterized by a large percent cover of perennial pepperweed and associations with other non-native herbaceous species. This cover type is considered to be highly invasive and aggressive in displacing native plants.

Within the study area, perennial pepperweed was abundant in many of the low-lying marsh areas, specifically within pickleweed mats to the east of the Napa River. One vegetation community in the study area can be defined by its dominance of perennial pepperweed and it was located to the east of the Napa River south of Suscol Creek. This perennial pepperweed patch community was dominated by perennial pepperweed but had a variety of associate species including saltgrass, rabbitfoot grass, bristly ox-tongue (*Helminthotheca echioides*), and fat-hen.

#### **4.5.13 Perennial Rye Grass Fields**

Perennial rye grass fields are generally found in lowlands, disked fields, and vernal pools, often in areas where periodic flooding occurs. Perennial rye grass fields are found from 0 to approximately 3,300 feet in elevation. These annual grasslands are characterized by a dominance of rye grass. Other herbs and grasses are often found in this cover type including: ripgut grass, soft cheat, wild oats, black mustard (*Brassica nigra*), and narrow-leaved milkweed (*Asclepias fascicularis*). Perennial rye grass fields are not heavily used by wildlife for forage and typically occur on nutrient-poor soils.

Perennial rye grass fields were the most prevalent and the most varied vegetation community observed across the study area. In some areas, like the fields north and south of Suscol Creek, the grasslands were irrigated and had almost complete coverage of perennial rye grass that was several feet tall. In these communities, dozens of red-winged blackbirds (*Agelaius phoeniceus*) were observed nesting in a large colony. Other portions of the study area east of the Napa River that supported perennial rye grass fields had a co-dominance of other grasses including tall fescue (*Festuca arundinacea*) and meadow barley (*Hordeum brachyantherum*). The perennial rye grass fields to the west of the Napa River had a co-dominance of Mediterranean barley (*Hordeum marinum* ssp. *gussoneanum*) and the vegetation was much shorter because it is not irrigated. Associate species that were observed in these communities varied across the study area but included wild oat, black mustard, Italian thistle, milk thistle (*Silybum marianum*), alkali heath, curly dock, rabbitfoot grass, and saltgrass.

#### **4.5.14 Pickleweed Mats**

Pickleweed mats are found in coastal salt marshes and alkali flats along many parts of coastal California and in the San Francisco Bay Area. They can be found at a narrow range of elevations from 0 to approximately eight feet. The dominant plant in the herbaceous layer is pickleweed (*Salicornia* sp.) although sparscale (*Atriplex prostrata*), rush (*Juncus* sp.) and alkali heath are often found in association with this community. Pickleweed mats are potentially suitable habitat for several special-status marsh species including the California Ridgway's rail and the salt marsh harvest mouse (*Reithrodontomys raviventris*).

Pickleweed mat communities in the study area were primarily along the Napa River and the low-lying marshes adjacent to the river. Along the east bank of the Napa River, dense pickleweed mats dominated the low terraces that are hydrologically connected to the river. In these communities pickleweed had almost complete coverage, although few associate species were present including perennial pepperweed. To the west of the Napa River, pickleweed patches were present in the grasslands in relatively small, isolated patches. In these locations, the community has been hydrologically cut off from tidal influence by the levees and rely on precipitation for hydrology and relict salinity in the soils to persist. In addition, pickleweed mat communities to the west of the Napa River tended to be located in topographic low spots or at the toe of levees and berms where water is more likely to collect. These communities tended to be less dense than their counterparts to the east of the Napa River and had facultative wetland species including rye grass, alkali heath, and Mediterranean barley as associate species.

#### **4.5.15 Restoration Area**

This is not a vegetation community described in *A Manual of California Vegetation* because it is not a naturalized or established community, and it is unique to a small part of the study area. In a portion of the estuarine emergent wetland to the east of the Napa River, ongoing marsh restoration is under way. In this area, native species have been planted to restore or mitigate for impacts associated with other projects. Because the vegetation cover and density is currently different from the surrounding marsh, this area warrants a distinct classification and recognition of its significance as a wetland restoration project.

#### **4.5.16 Salt Grass Flats**

Salt grass flats can be found along the entire California coast in coastal salt marshes as well as inland swales that are intermittently flooded and provide a saline environment. Salt grass flats can be found at elevations ranging from 0 to approximately 4,900 feet in elevation. This saline emergent wetland is characterized by a dominance of salt grass in the herbaceous layer although it may be accompanied by a variety of other plants including saltbushes, alkali heath, and ragweeds (*Ambrosia* sp.).

Within the study area, salt grass flat communities were primarily present in low-lying areas surrounding the wetland restoration and pickleweed mat communities. These areas act as a transition from the hydrophytic communities to the grasslands in surrounding uplands. Associate species in the salt grass flat communities included rabbitfoot grass and bird's-foot trefoil.

#### **4.5.17 Smartweed Patches**

Smartweed patches can be found in marshes, regularly disturbed ephemeral wetlands, lakeshores, reservoirs, fields, stream terraces, floodplains, and mudflats. This community can be found throughout the California Central Valley, San Francisco Bay Area, and the Sierra Nevada foothills at elevations ranging from 0 to approximately 4,900 feet. The dominant species in this community are smartweeds (*Persicaria* sp.). Other species that can be commonly found in this community that can be co-dominant include common sunflower (*Helianthus annuus*) and cocklebur (*Xanthium strumarium*).

One smart weed patch was present within the study area to the east of the Napa River in a topographically low valley. This community receives hydrologic influence from both precipitation and irrigation. The dominant species in this community was water smartweed (*Persicaria amphibia*). Associate species included curly dock, meadow barley, three-square, Santa Barbara sedge (*Carex barbarae*), tall cyperus (*Cyperus eragrostis*), large-spike spikerush (*Eleocharis macrostachya*), and hyssop loosestrife (*Lythrum hyssopifolium*).

#### **4.5.18 Wild Oats and Annual Brome Grassland**

Wild oats grasslands are dominated by non-native grasses from Europe and Asia. This community is very common in valley and foothill grasslands as well in the open spaces among oak woodlands. It can be found at elevations ranging from approximately 30 to 3,900 feet in elevation. Within this cover type there is very limited species diversity. Typical species include wild oat, slender wild oats, ripgut grass, and soft cheat. There is a wide variety of native and non-native forbes that that can occur in this cover type as well.

Within the study area, wild oats and annual brome grasslands were present on both the east and west sides of the Napa River. The species composition varied across the site with some grasslands being dominated by wild oat and others being dominated by soft chess. Associate species in these communities also varied but commonly included other non-native upland grasses and forbes including ripgut grass, Italian thistle, milk thistle, black mustard, field mustard (*Brassica rapa*), Mediterranean mustard (*Hirschfeldia incana*), and English plantain (*Plantago lanceolata*).

#### **4.5.19 Valley Oak Riparian Forest and Woodland**

Valley oak riparian forests and woodlands occur in valley bottoms, flood plains, creeks, and stream terraces. This community typically occurs at elevations ranging from 0 to 4,100 feet. It is a woodland community dominated by valley oak with associate tree species including California box-elder (*Acer negundo*), white alder, Oregon ash (*Fraxinus latifolia*), Gooding's black willow, red willow (*Salix laevigata*), and arroyo willow.

In the study area, a small valley oak riparian forest and woodland was present along a portion of Suscol Creek. In this community the dominant tree is valley oak with coast live oak (*Quercus agrifolia*) present as an associate. The understory is relatively sparse and disturbed due to the presence of a paved roadway; however, associate species observed include velvet grass (*Holcus lanatus*) and rabbitfoot grass. This forest community transitions into an arroyo willow thicket occurring along the majority of Suscol Creek.

#### **4.5.20 Urban Mix/Ruderal**

This cover type is not described in *A Manual of California Vegetation* because it is not a natural community and is associated with human disturbance. Within the study area, this cover type was used to distinguish a variety of areas that can be primarily distinguished by their high level of human disturbance or development. Portions of the study area with paved or gravel roadways, areas with human development, structures and landscaping, or areas with no vegetation due to human disturbance are included in this cover type. In the majority of the study



area these communities lack vegetation; however, development associated with the Napa Sanitation District to the east of the Napa River had ornamental plantings present.

#### **4.6 WATERS AND WETLANDS**

The Project area was examined for evidence of regulated habitats, such as waters and wetlands, under regulatory authority of the U.S. Army Corps of Engineers (Corps) under Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act of 1899. A Preliminary Aquatic Resource Delineation was conducted in May 2020 for the Phase 1 HDD portion of the Project Area (Applied Technology & Sciences, 2020) (primary delineation). A supplemental Aquatic Resources Delineation was conducted in May 2022 for the Phase 2 Decommissioning portion of the Project area (Padre, 2022) (supplemental delineation). The Preliminary Aquatic Resource Delineations identified and delineated the geographic extent of Federal jurisdictional waters of the U.S. and wetlands and aquatic features under state jurisdiction.

On the basis of the field delineations conducted for both the primary and the supplemental aquatic resource delineations, the Project area contains approximately 25.51 acres of Federally jurisdictional waters of the U.S., of which 13.54 acres are federal wetlands and 11.97 acres are other waters (Figure 5A through 5C).

The Napa River is a Navigable Waterway under Section 10 of the Rivers and Harbors Act of 1899 and a Water of the U.S. under Section 404 of the Clean Water Act (CWA) and is subject to Corps jurisdiction. Adjacent lands meeting the three-parameter definition of a federal wetland are also Corps jurisdictional under Section 404 of the CWA. The Napa River and adjacent wetlands also meet the definition of waters of the State, defined within the Porter-Cologne Water Quality Control Act to include any surface water or groundwater, including saline waters, within the boundaries of the State, and are regulated by the Regional Water Quality Control Board (RWQCB). The bed, bank, and riparian cover on the Napa River, Suscol Creek, and the channel to the west side the Napa River are also regulated under Sections 1600-1617 of the California Fish and Game Code administered by the CDFW.

Within the study area there are wetlands and other waters present that are subject to federal and state jurisdiction. The different wetland types are defined both by their abiotic features such as water regime and topography as well as biotic factors like vegetation communities. The three wetland types found within the study area are palustrine emergent wetland, estuarine emergent wetland, and estuarine emergent diked/impounded wetland. There were two types of Other Waters of the U.S. present in the study area: The Napa River is classified as an estuarine subtidal water and Suscol Creek is classified as a tidal riverine water. Lastly, the excavated channel to the west of the Project area is classified as a riverine intermittent water. Wetland and water types were determined by their abiotic and biotic factors and the *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin, 1979). Below is a brief description of the wetland type and of the other waters present in the study area.

#### **4.6.1 Estuarine Subtidal Waters (Waters of the U.S.)**

Estuarine systems are defined as deep water tidal habitats and the adjacent tidal wetlands. The upper limits of the system reach landward to where salts measure less than 0.5ppt and seaward to an imaginary line close to the mouth of the river. Within the estuarine system classification, there are two subsystems: subtidal and intertidal. Within the study area, the Napa River is a subtidal estuarine water because the substrate is continuously covered in tidal water.

In tidal systems, the limits of Corps jurisdiction on waters of the U.S. are defined by the high tide line (limits of Clean Water Act Section 404 jurisdiction) and mean high water line (limits of Rivers and Harbors Act Section 10 jurisdiction). See the Aquatic Resource Impact Maps (Figure 5A through 5C) for the extent of federal jurisdiction on the Napa River within the study area.

#### **4.6.2 Tidal Riverine Waters (Waters of the U.S.)**

Riverine waters are defined as aquatic resource features that are confined within a channel and lack a dominance of trees, shrubs, persistent emergent herbs, mosses, or lichens. Wetlands that occur on a river's floodplain are classified separately from the riverine system due to the presence of vegetation cover (Cowardin, 1979). Within the riverine system classification there are four subsystems: tidal, lower perennial, upper perennial, and intermittent. Within the study area, Suscol Creek is a tidal channel in the lower portion and intermittent channel in the upstream portion (see Section 4.6.3 below). The tidal channel subsystem is characterized by its fluctuating water velocity caused by the ebb and flow of the tide. Tidal riverine waters typically have a muddy streambed with patches of sand. The existence of a floodplain is common in tidal riverine systems.

#### **4.6.3 Riverine Intermittent Waters (Waters of the U.S.)**

Within the study area, the excavated channel located to the west of the Napa River and the upper portion of Suscol Creek above the limits of tidal influence are classified as a riverine intermittent water. Intermittent waters are defined as only containing flowing water for a portion of the year. When water is not flowing, isolated pools may be present.

In non-tidal systems, the limits of Corps jurisdiction on waters of the U.S is defined by the ordinary high-water mark (OHWM). See the Aquatic Resource Impact Maps (Figure 5A through 5C) for the location of the OHWM on the excavated channel within the study area, and the extent of federal jurisdiction.

#### **4.6.4 Estuarine Emergent Wetland (diked/impounded) (Wetland)**

Emergent wetlands have a dominance of erect, rooted, herbaceous hydrophytes, typically perennial species, that are present for much of the growing season in most years. Emergent wetlands can occur in all systems except marine and are divided into two subclasses: persistent and nonpersistent. Within the study area estuarine emergent wetland features occur on both sides of the Napa River: emergent wetlands occur within the estuarine system along the Napa River, and in the palustrine system in the fields east and west of the Napa River (see section 4.6.5

below). The estuarine emergent wetlands along the Napa River are considered persistent because the herbaceous species present are visible above the soil or water surface year-round. To the east of the Napa River, the low terraces along the river's edge are divided by a rail-road berm that travels north-south through the Project area. The estuarine emergent wetlands to the east of this berm (further removed from the Napa River) are classified with the diked/impounded modifier because a man-made barrier obstructs the inflow or outflow of water.

#### **4.6.5 Palustrine Emergent Wetland (Wetland)**

The palustrine classification of wetlands includes a wide variety of different wetland types. Wetlands commonly called ponds, prairies, fens, bogs, marshes, and swamps are all types of palustrine wetlands. In most circumstances, palustrine wetlands are dominated by persistent emergent herbs, shrubs, or trees and are found in non-tidal areas. Palustrine wetlands can occur in tidal wetlands if the salinity derived from the ocean is below 0.5 ppt (Cowardin, 1979).

Within the study area, palustrine emergent wetlands were mapped on both sides of the Napa River in a variety of different vegetation communities. To the west of the study area, small and isolated topographic depressions were present in the field that support alkali heath marsh communities. To the east of the Napa River palustrine emergent wetlands were described in several vegetation communities including perennial rye grass fields, salt grass flats, smartweed patches, and perennial pepperweed patches. These wetland features were typically in low-lying areas and therefore retain saturated soils or inundated conditions for longer durations.

### **4.7 WILDLIFE**

Wildlife observed within the Project area was characteristic of the region and of the estuarine, marshland, grassland, and riparian habitats that occur onsite. A comprehensive list of wildlife species observed during the surveys are included in Appendix D. Special-status wildlife species (i.e., endangered, threatened, rare, or other special-status species) occurring, or potentially occurring, within the Project area and vicinity are discussed in Section 4.8 below.

The vegetation communities in the Project area and surrounding area provide habitat for resident and migratory wildlife species. The composition, density, distribution, and physical characteristics of vegetative communities determine the diversity and abundance of wildlife species residing in the Project area. Wildlife species observed and expected within the vegetation communities present in the Project area are discussed below.

The Napa River, which bisects the Project area, provides habitat for a wide variety of aquatic and terrestrial species that are closely tied to aquatic environment. A range of fish species are historically known to utilize the Napa River at the Project area including southern distinct population segment (DPS) green sturgeon (*Acipenser medirostris*), Central California Coast DPS steelhead (*Oncorhynchus mykiss irideus*), and delta smelt (*Hypomesus transpacificus*). Terrestrial species that are closely tied to the water and prey upon fish species include belted kingfisher (*Megaceryle alcyon*), osprey (*Pandion haliaetus*), and double-crested cormorant (*Phalacrocorax auritus*). The low terraces along the eastern bank of the Napa River support brackish marsh habitats and pickleweed mats that can provide shelter and forage for a variety of

wildlife species like salt marsh harvest mouse. Within the marsh on the east bank of the Napa River two California black rails (*Laterallus jamaicensis coturniculus*) were heard calling back and forth with one another during field surveys. Predators that prey upon wildlife hiding among the vegetation also utilize the brackish marsh including great egret (*Area alba*) and great blue heron (*Ardea herodias*). Along upstream portions of Suscol Creek there is dense riparian cover with mixed arroyo willow and valley oak trees. Riparian corridors like this can provide both dispersal and residential habitat for a wide array of wildlife species.

The open grasslands that are used for livestock grazing found in portions of the Project area on both the east and west sides of the Napa River provide forage and cover for passerine birds and small mammals, such as savannah sparrow (*Passerculus sandwichensis*), ring-necked pheasant (*Phasianus colchicus*), California vole (*Microtus californicus*), and black-tailed hare (*Lepus californicus*). These species, in turn, provide a portion of the prey base that attracts raptors such as red-tailed hawk (*Buteo jamaicensis*), northern harrier (*Circus hudsonius*), and Swainson's hawk as well as mammalian predators like coyote (*Canis latrans*).

Within the Project area, there is a wide array of potential nesting habitat that can be utilized by bird species. Along the Napa River and Suscol Creek, there is sparse to dense riparian tree cover. Large eucalyptus (*Eucalyptus* sp.) trees occur on both the eastern and western limits of the Project area. These could provide nesting habitat for large broad-winged raptors like red-tailed hawk and Swainson's hawk. There are also several brackish marshes that support vegetation like cattail, tule, and California bulrush which can provide nesting habitat for marsh wrens (*Cistothorus palustris*), song sparrows (*Melospoza melodia*), and red-winged blackbird (*Agelaius phoeniceus*). Lastly, a colony of nesting red-winged blackbirds were observed during surveys in the irrigated grasslands in the eastern part of the Project area.

#### **4.8 SPECIAL-STATUS SPECIES**

For the purposes of this Report, a special-status species is a plant or animal species that is:

- Listed as endangered, threatened, or a candidate species under the federal Endangered Species Act (FESA);
- Listed as endangered, threatened, or a candidate species under the California Endangered Species Act (CESA);
- Listed as a fully protected species or species of special concern by the California Department of Fish and Wildlife (CDFW);
- A plant species that is listed as rare under the Native Plant Protection Act or on the California Native Plant Society's (CNPS) Rare Plant Ranking System as List 1 or 2;
- 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; and/or

- Species protected by specific federal or state regulation or local ordinances are considered special-status species.

Based on the literature review and species lists obtained from USFWS (IPaC Trust Resource Report) (Sacramento Office Project code: 2022-0016427) and from NMFS (NMFS, 2022a) for the Cuttings Warf quadrangle and Napa County, a list of special-status species that have been reported within a five-mile radius surrounding the Project area has been compiled. Special-status species included on the USFWS and NMFS species lists or reported CNDDDB occurrences within five miles of the site are evaluated for potential occurrence in Table 4-2. Table 4-2 also includes rationale for the species' likelihood to occur in the Project area. Special-status species occurring within five miles of the Project are depicted in Figure 6.

**Table 4-2. Special-Status Species Occurring Within Five Miles of the Site and Considered for Potential Occurrence in the Vicinity of the PG&E I-195E L-021A Napa River Pipeline Crossing Replacement**

Scientific Name	Common Name	Status <sup>1</sup>	Habitat	Probability of Occurrence
<b>PLANTS</b>				
<i>Allium peninsulare</i> var. <i>franciscanum</i>	Franciscan onion	1B.2	Cismontane woodlands and valley and foothill grasslands, in clay soils often with a serpentine influence. Found at elevations ranging from 170 to approximately 1,000 feet. Blooms from May to June, sometimes in April.	<b>Absent.</b> No suitable habitat is present at the Project site. The nearest occurrence (Occ. #27) from 2000 is approximately 3 miles northwest of the Project area.
<i>Astragalus tener</i> var. <i>tener</i>	Alkali milk-vetch	1B.2	Playas, Valley and foothill grassland (adobe soils) and vernal pools at elevations ranging from 3 to approximately 200 feet. Blooms from March to June.	<b>Moderate.</b> Habitat at the Project area is poor quality for alkali milk-vetch. No vernal pools occur onsite and Alkali milk-vetch was not observed during rare plant surveys conducted during the appropriate blooming window. The nearest occurrence (Occ. #41) from 1982 is approximately 0.7 miles north of the Project site but is considered extirpated. The nearest extant occurrence (Occ. #50) from 1993 is approximately 5.4 miles south of the Project site.
<i>Brodiaea leptandra</i>	Narrow-anthered brodiaea	1B.2	Volcanic, broadleaf upland forest, chaparral, cismontane woodland, lower montane coniferous forest, or valley and foothill grassland. Found at elevations ranging from 360 to approximately 3,000 feet. Blooms from May to July.	<b>Absent.</b> No suitable habitat is present at the Project site. The nearest occurrence (Occ. #30) from 2009 is approximately 2.6 miles northeast of the Project site.
<i>Carex lyngbyei</i>	Lyngbye's sedge	2B.2	Brackish or freshwater marshes and swamps at elevations ranging from 0 to 30 feet. Blooms from April to August.	<b>Moderate.</b> Potentially suitable habitat for Lyngbye's sedge is present along the banks of the Napa River and in the adjacent brackish marshes. Lyngbye's sedge was not observed during rare plant surveys conducted during the appropriate blooming window (Padre, 2022). The nearest occurrence (Occ. #28) from 2008 is approximately 2.3 miles northwest of the Project site.

Scientific Name	Common Name	Status <sup>1</sup>	Habitat	Probability of Occurrence
<i>Ceanothus purpureus</i>	Holly-leaved ceanothus	1B.2	Volcanic, rocky soils within chaparral and cismontane woodland at elevations ranging from 400 to approximately 2,100 feet. Blooms from February to June.	<b>Absent.</b> No suitable habitat is present at the Project site. The nearest occurrence (Occ. #47) from 2008 is approximately 3 miles northeast of the Project site.
<i>Chloropyron molle</i> ssp. <i>molle</i>	Soft bird's-beak	FE, SR, 1B.2	Coastal salt marshes and swamps at elevations ranging from sea level to approximately 10 feet. Blooms from July to November.	<b>Moderate.</b> Suitable habitat is present in the brackish marshes located along the Napa River. Soft bird's-beak was not observed during rare plant surveys conducted during the appropriate blooming window (Padre, 2022). The nearest occurrence (Occ. #3) from 2010 is approximately 1.1 miles south of the Project site at the Fagan Marsh Ecological Reserve.
<i>Downingia pusilla</i>	Dwarf downingia	2B.2	Valley and foothill grasslands and vernal pools at elevations ranging from 1 to 1,460 feet. Blooms from March to May.	<b>Low.</b> No suitable vernal pool habitat is present at the Project site. The nearest occurrence (Occ. #108) is an undated location that is approximately 0.6 miles east of the Project site.
<i>Erigeron greenei</i>	Greene's narrow-leaved daisy	1B.2	Chaparral communities within serpentinite, volcanic soils at elevations between 260 to approximately 3,295 feet. Blooms from May to September.	<b>Absent.</b> No suitable habitat present at the Project site. The nearest occurrence (Occ. #16) from 2009 is approximately 2.6 miles northeast of the Project site.
<i>Extriplex joaquinana</i>	San Joaquin spearscale	1B.2	Alkaline soils in chenopod scrub, meadows and seeps, playas, and valley and foothill grasslands. Typically occurs at elevations ranging from sea level to approximately 2,700 feet. Blooms from April to October.	<b>Moderate.</b> No suitable habitat present at the Project site. The nearest occurrence (Occ. #38) from 1991 is approximately 2.1 miles north of the Project site.
<i>Lasthenia conjugens</i>	Contra Costa goldfields	FE, 1B.1	Mesic soils in cismontane woodlands, alkaline playas, valley and foothill grasslands, and vernal pools at elevations ranging from sea level to approximately 1,540 feet. Blooms from March to June.	<b>Low.</b> Habitat at the Project site is poor quality for Contra Costa goldfields. No vernal pools occur onsite. Contra Costa goldfields was not observed during rare plant surveys conducted during the appropriate blooming window (Padre, 2022). The nearest occurrence (Occ. #1) last updated in 2017 is approximately 0.6 miles northeast of the Project site in volcanic vernal pools and remnant valley grassland.

Scientific Name	Common Name	Status <sup>1</sup>	Habitat	Probability of Occurrence
<i>Lathyrus jepsonii</i> var. <i>jepsonii</i>	Delta tule pea	1B.2	Freshwater and brackish marshes at elevations ranging from sea level to approximately 20 feet. Blooms from May to July, occasionally to September.	<b>High.</b> Suitable habitat is present on the banks of the Napa River and adjacent marsh habitats. Several CNDDDB records are located in the vicinity of the Project site along the Napa River. The nearest occurrence (Occ. #124) is located along the east bank of the Napa River within the study area. Delta tule pea was not observed during rare plant surveys conducted during the appropriate blooming window (Padre, 2022).
<i>Legenere limosa</i>	Legenere	1B.1	Vernal pools at elevations ranging from sea level to approximately 2,900 feet. Blooms from April to June.	<b>Absent.</b> No suitable vernal pool habitat is present at the Project site. The nearest occurrence (Occ. #7) from 1987 is approximately 0.6 miles northeast of the Project site.
<i>Leptosiphon jepsonii</i>	Jepson's leptosiphon	1B.2	Volcanic soils within chaparral, cismontane woodland, and valley and foothill grassland habitat. Found at elevations ranging from 300 to approximately 1,600 feet. Blooms from March to May.	<b>Absent.</b> No suitable habitat present at the Project site. The nearest occurrence (Occ. #12) from 2004 is approximately 3.7 miles northwest of the Project site.
<i>Lilaeopsis masonii</i>	Mason's lilaeopsis	SR, 1B.1	Freshwater and brackish marshes at elevations ranging from sea level to approximately 30 feet. Blooms from April to November.	<b>High.</b> Suitable habitat is present on the banks of the Napa River and in adjacent brackish marshes. Several CNDDDB records are located in the vicinity of the Project site along the Napa River. The nearest occurrence (Occ. #10) from 2015 is mapped along the Napa River through the Project site. Mason's lilaeopsis was not observed during rare plant surveys conducted during the appropriate blooming window (Padre, 2022); however, recorded occurrences are reported on the banks of the Napa River in the Project area. Because of its occurrence on mud banks in the tidal zone, populations of this species are often altered or lost due to bank erosion and dynamic shorelines.



Scientific Name	Common Name	Status <sup>1</sup>	Habitat	Probability of Occurrence
<i>Limosella australis</i>	Delta mudwort	2B.1	Freshwater and brackish marshes, usually on the muddy banks of streams. Found at elevations ranging from sea level to approximately 10 feet. Blooms from April to August.	<b>High/Present.</b> Suitable habitat is present on the banks of the Napa River and in adjacent brackish marshes. A single blooming individual and several potential non-blooming individual plants were observed during rare plant surveys conducted on May 25, 2022. Follow-up surveys were conducted in August to confirm identification and population size, and the individuals previously observed were no longer present due to recent bank erosion. New vegetation was recolonizing the eroded bank, but individual plants were very small and unidentifiable. Because of its occurrence on mud banks in the tidal zone, populations of this species are often altered or lost due to bank erosion and dynamic shorelines.
<i>Symphotrichum lentum</i>	Suisun Marsh aster	1B.2	Freshwater and brackish marshes and swamps at elevations ranging from sea level to approximately 10 feet. Blooms from April to November.	<b>High.</b> Suitable habitat is present in the work area. Suisun marsh aster was not observed during rare plant surveys conducted during the appropriate blooming window (Padre, 2022). The nearest occurrences (Occ. #55 and 18) from 1992 and 1991 are located approximately 1.2 miles north and south of the Project site in marshlands adjacent to the Napa River.
<i>Trifolium amoenum</i>	Two-fork clover/Showy Indian clover	FE, 1B.1	Coastal bluff scrub and Valley and foothill grasslands sometimes with serpentinite. Found at elevations ranging from 15 to approximately 1,360 feet. Blooms from April to June.	<b>Absent.</b> No suitable habitat is present at the Project site. Occurrences near the site (Occ. #7 and 24) are several decades old and one is presumed to be extirpated.
<i>Trifolium hydrophilum</i>	Saline clover	1B.2	Marshes and swamps, alkaline valley and foothill grasslands, and vernal pools at elevations ranging from sea level to approximately 980 feet. Blooms from April to June.	<b>Moderate.</b> Suitable habitat present in the work area. Saline clover was not observed during rare plant surveys conducted during the appropriate blooming window (Padre, 2022). The nearest occurrence (Occ. #35) from 1993 is approximately 0.8 miles east of the Project site along Suscol Creek.
<i>Viburnum ellipticum</i>	Oval-leaved viburnum	2B.3	Chaparral, cismontane woodlands, and lower coniferous forests at elevations ranging from 700 to approximately 4600 feet. Blooms from May to June.	<b>Absent.</b> No suitable habitat present at the Project site. The nearest occurrence (Occ. #7) from 2012 is approximately 2.9 miles northeast of the Project site.

Scientific Name	Common Name	Status <sup>1</sup>	Habitat	Probability of Occurrence
<b>INVERTEBRATES</b>				
<i>Branchinecta conservatio</i>	Conservancy Fairy Shrimp	FE	Endemic to the grasslands of the northern two-thirds of the central valley; found in large, turbid pools. Regionally inhabits astatic pools located in swales formed by old, braided alluvium, filled by winter/spring rains and lasting until June.	<b>Absent.</b> No suitable habitat present at the Project site. The nearest occurrence (Occ. #14) from 2011 is approximately 16.3 miles east of the Project site.
<i>Branchinecta lynchi</i>	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.	<b>Absent.</b> No suitable habitat present at the Project site. The nearest occurrence (Occ. #232) from 2003 is approximately 2.1 miles south of the Project site.
<i>Danaus plexippus</i>	Monarch Butterfly	FC	Roost in eucalyptus, Monterey cypress, Monterey pine, and other trees in groves along the Pacific coastline of California, arriving starting in late October. Dispersal from these roosts generally begins in mid-February. Milkweed and nectar plant availability throughout the spring, summer and fall is important for monarch migration. In areas of the desert southwest, monarchs use nectar and milkweed plants throughout much of the year.	<b>Low.</b> There is no suitable breeding habitat. Overwintering habitat is present in the Project area in the eucalyptus groves located on the east and west sides of the Napa River. Roosting in this part of the Delta is considered abnormal but has been observed. The nearest occurrence (Occ. #44) from 1986 is located in a eucalyptus grove approximately 8.6 miles southwest of the Project site. This overwintering occurrence is thought to be a one-time event for the area. The nearest contemporary occurrence (Occ. #19) last observed in 2015 is located in a eucalyptus grove approximately 9.6 miles south of the Project site.

Scientific Name	Common Name	Status <sup>1</sup>	Habitat	Probability of Occurrence
<i>Syncaris pacifica</i>	California freshwater shrimp	FE, SE	The species is known to occur in only 17 streams in Marin, Napa, and Sonoma Counties. It occurs in pools of low gradient and low velocity freshwater streams with abundant riparian growth, undercut banks, and submerged roots, rocks, and aquatic vegetation. This species are tolerant of warm stream temperatures and low flow but they are not tolerant of brackish water.	<b>Low.</b> The upper reaches of Suscol Creek east of the Project area may provide habitat seasonally within areas providing undercut banks and overhanging vegetation preferred by the species; however, there are no recorded occurrences of this species in Suscol Creek. Within the Project area Suscol Creek is tidally influenced with brackish water in the lower part and has sloped banks and no riparian cover and was dry in the upper portion with riparian vegetation during May 2022 surveys. The nearest occurrence (Occ. #5) from 1990 is approximately 3.7 miles west of the Project site in Huichica Creek.
<b>FISH</b>				
<i>Acipenser medirostris</i>	Green sturgeon – Southern DPS	FT	Anadromous fish species found in near shore 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 sturgeon depend on large rivers to spawn, typically in deep pools in large turbulent mainstem rivers. The Sacramento River watershed is the only confirmed present and historical spawning area. Spawning occurs in the Sacramento River and has recently been documented in the Feather River and Yuba River (tributaries to the Sacramento River). The San Francisco Bay Delta Estuary provides year-round rearing habitat for juveniles and foraging habitat for non-spawning adults and subadults in summer months (NMFS, 2018).	<b>Moderate.</b> Marginal habitat occurs in the Project area. The nearest occurrence (CNDDDB Occ. #10) is 3.8 miles downstream from the Project area. This CNDDDB occurrence is a general occurrence for the known range of the species in the San Francisco Bay-Delta and tributaries and includes the lower Napa River. Green sturgeon is not known to spawn in the Napa River. Data from angler self-reporting indicates catch of subadult green sturgeon in the Napa River (NMFS, 2018).
<i>Eucyclogobius newberryi</i>	Tidewater Goby	FE	Brackish water along the coast preferring streams that create depositional berms protecting the outlet from higher levels of salinity.	<b>Absent.</b> Suitable lagoon habitat is not present in Project area. Historically present in the Napa River Basin, is now likely extirpated (Napa County Resource Conservation District, 2009).

Scientific Name	Common Name	Status <sup>1</sup>	Habitat	Probability of Occurrence
<i>Entosphenus tridentata</i>	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.	<b>Moderate.</b> Pacific lamprey have been historically or recently documented in many streams of the San Francisco Bay area, including the Napa River. Information for streams in the Bay Area consists primarily of presence or absence surveys; long-term trend data are not available (USFWS, 2004). The species could be found in the vicinity of the Project area; however, habitat is not suitable for spawning. Pacific lamprey have been documented at the Napa River rotary screw trap located approximately 8.5 miles upstream on the Napa River between Napa and Yountville every year between 2010 and 2020 (Napa RCD, 2020).
<i>Hypomesus transpacificus</i>	Delta smelt	FT, SE	Endemic to the Sacramento/San Joaquin Delta, they occur in the Delta primarily below Isleton on the Sacramento River, below Mossdale on the San Joaquin River, and in Suisun Bay. Delta smelt mainly inhabits the freshwater-saltwater mixing zone of the estuary, except during its spawning season, when it moves into freshwater during the early spring months from March until May.	<b>Moderate.</b> The center of delta smelt abundance is the northwestern Delta in the channel of the Sacramento River and all life stages have the potential to occur in Suisun Bay. San Pablo Bay and Napa River are within the West Zone of the delta smelt range. delta smelt can occur in San Pablo Bay, Napa Marsh, and Napa River though this is the western limits of their range. It is not known if delta smelt in San Pablo Bay are a permanent population or if they are washed into the Bay during high outflow periods. Nearest CNDDDB occurrence (Occ#5) is from 2004 in a small channel in restored wetlands in Napa Sonoma Marshes Wildlife Area six miles south of the Project area. The nearest, most recent documented occurrence of delta smelt is IEP Station 344 in April 2019 and Station 346 in April and May 2017 (IEP, 2022).

Scientific Name	Common Name	Status <sup>1</sup>	Habitat	Probability of Occurrence
<i>Lampetra ayresi</i>	River lamprey	CSC	Lower Sacramento, San Joaquin, and Russian Rivers. Spawning may occur in gravelly riffles in permanent streams with sandy backwaters for ammocoetes.	<b>Moderate.</b> River lamprey have been historically reported in the Napa River; however, most records for river lamprey are for the lower Sacramento and San Joaquin River system tributaries in the Central Valley, especially in the Stanislaus and Tuolumne Rivers (USFWS, 2004). River lampreys appear to spawn regularly in Salmon Creek and tributaries to the lower Russian River. River lamprey data are limited in California and long-term data are not available; most occurrence data are incidental to salmonid surveys. River lamprey have been documented at the Napa River rotary screw trap located on the Napa River approximately 8.5 miles upstream between Napa and Yountville in most years between 2010 and 2020 (Napa RCD, 2020).
<i>Oncorhynchus mykiss irideus</i>	Central California coast DPS steelhead (pop. 8)	FT	Anadromous species native to the Pacific Ocean and coastal drainages. Steelhead make spawning runs into rivers and small creeks flowing into the ocean. Spawning takes place in the rivers from December to April with most spawning activity occurring between January and March.	<b>High.</b> The species has historically been found in the vicinity of the Project area seasonally during migration to spawning habitat upstream of the site. Occurrences both upstream (Occ. #27, 2004, 20 miles upstream) and downstream (Occ. #4, 2005, 5.3 miles downstream) of Project area. However, habitat in the Napa River at the Project location is considered migration corridor and is not suitable for spawning. However, Suscol Creek is considered suitable spawning habitat and Steelhead are known to spawn in the middle reach of Suscol Creek upstream of the Project site in high water years (Becker et al., 2007; Dewberry, 2007; Napa County RCD, 2009).

Scientific Name	Common Name	Status <sup>1</sup>	Habitat	Probability of Occurrence
<i>Oncorhynchus tshawytscha</i>	Central Valley fall-run chinook salmon ESU	CSC	Sacramento River, Sacramento-San Joaquin Delta, and San Francisco Bay	<b>High.</b> The species could be found in the vicinity of the Project area seasonally during migration to spawning habitat upstream of the Project area. An estimated run of 400-600 Central Valley fall-run Chinook salmon spawn annually in the mainstem Napa River with most spawning occurring upstream from Yountville to Calistoga (Napa County RCD, 2009). CDFW spring 20-mm net surveys from March 2018 detected Chinook salmon at station 345 in the lower Napa River. CDFW fall mid-water trawl surveys also recorded fall run Chinook salmon in September 2017 at station 340 in the lower Napa River (IEP, 2022).
<i>Pogonichthys macrolepidotus</i>	Sacramento splittail	CSC	Commonly occur in Sacramento River, Sacramento-San Joaquin Delta. Occasionally will migrate out to, and San Francisco and Pablo Bay during high flow years.	<b>Moderate.</b> The species is known to occur in the lower Napa River. The San Pablo Bay population spawns in brackish waters of Petaluma and Napa River floodplains. Juvenile rearing is known to occur in lower restored tidal marsh in lower Napa River (CDFW, 2008). Nearest CNDDDB occurrence (Occ#5) is from 2004 in a small channel in restored wetlands in Napa Sonoma Marshes Wildlife Area six miles south of the Project site. The nearest, most recent documented occurrence of Sacramento splittail is IEP Stations 340 and 343 (lower Napa River) in May 2019 (IEP, 2022).
<i>Spirinchus thaleichthys</i>	Longfin smelt – San Francisco Bay-Delta DPS	FC, ST,	Occupies a variety of coastal waters including estuaries, bays, and rivers. During breeding, this species spawns in freshwater tributaries near the ocean.	<b>High.</b> Suitable habitat occurs in the Project area. Nearest CNDDDB occurrence (Occ. #26) from 2012 was recorded in the Napa River through the Project area. Additionally, individuals were detected in the Project area (IEP station 345 and 346) during March 2022, 20-mm net surveys and in the lower Napa River downstream of the site in May and June of 2022 (IEP, 2022).

Scientific Name	Common Name	Status <sup>1</sup>	Habitat	Probability of Occurrence
<b>AMPHIBIANS</b>				
<i>Rana boylei</i> (pop. 1)	Foothill yellow-legged frog (north coast DPS)	CSC	Occurs in the foothills of the Coast, Cascade, and Sierra ranges from sea level to 6,000 feet. It is an inhabitant of rocky streams and rivers with sunny banks in woodlands, forests, and chaparral. Typically, higher grade perennial streams with pools and riffles although can be found in isolated pools or ponds or seasonal creeks.	<b>Absent.</b> No suitable habitat present in the Project area. Suscol Creek does not provide suitable breeding habitat and is either tidally influenced or seasonally dry throughout the majority of the Project area. The nearest occurrence (Occ.# 2341) from the 1930's is approximately 2.8 miles south of the Project site and is considered possible extirpated.
<i>Rana draytonii</i>	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.	<b>Low.</b> Potentially suitable upland and dispersal habitat may be present in the Project area; however, no suitable aquatic habitat is present in tidally influenced Napa River and Suscol Creek. The nearest occurrence (Occ. #1062) from 2008 is approximately 3.3 miles south of the Project site. This species is unlikely to disperse from nearby occurrences to the Project area.
<b>REPTILES</b>				
<i>Chelonia mydas</i>	Green Sea Turtle	FT	Feeds in shallow waters with abundant submerged vegetation but may venture into deeper water during migration. Nesting occurs on open sandy beaches preferably with minimal disturbance. Can occur in central California waters during strong El Nino years.	<b>Low.</b> No suitable habitat present in the Project area. If turtle is present, it would be due to strong El Nino conditions and/or a sick or injured animal. Green sea turtle was observed mid-November of 2015, during one of the strongest El Ninos ever recorded, swimming in the San Joaquin River in Lathrop near Manteca, approximately 90 miles upriver from the Golden Gate bridge (Nafis, 2022).
<i>Emys marmorata</i>	Western pond turtle	CSC	Ponds, marshes, rivers, streams and irrigation ditches with aquatic vegetation. Needs basking sites and suitable upland habitat (sandy banks or grassy open fields) for egg laying.	<b>Moderate.</b> Suitable habitat is present in the Project area on the Napa River and Suscol Creek. The nearest occurrence (Occ. #493) from 1996 is located approximately 1.3 miles north of the Project site.

Scientific Name	Common Name	Status <sup>1</sup>	Habitat	Probability of Occurrence
<b>BIRDS</b>				
<i>Agelaius tricolor</i>	Tricolor blackbird	ST, CSC, BCC	Breeding habitat is often found near a source of water and in a grassland, woodland, or agricultural cropland.	<b>Moderate.</b> Suitable habitat present in the Project area in the irrigated grasslands adjacent to marsh habitats, though grasses present in irrigated pasture are not a preferred nesting substrate for tricolored colonies due to lack of structure. Nesting colonies of red-winged blackbird were observed in these areas during biological surveys. The nearest occurrence (Occ. #244) from 1993 is located in a marsh located approximately 0.2 miles north of the Project site.
<i>Aquila chrysaetos</i>	Golden eagle	FP, BCC	Forages over open grasslands, savannahs, and deserts. Nests in large trees or cliffs.	<b>Moderate.</b> Suitable nesting habitat present in large eucalyptus and valley oak trees in the Project area. The nearest occurrence (Occ. # 82) from 2005 is located in a eucalyptus tree approximately 0.5 miles west of the Project site.
<i>Athene cunicularia</i>	Burrowing owl	CSC, BCC	Found in open, dry annual or perennial grasslands, deserts, and scrublands, Breeding is dependent on California ground squirrel burrows.	<b>Low.</b> Suitable foraging and over-wintering habitat occurs within the terrestrial areas of the Project area; however, the Project area lacks small mammal burrow colonies required for suitable nesting habitat. The nearest occurrence (Occ. #935) from 2006 is approximately 1 mile southeast of the Project site.
<i>Buteo regalis</i>	Ferruginous hawk	BCC	Spends the breeding months in the northern United States and Canada. Spends winter foraging in the southwestern United States and Mexico. Forages in open grasslands, fields, and deserts. Begins breeding in April	<b>Moderate.</b> Overwintering habitat is present in the Project area. The nearest occurrence (Occ. #28) from 1988 is located in the grasslands adjacent to the southeastern border of the Project site.
<i>Buteo swainsoni</i>	Swainson's hawk	ST, BCC	Breeds in stands with few trees in juniper-sage flats, riparian areas and in oak savannah. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	<b>High.</b> Suitable nesting and foraging habitat present in the Project area. The nearest occurrence (Occ. #1619) from 2013 is located approximately 0.2 miles east of the Project site along Suscol Creek. There are four additional occurrences within 1 mile of the Project site.



Scientific Name	Common Name	Status <sup>1</sup>	Habitat	Probability of Occurrence
<i>Charadrius nivosus nivosus</i>	Western Snowy Plover	FT, CSC, BCC	Breeds on sandy beaches, dunes, salt flats, and mud flats.	<b>Absent.</b> Suitable habitat is not present in Project area. Nearest occurrence (Occ. #5) from 1991 is approximately 24 miles east of the Project site.
<i>Circus hudsonius</i>	Northern harrier	CSC	Forages and nests in freshwater and brackish marshes and their adjacent grasslands.	<b>Moderate.</b> Suitable nesting and foraging habitat is present in the Project area and this species is relatively common in the region. The nearest occurrence (Occ. # 29) from 2004 is located in a coastal salt marsh approximately 3.7 miles southwest of the Project site.
<i>Elanus leucurus</i>	White-tailed kite	FP	Rolling foothills / valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Forages over grasslands, marshes, and oak savannas close to isolated, dense-topped trees for nesting and perching.	<b>Moderate.</b> Suitable nesting and foraging habitat present in the Project area and this species is relatively common in the region. The nearest occurrence (Occ. #181) from 2018 is approximately 2 miles north of the Project site.
<i>Falco peregrinus anatum</i>	American peregrine falcon	FP, BCC	Nests consists of a scrape or a depression or ledge in an open cliff sites, banks, dunes, mounds, or man-made structures near wetlands, lakes, rivers or other water.	<b>Low.</b> No suitable nesting habitat is present within the Project area. Suitable foraging habitat is present. The nearest potentially suitable nesting habitat is located nearby at the Highway 12 bridge crossing of the Napa River approximate 0.1-mile north of the Project site, though there are no known occurrences from this location. The nearest occurrence (Occ. #42) from 2015 is located in an undisclosed location in the Cordelia quadrangle approximately 1.5 miles east of the Project site.
<i>Geothlypis trichas sinuosa</i>	Saltmarsh common yellowthroat	CSC, BCC	Found in emergent wetlands, low, dense vegetation near water. They nest in vegetation 12 feet above ground. Locally, found in coastal riparian and wetland areas of western Marin County, the tidal marsh system of San Pablo Bay, the tidal marsh system of southern San Francisco Bay, and coastal riparian and wetland areas in San Mateo County.	<b>Moderate.</b> Suitable nesting and foraging habitat present in the Project area. Yellowthroat vocalizations were heard during surveys although it is unclear if they were from this subspecies. The nearest occurrences (Occ.#37 and 94) from 2004 and 1989 are approximately 1 mile south and 1.5 miles north of the Project site.

Scientific Name	Common Name	Status <sup>1</sup>	Habitat	Probability of Occurrence
<i>Laterallus jamaicensis coturniculus</i>	California black rail	ST, FP, BCC	Permanent resident of saline, brackish, and freshwater marshes containing dense tall growths of emergent vegetation. They prefer a thick canopy of vegetation with a relatively open understory. Nests are placed above ground level under heavy cover and are accessed from a side entrance. They also require vegetation around the periphery of the marsh for cover during the highest tides	<b>Present.</b> An assessment of habitat suitability and passive surveys for Ridgway's rail and black rail was performed in the Project area by rail biologists (GANDA, 2020). No rail species were heard or observed during surveys, and small areas of intertidal marsh with saltmarsh associated plants were determined to be more closely aligned with habitats known to be utilized by black rail but were considered unlikely to occur due to small size and discontinuity of the vegetation (GANDA, 2020). Two black rail individuals were heard calling during surveys conducted by Padre in May 2022 in the brackish marsh on the east side of the Napa River near the railroad tracks. Suitable nesting habitat is present in the Project area on the east bank of the Napa River. The nearest CNDDDB occurrence (Occ. #31) from 2010 is located approximately 0.7 miles south of the Project site. An unprocessed reported occurrence from 2021 has been submitted to CNDDDB documenting this species in the same location where individuals were heard during surveys.
<i>Melospiza melodia samuelis</i>	Song sparrow ("San Pablo" population)	CSC, BCC	Endemic to tidal salt marshes in the San Pablo Bay preferring high salt marsh habitat with pickleweed and gumplant adjacent to tidal waters. Requires tall dense vegetation for successful nesting.	<b>Moderate.</b> Potentially suitable nesting habitat present in the Project area. Song sparrows were observed at the Project site during surveys although it is unclear if they were from this subspecies. The nearest occurrence (Occ. #16) from 2004 is approximately 1.4 miles southeast of the Project site.

Scientific Name	Common Name	Status <sup>1</sup>	Habitat	Probability of Occurrence
<i>Pandion haliaetus</i>	Osprey	WL	Occurs throughout California except within the deserts, Great Basin, and Central Valley. It breeds in large trees, snags, and dead-topped trees in open forest in northern California from the Cascade Range to Marin County along the coast, and to the southern Sierra Nevada range. Nests are situated near ocean shores, bays, lakes, river, and large streams, which are required for foraging primarily on fish.	<b>Present.</b> Species was observed nesting near the Project site on a power pole adjacent to the Project area and north of Soscol Ferry Road at the entrance to the Napa Sanitation District. Individuals were also observed foraging over the Napa River. The nearest occurrence (Occ. #505) from 2016 is approximately 8.3 miles south of the Project site.
<i>Rallus obsoletus obsoletus</i>	California Ridgway's rail	FE, SE, FP	Requires tidal sloughs that have direct tidal circulation, predominant cover of pickleweed with stands of Pacific cordgrass ( <i>Spartina foliosa</i> ) at lower elevations, high marsh cover consisting of tall stands of pickleweed, gumplant, and wrack, and abundant invertebrate populations.	<b>Low.</b> An assessment of habitat suitability and passive surveys for Ridgway's rail and black rail was performed in the Project area by rail biologists (GANDA, 2020). No rail species were heard or observed during surveys, and small areas of intertidal marsh with saltmarsh associated plants were determine unlikely to support presence of Ridgway's rail due to small size and discontinuity of the vegetation, lack of connectivity with larger areas of suitable habitat and known occurrence, and absence of preferred vegetation complexes, branching tidal channels, and high tide dispersal habitat (GANDA, 2020). The Project area is also not within modeled habitat for Ridgway's rail in PG&E's BAHCP (ICF, 2017). The nearest occurrence (Occ. #16) from 1989 is approximately 1.2 miles south of the Project site. An additional more recent occurrence (Occ.#13) from 2015 is approximately 2.5 miles south of the Project area at Edgerly Island. Both occurrences are in Napa Sonoma Marshes Wildlife Area and both occurrences are considered extant. .
<i>Sternula antillarum browni</i>	California least Tern	FE, SE, FP	Breeds in the San Francisco Bay Area but overwinters in southern Mexico and Central America. Breeds on sandy coastal beaches, estuaries, lagoons, bays, and along freshwater lakes near the coast.	<b>Absent.</b> Suitable habitat is not present in Project area. The nearest occurrence (Occ. #61) from 1983 is approximately 20 miles southeast of the Project site.

Scientific Name	Common Name	Status <sup>1</sup>	Habitat	Probability of Occurrence
<i>Strix occidentalis caurina</i>	Northern Spotted Owl	FT, ST	Typically confined to unlogged, expansive coniferous forests with dense canopies and large trees.	<b>Absent.</b> Suitable habitat is not present in Project area. The nearest occurrences are located approximately 7.6 miles northwest of the Project site.
<b>MAMMALS</b>				
<i>Antrozous pallidus</i>	Pallid bat	CSC	Day roosts in caves and crevices; occasionally roosts in hollow trees and buildings.	<b>Low.</b> Potentially suitable foraging habitat present in the Project area although potential roosting sites are very limited. The nearest occurrence (Occ. #57) last seen in 1997 is approximately 1.4 miles west of the Project site.
<i>Reithrodontomys raviventris</i>	Salt marsh harvest mouse	FE, SE, FP	Salt marshes with dense pickleweed cover in the San Francisco, San Pablo, and Suisun Bays.	<b>High.</b> Suitable habitat for this species is present in the pickleweed mat communities located along the east side of the Napa River in the Project area. The saltmarsh habitat on the east side of the Napa River within the Project area is also within modeled habitat for SMHM in the PG&E BAHCP (ICF, 2017). The nearest occurrence (Occ. #119) from the 1970's is located in the marsh habitat along the eastern side of the Napa River at the Project site and is considered extant. Small mammal trapping surveys conducted by CDFW in 2013 found salt marsh harvest mouse in pickleweed habitat located on the west side of the Napa River approximately 0.2 miles south of the Project site (CDFW, 2013).
<i>Taxidea taxus</i>	American badger	CSC	Most abundant in drier open stages of most shrub, forest and herbaceous habitats, with friable soils. Need sufficient food, friable soils and open, uncultivated ground.	<b>Low.</b> Marginally suitable habitat present on the west side of Napa River in the Project area; however, no small mammal burrowing colonies were observed in this grassland habitat making presence of American badger less likely. The nearest occurrences (Occ. #203 and 301) from 1911 and 1937 are approximately 0.2 miles west and 2.8 miles north of the Project site respectively.

Scientific Name	Common Name	Status <sup>1</sup>	Habitat	Probability of Occurrence
<sup>1</sup> Status: FE = Federal Endangered FC = Federal Candidate SE = California State Endangered ST = California State Threatened SR = California State Rare (listed under Native Plant Protection Act) FP = CDFW Fully Protected CSC = California Species of Special Concern BCC = USFWS Bird of Conservation Concern			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	

An analysis of the likelihood of occurrence for each species was conducted based on species ranges, previous observations, contemporary sightings, and presence of suitable habitat elements. The Project may be located outside of the known range of some species, or within the geographic range for a certain species, but suitable habitat, such as vernal pools, is absent in the Project area. For this analysis, potential special-status species that occur in the general area of the Project, and for which the Project may provide habitat, are discussed in greater detail in Sections 4.8.1 and 4.8.2 below.

#### **4.8.1 Special-Status Plants**

Padre conducted rare plant and botanical resource surveys of the Project area on May 24, 25, and August 18, 2022. The timing of these surveys corresponds to the blooming window for the special-status plants that have potential to occur in the Project area. During these surveys, botanists with Padre identified a small population of Delta mudwort (*Limosella australis*), a California Rare Plant Rank 2B.1 species, on the west bank of the Napa River. Based upon vegetation communities observed in the Project area, special-status plant species have the potential to be found in the Project area. The nine special-status plant species that have the potential to occur at the Project area are described below.

##### **4.8.1.1 Alkali milk-vetch (*Astragalus tener* var. *tener*)**

Alkali milk-vetch is a California Rare Plant Rank 1B.2 species. It occurs in alkali playa, valley and foothill grasslands and vernal pools. It is an annual herbaceous species that blooms from March to June and occurs at elevations between 0 and 200 feet. The nearest occurrence (Occ. #41) is from 1982 and is approximately 0.7 miles north of the Project site; however, this occurrence is considered extirpated from the area. The nearest occurrence that is considered extant (Occ. #50) is from 1993 and is approximately 5.4 miles south of the Project site (CDFW, 2022). To the west of the Napa River, there are alkaline depressions that support alkali heath marsh vegetation communities. These seasonally wet, alkaline depressions may provide suitable habitat for alkali milk-vetch. Although this species has the potential to occur in the Project area, it was not observed during rare plant surveys and is not likely to occur within the study area (Padre, 2022b).

##### **4.8.1.2 Lyngbye's sedge (*Carex lyngbyei*)**

Lyngbye's sedge is a California Rare Plant Rank 2B.2 species. This species is associated with brackish and freshwater marshes and can be found in the Delta and along California's northern coast into Oregon, Washington, and Alaska. The nearest occurrence (Occ. #28) is from 2008 and is approximately 2.3 miles northwest of the Project site (CDFW, 2022). The brackish marsh communities observed at the Project site along the Napa River have potential to support Lyngbye's sedge. Although this species has the potential to occur in the Project area, it was not observed during rare plant surveys and is not likely to occur within the study area (Padre, 2022b).

#### 4.8.1.3 Soft bird's-beak (*Chloropyron molle* ssp. *molle*)

Soft bird's-beak is a Federally endangered, State-listed Rare, and California Rare Plant Rank 1B.2 species. Found in coastal Salt Marsh, and wetland-riparian communities and blooms between July and November. Suitable habitat is present in the brackish marshes located along the Napa River. The nearest occurrence (Occ. #3) is from 2010 and is approximately 1.1 miles south of the Project site at the Fagan Marsh Ecological Reserve (CDFW, 2022). Openings in the pickleweed mat communities on the east and west sides of the Napa River have the potential to support soft bird's-beak. Although this species has the potential to occur in the Project area, it was not observed during rare plant surveys and is not likely to occur within the study area (Padre, 2022b).

#### 4.8.1.4 San Joaquin spearscale (*Extriplex joaquiniana*)

San Joaquin spearscale is a California Rare Plant Rank 1B.2 species. It is an annual herb that is associated alkaline soils in chenopod scrub, meadows and seeps, playas, and valley and foothill grassland. It blooms from April to October and occurs at elevations of 0 and 2,500 feet. It is threatened by grazing, agriculture, and development. The nearest occurrence (Occ. #38) is from 1991 and is located approximately 2 miles north of the Project site (CDFW, 2022). To the west of the Napa River, there are alkaline depressions that support alkali heath marsh vegetation communities. These seasonally wet, alkaline depressions may provide suitable habitat for San Joaquin spearscale. Although this species has the potential to occur in the Project area, it was not observed during rare plant surveys and is not likely to occur within the study area (Padre, 2022b).

#### 4.8.1.5 Delta tule pea (*Lathyrus jepsonii* var. *jepsonii*)

Delta tule pea is a California Rare Plant Rank 1B.2 species. This is a perennial herbaceous species that blooms May through July. It is associated with both brackish marshes and freshwater marshes throughout the Delta and Central Valley. Delta tule pea is found with other marsh species including cattail, Suisun marsh aster, California rose, and various species of rush and bulrush on the margins of sloughs and within tidal wetlands.

Suitable habitat is present in the Napa River at the work area and in the adjacent marsh habitats. Several CNDDDB records located in the vicinity of the project site along the Napa River. The nearest occurrence (Occ. #124) is located along the eastern bank of the Napa River within the study area (CDFW, 2022). Although this species has the potential to occur in the Project area, it was not observed during rare plant surveys and is not likely to occur within the study area (Padre, 2022b).

#### 4.8.1.6 Mason's lilaepsis (*Lilaepsis masonii*)

Mason's lilaepsis is a State-listed Rare species and a California Rare Plant Rank 1B.1 species. This species is associated with tidally influenced marsh habitats, mudflats, and levee banks in the Delta and blooms between April and November. It has been documented along the shoreline of the Napa River in many locations including in the area of the pipeline crossing.

Suitable habitat is present along the banks of the Napa River and in adjacent brackish marshes. This species was not observed in the Project area during rare plant surveys (Padre, 2022b). Despite conducting multiple surveys during the appropriate blooming window for Mason's lilaepsis, a positive identification of this species was not made in the Project area. Populations of this species is often altered or lost because they are located on the edge of mud banks that commonly erode into the waterway. This species also has the potential to recolonize the tidally influence riverbanks after erosion occurs leaving available substrate for vegetation growth.

#### 4.8.1.7 Delta mudwort (*Limosella australis*)

Delta mudwort is a California Rare Plant Rank 2B.1 species. This species is a perennial herbaceous species that is associated with the muddy banks of streams in freshwater and brackish marshes. Delta mudwort blooms from April to August. It is often found growing in the same communities as other rare San Francisco Bay Delta plants like Mason's lilaepsis.

Suitable habitat for Delta mudwort is present along the banks of the Napa River in the work area. A single individual was identified along the west bank of the Napa River within the work area during rare plant surveys conducted on May 25 (Padre, 2022b). Multiple individual plants that may have been Delta mudwort were also observed; however, only one individual was in bloom and could be positively identified. In its vegetative form, Delta mudwort looks very similar to other species that share its habitat preference including Mason's lilaepsis, low club rush (*Isolepis cernua*), and three-ribbed arrow-grass (*Triglochin striata*). During the follow-up rare plant survey conducted on August 18, the individual Delta mudwort that was observed on May 25 had been lost due to bank erosion. Populations of these four herbaceous species listed above are often altered or lost because they are located on the edge of mud banks that commonly erode into the waterway. This species also has the potential to recolonize the tidally influence riverbanks after erosion occurs leaving available substrate for vegetation growth.

#### 4.8.1.8 Suisun Marsh aster (*Symphyotrichum lentum*)

Suisun Marsh aster is a California Rare Plant Rank 1B.2 species. Suisun Marsh aster is a rhizomatous, perennial herbaceous species that typically occurs in brackish marshes, but can also occur in freshwater marshes at elevations up to 10 feet. This species blooms May through November. The nearest occurrences (Occ. #55 and #18) of the aster were last seen in 1992 and 1991 and are located approximately 1.2 miles north and south of the Project site in marshlands adjacent to the Napa River (CDFW, 2022). The brackish marsh communities along the Napa River within the Project area provide potentially suitable habitat for Suisun Marsh aster. Although this species has the potential to occur in the Project area, it was not observed during rare plant surveys and is not likely to occur within the study area (Padre, 2022b).

#### 4.8.1.9 Saline clover (*Trifolium hydrophilum*)

Saline clover is a California Rare Plant Rank 1B.2 species. It is associated with marshes, swamps, mesic and alkaline Valley and foothill grasslands, and vernal pools. It blooms from April to June. The nearest occurrence (Occ. #35) is from 1993 and is approximately 0.8 miles east of the Project site along Suscol Creek (CDFW, 2022). Potentially suitable habitat for saline clover is



present within the Project area in the alkali heath marsh communities to the west of the Napa River as well as potentially in open areas around Suscol Creek. Although this species has the potential to occur in the Project area, it was not observed during rare plant surveys (Padre, 2022b) and is not likely to occur within the study area.

#### **4.8.2 Special-Status Wildlife**

This section includes a discussion of special-status wildlife species that are known to occur or have potential to occur at the Project area based on habitat availability and known locations of species within the vicinity of the Project area. Certain species, such as vernal pool invertebrate and amphibian species listed in Table 4-2 above, may occur within the quadrangle and/or within five miles of the Project area; however, based upon a thorough analysis of the Project area, 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 Project area is beyond the recorded geographic and/or elevational range for these species.

##### **4.8.2.1 Green sturgeon (*Acipenser medirostris*)**

The green sturgeon is a federally listed Threatened species in the southern range or distinct population segment (DPS). It is also a California Species of Special Concern and a NMFS Species of Concern. Green sturgeon is an anadromous species, but little is known about its biology because they are much less abundant than white sturgeon and regarded as inferior quality for consumption (Moyle, 2002). Juvenile green sturgeon have been collected in the San Francisco Bay up to the lower reaches of the Sacramento and San Joaquin rivers and spawning occurs in cool sections of the upper Sacramento River where there are deep, turbulent flows and clean, hard substrates. The Sacramento River watershed is the only confirmed present and historical spawning area. Spawning occurs in the Sacramento River and has recently been documented in the Feather River and Yuba River (tributaries to the Sacramento River). In the autumn, the post-spawning adults move back down the river and re-enter the ocean. After hatching, larvae and juveniles migrate downstream toward the Sacramento-San Joaquin Delta and estuary where they spend a few years maturing before the move out to the ocean. The San Francisco Bay Delta Estuary provides year-round rearing habitat for juveniles and foraging habitat for non-spawning adults and subadults in summer months (NMFS, 2018).

The nearest occurrence of green sturgeon is 3.8 miles downstream of the Project, but this CNDDDB occurrence is a general occurrence for the known range of the species in the San Francisco Bay Delta and tributaries and includes the lower Napa River (CDFW 2022). Green sturgeon has a moderate potential to occur in the Project area; however, the Project area does not provide spawning habitat and green sturgeon is not known to spawn in the Napa River. Data from angler self-reporting indicates catch of subadult green sturgeon in the Napa River (NMFS, 2018).

The HDD pipeline replacement is planned to occur between April and August to precede the decommissioning work, which is scheduled to occur later in the year during the aquatic work window. No in-water construction will occur during HDD replacement of the pipeline. All in-water

work associated with pipeline decommissioning and removal will be conducted immediately following the HDD pipeline replacement, and during the designated aquatic work window of August 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. The work window may be modified based on conditions of permits issued by regulatory agencies. Green sturgeon can utilize high tide habitat; therefore, it could benefit the species to begin in-water work during low tide.

#### 4.8.2.2 Pacific lamprey (*Entosphenus tridentatus*)

Pacific lamprey is a California species of special concern that is found in many California streams entering the Pacific Ocean, unless blocked by barriers or low flows. The adults often start their spawning migration from the ocean into freshwater in the fall and can be seen moving upstream throughout the winter and early spring except during high water. In some rivers these migrations continue into late spring. Pacific lampreys construct nests for spawning. They dig shallow depressions in stream riffles by moving stones with their suctorial mouth. The eggs are deposited in the crevices of the rocky nest area, after which the adults die. The eggs hatch and the young lampreys burrow into the stream bottom, where they remain in a larval stage for three or four years. During this time, they feed on material they filter from the water and gradually change into miniature adults. At a length of about six inches, they move into the stream and migrate to the ocean (Moyle et al., 2015).

Pacific lamprey has been historically or recently documented to occur in many streams of the San Francisco Bay Area, including the Napa River. Information for streams in the Bay Area consist primarily of presence or absence surveys and long-term trend data are not available (USFWS, 2004). The species could be found in the vicinity of the Project area; however, habitat onsite is not suitable for spawning. Species spawning season is from March through June, which is before planned in-water construction would occur. Pacific lamprey has been documented at the Napa River rotary screw trap located on the Napa River between Napa and Yountville every year between 2010 and 2020 (Napa RCD, 2020).

The HDD pipeline replacement is planned to occur between April and August in order to precede the decommissioning work, which is scheduled to occur later in the year during the aquatic work window. No in-water construction will occur during HDD replacement of the pipeline. All in-water work associated with pipeline decommissioning and removal will be conducted during the designated aquatic work window of August 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. The work window may be modified based on conditions of permits issued by regulatory agencies.

#### 4.8.2.3 Delta Smelt (*Hypomesus transpacificus*)

The delta smelt is a federally Threatened and State Endangered species endemic to the Bay-Delta estuary. Critical habitat for delta smelt includes Suisun, Grizzly, and Honker bays, Goodyear, Suisun, Cutoff, First Mallard, and Montezuma sloughs, and the Sacramento-San Joaquin Delta (USFWS, 1996). Decline in populations are primarily attributed to habitat loss, high

diversions of freshwater, reduced water flow, and reduced quality and quantity of suitable nursery habitat. Other contributing factors may include the presence of toxic compounds in the water, competition and predation by nonnative species, reduced food supply, disease, high outflows, and low spawning stock (Goals Project, 2000). Adult delta smelt inhabit open water areas where they feed on small zooplankton. They migrate to spawning habitat in late winter and spawn in freshwater from late winter to early summer and usually die shortly afterward. Adhesive eggs sink and attach to substrates such as cattails, bullrush, tree roots, and submerged branches. They hatch after two weeks and larvae begin to feed on zooplankton within a few days.

Delta smelt spawning occurs primarily in shallow freshwater or slightly brackish water upstream of the mixing zone in backwater sloughs and channel edge waters (Wang, 1991). Delta smelt are known to spawn in the lower reaches of the Sacramento and San Joaquin rivers as well as various sites within the Delta in shallow waters and dead-end sloughs. Important spawning habitat includes Barker, Lindsey, Cache, Prospect, Georgiana, Beaver, Hog, and Sycamore sloughs, the Sacramento River, and tributaries of northern Suisun Bay (USFWS, 1996). The center of spawning occurs around Bradford Island in the Delta and in the Sacramento River just below Rio Vista, (Wang, 1991). Spawning varies from year to year but is generally between December and July. Rearing habitat includes an area eastward from Carquinez Straits, including Suisun, Grizzly, and Honker bays, and Montezuma Slough and all life stages have the potential to occur in Suisun Bay. An adequate river flow is necessary to transport larvae from upstream spawning areas to rearing habitat within the delta. Suitable transport conditions may be required from February to August.

San Pablo Bay and Napa River are within the West Zone of the delta smelt range. Delta smelt can occur in San Pablo Bay, Napa Marsh, and Napa River though this is the western limits of their range. It is not known if delta smelt in San Pablo Bay are a permanent population or if they are washed into the Bay during high outflow periods. Nearest CNDDDB occurrence (Occ #5) is from 2004 in a small channel in restored wetlands in Napa Sonoma Marshes Wildlife Area six miles south of the Project area. A delta smelt 20-mm net surveys conducted by CDFW sampled for juvenile delta smelt in the Project area. IEP station 346 is the closest to the Project area and several other IEP sampling stations (stations 343-345) occur in the lower Napa River; however, no juvenile delta smelt have been captured in surveys at these stations in the last three years (IEP, 2020). The nearest, most recent documented occurrence of delta smelt is IEP Station 344 downstream of the site in April 2019 and Station 346 near the site in April and May 2017 (IEP, 2022).

Delta smelt larvae are not common in the Project area due to the depth, current speeds, and lack of vegetated cover within the river at the pipeline crossing location. Consequently, the site does not provide suitable spawning or rearing habitat and would primarily function as a migratory corridor for delta smelt that may spawn upstream of the location. Observations at the most upstream IEP sampling stations in the Napa River indicate that the extent of delta smelt distribution in this location remains unknown. The upper Napa River has relatively high observed densities of larvae suggesting that this may also be an important area for spawning because considering their poor swimming ability, it is unlikely that delta smelt larvae would have migrated up the Napa River from other locations. The Napa River, which at one time was considered to be

a population sink for delta smelt, is now considered a contributor to the adult population (Merz et al., 2011).

The HDD pipeline replacement is planned to occur between April and August to precede the decommissioning work, which is scheduled to occur later in the year during the aquatic work window. No in-water construction will occur during HDD replacement of the pipeline. All in-water work associated with pipeline decommissioning and removal will be conducted during the designated aquatic work window of August 1 to October 31, which is a combined species work window for avoidance and minimization of both anadromous and resident special-status fish species seasonal migrations and spawning periods, including the delta smelt. The work window may be modified based on conditions of permits issued by regulatory agencies.

#### 4.8.2.4 River lamprey (*Lampetra ayresi*)

River lamprey is a California species of special concern. Habitat requirements of spawning adults and ammocoetes have not been studied in California. Presumably, the adults need clean, gravelly riffles in permanent streams for spawning, while the ammocoetes require sandy backwaters or stream edges in which to bury themselves, where water quality is continuously high and temperatures do not exceed 77°F (25°C). In California, they have been recorded only from the lower Sacramento and San Joaquin Rivers (and tributaries including Stanislaus and Tuolumne Rivers) and from the Russian River. The river lamprey has become uncommon in California, and it is likely that the populations are declining because the Sacramento, San Joaquin, and Russian rivers and their tributaries have been severely altered by dams, diversions, pollution, and other factors (Moyle et al., 2015).

River lamprey have been historically reported in the Napa River; however, most records for river lamprey are for the lower Sacramento and San Joaquin River system tributaries in the Central Valley, especially in the Stanislaus and Tuolumne Rivers (USFWS, 2004). River lampreys appear to spawn regularly in Salmon Creek and tributaries to the lower Russian River. River lamprey data are limited in California and long-term data are not available; most occurrence data are incidental to salmonid surveys. River lamprey have been documented at the Napa River rotary screw trap located on the Napa River between Napa and Yountville in most years between 2010 and 2020 (Napa RCD, 2020).

River lamprey has the potential to occur in the study area during migration but would not spawn in this area due to the lack of suitable spawning habitat. The species migration and spawning season is from October through April, which is outside the planned in-water construction window.

The HDD pipeline replacement is planned to occur between April and August to precede the decommissioning work, which is scheduled to occur later in the year during the aquatic work window. No in-water construction will occur during HDD replacement of the pipeline. All in-water work associated with pipeline decommissioning and removal will be conducted during the designated aquatic work window of August 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. The work window may be modified based on conditions of permits issued by regulatory agencies.

#### 4.8.2.5 Central California coast steelhead (*Oncorhynchus mykiss irideus*)

Central California coast steelhead DPS is a federally threatened species. Central California Coast steelhead was originally defined as an evolutionary significant unit (ESU) and was later revised to a DPS to exclude resident (non-anadromous) forms of the species and allow listing of the anadromous steelhead DPS under the FESA (NMFS, 2016a). The central California coast steelhead DPS includes all naturally spawned anadromous populations below natural and manmade impassable barriers in California streams from the Russian River (inclusive) to Aptos Creek (inclusive), and the drainages of San Francisco, San Pablo, and Suisun bays eastward to Chipps Island at the confluence of the Sacramento and San Joaquin rivers, tributary streams to Suisun Marsh, excluding the Sacramento-San Joaquin River Basin, and the Don Clausen Fish Hatchery, and Kingfisher Flat Hatchery/ Scott Creek (Monterey Bay Salmon and Trout Project) steelhead hatchery programs (NMFS, 2011). Steelhead live the majority of their life cycle in the Pacific Ocean then migrate upstream to spawn between October and January. Spawning typically occurs between December and April, with peak spawning occurring between January and March. Steelhead are iteroparous and do not die after spawning and thus may spawn again the following year. Most naturally produced Central California Coast steelhead rear in freshwater for 1 to 3 years before emigrating to the ocean. Steelhead eggs hatch in about 30 days at 51 degrees Fahrenheit (Leitritz and Lewis 1980)

The Napa River historically supported the largest steelhead run of all San Francisco Bay tributaries, excluding the Sacramento-San Joaquin River basin (Leidy et al., 2005). Recent surveys conducted by the Friends of the Napa River, Ecotrust, and the Napa County Resource Conservation District indicate that steelhead are currently present in many tributaries within the Napa River watershed, but juvenile densities are lower than reported historic levels. Steelhead are the most abundant and broadly distributed salmonid species within the Napa River watershed. Napa River steelhead populations have been greatly reduced from historic levels, which supported approximately 8,000 adult steelhead. Basin-wide surveys estimate the population in more recent years to be between 200 and 1,000 adult steelhead (Stillwater Sciences, 2002). There are no current estimates of the annual number of adult steelhead that return to the Napa River watershed (NMFS, 2016b). The Napa River in the Project area is considered connectivity habitat and steelhead are known to occur in the mainstem Napa River at the Project location between October and January during migration to upstream spawning habitat (NMFS, 2016b).

Historically, steelhead have been found in Suscol creek, a tributary of the Napa River that occurs within the Project site. The earliest documented steelhead observations in Suscol Creek is in 1949. In a letter, a landowner along the creek reported observing spawning steelhead in the winter and juveniles throughout the year (Leidy et al. 2005). Over time land use along the creek was converted to pasture grazing with water diversions for irrigation. The creek was visually surveyed in 1973 by the then, California Department of Fish and Game. Steelhead were observed in densities of 25-200 per 90 feet of stream. In 1997, 90 feet of Suscol Creek between Devlin Road and highways 29/37 was electrofished and eight steelhead individuals were observed. In surveys in 2001 a portion of a middle reach of Suscol Creek was found to have a low density of

steelhead (Becker 2007). In 2006 a snorkel survey 183 young-of-the-year steelhead trout and 137 Steelhead were observed. This was a significant decrease in the year prior, 2005, with 577 young-of-the-year (Dewberry 2006).

Suscol Creek is considered suitable spawning habitat and Steelhead are known to spawn in the middle reach of Suscol Creek upstream of Highway 12 and upstream of the Project area in high water years (Becker et al., 2007; Dewberry, 2007; Napa County RCD, 2009). Potential spawning sites identified and evaluated for the Southern Napa River Watershed Restoration Plan are all located upstream of the Project area and juvenile steelhead were observed in moderate to high abundances in Reaches 3 and 5 and a few juvenile steelhead were observed in the upper portions of Reach 2, but water quantity and quality were generally lacking to support rearing throughout much of Reach 2 (Napa County RCD, 2009). There are a total of five fish migration barriers identified on Suscol Creek, all of which are considered partial or low flow barriers and are located upstream of the Project area (Napa County RCD, 2009). In addition, low seasonal stream flow or dry conditions present a barrier to upstream migration in Suscol Creek. Surveys conducted in October 2007 of Reach 1 in Suscol Creek, which is located through the Project area, found there was no surface flow or standing water in Reach 1, which includes the tidally influenced slough near the mouth of Suscol Creek and an area above zone of tidal influence (Napa County RCD, 2009). The upper section of Reach 2 (upstream of the Project area location) had a few isolated, stagnant pools (Napa County RCD, 2009). This flow condition is consistent with flow conditions observed during field surveys conducted in late May 2022. The portion of Suscol Creek that occurs in the Project area (Reach 1) is entrenched, meandering, riffle/pool channels on low gradients with high width-to-depth ratios and does not provide suitable spawning or rearing habitat for steelhead. Steelhead are only expected to occur in the Reach 1 of Suscol Creek during migration to upstream spawning and rearing habitat, primarily in Reaches 3 and 5 (Napa County RCD, 2009).

The in-water work associated with decommissioning and removal of the pipeline from the Napa River crossing will occur during the designated species aquatic work window of August 1 to October 31, which corresponds to the warmest water temperatures of the year at the Project location and, therefore, the least favorable conditions for fish, particularly salmonids. Steelhead are not likely to be present in the Napa River near the Project area and would be expected to occur in more suitable habitat for juvenile rearing in upper reaches of tributaries to the Napa River that provide spawning and rearing habitat or estuarine rearing habitat downstream of the site.

The HDD pipeline replacement is planned to occur between April and August to precede the decommissioning work, which is scheduled to occur later in the year during the aquatic work window. No in-water construction will occur during HDD replacement of the pipeline. All in-water work associated with pipeline decommissioning and removal will be conducted during the designated aquatic work window of August 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. The work window may be modified based on conditions of permits issued by regulatory agencies.

#### 4.8.2.6 Chinook salmon (*Oncorhynchus tshawytscha*)

The Chinook salmon is an anadromous species spending most of its adult life in the ocean and then returning to freshwater streams to spawn. They spend 3 to 6 years maturing in the ocean before they migrate upstream to spawn. Adult Chinook salmon die after spawning. Juveniles spend from several months to over a year rearing in their natal streams before emigrating to the ocean. Preferred spawning grounds for Chinook salmon are in gravel areas of large rivers and tributaries (Goals Project, 2000). Chinook salmon have been separated into 17 distinct groups or ESU based on similarity in life history, location, and genetic markers. The fall run ESU has the potential to occur in and around the Project area during their migration to upstream spawning habitat and during juvenile outmigration.

#### 4.8.2.7 Central Valley Fall-Run Chinook Salmon

The Central Valley fall-run Chinook salmon are a California Species of Special Concern. The general migration period for fall and late-fall run Chinook salmon is August through April with peaks in September through October and December, respectively, though most data related to Chinook migration is for adults spawning in the Sacramento-San Joaquin River system. In the Napa River, adult returns to upstream spawning areas are likely delayed until flows increase with the onset of winter rains (Stillwater Sciences, 2002). The period of fry emergence varies, depending upon the timing of adult arrival and incubation temperature, but typically occurs from January through May. Chinook may disperse downstream soon after emergence or after overwintering in freshwater, and larger individuals are more likely to move downstream earlier than smaller individuals. In the Sacramento-San Joaquin system, fall run Chinook outmigration generally occurs from March to July. No data on outmigration are available for the Napa River (Stillwater Sciences, 2002).

Fall-run Chinook Salmon are currently the most abundant of the Central Valley races, contributing to large commercial and recreational fisheries in the ocean and popular sport fisheries in the freshwater streams. Fall-run Chinook have been observed in the Napa River in recent years upstream to the base of Kimball Canyon Dam north of Calistoga (Stillwater Sciences, 2002). An estimated run of 400-600 Central Valley fall-run Chinook salmon spawn annually in the mainstem Napa River with most spawning occurring upstream from Yountville to Calistoga (Napa County RCD, 2009). Fall-run Chinook returns to the Napa River are thought to be small and sporadic, with occasional observations of spawning primarily between St. Helena and Calistoga. In the Napa River, adult returns to upstream areas are likely delayed until flows increase with the onset of winter rains. The period of fry emergence varies depending on the timing of adult arrival and incubation temperature but may occur from January through May based on outmigration periods noted for the species in the Sacramento and San Joaquin River watersheds. Chinook may disperse downstream as fry soon after emergence, early in their first summer as fingerlings, in the fall as flows increase, or after overwintering in freshwater as yearlings (Healy, 1991). Based on a review of the Napa River Steelhead and Salmon Monitoring Program 2019-2020 Report, Chinook salmon were caught in the rotary screw trap located on the Napa River between Napa and Yountville between October and January in most years between 2009 and 2020. The high degree of variability in Chinook catch rates in the past 12 years suggests that the Napa River

does not support a fully self-sustaining Chinook population, but some successful spawning has occurred in most years, even in low flow years such as 2020 (Koehler, 2020).

Fall-run chinook salmon can be expected in the Project area between October and January during adult migration to upstream spawning habitat and during juvenile outmigration, likely between March and July. CDFW spring 20-mm net surveys from March 2018 detected Chinook salmon at station 345 in the lower Napa River. CDFW fall mid-water trawl surveys also recorded fall run Chinook salmon in September 2017 at station 340 in the lower Napa River (IEP, 2022).

The in-water work associated with decommissioning and removal of the pipeline from the Napa River crossing will occur during the designated species aquatic work window of August 1 to October 31, which corresponds to the warmest water temperatures of the year at the Project location and, therefore, the least favorable conditions for fish, particularly salmonids. Chinook salmon are not likely to be present in the Napa River near the Project area at this time of year.

The HDD pipeline replacement is planned to occur between April and August to precede the decommissioning work, which is scheduled to occur later in the year during the aquatic work window. No in-water construction will occur during HDD replacement of the pipeline. All in-water work associated with pipeline decommissioning and removal will be conducted during the designated aquatic work window of August 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. The work window may be modified based on conditions of permits issued by regulatory agencies.

#### 4.8.2.8 Sacramento splittail (*Pogonichthys macrolepidotus*).

The Sacramento splittail is a California species of special concern. The Sacramento splittail is endemic to lakes and rivers of the Central Valley but can tolerate moderate levels of salinity. The loss of floodplain and wetlands used for spawning, rearing, barriers within the migration areas, and foraging habitat is the primary reason for splittail decline (Goals Project, 2000). High flows and floodplain inundation are key factors in increasing splittail abundance. Sacramento splittail are most common in the brackish waters of Suisun Bay, Suisun Marsh, and the Sacramento-San Joaquin Delta; however, in wet years they occur within San Pablo and San Francisco Bays (Goals Project, 2000). Upstream spawning migration occurs from November through May and spawning occurs from April to July. Preferred spawning substrate consists of freshwater areas that support submerged vegetation within inundated floodplains. Flooded banks and inundated areas used for spawning are also preferred habitat for rearing and foraging. After spawning, most juveniles move downstream into shallow, productive bay and estuarine water in response to increased water flows (Moyle, 2002). Non-breeding splittail are found in temperatures up to 75°F (Young and Cech, 1996); however, juveniles and adults have optimal growth at 68°F, with negative physical responses above 84°F (California Department of Water Resources [CDWR] and U.S. Department of Interior Bureau of Reclamation [USDIBR], 2017; Young and Cech, 1996).



Splittail are known to occur in both the Sacramento and San Joaquin Rivers, and spawning can range from the lower Sacramento and San Joaquin Rivers down to Montezuma Slough (Wang, 1986). They are likely distributed much more widely in small creeks and marshes throughout the lower portions of the San Francisco Estuary than known occurrences indicate (USFWS, 2010b). The species is known to occur in the lower Napa River. The San Pablo Bay population spawns in brackish waters of Petaluma and Napa River floodplains. Juvenile rearing is known to occur in lower restored tidal marsh in lower Napa River (CDFW, 2008). Surveys associated with the Southern Napa River Watershed Restoration Plan detected spawning congregations of Sacramento splittail in lower Tulucay Creek, approximately 1.2 miles upstream of the Project area (Napa County RCD, 2009). Lower Tulucay Creek contains favorable habitat for splittail spawning with a low gradient channel morphology, abundant streamside and aquatic vegetation, and generally fine substrate (Moyle, 2002). The Napa River within the Project area is a deep large waterway with eroded banks and does not provide suitable shallow water spawning habitat for this species.

The HDD pipeline replacement is planned to occur between April and August to precede the decommissioning work, which is scheduled to occur later in the year during the aquatic work window. No in-water construction will occur during HDD replacement of the pipeline. All in-water work associated with pipeline decommissioning and removal will be conducted during the designated aquatic work window of August 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), including Sacramento splittail. The work window may be modified based on conditions of permits issued by regulatory agencies.

#### 4.8.2.9 Longfin smelt (*Spirinchus thaleichthys*)

The San Francisco Bay-Delta DPS of Longfin smelt is a federal candidate species and State Threatened species. The USFWS recently proposed to list the San Francisco Bay-Delta DPS of longfin smelt as a federally endangered species on October 7, 2022 (USFWS, 2022c). It is native to the Delta and was once abundant. The decline in longfin smelt abundance is primarily associated with the diversion of freshwater from the Delta. Another contributing factor is reproductive failure during drought years. Consecutive drought years leading to reproductive failure could result in the extirpation of longfin smelt because of their two-year life cycle (Goals Project 2000). Longfin smelt occur in the Delta but can range as far as the South San Francisco Bay and the open ocean. They are most abundant in Suisun Bay and San Pablo Bay. Adult longfin smelt, like the delta smelt, inhabit open water areas of the Delta and feed on zooplankton. They tolerate a wide range of salinity conditions. Longfin smelt migrate upstream to spawn in freshwater between November and May with a peak in spawning from February through April. The species is thought to spawn over sandy or gravelly substrate with rock or plant material to attach their adhesive eggs to when deposited (Moyle, 2002). The abundance of longfin smelt increases with the amount of freshwater outflow. Longfin smelt have a low tolerance to warm waters, with adults rarely found in water warmer than 64 degrees F and young-of-the-year rarely found in water above 73 degrees F (Hobbs and Moyle, 2015). Warm water and decrease in flows associated with drought conditions make this species sensitive to drought. Loss of estuarine wetland and slough habitat for juvenile rearing is also a threat to the species (Garwood, 2017).

The nearest CNDDDB occurrence is in the Napa River through the Project area and is based on compiled occurrences from IEP sampling stations in the Napa River for the 20-mm and spring Kodiak trawl survey data from 1995 to 2012. Additionally, individuals were detected in the Project area (IEP stations 345 and 346) during March 2022, 20-mm net surveys and in the lower Napa River downstream of the site in May and June of 2022 (IEP, 2022).

The HDD pipeline replacement is planned to occur between April and August to precede the decommissioning work, which is scheduled to occur later in the year during the aquatic work window. No in-water construction will occur during HDD replacement of the pipeline. All in-water work associated with pipeline decommissioning and removal will be conducted during the designated aquatic work window of August 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), including longfin smelt. The work window may be modified based on conditions of permits issued by regulatory agencies.

#### 4.8.2.10 Western pond turtle (*Emys marmorata*)

Western pond turtle (WPT) is a California species of special concern. The WPT occurs in open water habitats throughout much of California, although at much lower numbers and fewer localities than historical populations, especially in urban areas. WPT prefer slack or slow water habitats with dense stands of submergent or emergent vegetation for food and cover, and with abundant basking habitat. WPT are a semi-aquatic species inhabiting streams, marshes, ponds, and irrigation ditches within woodland, grassland, and open forest communities, but they require upland sites for nesting and over-wintering. Presence of nearby nesting sites and lack of exotic predators are also good habitat components (Bury, 1986).

There is a moderate likelihood that the species could occur within the Project area. Although this species was not observed during surveys, suitable aquatic and upland habitat occurs onsite on the Napa River and reaches of Suscol Creek with openings for suitable basking habitat. The nearest occurrence of the western pond turtle is (Occ. #493) from 1996 is located on a pond approximately 1.3 miles north of the Project site.

#### 4.8.2.11 Tricolored blackbird (*Agelaius tricolor*)

The tricolored blackbird is a state-listed Threatened species, California Species of Special Concern, and a Bird of Conservation Concern. The tricolored blackbird is a nomadic resident of the Sacramento and San Joaquin Valleys and lower foothills of the Sierra Nevada. This species nests near freshwater in dense cattails and bulrush, as well as in thickets of willow, blackberry, wild rose, and tall herbs (Zeiner et al., 1990a). Estimates for colony size range from 15 to 47,000 birds. Flooded lands, pond margins, grass fields and agricultural fields constitute typical foraging habitat.

There is suitable habitat present in the study area in the irrigated grasslands adjacent to marsh habitats to the east of the Napa River, though grasses present in the irrigated pasture (primarily perennial ryegrass) are not a preferred nesting substrate for tricolored colonies due to lack of structure. Nesting colonies of red-winged blackbird, a species with similar nesting

requirements, were observed by Padre biologists utilizing the irrigated pasture habitat during surveys within the Project area. This suggests the Project area could also be suitable for tricolored black bird though none were observed during reconnaissance surveys. The nearest occurrence (Occ. #244) is from 1993 and is located in a marsh approximately 0.2 miles north of the Project area.

#### 4.8.2.12 Golden eagle (*Aquila chrysaetos*)

Golden eagle is a CDFW Fully Protected species, and a Bird of Conservation Concern. The Golden eagle is a widespread raptor found in relatively undisturbed open country over much of North America and Eurasia. This species occurs in varied open and semi-open habitats throughout much of California, including mountains, desert, and grassland. It generally nests in tall trees which overlook open areas suitable for hunting. In winter it will inhabit more varied habitats including chaparral.

Suitable nesting habitat is present in the large eucalyptus and valley oak trees within the Project area. Additionally, suitable foraging habitat is present for golden eagle within the Project area. The nearest occurrence (Occ. # 82) is from 2005 and is located in a eucalyptus tree approximately 0.5 miles west of the Project area.

#### 4.8.2.13 Ferruginous hawk (*Buteo regalis*)

Ferruginous hawk is a Bird of Conservation Concern. The Ferruginous hawk is an uncommon winter resident and migrant on the Modoc Plateau, Central Valley, and Coast Ranges, but does not breed in California. Foraging habitats include open, dry terrain such as grasslands and scrub habitats.

This species occurs in the region during the non-breeding season and there is overwintering habitat present at the Project area including foraging habitat in the open fields and grasslands present on both the east and west sides of the Napa River. The nearest occurrence (Occ. #28) is from 1988 and is located in the grasslands adjacent to the southeastern border of the Project area.

#### 4.8.2.14 Swainson's Hawk (*Buteo swainsoni*)

Swainson's Hawk is a California Threatened species and a Bird of Conservation Concern. This species breeds in open habitats in western North America from Alaska south to Mexico. In California, it breeds mainly in the Central Valley, Klamath Basin, Northeastern Plateau, and Mojave Desert (CDFG, 1994). It winters primarily on the pampas of southern South America, Mexico, though a few overwinter in California, the southwestern U.S., and Florida. It is absent from most of its former range in California, where its population declined by more than 90 percent during the 1900's (CDFG, 1994).

Throughout its range in California's Central Valley, it usually arrives in March and April and leaves in September or October; however, there is a small population of Swainson's hawk that over-winters in the Sacramento-San Joaquin River Delta (Herzog, 1996). Loss of habitat is

the major threat to this species in California. Residential and commercial development continues to replace Swainson's hawk habitat. Pesticides and herbicides are also a major threat, particularly on their wintering grounds. They are also sensitive to disturbance while nesting and may abandon nests if disturbed before the eggs hatch (CDFG, 2006).

This species forages in grassland or areas of sparse trees or shrubs, and often forages in agricultural areas in the Central Valley. It nests in the scattered trees within these habitats such as those along waterways similar to habitat in the Project area. During the breeding season, it feeds primarily on small mammals and reptiles. During other seasons, large insects (especially grasshoppers) are the bulk of its diet.

The riparian habitat along waterways within the Project area offers suitable nesting trees for Swainson's hawks and adjacent pastureland and agricultural land provides optimal foraging habitat. The nearest occurrence (Occ. #1619) is from 2013 and is located approximately 0.2 miles east of the Project site along Suscol Creek, and there are four additional occurrences within one mile of the Project site.

#### 4.8.2.15 Northern Harrier (*Circus hudsonius*)

Northern harrier is a California Species of Special Concern. The Northern harrier inhabits meadows, grasslands, open rangelands, desert sinks, fresh and saltwater emergent wetlands; it is seldom found in wooded areas. It forages mostly on voles and other small mammals, birds, frogs, small reptiles, crustaceans, insects, and, rarely on fish. Breeding occurs between April and September, with peak nesting in June and July. Destruction of wetland habitat, native grassland, and wet meadows, and the burning and plowing of nesting areas during early stages of the breeding cycle, are major reasons for the decline of this species (Remsen, 1978).

There is suitable nesting and foraging habitat present within the Project area. This species is relatively common in the region surrounding the Project. The nearest occurrence (Occ. #29) is from 2004 and is located in a coastal salt marsh approximately 3.7 miles southwest of the Project site.

#### 4.8.2.16 White-tailed kite (*Elanus leucurus*)

White-tailed kite is a California Fully Protected species. It is a small raptor with a total length of about 12 inches and is often identified from a distance by its hovering or "kiting" behavior while hunting. White-tailed kites predate mostly on voles and other diurnal mammals, but will occasionally prey on birds, insects, reptiles, and amphibians. It typically forages over open grasslands and emergent wetlands. White-tailed kites nest in dense foliage in treetops near grassy foothills, marshes, riparian woodland, savanna, and partially cleared fields. Preferred nesting trees include oak, willow, sycamores, or other tree stands. White-tailed kites range from western California and southwestern Oregon to southeastern Arizona, and along the Gulf Coast from Texas to Florida, and peninsular Florida (Wheeler and Clark, 1995).

Although white-tailed kite was not observed during field surveys, it is known to occur in the surrounding area. The nearest recorded occurrence (Occ. #181) from 2018 is approximately

two miles north of the Project site. Potentially suitable foraging and nesting habitat is present throughout the majority of the terrestrial portions of the Project area.

#### 4.8.2.17 Saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*)

Saltmarsh common yellowthroat is a California Species of Special Concern and a Bird of Conservation Concern. It is a year-round resident of the San Francisco Bay area, where it inhabits vegetation within wetlands. It is a small insectivorous warbler that gleans on insects on or near the ground from low herbaceous vegetation, bushes, and small trees. It breeds in fresh and brackish water marshes associated with the Bay between March and August in an area from Tomales Bay on the north, Carquinez Strait on the east, and Santa Cruz County on the south. After the breeding season, the species will move into saltwater marshes (Goals Project, 2000).

Potentially suitable nesting and foraging habitat present in the Project area. Yellowthroat vocalizations were heard during surveys although it is unclear if they were from this subspecies or common yellowthroat. The nearest occurrences (Occ.#37 and #94) are from 2004 and 1989 and are approximately one mile south and 1.5 miles north of the Project site in brackish marsh habitat similar to that found within the Project area.

#### 4.8.2.18 California black rail (*Laterallus jamaicensis coturniculus*)

California black rail is a state-listed Threatened species, a CDFW Fully Protected species, and a Bird of Conservation Concern. It is a permanent resident of saline, brackish, and freshwater marshes containing dense tall growths of emergent vegetation. Historically, this species could be found from central California to the San Francisco Bay Area and the delta of the Sacramento and San Joaquin Rivers, south along the coast to Baja, in the San Bernadino-Riverside area, the Salton Sea, and along the lower Colorado River. California black rail is still present within remaining tidal marshlands of the northern San Francisco Bay estuary, Bodega Bay, Tomales Bay, Bolinas Lagoon, Sacramento-San Joaquin Delta, Morro Bay, the Salton Sea, and lower Colorado River (LSA Associates, 2012). Over 90 percent of the population is found within the tidal marshes of the San Francisco Bay Estuary. The northern part of San Pablo Bay, the Carquinez Strait, and Suisun Bay contain the greatest numbers of birds. Fewer California black rails are found in the Delta, and they are very rare winter visitors in the South Bay (Goals Project, 2000). California black rails are associated with dense marsh vegetation, most notably pickleweed and bulrush. These two plants are important as nesting cover, but a wider variety of vegetation will be used outside of the nesting season (Spautz and Nur, 2002). They prefer a thick canopy of vegetation with a relatively open understory. Nests are placed above ground level under heavy cover and are accessed from a side entrance. They also require vegetation around the periphery of the marsh for cover during the highest tides (Goals Project, 2000). This species is most often found in large tracts of marsh, which are far from urbanization (Spautz and Nur, 2002). They also prefer marshes with unrestricted tidal influence over muted marshes (Goals Project, 2000).

An assessment of habitat suitability and passive surveys for Ridgway's rail and California black rail was performed in the Project area by rail biologists with GANDA. No rail species were heard or observed during surveys, and small areas of intertidal marsh with saltmarsh associated plants, like occurs in the Project area, were determined to be more closely aligned with habitats

known to be utilized by California black rail but were considered unlikely to occur due to small size and discontinuity of the vegetation (GANDA, 2020). At least two California black rails were heard calling during reconnaissance surveys conducted on May 24, 2022, in the brackish marsh on the east bank of the Napa River. Suitable nesting habitat is present in this location. The nearest CNDDDB occurrence (Occ. #31) is from 2010 and is located approximately 0.7 miles south of the Project site. However, an unprocessed reported occurrence from 2021 has been submitted to CNDDDB documenting this species in the same location where individuals were heard during 2022 surveys; therefore, presence of California black rail is documented in the Project area.

#### 4.8.2.19 Song Sparrow (“San Pablo” population) (*Melospiza melodia samuelis*)

The San Pablo song sparrow is a California Species of Special Concern and a Bird of Conservation Concern. It is endemic to the tidal salt marshes of the San Pablo Bay and is associated with thick brackish vegetation within diked and undiked marshes, distribution ditches, and permanent ponds. Preferred habitat consists of portions of the high brackish marsh zone with pickleweed and gumplant (*Grirelia* sp.) on slough edges with direct connection to tidal waters. It is an obligate ground forager, and feeds on bulrush seeds, insects, and other invertebrates on the bay muds exposed during low tides. Egg-laying occurs in late March and the young are fledged by June to avoid midsummer high tides that can flood nests.

There is potentially suitable nesting habitat present in the Project area, primarily in the brackish marsh to the east of the Napa River. Song sparrows were observed at the Project site during surveys although it is unclear if they were from this subspecies. The nearest occurrence (Occ. #16) is from 2004 and is approximately 1.4 miles southeast of the Project site.

#### 4.8.2.20 Osprey (*Pandion haliaetus*)

The osprey is on the CDWF Watch List. It occurs throughout California except in the deserts and Great Basin. It nests in large trees, snags, dead-topped trees, and on man-made structures in open forest in northern California from the Cascade Range to Marin County along the coast, and to the southern Sierra Nevada range. Nests are situated near ocean shores, bays, lakes, rivers, and large streams, which are required for foraging, primarily on fish. Osprey will also forage on mammals, birds, reptiles, and amphibians on occasion. Osprey typically breed from March to September.

An actively nesting pair of ospreys was observed during field surveys conducted in the Project area in May 2022. The nest was located on top of a wooden power pole located near the end of Suscol Ferry Road approximately 70 feet north of the study area boundary. This pair was also observed foraging over the Napa River. The nearest CNDDDB occurrence (Occ. #505) is from 2016 and is approximately 8.3 miles south of the Project area.

#### 4.8.2.21 Salt marsh harvest mouse (*Reithrodontomys raviventris*)

Salt marsh harvest mouse (SMHM) is a federal and state-listed Endangered species and a CDFW fully protected species that is found only in saline emergent wetlands of the San Francisco Bay and its tributaries. Pickleweed is its preferred habitat, but grasslands adjacent to

pickleweed marsh are used when new grass affords suitable cover in spring and summer months (Zeiner, 1990b). SMHM is dependent on thick perennial vegetation in the middle and upper zones of tidally influenced salt marsh and peripheral halophyte zones. They are typically associated with dense patches of pickleweed, a species they depend on for food and cover. Although pickleweed is preferred habitat, adjacent non-submerged, salt-tolerant vegetation above the upper zone is essential for escape during highest tides. SMHM occurs throughout salt and brackish marshes in the San Francisco Bay and Delta.

There is suitable habitat for this species present in the pickleweed mat communities primarily located along the east side of the Napa River in the Project area. The saltmarsh habitat in this location is also within modeled habitat for SMHM and is mapped as “Marsh Hot Zone” in the PG&E BAHCP (ICF, 2017). A “Hot Zone” is defined in the BAHCP as an area containing an extant population of covered wildlife species with a small and well-defined range where the species would occur and may be affected by covered activities. Work in these areas requires implementation of hot zone AMMs.

Pickleweed habitat within the Project area to the west of the Napa River consisted of a thin band along the west bank within the zone of tidal inundation and several patches of remnant pickleweed behind the levee that is not contiguous with saltmarsh habitat or dense stands of pickleweed, both of which would be considered suboptimal SMHM habitat.

The nearest occurrence (Occ. #119) is from a trapping effort conducted for construction of the Highway 12 bridge in the 1970’s and is located in the marsh habitat along the eastern side of the Napa River in the Project area. More recent small mammal trapping surveys conducted by CDFW in 2013 found SMHM in pickleweed habitat located in the Napa Sonoma Wildlife Area to the west of the Napa River and approximately 0.2 miles south of the Project area (CDFW, 2013).

#### **4.9 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.

Waterways, particularly areas with contiguous riparian vegetation offer migration corridors for mammals, reptiles, and birds. There isn’t an extensive riparian corridor along the Napa River at the Project location; however, there is riparian cover on Suscol Creek within the Project area. Mammals and reptiles present within the area likely use the upland agricultural and range lands as well as riparian cover as a travel corridor regardless of the season. The east side of the Project

area abuts the Napa Sanitation District. Much of this property near the Project area consists of developed lands, with motor vehicle traffic, facility operations equipment, and railroad tracks, which limits the suitability as a migration corridor for terrestrial wildlife to the east of the Napa River. Birds such as warblers and hummingbirds migrate to higher elevations in the spring and lower elevations in the fall and the riparian habitat within the Project area offers shelter, forage, and water for migrating species traversing to the Sierra Nevada Range to nest. Resident species may make local migrations for foraging and/or nesting habitat along the river. Additionally, the Napa River and Suscol Creek provide seasonal migration habitat for anadromous and other native fish species moving upstream to spawning habitat and provide connections for resident fish species to other aquatic habitats within the watershed.



## 5.0 REGULATORY SETTING

### 5.1 FEDERAL

#### 5.1.1 Special-Status Species

The federal Endangered Species Act (FESA), administered by the USFWS and the NMFS (collectively referred hereafter as the “Services”), provides protection to species listed as Threatened (FT) or Endangered (FE), or proposed for listing as Threatened (PFT) or Endangered (PFE). The Services maintain lists of species that are neither formally listed nor proposed but could be listed in the future. These federal candidate species (FC) include taxa for which substantial information on biological vulnerability and potential threats exists and are maintained to support the appropriateness of proposing to list the taxa as an endangered or threatened species.

Additionally, the FESA can protect a DPS of a species. The “Distinct Population Segment” is the smallest division of a taxonomic species that can be protected under the FESA. Three elements are considered in determining whether DPS is a factor as endangered or threatened under FESA. These elements are *discreteness* of the population segment in relation to the remainder of the species, the *significance* of the population segment to the species, and the population segment’s *conservation status* in relation to FESA’s standards for listing. If a DPS is determined to be discrete and significant, its evaluation for endangered or threatened status will be based on FESA’s definitions of those terms and a review of the factors included in section 4(a) of the FESA.

With respect to salmonid DPS, the NMFS has developed a policy that applies only to species of salmonids native to the Pacific. Under the policy, Pacific salmon is considered a DPS if it represents an evolutionarily significant unit (ESU) of a biological species (NOAA, 1996). A species must meet two criteria to be considered a separate ESU: it must be substantially reproductively isolated from other conspecific population units; and it must represent an important component in the evolutionary legacy of the species.

Projects that will result in the “take” of a federally listed or proposed species (as defined by FESA Section 9) are required to consult with the Services. The objective of consultation is to determine whether the project will jeopardize the continued existence of a listed or proposed species, and to determine what mitigation measures will be required to avoid jeopardy. Consultations are conducted under Sections 7 or 10 of FESA depending on the involvement by the federal government.

Section 10 consultation is conducted when there is no federal involvement in a project except compliance with FESA. The USFWS issued a section 10(a)(1)(B) incidental take permit to PG&E for implementation of BAHCP under Section 10 of the FESA.

PG&E’s BAHCP provides 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 Bay Area Region, which includes Napa County (ICF, 2017). The PG&E BAHCP was developed in collaboration with the USFWS and was implemented in 2017. The BAHCP 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 HCP. Listed fish species that occur in the Project area (Napa River and Suscol Creek) are not BAHCP covered species and the necessary in-water work for successful completion of the Project will have the potential to impact non-covered listed fish species; therefore, covered activities associated with this Project are partially covered by the BAHCP and a Section 7 Consultation will be conducted.

Under Section 7, the Services are authorized to issue Incidental Take Permits (ITP) for the take of a listed species that results from, but is not the purpose of, carrying out an otherwise lawful activity conducted by the federal agency. A Biological Assessment is usually required as part of the Section 7 consultation to provide sufficient information for the Services to fully determine the project's potential effect on listed species. The Services must make one of three possible findings for each species potentially affected:

**No effect:** The proposed action will not affect the listed species or critical habitat;

**Not likely to adversely affect:** Effects of the proposed action on the listed species are expected to be discountable (extremely unlikely to occur), insignificant (minimal impact without take), or beneficial; and

**Likely to adversely affect:** An adverse effect may occur as a direct or indirect result of the proposed action, and the effect is not discountable, insignificant, or beneficial.

The USFWS administers the federal Migratory Bird Treaty Act (MBTA) of 1918 (16 USC 703-711) and the Bald and Golden Eagle Protection Act (16 USC 668-688). The MBTA prevents the removal of trees, shrubs, and other structures containing active nests of migratory bird species that may result in the loss of eggs or nestlings. Adherence to construction windows either before the initiation of breeding activities or after young birds have fledged is a typical step to protect migratory birds and comply with the MBTA. The Bald Eagle and Golden Eagle Protection Act prohibits the taking or possession of bald and golden eagles, their eggs, or their nests without a permit from the USFWS.

### 5.1.2 Waters and Wetlands

The Corps and the U.S. Environmental Protection Agency (EPA) regulate the discharge of dredge and fill material into jurisdictional "waters of the United States" (WoUS) and wetlands under Section 404 of the Clean Water Act.

The Corps is responsible for the issuance of permits for the placement of dredged or fill material into WoUS pursuant to Section 404 of the Clean Water Act (33 USC 1344). As defined by the Corps at 33 CFR 328.3(a)(3), WoUS are those waters that are used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including waters which are

subject to the ebb and flow of the tide; tributaries and impoundments to such waters; interstate waters including interstate wetlands; and, territorial seas.

The Corps asserts jurisdiction over traditional navigable waters (TNW) and adjacent wetlands. Under Corps and EPA regulations, wetlands are defined as: “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.”

In non-tidal waters, the lateral extent of Corps jurisdiction is determined by the OHWM which is defined as the: “...*line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.*” (33 CFR 328[e]).

In tidal areas, the Corps’ jurisdiction under Section 404 extends to the high tide line (HTL), which, in the absence of actual data, is defined as: “...*a line of oil or scum along shore objects, a more or less continuous deposit of fine shells or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide.*”

Wetlands could also be regulated as waters of the U.S. if they were adjacent to jurisdictional waters (other than waters that are themselves wetlands). The Corps’ regulation concerning wetlands adjacent to jurisdictional waters is defined at 33 CFR 328.4(c)(4).

Current interpretation of “waters of the United States” is consistent with the pre-2015 regulations (United States Environmental Protection Agency, 2021).

According to the United States Environmental Protection Agency, under the current implementation of CWA regulation, the term waters of the United States means:

1. All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
2. All interstate waters including interstate wetlands;
3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:
  - a. Which are or could be used by interstate or foreign travelers for recreational or other purposes; or

- b. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
  - c. Which are used or could be used for industrial purposes by industries in interstate commerce;
4. All impoundments of waters otherwise defined as waters of the United States under this definition;
  5. Tributaries of waters identified in (1) through (4) of this section;
  6. The territorial sea;
  7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in (1) through (6) of this section; waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 423.11(m) which also meet the criteria of this definition) are not waters of the United States.

### **5.1.3 Section 10 of the Rivers and Harbors Act of 1899 (33USC 403)**

In addition to Section 404, the Corps regulates activities affecting “navigable waters of the United States” under Section 10 of the Rivers and Harbors Act of 1899 (33 USC 403). Navigable waters are defined as “...*those waters of the United States that are subject to the ebb and flow of the tide shoreward to the mean high water mark and/or are presently used, or have been used in the past, or may be susceptible to use to transport interstate or foreign commerce* (33 CFR 322.2[a]).”

Structures or work under or over a navigable WoUS is considered to have an impact on the navigable capacity of the waterbody (33 CFR 322.3[a]). The Napa River, including the reach at the pipeline crossing location, is identified as a Section 10 waterway from the mouth of the River at San Pablo Bay to First Street in Napa. Corps jurisdiction in Section 10 waterways is Mean High Water.

### **5.1.4 Section 14 of the Rivers and Harbors Act of 1899 (33USC 408)**

The Corps Civil Works Program is responsible for reviewing all Projects approvals that alter or occupy Civil Works projects. Section 408 provides that the Corps may grant permission for another party to alter a Civil Works project upon a determination that the alternative proposed will not be injurious to the public interest and will not impair the usefulness of the Civil Works project. There are no federal levees on the Napa River at the pipeline crossing location, but the Napa River is a federal navigation project and is part of the Corps’ dredging program. A Section 408 review and permission will be required for any alterations to the federal navigation project.

## 5.2 STATE

### 5.2.1 Special-Status Species

The CDFW administers several laws and programs designed to protect the state's fish and wildlife resources. Principal of these is the California Endangered Species Act of 1984 (CESA) (Fish and Game Code Section 2050), which regulates the listing and take of state endangered (SE) and threatened species (ST). Under Section 2081 of CESA, CDFW may authorize an incidental take permit allowing the otherwise unlawful take of a SE or ST species.

CDFW maintains lists of Candidate-Endangered species (SCE) and Candidate-Threatened species (SCT). These candidate species are afforded the same level of protection as listed species. CDFW designates Species of Special Concern (SSC) that are species of limited distribution, declining populations, diminishing habitat, or unusual scientific, recreational, or educational value. These species do not have the same legal protection as listed species but may be added to official lists in the future. The SSC list is intended by CDFW as a management tool for consideration in future land use decisions.

Other state laws also protect wildlife and plants. Section 3511 of the California Fish and Game Code (F&G Code), for example, designates species that are afforded "Fully Protected" (FP) status. F&G Code Sections 4700 and 5515 assign the same status to specified mammals and fish. These statutes generally provide that specifically identified birds, mammals, and fish "or parts thereof may not be taken or possessed at any time and no provision of [the Fish and Game] code or any other law shall be construed to authorize the issuance of permits or licenses to take any Fully Protected [bird, mammal, or fish] and no permits or licenses heretofore issued shall have any force or effect" for any such purpose. For Fully Protected fish and mammals, the only exception to the take prohibition is that the Fish and Game Commission may authorize the collecting of such species "for necessary scientific research" (F&G Code, Sections 4700, 5515). With a proper permit, Fully Protected species may also be captured live and relocated "for the protection of livestock" (Section 3511). Section 3503.5 protects birds-of-prey (Falconiformes and Strigiformes), their eggs, and their nests. That statute provides that, "[I]t is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto."

CDFW manages the California Native Plant Protection Act (NPPA) of 1977 (F&G Code Section 1900, et seq.), which was enacted to identify, designate, and protect rare plants. There are 64 species, subspecies, and varieties of plants that are designated rare under the NPPA. F&G Code Section 1913 provides utilities with an exemption from CESA permitting requirements for listed plants within the utility right of way. Specifically, Section 1913(b) states: "...the removal of endangered or rare native plants from a canal, lateral ditch, building site, road, or other right-of-way by the owner of the land or his agent, or the performance by a public agency or a publicly or privately owned public utility of its obligation to provide service to the public, shall not be restricted because of the presence of rare or endangered plants." Section 1913(c) of the CNPPA requires the landowner to provide the CDFW with at least 10 days' notice to allow for plant salvage prior to affecting the species. In addition to NPPA designated rare plants, all California Rare Plant Rank

(CRPR) 1 (A and B), Rank 2 (A and B), Rank 3, and some Rank 4 plants meet the definition of Rare or Endangered under the CEQA Guidelines §15125 and/or §15380. Potential impacts to these species are considered during CEQA review of a proposed project.

### 5.2.2 Waters and Wetlands

Pursuant to Section 1602 of the Fish and Game Code, a Lake or Streambed Alteration Agreement (LSAA) between the CDFW and state or local governmental agency, public utility, or private citizen is required before the initiation of a construction project that will: (1) divert, obstruct, or change the natural flow or the bed, channel, or bank of a river, stream, or lake; (2) use materials from a streambed; or (3) result in the disposal or deposition of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake. Therefore, the CDFW claims jurisdiction over the bed, bank, and channel of drainage features with regard to activities regulated under Section 1602 of the California Fish and Game Code. The CDFW has adopted the same wetland definition as the USFWS, classified by the presence of only one parameter; however, CDFW does not specifically regulate wetlands.

The Porter-Cologne Water Quality Control Act (CA Water Code §§ 13000-13999.10) mandates that waters of the State of California shall be protected. Current policy in California is that activities that may affect waters of the State shall be regulated to attain the highest quality. Waters of the State include any surface water or groundwater, including saline waters, within the boundaries of the state. The Porter-Cologne Act establishes that the state assumes responsibility for implementing portions of the federal CWA, rather than operating separate state and Federal water pollution control programs in California. Consequently, the state is involved in activities such as setting water quality standards, issuing discharge permits, and operating grant programs. Pursuant to Section 401 of the Clean Water Act, the Corps cannot issue a federal permit until the State of California first issues a water quality certification to ensure that a project will comply with state water quality standards. The authority to issue water quality certifications in the Project area is vested with the San Francisco Bay Regional Water Quality Control Board (RWQCB).

In April 2019, the State Water Resources Control Board adopted the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material (Procedures), for inclusion in the Water Quality Control Plan for Inland Surface Waters and Enclosed Bays and Estuaries and Ocean Waters of California. The Procedures consist of four major elements: 1) a wetland definition; 2) wetland delineation procedures; 3) a wetland jurisdictional framework; and 4) procedures for the submittal, review and approval of applications for Water Quality Certifications and Waste Discharge Requirements for dredge or fill activities. The Procedures took effect in May 2020.

The new Procedures also include a State wetland definition. A State wetland is defined in the new Procedures as an aquatic feature that “...*under normal circumstances has continuous or recurrent saturation of the upper substrate caused by groundwater, shallow surface water, or both; duration of saturation sufficient to cause anaerobic conditions in the upper substrate; and, vegetation that is dominated by hydrophytes or lacks vegetation.*”

If an aquatic feature meets the definition of a wetland it may be considered a water of the State.

### **5.3 LOCAL AND REGIONAL PLANS**

The California Public Utilities Commission (CPUC) has preemptive jurisdiction over the siting, design, construction, maintenance and operation of PG&E Project activities; therefore, the Project is not subject to local discretionary regulations.

## 6.0 SIGNIFICANCE CRITERIA

The impact of the Project on biological resources was evaluated in terms of mandatory findings of significance at Section 15065 of CEQA and Appendix G of the State CEQA Guidelines (Association of Environmental Professionals, 2022). The various components of the Project were considered in association with site conditions and were evaluated against CEQA criteria and County General Plan policies pertaining to biological issues. In accordance with these CEQA Guidelines, a project will normally result in a significant impact if any of the following conditions would result from project implementation:

- 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 CDFW, USFWS, or NMFS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulation, or by the CDFW, USFWS, or NMFS;
- 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;
- 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 site;
- Conflict with any local polices or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and,
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Additionally, the CEQA Guidelines Initial Study Land Use and Planning checklist notes that conflicts with applicable land use plans, policies, or regulations of an agency with jurisdiction over the project should be considered during a project's environmental review.



## 7.0 PROJECT IMPACT ANALYSIS

Effects on biological resources in the Project area will be entirely temporary. There will be a temporary loss of potential fish and wildlife habitat during replacement, decommissioning, and removal of pipeline segments. General construction will temporarily alter the natural movement and behavior of wildlife in the Project area. Construction may also result in indirect impacts that affect the quality of habitat in the Project area.

### 7.1 IMPACT CATEGORIES

Short-term and long-term impacts are analyzed for the proposed Project. Each impact statement is classified as to the level of significance, based on the significance thresholds from Section 6.0, and the availability of measures to feasibly mitigate project effects. Impact categories include:

- **Potentially Significant Impact** is an adverse effect that cannot be mitigated. This category of impact is one for which a solution has not been formulated, either because of the limits of technical and/or scientific knowledge, or unfeasibility from a technical, economic, and/or political perspective. Under CEQA, a Significant Unavoidable impact would require a “finding of overriding consideration” by the Lead Agency to approve the project;
- **Less than Significant with Mitigation** is an adverse environmental effect that can be mitigated to less than significant levels. Measures have been identified that can feasibly be implemented and will avoid the impact altogether by not taking a certain action or parts of an action; minimize impacts by limiting the degree or magnitude of the action and its implementation; rectify the impact by repairing, rehabilitating, or restoring the affected environment; or compensate for the impact by replacing or providing substitute resources or environments;
- **Less than Significant Impact** is an environmental effect that is less than significant or has no identified impact. These impacts may be adverse, but are not of a sufficient magnitude, intensity, or duration to disrupt the environment, and have no serious consequences. As a result, no mitigation is required; and
- **No Impact** is when the Project would not result in any impact in the category, or the category does not apply.

### 7.2 IMPACTS TO BIOLOGICAL RESOURCES

The I-195E L-021 Napa River Pipeline Crossing Replacement Project is a Pipeline Replacement (G11) O&M covered activity for the Natural Gas System in the BAHCP with construction methods involving trenching, excavating, and crossings performed in the PG&E service area. Construction methods proposed for this Project are consistent with the construction methods described for covered activities in the BAHCP. Impact analysis for covered activities

effects on covered species was considered during environmental review for the implementation of the BAHCP.

For consistency with the agency-approved PG&E BAHCP, Field Protocols (FPs) and AMMs outlined for species protection in the BAHCP will be implemented by this Project because they are effective in reducing impacts to covered species. Consistent with implementation practices of the BAHCP, standard Field Protocols will be implemented, where practicable, for all PG&E O&M Projects. These measures are considered to be practicable where physically possible and not conflicting with other regulatory obligations or safety considerations. Additional species-specific AMMs from the BAHCP are also included as part of the Project for covered species with modeled habitat in the Project area and are described individually below. The AMMs are outlined in Table 7-1 and their implementation was considered when analyzing the potential impacts of the Project.

**Table 7-1. PG&E BAHCP Field Protocols and Avoidance and Minimization Measures to be Implemented as part of the Project**

Field Protocols / AMMs.	Measure Description	Applicable Covered Species
FP-01	Hold annual training on habitat conservation plan requirements for employees and contractors performing covered activities in the Plan Area that are applicable to their job duties and work.	All covered species
FP-02	Park vehicles and equipment on pavement, existing roads, or other disturbed or designated areas (barren, gravel, compacted dirt).	All covered species
FP-03	Use existing access and right-of-way (ROW) roads. Minimize the development of new access and ROW roads, including clearing and blading for temporary vehicle access in areas of natural vegetation.	All covered species
FP-04	Locate off-road access routes and site work sites to minimize impacts on plants, shrubs, and trees, small mammal burrows, and unique natural features (e.g., rock outcrops).	All covered species
FP-05	Notify conservation landowner at least 2 business days prior to conducting covered activities on protected lands (state and federally owned wildlife areas, ecological reserves, or conservation areas): more notice will be provided if possible or if required by other permits. If the work is an emergency, as defined in PG&E's Utility Procedure ENV-8003P-01, PG&E will notify the conservation landowner within 48 hours after initiating emergency work. While this notification is intended only to inform conservation landowner, PG&E will attempt to work with the conservation land owner to address landowner concerns.	All covered species
FP-06	Minimize potential for covered species to seek refuge or shelter in pipes and culverts. Inspect pipes and culverts, of diameter wide enough to be entered by a covered species that could inhabit the area where pipes are stored, for wildlife species prior to moving pipes and culverts. Immediately contact a biologist if a covered species is suspected or discovered.	All covered amphibians, reptiles, and mammals
FP-07	Vehicle speeds on unpaved roads will not exceed 15 miles per hour.	All covered species
FP-08	Prohibit trash dumping, firearms, open fires (such as barbecues), hunting, and pets (except for safety in remote locations) at work sites.	All covered species
FP-10	Minimize the activity footprint and minimize the amount of time spent at a work location to reduce the potential for take of species.	All covered species
FP-11	Utilize standard erosion and sediment control BMPs (pursuant to the most current version of PG&E's <i>Stormwater Field Manual for Construction Best Management Practices</i> ) to prevent construction site runoff into waterways.	All covered aquatic species
FP-12	Stockpile soil within established work area boundaries and locate stockpiles so as not to enter water bodies, stormwater inlets,	All covered species

Field Protocols / AMMs.	Measure Description	Applicable Covered Species
	other standing bodies of water. Cover stockpiled soil prior to precipitation events.	
FP-13	Fit open trenches or steep-walled holes with escape ramps of plywood boards or sloped earthen ramps at each end if left open overnight. Field crews will search open trenches or steep-walled holes every morning prior to initiating daily activities to ensure wildlife is not trapped. If any wildlife are found, a biologist will be notified and will relocate the species to adjacent habitat or the species will be allowed to naturally disperse, as determined by a biologist.	Covered amphibians, reptiles, and mammals
FP-14	If the covered activity disturbs 0.1 acre or more of habitat for a covered species in grasslands, the field crew will revegetate the area with a commercial “weed free” seed mix.	All covered grassland species
FP-15	Prohibit vehicular and equipment refueling 250 feet of the edge of vernal pools, and 100 feet from the edge of other wetlands, streams, or waterways. If refueling must be conducted closer to wetlands, construct a secondary containment area subject to review by an environmental field specialist and/or biologist. Maintain spill prevention and cleanup equipment in refueling areas.	Vernal pool species, California freshwater shrimp, California red-legged frog, California tiger salamander (both Central California and Sonoma County DPSs), San Francisco garter snake
FP-16	Maintain a buffer of 250 feet from the edge of vernal pools and 50 feet from the edge of wetlands, ponds, or riparian areas. If maintaining the buffer is not practicable because the areas are either in or adjacent to facilities, the field crew will implement other measures as prescribed by the land planner, biologist, or HCP administrator to minimize impacts by flagging access, requiring foot access, restricting work until dry season, or requiring a biological monitor during the activity.	Vernal pool species, California freshwater shrimp, California red-legged frog, California tiger salamander (both Central California and Sonoma County DPSs), San Francisco garter snake
FP-17	Directionally fall trees away from an exclusion zone, if an exclusion zone has been defined. If this is not possible, remove the tree in sections. Avoid damage to adjacent trees to the extent possible. Avoid removal of snags and conifers with basal hollows, crown deformities, and/or limbs more than 6 inches in diameter.	All covered species
FP-18	Nests with eggs and/or chicks will be avoided: contact a biologist, land planner or the Avian Protection Program Manager for further guidance.	All nesting bird species
Hot Zone-8 <sup>1</sup>	For activities that will result in ground disturbance in tidal marsh or coastal wetland habitat, including the removal of marsh vegetation, a biologist will flag access routes for crews when working in pickleweed ( <i>Salicornia</i> ) or smooth cordgrass ( <i>Spartina alterniflora</i> ) dominated habitats in order to minimize impacts on these species. Crews will hand-carry equipment and use protection mats (landing pads, pallets) to minimize ground disturbance when working within pickleweed or	Ridgway’s rail, salt marsh harvest mouse (Marsh/Bay Fringe)

Field Protocols / AMMs.	Measure Description	Applicable Covered Species
	<p>smooth cordgrass. Small areas of healthy vegetation will be cleared by hand prior to placement of protective mats.</p> <p>To avoid take of salt marsh harvest mouse, the biologist will assess the site to determine if: vegetation protection mats are appropriate, use of helicopters is needed, vegetation removal by hand is needed, and an onsite biological monitor is needed. Prior to placement of mats or removal of vegetation, the vegetation will be disturbed (i.e., flushed) to force movement of salt marsh harvest mouse into adjacent tidal marsh areas. Immediately following flushing, the field crew will place a mat or manually remove vegetation with nonmotorized tools (e.g., hoe, rake, trowel, or shovel) to the bare ground.</p> <p>Conduct work within 700 feet of wetlands suitable for the Ridgway's rail September 1–January 15.</p>	
Wetland-2	<p>Identify wetlands, ponds, and riparian areas and establish buffers. Maintain a buffer of 50 feet around wetlands, ponds, and riparian areas. If maintaining the buffer is not possible because the areas are either in or adjacent to facilities, the field crew will implement other measures as prescribed by the biologist or HCP administrator to minimize impacts. These measures include flagging access, requiring foot access, restricting work until the dry season, requiring a biological monitor during the activity, or excavating burrows in ROWs where trenching will occur. Activities must maintain the downstream hydrology to the wetland, pond, or riparian area. Additional minimization measures may be implemented with prior concurrence from USFWS.</p>	
<p>Notes:</p> <p><sup>1</sup>The Ridgway's rail buffer and seasonal constraint is part of the BAHCP Hot Zone 8 AMM; however, the Ridgway's rail buffer and seasonal constraint component of the Hot Zone 8 AMM is not applicable to this Project because suitable habitat does not occur as demonstrated by lack of BAHCP modeled habitat for Ridgway's rail within the Project site, the results of the habitat assessment report, and the low likelihood of occurrence of this species (ICF, 2017; GANDA, 2020).</p>		

Effects on biological resources include primarily temporary impacts associated with excavation for HDD pipeline replacement and tie-in during the pipeline replacement phase of the Project, excavation for pigging and flushing of the existing pipeline, installation of concrete slurry into sections of pipeline designated to be retired in place, and excavation and removal of segments of pipeline designated for removal during the decommissioning phase of the Project. There will be no substantive permanent impact to habitat as part of the Project as permanent impacts are limited to the installation of new pipeline markers along the pipeline alignment, sited in upland locations when possible, and are less than 20 square feet (0.0004-acre) in total. Temporary direct impacts associated with the Project include habitat disturbance, localized turbidity, vegetation removal and ground disturbance. Indirect impacts include the potential invasion of non-native plants into natural areas, noise disturbances to the surrounding area, and temporary declines in air and water quality in areas surrounding work sites. Final decommissioning and removal of the pipeline crossing from the Napa River will eliminate exposed or shallow buried pipeline and above ground features such as manifolds and a concrete valve box. Removal of the pipeline from the riverbed and banks will result in restored habitat at these locations once the Project is complete.

The following analysis provides an assessment of potential impacts from the proposed Project activities and includes the appropriate PG&E BAHCP FPs and AMMs, Project-specific applicant proposed measures, and/or prescribed mitigation measures to reduce impacts to special-status species or other biological resources to a level of less than significant.

**IMPACT BIO-1:** Construction of the Project may result in impacts to special-status plant species.

**DISCUSSION:** There are recorded occurrences of Mason's lilaepsis on both banks of the Napa River within the Project area (CDFW, 2022). Other special-status species, such as delta tule pea, Suisun marsh aster, delta mudwort, alkali milk-vetch, soft bird's-beak, and Lyngbye's sedge have not been previously documented in the Project area but have the potential to occur within habitat present in Project impact areas associated with Phases 1 and 2 of the Project.

Special-status plant surveys were conducted during the appropriate blooming season in support of the Project within impact areas that provide suitable habitat. One individual Delta mudwort plant was observed on the west bank of the Napa River during May surveys along with several individual plants that were not identifiable in May because they were not in bloom. Follow-up surveys were conducted in August to confirm plant identification and map the extent of the population, but the previously observed individuals were no longer present due to bank erosion at the recorded location (Padre Associates, Inc., 2022). Suitable habitat occurs on both banks of the Napa River within the Project impact area associated with Phase 2 decommissioning; however, based on special-status plant surveys conducted in 2022, no special-status plants occur on either bank after recent bank erosion. Because of the potential for special-status species to recolonize eroded banks, additional pre-construction surveys will be necessary to document site conditions and species occurrence at the time of construction.

There is potential for temporary impact to special-status plant species if they occur within the excavation footprint for removal of the pipeline on the banks of the Napa River during decommissioning activities. Temporary impact to the riverbanks that provide suitable habitat for special-status species is very small (0.013-acre). All of the special-status plant species known or potentially occurring within this area are California Rare Plant Rank (CRPR) species or species designated rare under the Native Plant Protection Act. There are no state or federally listed threatened or endangered plant species likely to occur in the Project area. As a public utility, PG&E is exempt from CESA permitting requirements for listed plants under Section 1913(b) of the California Fish and Game Code.

**IMPACT CATEGORY:** Less than significant with mitigation.

**RECOMMENDED MITIGATION MEASURE – MM BIO-1:** The following recommended mitigation measures would reduce Project impacts to special-status plants in the Project area to less than significant.

- a. Prior to the start of construction, a qualified botanist will survey the Project impact area on the banks of the Napa River to determine whether special-status plants occur within the impact footprint and to document the current baseline conditions prior to the start of construction.
- b. If a special-status plant population is found, it will be flagged for avoidance, if feasible.
- c. If temporary impacts cannot be avoided, topsoil will be salvaged and stockpiled separately for replacement on top of backfilled excavation areas, allowing for preservation of roots, rhizomes, and seedbank material which will facilitate revegetation of the temporary impact area with species that previously existed at the location. A Site Restoration Plan will be prepared with specific details of the topsoil salvage and replacement, and to establish monitoring and performance criteria for restoration areas to ensure restoration of temporary impact areas to pre-Project conditions.

**IMPACT BIO-2:** Completion of the Project could impact special-status fish species, if present, in the Project area.

**DISCUSSION:** The pipeline replacement component of the Project was designed to avoid direct impact to the aquatic environment through use of trenchless pipeline replacement methods (through HDD for the Napa River crossing and pipe ramming for the Suscol Creek crossing). The depth of the HDD is approximately 70 feet below the Napa River and will have no impact on special-status fish species in the Napa River. The depth of the pipe ramming pipeline installation under Suscol Creek is approximately eight feet below the creek bed and will have no direct impact on aquatic species in Suscol Creek. Indirect impacts could occur if pipe ramming vibrations or noise disturb fish behavior. There is not much existing literature that addresses the potential for vibration and noise underground associated with pipe ramming to transfer to the surrounding environment (Trenchlesspedia, 2021).

There has been more extensive study of vibrations and ground movement for pipe bursting techniques in pipe sizes ranging from 8 to 16 inches in diameter (ACOE 2001). Pipe ramming is comparable, size-for-size, to pneumatic pipe bursting, with the two techniques being analogous with respect to the resulting ground vibrations. This is because both methods have equipment that operates using a similar number of blows per minute. The surrounding soil in both methods does not get compacted, but rather gets displaced when the pipeline is moved through the soil. Ground vibrations resulting from pipe bursting attenuate rapidly with the distance from the source. The level of vibration generated through the surrounding substrate and environment is directly related to pipe diameter and power of ramming. Additionally, the type of substrate can affect the level of vibration in the surrounding environment. The presence of rock may cause higher levels of vibration that carry a greater distance.

A review of the Geotechnical Investigation Report prepared for the Project and geotechnical borings completed to support the pipe ramming pipeline design, indicates the soils range from silty and clayey sand to lean and fat clay with various levels of sand content. Mixed face conditions (transitions between soil type and rock) appear to be present but are not severe (Kleinfelder, 2020). Therefore, rock and hard substrates are not expected to be prevalent along the pipe ramming bore path under Suscol Creek, nor significantly increase the vibration or noise generated by the process. Generally, vibrational impacts to near underground objects are negligible except at very close distances from the origin of vibrations (ACOE 2001). Thus, ground vibration and noise associated with short term temporary pipe ramming pipeline installation through the soft substrate at a depth of 8 feet below the bed of Suscol Creek are not expected to impact organisms within the aquatic environment in Suscol Creek.

The in-water work associated with decommissioning and removal of the L-021A pipeline from the Napa River could impact special-status fish species, if present, in the Project area during decommissioning activities. In-water work will temporarily increase turbidity to the aquatic environment immediately surrounding the pipeline removal location. Increases in turbidity can 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, can increase dissolved nutrient concentrations, resulting in increased algal blooms or decrease dissolved oxygen when the suspended sediments are anoxic or have a high chemical oxygen demand. The use of a turbidity curtain, if determined to be necessary, may be deployed at the in-water work sites to minimize the effects of increased turbidity to surrounding areas.

In-water work and the installation of a turbidity curtain, if determined to be necessary, could temporarily prevent fish movement and preclude fish use of the aquatic habitat at the discrete in-water work location for a short period of time. The use of a turbidity curtain, if determined to be necessary, may be deployed at discrete in-water work sites to minimize the effects of increased turbidity to surrounding areas.



A Turbidity Monitoring Plan will be developed for the project, which will include provisions for monitoring turbidity during underwater excavation and other project activities that have the potential to increase turbidity. Turbidity curtains may be used if turbidity monitoring indicates that turbidity levels would exceed permitted thresholds, and site conditions, such as strong currents, at the time of construction do not make their use infeasible; however, given the tidal influence and strong currents typical of the lower Napa River, the feasibility of turbidity curtain use may be limited to specific locations where turbidity curtain use is practical.

**IMPACT CATEGORY:** Less than significant with mitigation.

**RECOMMENDED MITIGATION MEASURE – MM BIO-2:** The applicant has proposed Project-specific measures to reduce the potential for impact to special-status fish species and has incorporated them into the Project design. The following measures will be implemented during decommissioning activities involving in-water work within the Napa River.

- a. An environmental training program will be developed and presented by a qualified biologist. All contractors and employees involved with the Project will be required to attend the training program. At a minimum, the program will 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.
- b. Construction activities in surface water or below the high tide line on the banks of the Napa River will be conducted within the agency approved aquatic work window for avoidance of listed fish species (August 1 to October 31). This coincides with the timeframe when the aquatic work area is least likely to support special-status fish species based on water temperature, dissolve oxygen, and seasonal migration and spawning.
- c. A qualified biological monitor will be present to monitor Project activities during all in-water work and initial ground disturbance that has the potential to impact special-status species.
- d. A Turbidity Monitoring Plan will be implemented during all in-water work to ensure that turbidity levels upstream and downstream of the Project area are compliant with regulatory requirements.
- e. Turbidity curtains, if determined to be necessary and feasible, will be installed around the in-water work area prior to any work in surface waters. The feasibility of use of turbidity curtain will be determined based specific conditions in the Project area at the time of construction (water depth, tidal action, currents, etc.) and the need for use of a turbidity curtain will be based on the results of the turbidity monitoring program.

**IMPACT BIO-3:** Construction activities within and adjacent to the Napa River, Suscol Creek, and excavated channel could potentially impact aquatic species such as western pond turtle.

**DISCUSSION:** Based on the review of pertinent literature and the proximity to known occurrences, and biological surveys conducted for this Project, WPT has a moderate potential for occurrence on the Napa River Suscol Creek, and excavated channel, particularly reaches with suitable basking habitat. There are documented occurrences of WPT north of the Project area along the Napa River and suitable basking and foraging habitat occurs within the Project area. Implementation of the Project will result in short-term temporary impacts to WPT. However, no permanent impact or loss of habitat will occur as a result of the Project.

**IMPACT CATEGORY:** Less than significant with mitigation.

**RECOMMENDED MITIGATION MEASURE – MM BIO-3:** The applicant has proposed the following measures in combination with the Field Protocols (FP-13) identified in Table 7-1 to reduce the potential for impact to WPT to reduce project impact to less than significant levels:

- a. General pre-construction surveys, performed by a qualified biologist will conduct pre-construction surveys for special-status wildlife, including WPT prior to ground disturbance to ensure that individuals are not present in the work area.
- b. Wildlife exclusion fencing, excavation covers, or escape ramps will be used to prevent wildlife entrapment.
- c. A qualified biological monitor will be present to monitor project activities during all in-water work and initial ground disturbance that has the potential to impact special-status species. If WPT is observed within the work area during construction, the biologist will relocate WPTs the shortest distance possible to a location that contains suitable habitat and will not be affected by activities.

**IMPACT BIO-4:** Vegetation removal and construction disturbance associated with pipeline replacement or pipeline decommissioning and removal could impact nesting Swainson's hawk.

**DISCUSSION:** The State-threatened Swainson's hawk occurs in the Project vicinity and could nest in proximity to construction areas. Suitable nesting and foraging habitat is present in the Project area. The nearest occurrence is within a half mile of the Project site along Suscol Creek and there are four additional occurrences within one mile of the Project area. It is likely that active nests could occur in proximity to construction activities, if conducted during the nesting season. Terrestrial impact would occur to annual grasslands and marshes with low growing emergent vegetation, both of which provide suitable foraging habitat, and limited vegetation removal within riparian habitat on Suscol Creek. Terrestrial impacts will be short term and temporary and would not result in

permanent impacts or loss of foraging habitat. Additionally, vegetation removal in riparian areas is limited to small willows, no trees that provide suitable nesting habitat will 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 Swainson's hawk nesting areas could disrupt breeding activities if construction occurs during the nesting season.

The following mitigation measure would reduce impacts to nesting Swainson's hawk resulting from Project construction.

**IMPACT CATEGORY:** Less than significant with mitigation.

**RECOMMENDED MITIGATION MEASURE - MM BIO-4.** If construction occurs outside of Swainson's hawk nesting season (August 16 to February 28), impacts would be avoided and no mitigation would be necessary. If construction is scheduled to occur during Swainson's hawk nesting season (March 1 to August 15), the following measures would reduce impacts to less than significant.

- a. If Project activities occur between March 1 and August 15, surveys will be conducted by a qualified biologist, for active Swainson's hawk nests, in accordance with the *Swainson's hawk Technical Advisory Committee (TAC) Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (TAC, 2000). Surveys will be conducted within 0.5-mile radius of the Project area. Surveys will be completed for the two survey periods immediately prior to the start of construction and the final survey occurring within 15 days prior to the start of construction. If active Swainson's hawk nests are identified near the Project area, a nest protection buffer will be recommended based on nest protection buffers outlined in PG&E's Nesting Bird Management Plan and site-specific conditions and the following will be required:
  - i. Apply a nest protection buffer with a minimum distance of 0.25-mile from an active nest. Postpone Project activities within the nest protection buffer until after the young have fledged and are no longer dependent on the nest tree. The minimum nest protection buffer may be reduced in coordination with CDFW if existing site conditions and disturbance levels indicate a reduced buffer would be effective.
  - ii. If it is not possible to postpone Project activities within the minimum nest protection buffer, construction activities may proceed with CDFW approval and monitoring of the nest by a qualified raptor biologist. If the monitoring biologist observes signs of distress, they will have the authority to stop construction work and coordinate with CDFW to establish additional protection measures to ensure avoidance of nest abandonment prior to the re-start of Project activities.

**IMPACT BIO-5.** Vegetation removal, ground-clearing activities, and construction disturbance (noise and vibration) could impact nesting California black rail if construction occurs during the nesting season.

**DISCUSSION:** The California black rail is a state-listed Threatened species, a CDFW Fully Protected species, and a Bird of Conservation Concern that occurs in the Project vicinity and could nest in proximity to construction areas. Based on unprocessed data in the CNDDDB, there is a reported occurrence of black rail within the Project area to the east of the Napa River and individuals were heard calling at the same location in the Project area during biological field surveys. There is suitable nesting habitat for this species within marsh vegetation on the east bank of the Napa River and mouth of Suscol Creek within the Project area.

Suitable habitat for California black rail within the Project area is in close proximity to NapaSan and black rail potentially nesting in the salt marsh habitat adjacent to the Napa River at this location would be acclimated to routine disturbance associated with operations at the wastewater treatment facility. Limited Project activities may occur within 300 feet of suitable black rail nesting habitat during the HDD phase of the Project. This would include excavation for the tie-in of the four-inch DFM which would occur within disturbed and developed footprint of the wastewater treatment facility and would be similar in nature to on-going operational activities within the treatment plant.

**IMPACT CATEGORY:** Less than significant with mitigation.

**RECOMMENDED MITIGATION MEASURE – BIO-5:** If construction occurs outside of California black rail breeding season (August 16 to January 31), impacts would be avoided, and no mitigation would be necessary. If construction is scheduled to occur within 300 feet of suitable habitat during California black rail breeding season (February 1 to August 15), the following measures would reduce impacts to less than significant:

- a. A qualified biologist will conduct a breeding season survey to identify nesting locations of California black rail. Surveys will be conducted between February 1 and August 1 in accordance with accepted protocols. If active California black rail nests are identified near the Project area, a nest protection buffer will be recommended based on nest protection buffers outlined in PG&E's Nesting Bird Management Plan and site-specific conditions, and the following will be required:
  - i. Apply a nest protection buffer with a minimum distance of 300 feet from an active nest and postpone Project activities within the nest protection buffer until after August 15. The minimum nest protection buffer may be reduced in coordination with CDFW if existing site conditions and disturbance levels indicate a reduced buffer would be effective.
  - ii. If it is not possible to postpone Project activities within the minimum nest protection buffer, construction activities may proceed with CDFW approval and monitoring by a qualified biologist. Additional measures such as visual

screening may also be used to further reduce potential impacts to nesting black rail.

**IMPACT BIO-6.** Vegetation removal, ground-clearing activities, and construction disturbance could impact bird species protected under the Migratory Bird Treaty Act (MBTA) or raptors or other special-status bird species such as northern harrier, white-tailed kite, osprey, tricolored blackbird, saltmarsh common yellowthroat, and song sparrow (San Pablo population).

**DISCUSSION:** Vegetation present within the Project area could provide nesting habitat for bird species protected by the MBTA or raptors and other special-status bird species. Vegetation removal, ground-clearing activities, and construction disturbance could potentially impact nesting birds that are protected under the federal MBTA of 1918 (16 USC 703-711) and Fish and Game codes (Sections 3503, 3503.5, and 3800). The laws and regulations prohibit the take, possession, or destruction of birds, their nests, or eggs. Disturbance that causes nest abandonment and/or loss of reproductive effort could be considered a “take”.

**IMPACT CATEGORY:** Less than significant with mitigation.

**RECOMMENDED MITIGATION MEASURE – BIO-6:** The applicant has proposed the following measures in combination with the Field Protocols (FP-18) identified in Table 7-1 to reduce the potential for impact to raptors and other special-status bird species to reduce Project impact to less than significant levels:

- a. Schedule vegetation removal and ground-clearing activities prior to the initiation of nesting activity (March 1) or after fledging (August 1), if feasible.
- b. If removal of vegetation during the non-nesting season is infeasible, conduct pre-construction surveys between March 1 and August 1 in potential nesting habitat within 500 feet of the Project area to identify nest sites within 15 days prior to the start of construction. If an active raptor or passerine bird nest is identified, an appropriate species-specific nest protection buffer will be identified based on PG&E’s Nesting Bird Management Plan and site-specific conditions. Construction activities will be prohibited within the established buffer zones until the young have fledged. If a lapse in Project-related activities occurs for 14 days or longer, another focused survey will be conducted before construction activities can be reinitiated.

**IMPACT BIO-7.** Vegetation removal or ground-clearing activities located within pickleweed habitat and the adjacent marshes could impact the salt marsh harvest mouse.

**DISCUSSION:** Salt marsh harvest mouse is a federally Endangered, state-listed Endangered, and CDFW Fully Protected species. Pickleweed mat vegetation present within the biological study area, primarily to the east of the Napa River where it occurs in tidal marsh areas along the shoreline of the Napa River, could provide habitat for SMHM. The salt marsh habitat to the east of the Napa River is modeled habitat for the SMHM and is mapped as “Marsh Hot Zone” in the BAHCP.

Vegetation removal or ground-clearing activities in marsh habitat within or adjacent to stands of pickleweed could potentially impact this species. Installation of the tracer wires needed to assist with positioning and steering of the drill heads during the HDD will require removal of vegetation from three parallel alignments within salt marsh habitat east of the Napa River. This will result in an impact to approximately 0.30-acre of suitable SMHM habitat and BAHCP modeled habitat for SMHM (Figure 5B). The installation of a pipeline marker on the east bank of the Napa River at the crossing replacement location will result in an additional 0.01-acre of impact to suitable SMHM habitat, of which 1.1 square-foot (0.00002-acre) will be permanent as a result of the concrete footing necessary for installation of the pipeline marker (Figure 5B). Implementation of the Project may result in short-term temporary impacts to 0.31-acre of habitat for SMHM but will not result in substantive permanent impacts or loss of habitat and site restoration after completion of the project will restore habitat to pre-construction condition. Implementation of AMMs from the BAHCP will further reduce the potential for impact to the SMHM and unavoidable ground disturbing impacts to modeled habitat will be mitigated in accordance with the BAHCP.

**IMPACT CATEGORY:** Less than significant with mitigation.

**BAHCP SPECIES-SPECIFIC AMM:** Consistent with the PG&E BAHCP, the following measure will be implemented during construction activities for protection of SMHM. This measure in combination with the FPs identified in Table 7-1 will reduce Project impacts to less than significant levels:

BAHCP Hot Zone 8: For activities that will result in ground disturbance in tidal marsh or coastal wetland habitat, including the removal of marsh vegetation, a biologist will flag access routes for crews when working in pickleweed (*Salicornia*) or smooth cordgrass (*Spartina alterniflora*) dominated habitats in order to minimize impacts on these species. Crews will hand-carry equipment and use protection mats (landing pads, pallets) to minimize ground disturbance when working within pickleweed or smooth cordgrass. Small areas of healthy vegetation will be cleared by hand prior to placement of protective mats.

To avoid take of salt marsh harvest mouse, the biologist will assess the site to determine if: vegetation protection mats are appropriate, use of helicopters is needed, vegetation removal by hand is needed, and an onsite biological monitor is needed. Prior to placement of mats or removal of vegetation, the vegetation will be disturbed (i.e., flushed) to force

movement of salt marsh harvest mouse into adjacent tidal marsh areas. Immediately following flushing, the field crew will place a mat or manually remove vegetation with nonmotorized tools (e.g., hoe, rake, trowel, or shovel) to the bare ground.

Conduct work within 700 feet of wetlands suitable for the Ridgway's rail September 1–January 15.<sup>1</sup>

**IMPACT BIO-8:** The Project will result in impacts to aquatic resources (waters of the U.S. and wetlands) regulated by the Corps under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act. The Project will also result in impacts to aquatic resources regulated by the San Francisco Bay RWQCB under Section 401 of the Clean Water Act and CDFW under Section 1600 of the California Fish and Game Code.

**DISCUSSION:** A Preliminary Aquatic Resource Delineation has been conducted for the Project to determine the geographic extent of federal and state regulatory jurisdiction and a Supplemental Preliminary Aquatic Resource Delineation was conducted to expand the study area to include the decommissioning Project footprint (Applied Technology and Science, 2020; Padre, 2022a). Up to 0.50-acre of temporary disturbance to federally jurisdictional waters and wetlands and waters of the State may occur as a result of activities associated with both the Phase 1 HDD and Phase 2 Decommissioning work. The installation of a pipeline marker on the east bank of the Napa River will result in 1.1 square-foot (0.00002-acre) of permanent impact to waters of the U.S and waters of the State as a result of the concrete footing of the pipeline marker that is required at the waterway crossing location (Figure 5B). In addition, a total of 0.58-acres of temporary vegetation removal will occur from federally jurisdictional waters and wetlands and waters of the State for installation of the tracer wires needed to assist with positioning and steering of the drill heads during the HDD; however, the tracer wire disturbance area requires vegetation removal only and will not involve any ground disturbance or other fill activities associated with excavation or construction workspace.

CDFW stream features may be temporarily impacted by the Project because of activities associated with both the Phase 1 HDD and the Phase 2 Decommissioning activities occurring within stream features. Project activities occurring within stream features include the temporary crossing of the excavated channel to the west of the Napa River, potential temporary disturbance associated with vegetation trimming or removal for installation of the pipeline segment under Suscol Creek, and the decommissioning and removal of the existing pipelines from the Napa River. Figure 5A through 5C depicts temporary impacts to aquatic resources.

**IMPACT CATEGORY:** Less than significant with mitigation.

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<sup>1</sup> The Ridgway's rail buffer and seasonal constraint is part of the BAHCP Hot Zone 8 AMM; however, the Ridgway's rail buffer and seasonal constraint component of the Hot Zone 8 AMM is not applicable to this Project because suitable habitat does not occur as demonstrated by lack of BAHCP modeled habitat for Ridgway's rail within the Project site, the results of the habitat assessment report, and the low likelihood of occurrence of this species (ICF, 2017; GANDA, 2020).

***RECOMMENDED MITIGATION MEASURE – MM BIO-8:***

- PG&E will obtain all necessary permits for impacts to jurisdictional aquatic resources from the Corps, RWQCB, and CDFW prior to Project implementation and comply with agency permit conditions.
- Standard best management practices, such as the use of silt fencing and straw wattle, will be implemented within the disturbance footprints at each terrestrial excavation location to minimize erosion, increased turbidity, and sedimentation to the waters and wetlands.
- After pipeline replacement and decommissioning and removal activities are complete, the disturbance areas on the Napa River will be restored to pre-project contours and condition. Wetland impact areas will also be restored to pre-existing condition. A Site Restoration Plan will be developed that will include the restoration of wetland habitat temporarily impacted for completion of the Project.



## 8.0 REFERENCES

### 8.1 LITERATURE

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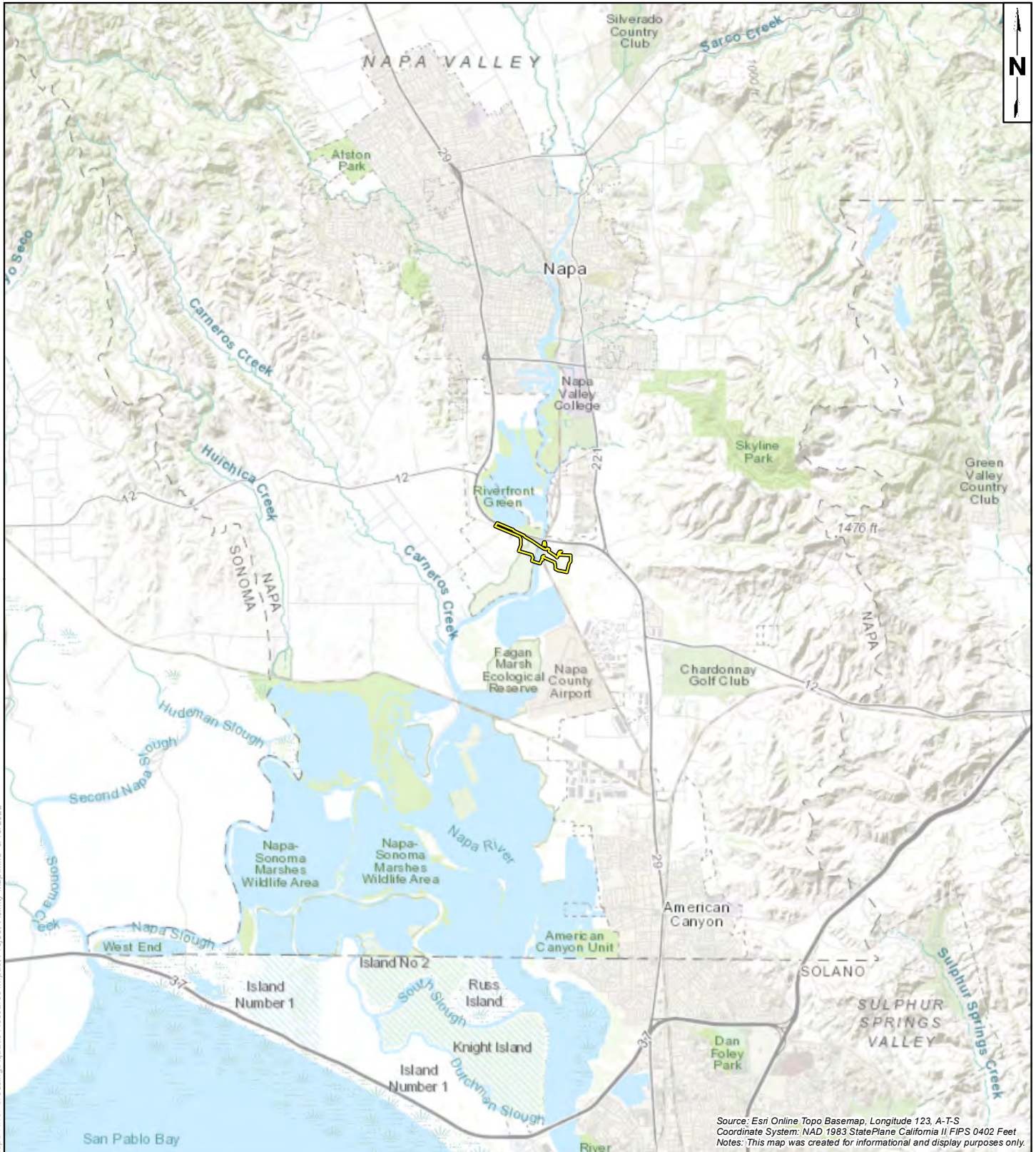
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## FIGURES

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Source: Esri Online Topo Basemap, Longitude 123, A-T-S  
 Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet  
 Notes: This map was created for informational and display purposes only.

**LEGEND:**

Survey Area

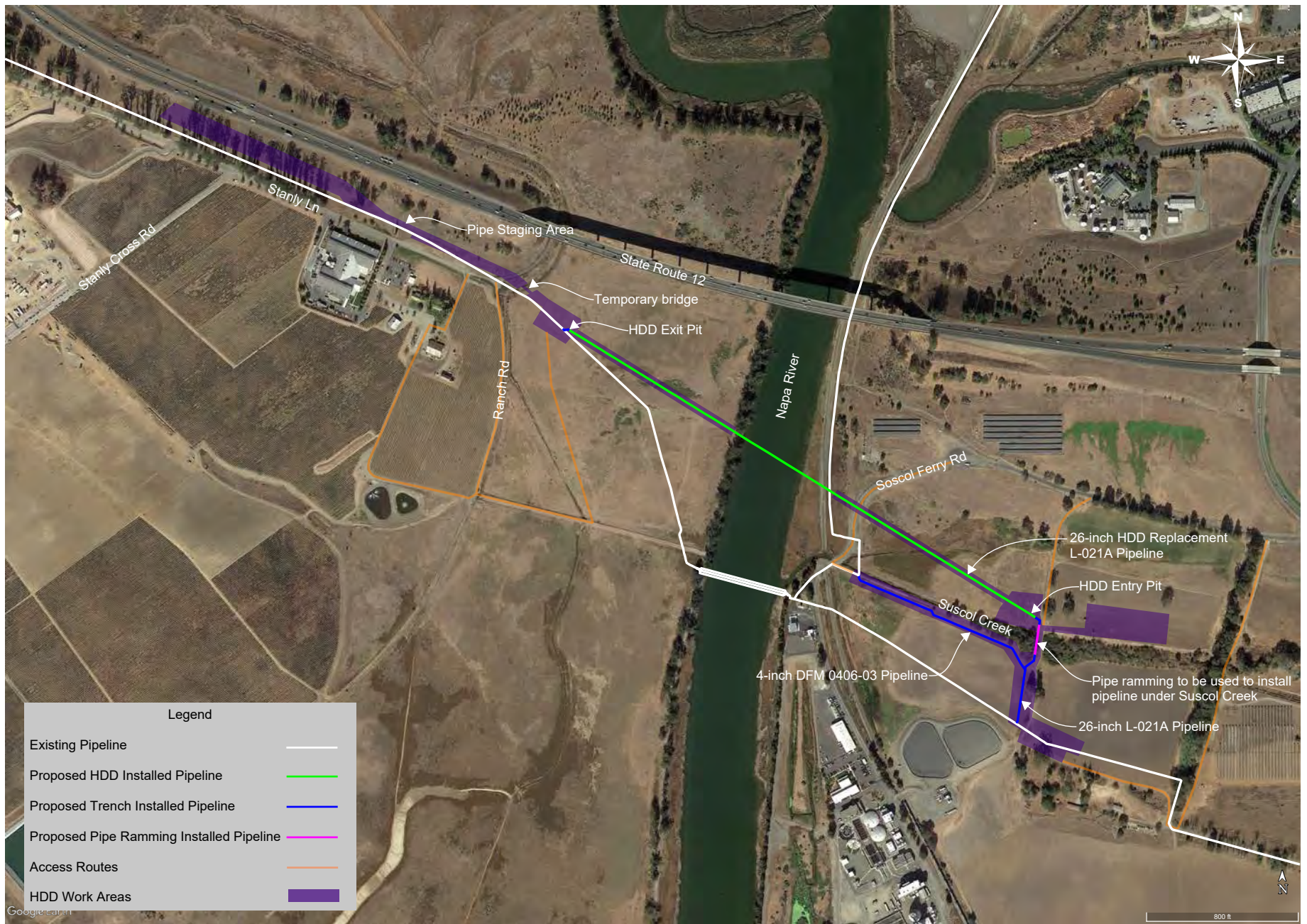


**MAP EXTENT:**



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<p><b>padre</b> associates, inc. ENGINEERS, GEOLOGISTS &amp; ENVIRONMENTAL SCIENTISTS</p>	PROJECT NAME: <b>PG&amp;E I-195E NAPA RIVER CROSSING          REPLACEMENT PROJECT          NAPA COUNTY, CA</b>		<p><b>PROJECT VICINITY MAP</b></p>	<p><b>FIGURE</b> <b>1</b></p>
	PROJECT NUMBER: <b>2002-5661</b>	DATE: <b>September 2022</b>		



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Source: Longitude 123  
 Notes: This map was created for informational and display purposes only.



PROJECT NAME: PG&E I-195E NAPA RIVER CROSSING  
 REPLACEMENT PROJECT  
 NAPA COUNTY, CA

PROJECT NUMBER:  
 2002-5661

DATE:  
 August 2022

## HDD PROJECT OVERVIEW

FIGURE  
 2



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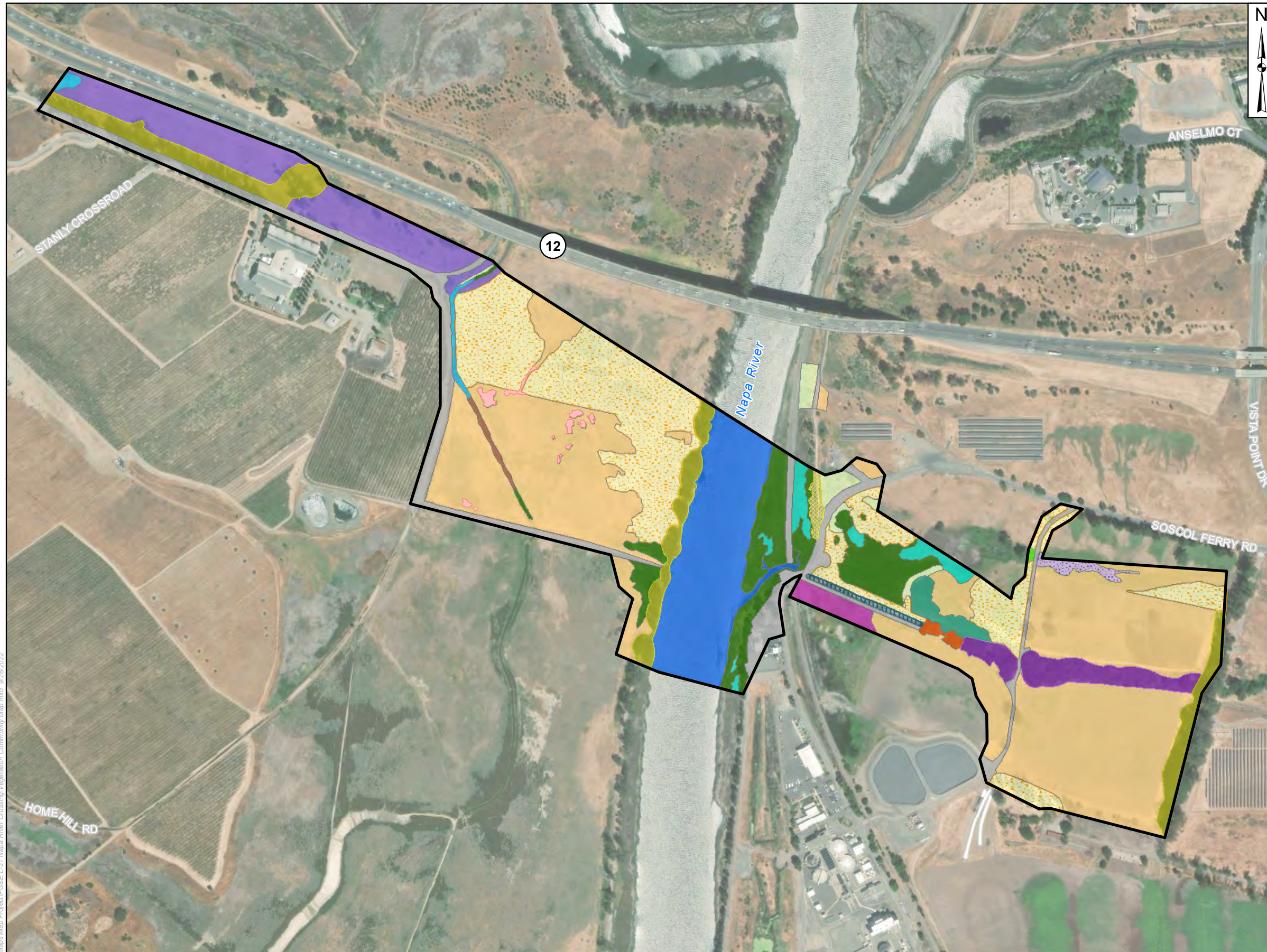
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PROJECT NAME: PG&E I-195E NAPA RIVER CROSSING REPLACEMENT PROJECT NAPA COUNTY, CA	
PROJECT NUMBER: 2002-5661	DATE: August 2022

## DECOMMISSIONING PROJECT OVERVIEW

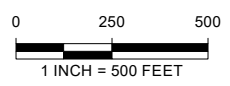
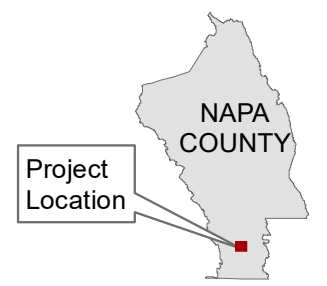
FIGURE  
3



**LEGEND:**

- Project Boundary
- Vegetation Communities**
- Arroyo Willow Thicket
- Cattail Marsh
- Common Three-square Marsh
- Creeping Wildrye Turf
- Estuarine-Open Water
- Eucalyptus Grove
- Harding Grass Sward
- Hardstem and California Bulrush Marsh
- Himalayan Blackberry Riparian Scrub
- Perennial Pepper Weed Patch
- Perennial Rye Grass Field
- Pickleweed Mat
- Salt Grass Flat
- Smartweed Patch
- Valley Oak Riparian Forest and Woodland
- Wild Oats and Annual Brome Grassland
- Alkali Heath Marsh
- Other Cover Types**
- Urban Mix/Ruderal
- Restoration Area
- Bare Ground/Trampled

**MAP EXTENT:**



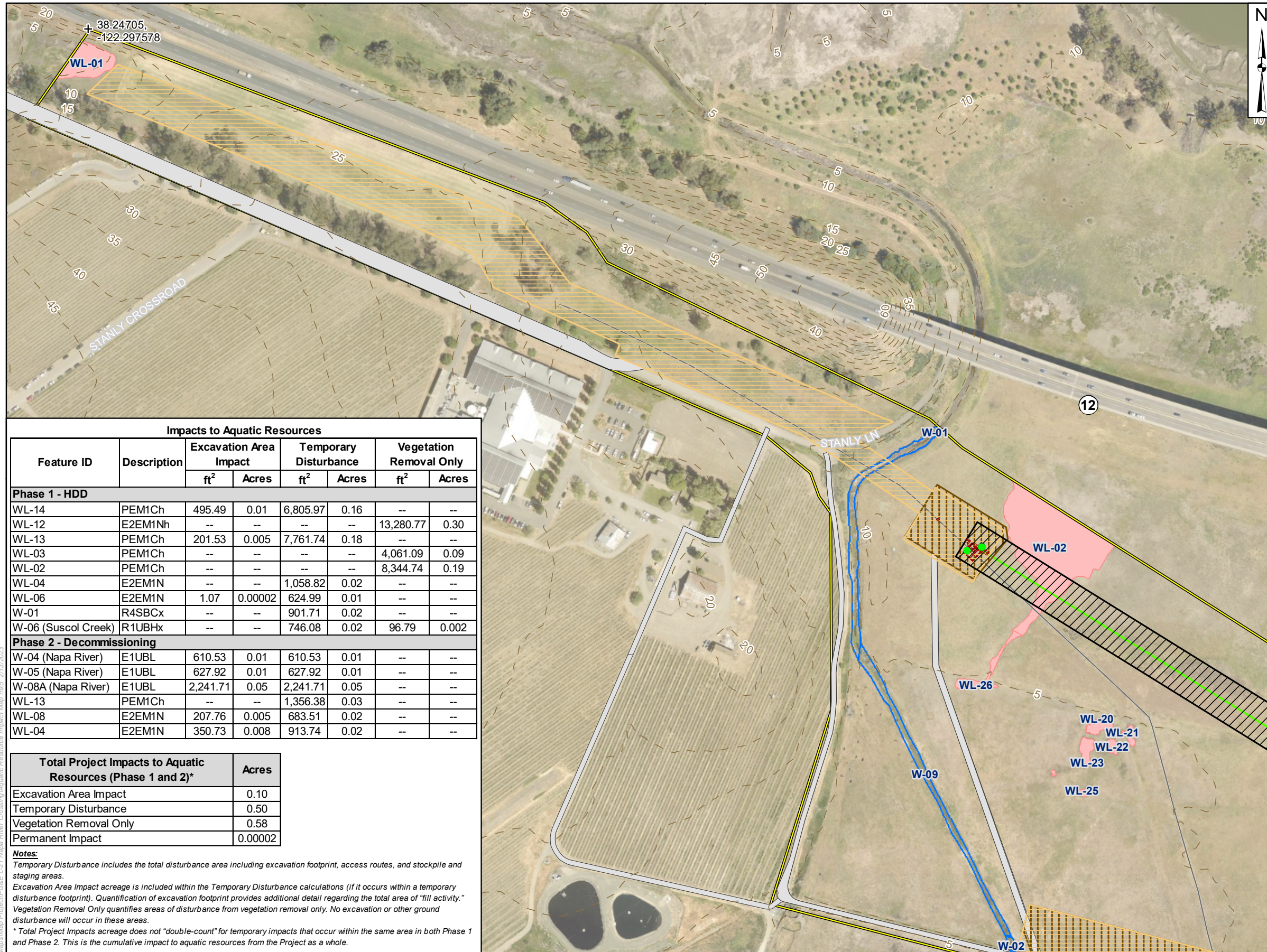
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 Notes: This map was created for informational and display purposes only.



PROJECT NAME: PG&E I-195E NAPA RIVER CROSSING REPLACEMENT PROJECT NAPA COUNTY, CA	
PROJECT NUMBER: 2002-5661	DATE: October 2022

**VEGETATION MAP**

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**LEGEND:**

- Approximate Pipeline Marker to be Installed
- + Control Point
- - - Contour
- ▭ Survey Area
- ▭ Access Road

**Other Waters of the U.S.**

- ▭ R4SBCx - Riverine Intermittent Streambed Seasonally Flooded, excavated (0.55 ac)

**Wetlands Type**

- ▨ E2EM1N - Estuarine intertidal emergent persistent regularly flooded (3.0 ac)
- ▨ E2EM1Nh - Estuarine intertidal emergent persistent regularly flooded, diked/impounded (4.65 ac)
- ▨ PEM1Ch - Palustrine emergent persistent seasonally flooded, diked/impounded (5.89 ac)

**Phase 1 - Pipeline Replacement**

- ▨ Bell Hole Excavation
- ▨ Staging Area
- ▨ Tracer Wire Workspace (Vegetation Removal Only)
- Existing Pipeline
- Proposed HDD Installed Pipeline
- Proposed Trench Installed Pipeline

**Phase 2 - Pipeline Decommissioning**

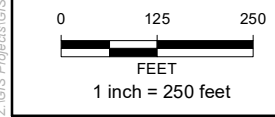
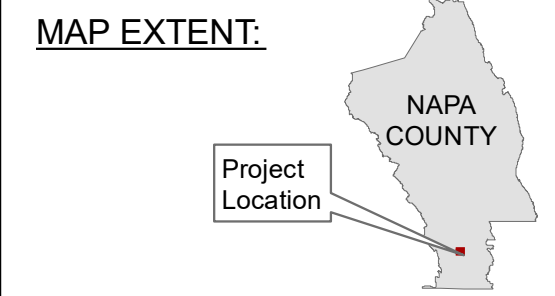
- ▨ Excavation Area
- ▨ Staging Area

**Impacts to Aquatic Resources**

Feature ID	Description	Excavation Area Impact		Temporary Disturbance		Vegetation Removal Only	
		ft <sup>2</sup>	Acres	ft <sup>2</sup>	Acres	ft <sup>2</sup>	Acres
<b>Phase 1 - HDD</b>							
WL-14	PEM1Ch	495.49	0.01	6,805.97	0.16	--	--
WL-12	E2EM1Nh	--	--	--	--	13,280.77	0.30
WL-13	PEM1Ch	201.53	0.005	7,761.74	0.18	--	--
WL-03	PEM1Ch	--	--	--	--	4,061.09	0.09
WL-02	PEM1Ch	--	--	--	--	8,344.74	0.19
WL-04	E2EM1N	--	--	1,058.82	0.02	--	--
WL-06	E2EM1N	1.07	0.00002	624.99	0.01	--	--
W-01	R4SBCx	--	--	901.71	0.02	--	--
W-06 (Suscol Creek)	R1UBHx	--	--	746.08	0.02	96.79	0.002
<b>Phase 2 - Decommissioning</b>							
W-04 (Napa River)	E1UBL	610.53	0.01	610.53	0.01	--	--
W-05 (Napa River)	E1UBL	627.92	0.01	627.92	0.01	--	--
W-08A (Napa River)	E1UBL	2,241.71	0.05	2,241.71	0.05	--	--
WL-13	PEM1Ch	--	--	1,356.38	0.03	--	--
WL-08	E2EM1N	207.76	0.005	683.51	0.02	--	--
WL-04	E2EM1N	350.73	0.008	913.74	0.02	--	--

Total Project Impacts to Aquatic Resources (Phase 1 and 2)*	Acres
Excavation Area Impact	0.10
Temporary Disturbance	0.50
Vegetation Removal Only	0.58
Permanent Impact	0.00002

**Notes:**  
 Temporary Disturbance includes the total disturbance area including excavation footprint, access routes, and stockpile and staging areas.  
 Excavation Area Impact acreage is included within the Temporary Disturbance calculations (if it occurs within a temporary disturbance footprint). Quantification of excavation footprint provides additional detail regarding the total area of "fill activity."  
 Vegetation Removal Only quantifies areas of disturbance from vegetation removal only. No excavation or other ground disturbance will occur in these areas.  
 \* Total Project Impacts acreage does not "double-count" for temporary impacts that occur within the same area in both Phase 1 and Phase 2. This is the cumulative impact to aquatic resources from the Project as a whole.



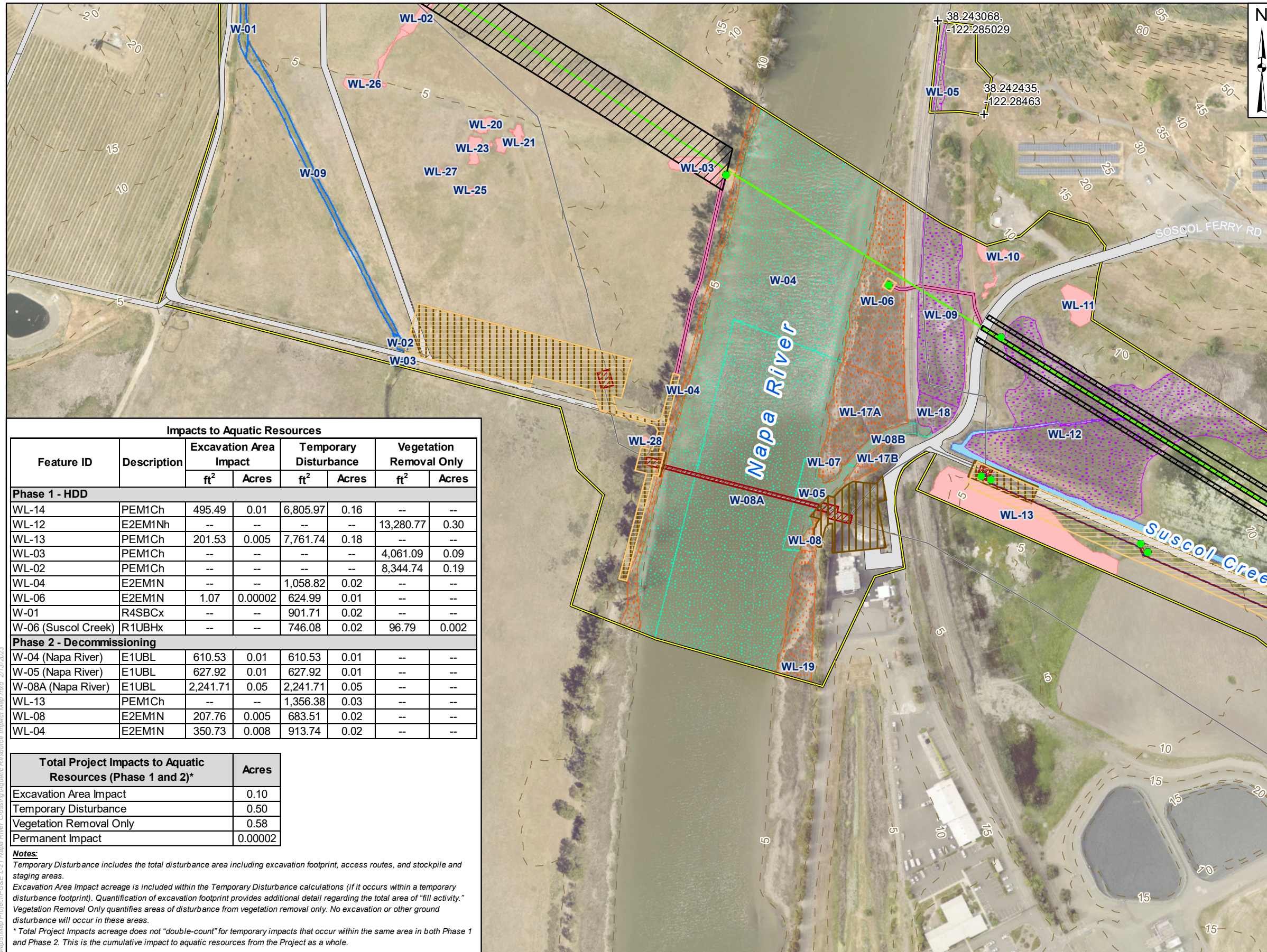
Source: Esri Online Imagery Basemap, County of Napa  
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 Notes: This map was created for informational and display purposes only.



PROJECT NAME:  
 PG&E I-195E NAPA RIVER CROSSING REPLACEMENT PROJECT  
 NAPA COUNTY, CA  
 PROJECT NUMBER:  
 2002-5661  
 DATE:  
 February 2023

**AQUATIC RESOURCE IMPACT MAP**

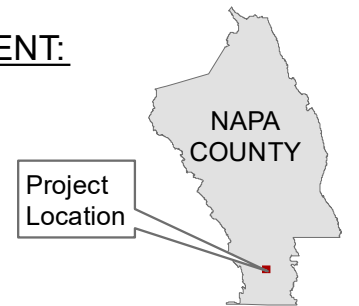
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**LEGEND:**

- Approximate Pipeline Marker to be Installed
- + Control Point
- - Contour
- ▭ Survey Area
- ▭ Access Road
- ▭ Access Route - Foot Traffic Only
- Other Waters of the U.S.**
- ▭ E1UBL - Estuarine subtidal unconsolidated bottom (10.74 ac)
- ▭ R1UBHx - Riverine Tidal unconsolidated bottom permanently flooded, excavated (0.68 ac)
- ▭ R4SBCx - Riverine Intermittent Streambed Seasonally Flooded, excavated (0.55 ac)
- Wetlands Type**
- ▭ E2EM1N - Estuarine intertidal emergent persistent regularly flooded (3.0 ac)
- ▭ E2EM1Nh - Estuarine intertidal emergent persistent regularly flooded, diked/impounded (4.65 ac)
- ▭ PEM1Ch - Palustrine emergent persistent seasonally flooded, diked/impounded (5.89 ac)
- Phase 1 - Pipeline Replacement**
- ▭ Bell Hole Excavation
- ▭ Staging Area
- ▭ Tracer Wire Workspace (Vegetation Removal Only)
- Existing Pipeline
- Proposed HDD Installed Pipeline
- Proposed Trench Installed Pipeline
- Phase 2 - Pipeline Decommissioning**
- ▭ Excavation Area
- ▭ Staging Area

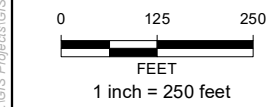
**MAP EXTENT:**



Impacts to Aquatic Resources							
Feature ID	Description	Excavation Area Impact		Temporary Disturbance		Vegetation Removal Only	
		ft <sup>2</sup>	Acres	ft <sup>2</sup>	Acres	ft <sup>2</sup>	Acres
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W-01	R4SBCx	--	--	901.71	0.02	--	--
W-06 (Suscol Creek)	R1UBHx	--	--	746.08	0.02	96.79	0.002
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W-08A (Napa River)	E1UBL	2,241.71	0.05	2,241.71	0.05	--	--
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Source: Esri Online Imagery Basemap, County of Napa  
 Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet  
 Notes: This map was created for informational and display purposes only.

**padre**  
 associates, inc.  
 ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

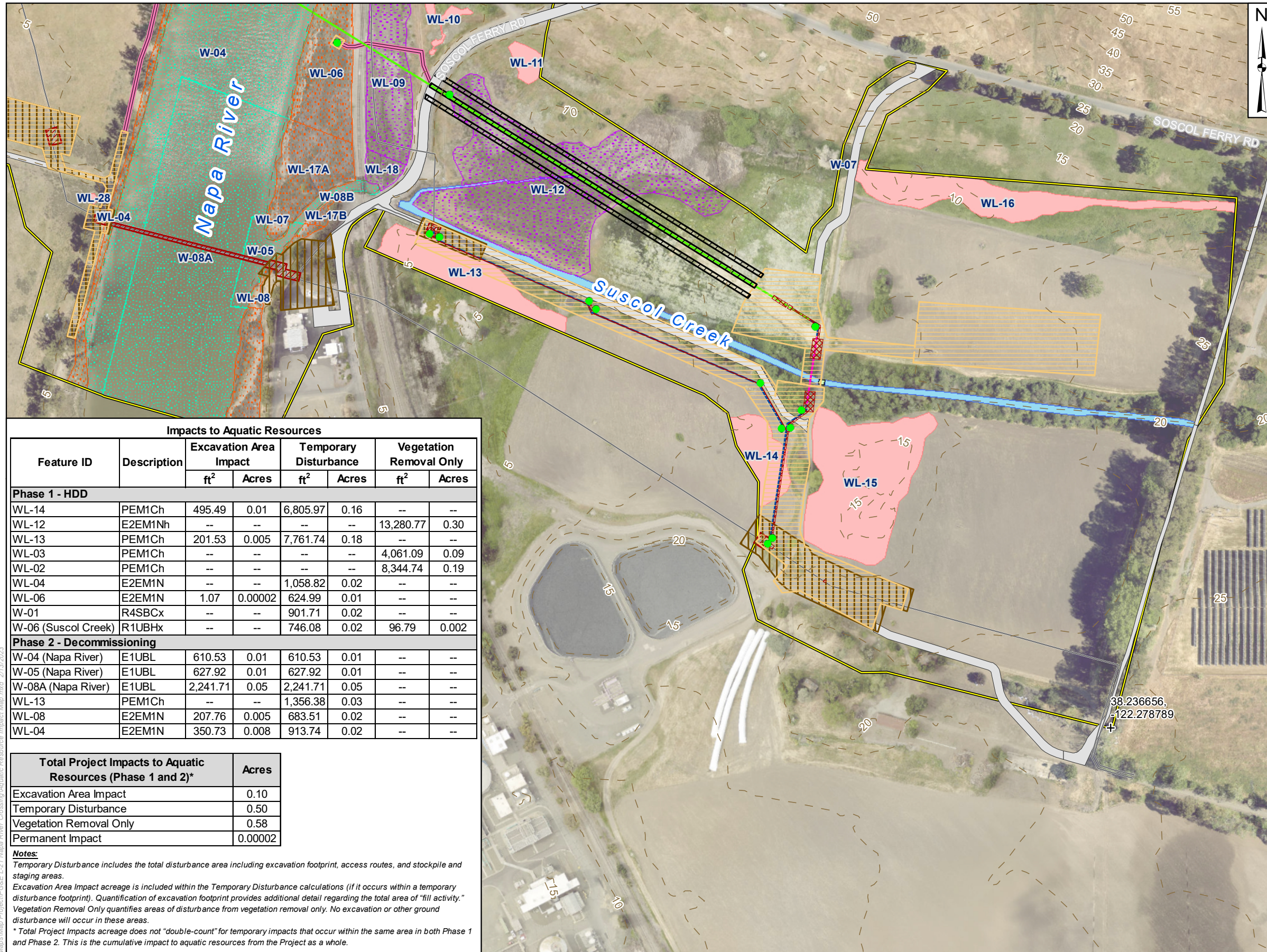
PROJECT NAME:  
 PG&E I-195E NAPA RIVER CROSSING REPLACEMENT PROJECT  
 NAPA COUNTY, CA

PROJECT NUMBER:  
 2002-5661

DATE:  
 February 2023

**AQUATIC RESOURCE IMPACT MAP**

**FIGURE 5B**



**LEGEND:**

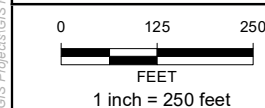
- Approximate Pipeline Marker to be Installed
- + Control Point
- - Contour
- ▭ Survey Area
- ▭ Access Road
- ▭ Access Route - Foot Traffic Only
- Other Waters of the U.S.**
- ▭ Culvert - Suscol Creek (0.004 ac)
- ▭ E1UBL - Estuarine subtidal unconsolidated bottom (10.74 ac)
- ▭ R1UBHx - Riverine Tidal unconsolidated bottom permanently flooded, excavated (0.68 ac)
- ▭ R4SBCx - Riverine Intermittent Streambed Seasonally Flooded, excavated (0.55 ac)
- Wetlands Type**
- ▭ E2EM1N - Estuarine intertidal emergent persistent regularly flooded (3.0 ac)
- ▭ E2EM1Nh - Estuarine intertidal emergent persistent regularly flooded, diked/impounded (4.65 ac)
- ▭ PEM1Ch - Palustrine emergent persistent seasonally flooded, diked/impounded (5.89 ac)
- Phase 1 - Pipeline Replacement**
- ▭ Bell Hole Excavation
- ▭ Staging Area
- ▭ Tracer Wire Workspace (Vegetation Removal Only)
- Existing Pipeline
- Proposed HDD Installed Pipeline
- Proposed Pipe Ramming Installed Pipeline
- Proposed Trench Installed Pipeline
- Phase 2 - Pipeline Decommissioning**
- ▭ Excavation Area
- ▭ Staging Area

**Impacts to Aquatic Resources**

Feature ID	Description	Excavation Area Impact		Temporary Disturbance		Vegetation Removal Only	
		ft <sup>2</sup>	Acres	ft <sup>2</sup>	Acres	ft <sup>2</sup>	Acres
<b>Phase 1 - HDD</b>							
WL-14	PEM1Ch	495.49	0.01	6,805.97	0.16	--	--
WL-12	E2EM1Nh	--	--	--	--	13,280.77	0.30
WL-13	PEM1Ch	201.53	0.005	7,761.74	0.18	--	--
WL-03	PEM1Ch	--	--	--	--	4,061.09	0.09
WL-02	PEM1Ch	--	--	--	--	8,344.74	0.19
WL-04	E2EM1N	--	--	1,058.82	0.02	--	--
WL-06	E2EM1N	1.07	0.00002	624.99	0.01	--	--
W-01	R4SBCx	--	--	901.71	0.02	--	--
W-06 (Suscol Creek)	R1UBHx	--	--	746.08	0.02	96.79	0.002
<b>Phase 2 - Decommissioning</b>							
W-04 (Napa River)	E1UBL	610.53	0.01	610.53	0.01	--	--
W-05 (Napa River)	E1UBL	627.92	0.01	627.92	0.01	--	--
W-08A (Napa River)	E1UBL	2,241.71	0.05	2,241.71	0.05	--	--
WL-13	PEM1Ch	--	--	1,356.38	0.03	--	--
WL-08	E2EM1N	207.76	0.005	683.51	0.02	--	--
WL-04	E2EM1N	350.73	0.008	913.74	0.02	--	--

Total Project Impacts to Aquatic Resources (Phase 1 and 2)*	Acres
Excavation Area Impact	0.10
Temporary Disturbance	0.50
Vegetation Removal Only	0.58
Permanent Impact	0.00002

**Notes:**  
 Temporary Disturbance includes the total disturbance area including excavation footprint, access routes, and stockpile and staging areas.  
 Excavation Area Impact acreage is included within the Temporary Disturbance calculations (if it occurs within a temporary disturbance footprint). Quantification of excavation footprint provides additional detail regarding the total area of "fill activity."  
 Vegetation Removal Only quantifies areas of disturbance from vegetation removal only. No excavation or other ground disturbance will occur in these areas.  
 \* Total Project Impacts acreage does not "double-count" for temporary impacts that occur within the same area in both Phase 1 and Phase 2. This is the cumulative impact to aquatic resources from the Project as a whole.

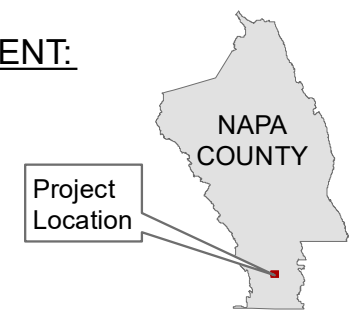


Source: Esri Online Imagery Basemap, County of Napa  
 Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet  
 Notes: This map was created for informational and display purposes only.



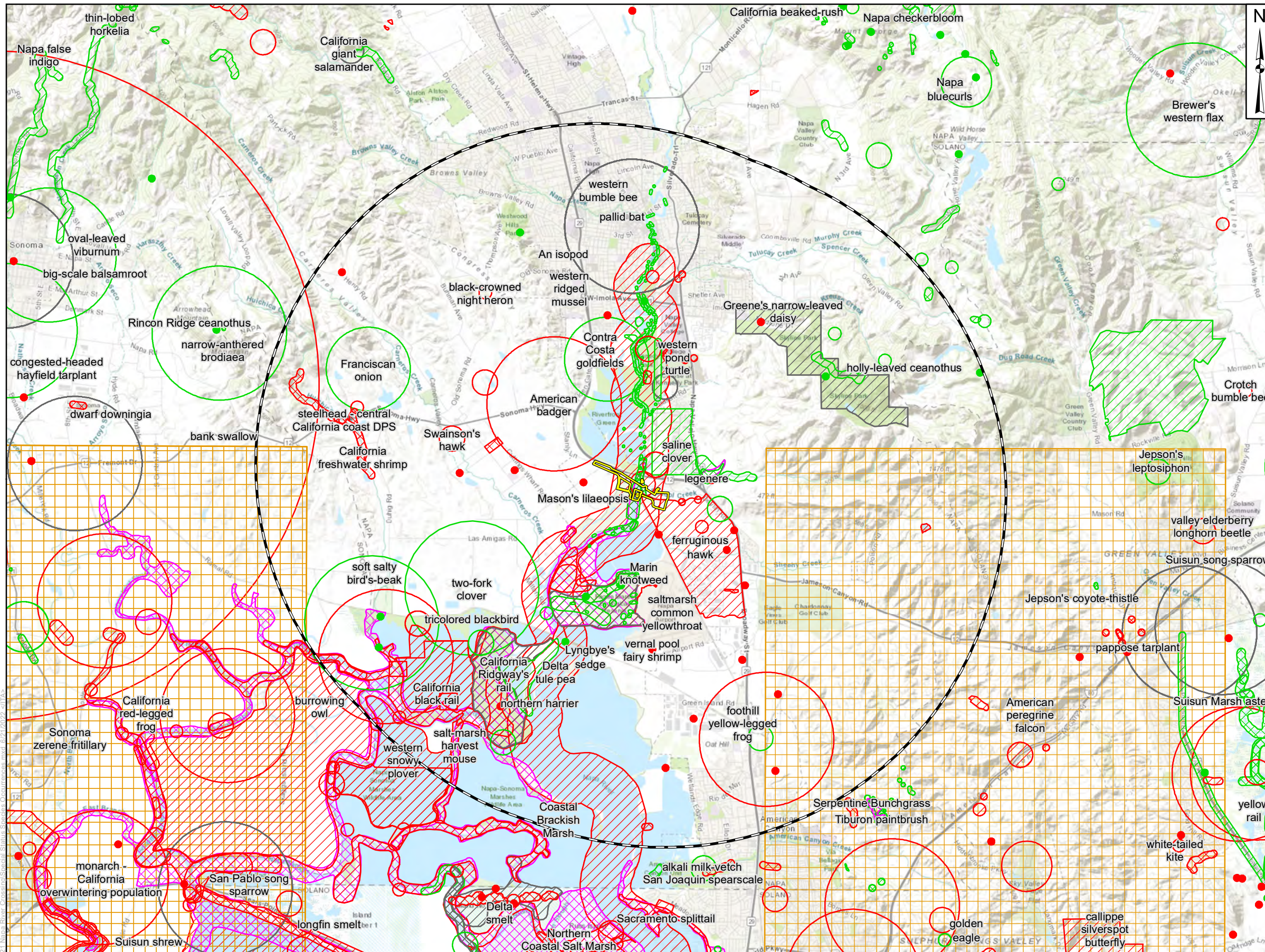
PROJECT NAME:  
 PG&E I-195E NAPA RIVER CROSSING  
 REPLACEMENT PROJECT  
 NAPA COUNTY, CA  
 PROJECT NUMBER:  
 2002-5661  
 DATE:  
 February 2023

**MAP EXTENT:**



**AQUATIC RESOURCE  
 IMPACT MAP**

FIGURE  
 5C

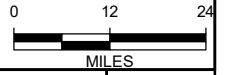
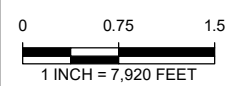
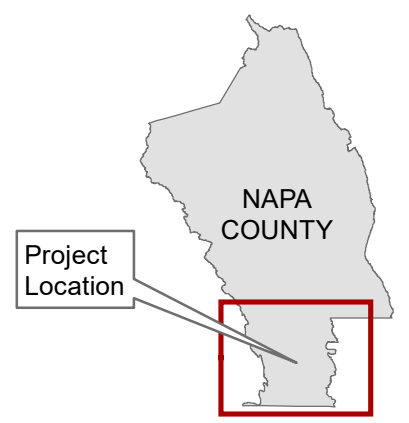


**LEGEND:**

- Buffer- 5 miles
- Project Location
- CNDDDB Occurrences**
- Plant (80m)
- Plant (specific)
- Plant (non-specific)
- Plant (circular)
- Animal (80m)
- Animal (specific)
- Animal (non-specific)
- Animal (circular)
- Terrestrial Comm. (specific)
- Terrestrial Comm. (non-specific)
- Multiple (specific)
- Multiple (non-specific)
- Multiple (circular)
- Sensitive EO's (Commercial only)

**FOR INTERNAL USE ONLY;  
NOT FOR PUBLIC RELEASE**

**MAP EXTENT:**



Source: Esri Online Imagery Basemap, County of Napa, CNDDDB  
 Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet  
 Notes: CNDDDB = California Natural Diversity Database.  
 This map was created for informational and display purposes only.



PROJECT NAME: PG&E I-195E NAPA RIVER CROSSING REPLACEMENT PROJECT NAPA COUNTY, CA	
PROJECT NUMBER: 2002-5661	DATE: June 2022

**SPECIAL STATUS  
SPECIES OCCURRENCES**

FIGURE  
**6**



## **APPENDIX A**

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### **USFWS AND NMFS SPECIES LISTS**



# United States Department of the Interior



FISH AND WILDLIFE SERVICE  
Sacramento Fish And Wildlife Office  
Federal Building  
2800 Cottage Way, Room W-2605  
Sacramento, CA 95825-1846  
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To:  
Project Code: 2022-0016427  
Project Name: Napa River Crossing Replacement

March 07, 2022

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

## To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2))

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

**Migratory Birds:** In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see <https://www.fws.gov/birds/policies-and-regulations.php>.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see <https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

---

**Note:** IPaC has provided all available attachments because this project is in multiple field office jurisdictions.

Attachment(s):

- Official Species List
  - USFWS National Wildlife Refuges and Fish Hatcheries
  - Migratory Birds
  - Wetlands
-

## Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

### **Sacramento Fish And Wildlife Office**

Federal Building  
2800 Cottage Way, Room W-2605  
Sacramento, CA 95825-1846  
(916) 414-6600

This project's location is within the jurisdiction of multiple offices. However, only one species list document will be provided for all offices. The species and critical habitats in this document reflect the aggregation of those that fall in each of the affiliated office's jurisdiction. Other offices affiliated with the project:

### **San Francisco Bay-Delta Fish And Wildlife**

650 Capitol Mall  
Suite 8-300  
Sacramento, CA 95814  
(916) 930-5603

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## Project Summary

Project Code: 2022-0016427

Event Code: None

Project Name: Napa River Crossing Replacement

Project Type: Natural Gas Distribution

Project Description: Replace and decommission an existing natural gas pipeline crossing of the Napa River.

Project Location:

Approximate location of the project can be viewed in Google Maps: [https://](https://www.google.com/maps/@38.24192985,-122.28809110294745,14z)

[www.google.com/maps/@38.24192985,-122.28809110294745,14z](https://www.google.com/maps/@38.24192985,-122.28809110294745,14z)



Counties: Napa County, California

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## Endangered Species Act Species

There is a total of 16 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

- 
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

### Mammals

NAME	STATUS
Salt Marsh Harvest Mouse <i>Reithrodontomys raviventris</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/613">https://ecos.fws.gov/ecp/species/613</a>	Endangered

### Birds

NAME	STATUS
California Clapper Rail <i>Rallus longirostris obsoletus</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/4240">https://ecos.fws.gov/ecp/species/4240</a>	Endangered
California Least Tern <i>Sterna antillarum browni</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/8104">https://ecos.fws.gov/ecp/species/8104</a>	Endangered
Northern Spotted Owl <i>Strix occidentalis caurina</i> There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/1123">https://ecos.fws.gov/ecp/species/1123</a>	Threatened
Western Snowy Plover <i>Charadrius nivosus nivosus</i> Population: Pacific Coast population DPS-U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast) There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/8035">https://ecos.fws.gov/ecp/species/8035</a>	Threatened

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## Reptiles

NAME	STATUS
Green Sea Turtle <i>Chelonia mydas</i> Population: East Pacific DPS No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/6199">https://ecos.fws.gov/ecp/species/6199</a>	Threatened

## Amphibians

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/2891">https://ecos.fws.gov/ecp/species/2891</a>	Threatened

## Fishes

NAME	STATUS
Delta Smelt <i>Hypomesus transpacificus</i> There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/321">https://ecos.fws.gov/ecp/species/321</a>	Threatened
Tidewater Goby <i>Eucyclogobius newberryi</i> There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/57">https://ecos.fws.gov/ecp/species/57</a>	Endangered

## Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/9743">https://ecos.fws.gov/ecp/species/9743</a>	Candidate

## Crustaceans

NAME	STATUS
California Freshwater Shrimp <i>Syncaris pacifica</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/7903">https://ecos.fws.gov/ecp/species/7903</a>	Endangered
Conservancy Fairy Shrimp <i>Branchinecta conservatio</i> There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/8246">https://ecos.fws.gov/ecp/species/8246</a>	Endangered
Vernal Pool Fairy Shrimp <i>Branchinecta lynchi</i> There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/498">https://ecos.fws.gov/ecp/species/498</a>	Threatened



## Flowering Plants

NAME	STATUS
Contra Costa Goldfields <i>Lasthenia conjugens</i> There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/7058">https://ecos.fws.gov/ecp/species/7058</a>	Endangered
Showy Indian Clover <i>Trifolium amoenum</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/6459">https://ecos.fws.gov/ecp/species/6459</a>	Endangered
Soft Bird's-beak <i>Cordylanthus mollis ssp. mollis</i> There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/8541">https://ecos.fws.gov/ecp/species/8541</a>	Endangered

## Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

## Sarah Powell

---

**From:** Dan Logan - NOAA Federal <dan.logan@noaa.gov>  
**Sent:** Monday, April 25, 2022 5:18 PM  
**To:** Nathan Tallman  
**Cc:** Sarah Powell  
**Subject:** Re: Species List Request: PG&E I-195E L-021A Napa River Pipeline Crossing Replacement Project

Happy Monday, Nathan. I am sorry you had difficulty. Here is a list of NOAA Trust Resources in that area:

### ESA-Listed Anadromous Fish

Central California Coast steelhead  
Southern Distinct Population Unit of North American Green Sturgeon

### ESA-Listed Designated Critical Habitat

Central California Coast steelhead  
Southern Distinct Population Unit of North American Green Sturgeon  
Sacramento River Winter-Run Chinook Salmon

### Essential Fish Habitat

Pacific Salmon EFH  
Groundfish EFH  
Coastal Pelagics EFH  
Habitat Areas of Particular Concern – San Francisco Bay Estuary

Please let me know if you have any questions.

Dan

On Mon, Apr 25, 2022 at 2:35 PM Nathan Tallman <[ntallman@padreinc.com](mailto:ntallman@padreinc.com)> wrote:

Hi Daniel,

My name is Nathan and I am a biological consultant with Padre Associates Inc. working with PG&E on the I-195E L-021A Napa River Pipeline Crossing Replacement Project. I have come across some roadblocks while trying to generate an official NMFS species list for the project. Earlier today, I followed the requirements outlined on the California Species List Tools website to request an official species list, but my request was not deliverable. Due to your involvement in the Inter-Agency Pre-Application meeting for the Napa River Crossing Replacement Project with PG&E on March 10, 2022, I am hoping that you may be able to help facilitate the generation of an official list. Attached to this email is the email that I sent this morning to the general species list address ([nmfswcrca.specieslist@noaa.gov](mailto:nmfswcrca.specieslist@noaa.gov)). This attachment contains the unofficial NMFS species list that was generated for the Cuttings Warf California quadrangle, which contains the project site, as well as contact information for the Applicant (PG&E).

It would be very helpful if you could generate an official species list for this project or point me in the direction of someone else who can help. Thank you for your assistance.

-Nathan

--

Daniel Logan  
Fishery Biologist  
NOAA's National Marine Fisheries Service  
Coastal California Area Office  
777 Sonoma Avenue, Room 325  
Santa Rosa, California 95404-6515

[www.westcoast.fisheries.noaa.gov](http://www.westcoast.fisheries.noaa.gov)

(707) 575-6053 - telephone

(707) 578-3435 - facsimile

I am sheltering in place and my hours are inconsistent and my communication responses may be delayed. I apologize in advance. I will be accessible by phone and email. Thank you.

## **APPENDIX B**

---

### **CNDDDB QUERY RESULTS**



# Summary Table Report

## California Department of Fish and Wildlife

### California Natural Diversity Database



Query Criteria: BIOS selection

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Acipenser medirostris pop. 1</i> green sturgeon - southern DPS	G2T1 S1	Threatened None	AFS_VU-Vulnerable IUCN_EN-Endangered	0 0	14 S:1	0	1	0	0	0	0	0	1	0	0	
<i>Agelaius tricolor</i> tricolored blackbird	G1G2 S1S2	None Threatened	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_EN-Endangered NABCI_RWL-Red Watch List USFWS_BCC-Birds of Conservation Concern	6 75	955 S:4	0	3	0	0	0	1	4	0	4	0	0
<i>Allium peninsulare var. franciscanum</i> Franciscan onion	G5T2 S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden		25 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Antrozous pallidus</i> pallid bat	G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive	15 140	420 S:8	0	2	1	0	1	4	7	1	7	0	1
<i>Aquila chrysaetos</i> golden eagle	G5 S3	None None	BLM_S-Sensitive CDF_S-Sensitive CDFW_FP-Fully Protected CDFW_WL-Watch List IUCN_LC-Least Concern	55 55	325 S:1	0	0	0	0	1	0	0	1	0	1	0
<i>Astragalus tener var. tener</i> alkali milk-vetch	G2T1 S1	None None	Rare Plant Rank - 1B.2 SB_UCSC-UC Santa Cruz	15 15	65 S:1	0	0	0	0	1	0	1	0	0	0	1
<i>Athene cunicularia</i> burrowing owl	G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	2 50	2011 S:4	2	1	0	1	0	0	3	1	4	0	0



## Summary Table Report

### California Department of Fish and Wildlife California Natural Diversity Database



Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Bombus occidentalis</i> western bumble bee	G3 S1	None Candidate Endangered	IUCN_VU-Vulnerable USFS_S-Sensitive	25 25	306 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Branchinecta lynchi</i> vernal pool fairy shrimp	G3 S3	Threatened None	IUCN_VU-Vulnerable	15 15	796 S:1	0	1	0	0	0	0	0	1	1	0	0
<i>Brodiaea leptandra</i> narrow-anthered brodiaea	G3? S3?	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG- California/Rancho Santa Ana Botanic Garden		39 S:1	0	0	0	0	0	1	0	1	1	0	0
<i>Buteo regalis</i> ferruginous hawk	G4 S3S4	None None	CDFW_WL-Watch List IUCN_LC-Least Concern	30 30	107 S:1	0	0	1	0	0	0	1	0	1	0	0
<i>Buteo swainsoni</i> Swainson's hawk	G5 S3	None Threatened	BLM_S-Sensitive IUCN_LC-Least Concern	7 100	2548 S:7	0	2	2	0	0	3	0	7	7	0	0
<i>Calasellus californicus</i> An isopod	G2 S2	None None		25 25	3 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Carex lyngbyei</i> Lyngbye's sedge	G5 S3	None None	Rare Plant Rank - 2B.2 IUCN_LC-Least Concern	4 4	37 S:1	0	0	1	0	0	0	0	1	1	0	0
<i>Ceanothus purpureus</i> holly-leaved ceanothus	G2 S2	None None	Rare Plant Rank - 1B.2 SB_SBBG-Santa Barbara Botanic Garden	700 1,300	43 S:3	0	0	0	0	0	3	2	1	3	0	0
<i>Charadrius nivosus nivosus</i> western snowy plover	G3T3 S3	Threatened None	CDFW_SSC-Species of Special Concern NABCI_RWL-Red Watch List	5 10	138 S:2	2	0	0	0	0	0	1	1	2	0	0
<i>Chloropyron molle ssp. molle</i> soft salty bird's-beak	G2T1 S1	Endangered Rare	Rare Plant Rank - 1B.2 SB_CalBG/RSABG- California/Rancho Santa Ana Botanic Garden	0 5	27 S:3	0	1	0	0	1	1	2	1	2	1	0
<i>Circus hudsonius</i> northern harrier	G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	5 5	54 S:1	0	1	0	0	0	0	0	1	1	0	0



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Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Coastal Brackish Marsh</i> Coastal Brackish Marsh	G2 S2.1	None None			30 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Downingia pusilla</i> dwarf downingia	GU S2	None None	Rare Plant Rank - 2B.2	15 15	132 S:2	0	0	0	0	1	1	2	0	1	0	1
<i>Elanus leucurus</i> white-tailed kite	G5 S3S4	None None	BLM_S-Sensitive CDFW_FP-Fully Protected IUCN_LC-Least Concern	10 10	184 S:1	0	1	0	0	0	0	0	1	1	0	0
<i>Emys marmorata</i> western pond turtle	G3G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable USFS_S-Sensitive	5 840	1421 S:6	0	1	3	0	0	2	4	2	6	0	0
<i>Erigeron greenii</i> Greene's narrow-leaved daisy	G3 S3	None None	Rare Plant Rank - 1B.2		20 S:1	0	0	0	0	0	1	0	1	1	0	0
<i>Extriplex joaquinana</i> San Joaquin spearscale	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	5 5	127 S:1	0	0	1	0	0	0	1	0	1	0	0
<i>Falco peregrinus anatum</i> American peregrine falcon	G4T4 S3S4	Delisted Delisted	CDF_S-Sensitive CDFW_FP-Fully Protected	300 300	73 S:1	0	1	0	0	0	0	0	1	1	0	0
<i>Geothlypis trichas sinuosa</i> saltmarsh common yellowthroat	G5T3 S3	None None	CDFW_SSC-Species of Special Concern USFWS_BCC-Birds of Conservation Concern	5 12	112 S:5	1	0	0	0	0	4	3	2	5	0	0
<i>Gonidea angulata</i> western ridged mussel	G3 S1S2	None None	IUCN_VU-Vulnerable	100 100	157 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Lasthenia conjugens</i> Contra Costa goldfields	G1 S1	Endangered None	Rare Plant Rank - 1B.1 SB_UCBG-UC Botanical Garden at Berkeley	100 230	36 S:2	0	0	1	0	1	0	1	1	1	1	0



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						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Laterallus jamaicensis coturniculus</i> California black rail	G3T1 S1	None Threatened	BLM_S-Sensitive CDFW_FP-Fully Protected IUCN_EN-Endangered NABCI_RWL-Red Watch List	3 5	303 S:3	0	2	0	0	0	1	0	3	3	0	0
<i>Lathyrus jepsonii var. jepsonii</i> Delta tule pea	G5T2 S2	None None	Rare Plant Rank - 1B.2 SB_BerrySB-Berry Seed Bank SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	0 7	133 S:11	0	2	0	1	1	7	10	1	10	1	0
<i>Legenere limosa</i> legenere	G2 S2	None None	Rare Plant Rank - 1B.1 BLM_S-Sensitive SB_UCBG-UC Botanical Garden at Berkeley	40 40	83 S:1	0	0	1	0	0	0	1	0	1	0	0
<i>Leptosiphon jepsonii</i> Jepson's leptosiphon	G2G3 S2S3	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_USDA-US Dept of Agriculture	400 400	51 S:1	0	0	0	0	0	1	0	1	1	0	0
<i>Lilaeopsis masonii</i> Mason's lilaeopsis	G2 S2	None Rare	Rare Plant Rank - 1B.1	10 10	198 S:1	0	1	0	0	0	0	0	1	1	0	0
<i>Melospiza melodia samuelis</i> San Pablo song sparrow	G5T2 S2	None None	CDFW_SSC-Species of Special Concern USFWS_BCC-Birds of Conservation Concern	3 3	41 S:3	2	0	0	0	0	1	1	2	3	0	0
<i>Northern Coastal Salt Marsh</i> Northern Coastal Salt Marsh	G3 S3.2	None None			53 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Northern Vernal Pool</i> Northern Vernal Pool	G2 S2.1	None None		100 100	20 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Nycticorax nycticorax</i> black-crowned night heron	G5 S4	None None	IUCN_LC-Least Concern	157 157	37 S:1	0	0	0	0	0	1	0	1	1	0	0
<i>Oncorhynchus mykiss irideus pop. 8</i> steelhead - central California coast DPS	G5T2T3Q S3	Threatened None	AFS_TH-Threatened	0 600	44 S:3	0	0	1	2	0	0	2	1	3	0	0





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						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Polygonum marinense</i> Marin knotweed	G2Q S2	None None	Rare Plant Rank - 3.1	5 5	32 S:2	1	0	0	0	0	1	1	1	2	0	0
<i>Rallus obsoletus obsoletus</i> California Ridgway's rail	G3T1 S1	Endangered Endangered	CDFW_FP-Fully Protected NABCI_RWL-Red Watch List	3 7	99 S:4	1	0	0	0	0	3	3	1	4	0	0
<i>Rana boylei pop. 1</i> foothill yellow-legged frog - north coast DPS	G3TNRQ S4	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern USFS_S-Sensitive	78 78	1606 S:1	0	0	0	0	1	0	1	0	0	1	0
<i>Rana draytonii</i> California red-legged frog	G2G3 S2S3	Threatened None	CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable	60 110	1683 S:3	0	0	2	1	0	0	0	3	3	0	0
<i>Reithrodontomys raviventris</i> salt-marsh harvest mouse	G1G2 S1S2	Endangered Endangered	CDFW_FP-Fully Protected IUCN_EN-Endangered	1 10	144 S:4	0	1	0	0	0	3	3	1	4	0	0
<i>Riparia riparia</i> bank swallow	G5 S2	None Threatened	BLM_S-Sensitive IUCN_LC-Least Concern	25 25	299 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Speyeria zerene sonomensis</i> Sonoma zerene fritillary	G5T1 S1	None None		200 200	1 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Spirinchus thaleichthys</i> longfin smelt	G5 S1	Candidate Threatened	IUCN_LC-Least Concern	0 0	46 S:1	0	0	0	0	0	1	0	1	1	0	0
<i>Symphotrichum lentum</i> Suisun Marsh aster	G2 S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_USDA-US Dept of Agriculture	0 5	175 S:3	0	0	0	1	0	2	3	0	3	0	0
<i>Syncaris pacifica</i> California freshwater shrimp	G2 S2	Endangered Endangered	IUCN_EN-Endangered	120 120	20 S:1	1	0	0	0	0	0	1	0	1	0	0
<i>Taxidea taxus</i> American badger	G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	20 40	594 S:2	0	0	0	0	0	2	2	0	2	0	0



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						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Trifolium amoenum</i> two-fork clover	G1 S1	Endangered None	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_UCBG-UC Botanical Garden at Berkeley SB_USDA-US Dept of Agriculture	20 100	26 S:3	0	0	0	0	1	2	3	0	2	1	0
<i>Trifolium hydrophilum</i> saline clover	G2 S2	None None	Rare Plant Rank - 1B.2	10 160	56 S:2	0	0	0	0	1	1	2	0	1	0	1
<i>Viburnum ellipticum</i> oval-leaved viburnum	G4G5 S3?	None None	Rare Plant Rank - 2B.3	600 600	39 S:1	0	0	0	0	0	1	0	1	1	0	0

## **APPENDIX C**

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### **PLANT SPECIES OBSERVED**

**Plant Species Observed at the PG&E I-195E L-021A Napa River Pipeline Crossing Replacement Project Site**

Common Name/Family	Scientific Name	Growth Habit <sup>1</sup>	Wetland Indicator Status <sup>2</sup>	Native Status <sup>3</sup>	Sensitivity / Listing Status <sup>4</sup>	Source <sup>5</sup>
<b>CUPRESSACEAE (Cypress Family)</b>						
Dawn redwood	<i>Metasequoia glyptostroboides</i>	T	NL	I		1, 2
Redwood	<i>Sequoia sempervirens</i>	T	NL	N		1, 2
<b>CALYCANTHACEAE (Calycanthus Family)</b>						
Spicebush	<i>Calycanthus occidentalis</i>	S	FAC	N		1
<b>ADOXACEAE (Muskroot Family)</b>						
Blue elderberry	<i>Sambucus mexicana</i>	S	FACU	N		1,2
<b>APIACEAE (Carrot Family)</b>						
Poison hemlock	<i>Conium maculatum</i>	H	FACW	I		1,2
Fennel	<i>Foeniculum vulgare</i>	H	NL	I		1,2
Water parsley	<i>Oenanthe sarmentosa</i>	H	OBL	N		1,2
Tall sock-destroyer	<i>Torilis arvensis</i>	H	NL	I		1,2
Greater periwinkle	<i>Vinca major</i>	H	FACU	I		2
<b>ASTERACEAE (Sunflower Family)</b>						
Western ragweed	<i>Ambrosia psilostachya</i>	H	FACU	N		1
Mayweed	<i>Anthemis cotula</i>	H	FACU	I		1
Mugwort	<i>Artemisia douglasiana</i>	H	FAC	N		1,2
Coyote brush	<i>Baccharis pilularis</i>	S	NL	N		1,2
Italian thistle	<i>Carduus pycnocephalus</i> ssp. <i>pycnocephalus</i>	H	NL	I		1
Slender flowered thistle	<i>Carduus tenuiflorus</i>	H	NL	I		2
Purple star-thistle	<i>Centaurea calcitrapa</i>	H	NL	I		1,2
Yellow star-thistle	<i>Centaurea solstitialis</i>	H	NL	I		1,2
Common spikeweed	<i>Centromadia pungens</i>	H	UPL	N		1
Bull thistle	<i>Cirsium vulgare</i>	H	FACU	I		1,2
Stinkwort	<i>Dittrichia graveolens</i>	H	NL	I		1,2
Marsh gumplant	<i>Grindelia stricta</i> var. <i>angustifolia</i>	H	FACW	N		1,2
Bristly ox-tongue	<i>Helminthotheca echioides</i>	H	FAC	I		1,2
Hayfield tarweed	<i>Hemizonia congesta</i> ssp. <i>luzulifolia</i>	H	NL	N		1
Rough cat's-ear	<i>Hypochaeris radicata</i>	H	FACU	I		1,2

**Plant Species Observed at the PG&E I-195E L-021A Napa River Pipeline Crossing Replacement Project Site**

<b>Common Name/Family</b>	<b>Scientific Name</b>	<b>Growth Habit<sup>1</sup></b>	<b>Wetland Indicator Status<sup>2</sup></b>	<b>Native Status<sup>3</sup></b>	<b>Sensitivity / Listing Status<sup>4</sup></b>	<b>Source<sup>5</sup></b>
Fleshy jaumea	<i>Jaumea carnosa</i>	H	OBL	N		1,2
Prickly lettuce	<i>Lactuca serriola</i>	H	FACU	I		1,2
Smooth goldfields	<i>Lasthenia glaberrima</i>	H	OBL	N		2
Pineapple weed	<i>Matricaria discoidea</i>	H	FACU	N		1
Weedy cudweed	<i>Pseudognaphalium luteoalbum</i>	H	FAC	I		1,2
Common groundsel	<i>Senecio vulgaris</i>	H	FACU	I		1,2
Milk thistle	<i>Silybum marianum</i>	H	NL	I		1,2
Prickly sow thistle	<i>Sonchus asper</i> ssp. <i>asper</i>	H	FAC	I		1,2
Common sow thistle	<i>Sonchus oleraceus</i>	H	UPL	I		1,2
Common dandelion	<i>Taraxacum officinale</i>	H	FACU	I		1,2
Spiny cocklebur	<i>Xanthium spinosum</i>	H	FACU	I		1
Cocklebur	<i>Xanthium strumarium</i>	H	FAC	N		1,2
<b>BETULACEAE (Birch Family)</b>						
White alder	<i>Alnus rhombifolia</i>	T	FACW	N		2
<b>BORAGINACEAE (Borage Family)</b>						
Vari-leaf nemophila	<i>Nemophila heterophylla</i>	H	NL	N		2
Rusty popcornflower	<i>Plagiobothrys nothofulvus</i>	H	FAC	N		2
<b>BRASSICACEAE (Mustard Family)</b>						
Black mustard	<i>Brassica nigra</i>	H	NL	I		1
Field mustard	<i>Brassica rapa</i>	H	FACU	I		1,2
Shepard's purse	<i>Capsella bursa-pastoris</i>	H	FACU	I		1,2
Few-seed bittercress	<i>Cardamine oligosperma</i>	H	FAC	N		1,2
Mediterranean mustard	<i>Hirschfeldia incana</i>	H	NL	I		1,2
Perennial pepperweed	<i>Lepidium latifolium</i>	H	FAC	I		1,2
Water cress	<i>Nasturtium officinale</i>	H	OBL	N		1
Radish	<i>Raphanus sativus</i>	H	NL	I		1,2
<b>CAPRIFOLIACEAE (Honeysuckle Family)</b>						
Snowberry	<i>Symphoricarpos albus</i> var. <i>laevigatus</i>	S	FACU	N		1
<b>CARYOPHYLLACEAE (Pink Family)</b>						
Sticky mouse-ear chickweed	<i>Cerastium glomeratum</i>	H	UPL	I		2

**Plant Species Observed at the PG&E I-195E L-021A Napa River Pipeline Crossing Replacement Project Site**

<b>Common Name/Family</b>	<b>Scientific Name</b>	<b>Growth Habit<sup>1</sup></b>	<b>Wetland Indicator Status<sup>2</sup></b>	<b>Native Status<sup>3</sup></b>	<b>Sensitivity / Listing Status<sup>4</sup></b>	<b>Source<sup>5</sup></b>
Red sand-spurrey	<i>Spergularia rubra</i>	H	FAC	I		1,2
Common chickweed	<i>Stellaria media</i>	H	FACU	I		1,2
<b>CHENOPODIACEAE (Goosefoot Family)</b>						
Spear orach	<i>Atriplex patula</i>	S	FACW	N		1,2
Pickleweed	<i>Salicornia pacifica</i>	H	OBL	N		1,2
<b>CONVOLVULACEAE (Morning-Glory Family)</b>						
Bindweed	<i>Convolvulus arvensis</i>	H	NL	I		1,2
<b>CUCURBITACEAE (Gourd Family)</b>						
California man-root	<i>Marah fabacea</i>	H	NL	N		2
<b>FABACEAE (Legume Family)</b>						
Silver wattle	<i>Acacia dealbata</i>	T	NL	I		1,2
Bird's-foot trefoil	<i>Lotus corniculatus</i>	H	FAC	I		1,2
Black medick	<i>Medicago lupulina</i>	H	FAC	I		1
California burclover	<i>Medicago polymorpha</i>	H	FACU	I		1,2
Yellow sweet clover	<i>Melilotus officinalis</i>	H	FACU	I		1,2
Little hop clover	<i>Trifolium dubium</i>	H	UPL	I		1
White clover	<i>Trifolium repens</i>	H	FACU	I		1,2
Subterranean clover	<i>Trifolium subterraneum</i>	H	NL	I		1,2
Spring vetch	<i>Vicia sativa</i>	H	FACU	I		1,2
Winter vetch	<i>Vicia villosa</i>	H	NL	I		2
<b>FAGACEAE (Oak Family)</b>						
Coast live oak	<i>Quercus agrifolia</i>	T	NL	N		1,2
Valley oak	<i>Quercus lobata</i>	T	FACU	N		1,2
<b>FRANKENIACEAE (Sea Health Family)</b>						
Alkali heath	<i>Frankenia salina</i>	H	FACW	N		1,2
<b>GERANIACEAE (Geranium Family)</b>						
Redstem filaree	<i>Erodium cicutarium</i>	H	NL	I		1,2
Greenstem filaree	<i>Erodium moschatum</i>	H	NL	I		2
Carolina cranesbill	<i>Geranium carolinianum</i>	H	NL	N		2
Cut-leaf geranium	<i>Geranium dissectum</i>	H	NL	I		1,2
Dove's-foot geranium	<i>Geranium molle</i>	H	NL	I		1,2

**Plant Species Observed at the PG&E I-195E L-021A Napa River Pipeline Crossing Replacement Project Site**

Common Name/Family	Scientific Name	Growth Habit <sup>1</sup>	Wetland Indicator Status <sup>2</sup>	Native Status <sup>3</sup>	Sensitivity / Listing Status <sup>4</sup>	Source <sup>5</sup>
<b>JUGLANDACEAE (Walnut Family)</b>						
Southern California black walnut	<i>Juglans californica</i>	T	FACU	N	4.2	2
Northern California black walnut	<i>Juglans hindsii</i>	T	FAC	N	1B.1	1
<b>LAMIACEAE (Mint Family)</b>						
Dead nettle	<i>Lamium amplexicaule</i>	H	NL	I		2
Horehound	<i>Marrubium vulgare</i>	H	FACU	I		2
Pennyroyal	<i>Mentha pulegium</i>	H	OBL	I		2
<b>LYTHRACEAE Loosestrife Family)</b>						
Hyssop loosestrife	<i>Lythrum hyssopifolium</i>	H	OBL	I		1,2
<b>MALVACEAE (Mallow Family)</b>						
Bull mallow	<i>Malva nicaeensis</i>	H	NL	I		1,2
Cheeseweed	<i>Malva parviflora</i>	H	NL	I		1
Alkali-mallow	<i>Malvella leprosa</i>	H	FACU	N		
<b>MORACEAE (Mulberry Family)</b>						
Edible fig	<i>Ficus carica</i>	T	FACU	I		1
<b>MYRSINACEAE (Myrsine Family)</b>						
Scarlet pimpernel	<i>Lysimachia arvensis</i>	H	FAC	I		1,2
<b>MYRTACEAE (Myrtle Family)</b>						
Red gum	<i>Eucalyptus camaldulensis</i>	T	FAC	I		1,2
Blue gum	<i>Eucalyptus globulus</i>	T	NL	I		1,2
<b>OLEACEAE (Olive Family)</b>						
Oregon ash	<i>Fraxinus latifolia</i>	T	FACW	N		2
<b>ONAGRACEAE (Evening Primrose Family)</b>						
Willow herb	<i>Epilobium sp.</i>					1,2
<b>OROBANCHACEAE (Broom-Rape Family)</b>						
Owl's clover	<i>Triphysaria versicolor</i>	H	NL	N		1,2
<b>PLANTAGINACEAE (Plantain Family)</b>						
English plantain	<i>Plantago lanceolata</i>	H	FAC	I		1,2
Common plantain	<i>Plantago major</i>	H	FAC	I		2
<b>POLYGONACEAE (Buckwheat Family)</b>						
Water smartweed	<i>Persicaria amphibia</i>	H	OBL	N		1,2

**Plant Species Observed at the PG&E I-195E L-021A Napa River Pipeline Crossing Replacement Project Site**

Common Name/Family	Scientific Name	Growth Habit <sup>1</sup>	Wetland Indicator Status <sup>2</sup>	Native Status <sup>3</sup>	Sensitivity / Listing Status <sup>4</sup>	Source <sup>5</sup>
Smartweed	<i>Persicaria punctata</i>	H	OBL	N		1
Knotweed	<i>Polygonum aviculare</i>	H	FAC	I		1,2
Curly dock	<i>Rumex crispus</i>	H	FAC	I		1,2
Fiddle dock	<i>Rumex pulcher</i>	H	FAC	I		1,2
<b>RANUNCULACEAE (Buttercup Family)</b>						
Beaked buttercup	<i>Ranunculus muricatus</i>	H	FACW	I		1,2
<b>ROSACEAE (Rose Family)</b>						
Cherry plum	<i>Prunus cerasifera</i>	T	NL	I		1,2
California rose	<i>Rosa californica</i>	S	FAC	N		1,2
Himalayan blackberry	<i>Rubus armeniacus</i>	V	FAC	I		1,2
California blackberry	<i>Rubus ursinus</i>	V	FAC	N		2
<b>RUBIACEAE (Madder Family)</b>						
Goose grass	<i>Galium aparine</i>	H	FACU	N		1,2
<b>SALICACEAE (Willow Family)</b>						
Lombardy poplar	<i>Populus nigra</i>	T	NL	I		1,2
Arroyo willow	<i>Salix lasiolepis</i>	T	FACW	N		1,2
<b>SAPINDACEAE (Soapberry Family)</b>						
Maple	<i>Acer sp.</i>	T				1
California buckeye	<i>Aesculus californica</i>	T	NL	N		1,2
<b>SCROPHULARIACEAE (Figwort Family)</b>						
Delta mudwort	<i>Limosella australis</i>	H	OBL	N	2B.1	1
<b>SIMAROUBACEAE (Quassia Family)</b>						
Tree-of-heaven	<i>Ailanthus altissima</i>	T	FACU	I		1
<b>ULMACEAE (Elm Family)</b>						
Siberian Elm	<i>Ulmus pumila</i>	T	NL	I		2
Stinging nettle	<i>Urtica dioica</i>	H	FACW	N		1,2
Dwarf nettle	<i>Urtica urens</i>	H	NL	I		2
<b>ALISMATACEAE (Water-Plantain Family)</b>						
Common water-plantain	<i>Alisma triviale</i>	H	OBL	N		2
<b>CYPERACEAE (Sedge Family)</b>						



**Plant Species Observed at the PG&E I-195E L-021A Napa River Pipeline Crossing Replacement Project Site**

<b>Common Name/Family</b>	<b>Scientific Name</b>	<b>Growth Habit<sup>1</sup></b>	<b>Wetland Indicator Status<sup>2</sup></b>	<b>Native Status<sup>3</sup></b>	<b>Sensitivity / Listing Status<sup>4</sup></b>	<b>Source<sup>5</sup></b>
Saltmarsh bulrush	<i>Bolboschoenus maritimus</i> ssp. <i>paludosus</i>	H	OBL	N		1,2
Santa Barbara sedge	<i>Carex barbarae</i>	H	FAC	N		1,2
Tall cyperus	<i>Cyperus eragrostis</i>	H	FACW	N		1,2
Common spikerush	<i>Eleocharis palustris</i>	H	OBL	N		1,2
Low club rush	<i>Isolepis cernua</i>	H	OBL	N		1
Tule	<i>Schoenoplectus acutus</i> var. <i>occidentalis</i>	H	OBL	N		1
Three-square	<i>Schoenoplectus americanus</i>	H	OBL	N		1,2
California bulrush	<i>Schoenoplectus californicus</i>	H	OBL	N		1,2
<b>JUNCACEAE (Rush Family)</b>						
Baltic rush	<i>Juncus balticus</i> ssp. <i>ater</i>	H	FACW	N		1,2
Toad rush	<i>Juncus bufonius</i>	H	FACW	N		1
Lamp rush	<i>Juncus effusus</i>	H	FACW	N		1,2
<b>JUNCAGINACEAE (Arrow-grass Family)</b>						
Common arrow-grass	<i>Triglochin maritima</i>	H	OBL	N		2
<b>POACEAE (Grass Family)</b>						
Spiked Bent Grass	<i>Agrostis exarata</i>	G	FACW	N		2
Slender wild oat	<i>Avena barbata</i>	G	NL	I		1, 2
California brome	<i>Bromus sitchensis</i> var. <i>carinatus</i>	G	NL	N		1,2
Rescue grass	<i>Bromus catharticus</i>	G	NL	I		1,2
Ripgut grass	<i>Bromus diandrus</i>	G	NL	I		1,2
Soft chess	<i>Bromus hordeaceus</i>	G	FACU	I		1,2
Bermuda grass	<i>Cynodon dactylon</i>	G	FACU	I		1,2
Orchard grass	<i>Dactylis glomerata</i>	G	FACU	I		1,2
Salt grass	<i>Distichlis spicata</i>	G	FAC	N		1,2
Beardless wild rye	<i>Elymus triticoides</i>	G	NL	N		1,2
Tall fescue	<i>Festuca arundinacea</i>	G	NL	I		1,2
Brome fescue	<i>Festuca bromoides</i>	G	FACU	I		1,2
Italian Rye grass	<i>Festuca perennis</i>	G	FAC	I		1,2
Low manna grass	<i>Glyceria declinata</i>	G	FACW	I		2

**Plant Species Observed at the PG&E I-195E L-021A Napa River Pipeline Crossing Replacement Project Site**

Common Name/Family	Scientific Name	Growth Habit <sup>1</sup>	Wetland Indicator Status <sup>2</sup>	Native Status <sup>3</sup>	Sensitivity / Listing Status <sup>4</sup>	Source <sup>5</sup>
Common velvet grass	<i>Holcus lanatus</i>	G	FAC	I		1,2
Meadow barley	<i>Hordeum brachyantherum</i>	G	FACW	N		1,2
Mediterranean barley	<i>Hordeum marinum</i> ssp. <i>gussoneanum</i>	G	FAC	I		1,2
Hare barley	<i>Hordeum murinum</i> ssp. <i>leporinum</i>	G	FACU	I		1,2
Barley	<i>Hordeum vulgare</i>	G	NL	I		2
Harding grass	<i>Phalaris aquatica</i>	G	FACU	I		1,2
California semaphore grass	<i>Pleuropogon californicus</i>	G	OBL	N		2
Annual blue grass	<i>Poa annua</i>	G	FAC	I		1,2
Rabbitfoot grass	<i>Polypogon monspeliensis</i>	G	FACW	I		1,2
Johnson grass	<i>Sorghum halepense</i>	G	FACU	I		1
Purple needlegrass	<i>Stipa pulchra</i>	G	NL	N		2
<b>TYPHACEAE (Cattail Family)</b>						
Narrow-leaved cattail	<i>Typha angustifolia</i>	H	OBL	I		2
Broad-leaved cattail	<i>Typha latifolia</i>	H	OBL	N		1,2
<b>Wetland Indicator Status<sup>2</sup></b>						
OBL = Obligate wetland species, occurs almost always in wetlands (>99% probability) FACW = Facultative wetland species, usually found in wetlands (67-99% probability) FAC = Facultative species, equally likely to occur in wetland and non-wetlands (34-66% probability) FACU = Facultative upland species, not usually found in wetlands (1-33% probability) UPL = Upland species, almost never found in wetlands (<1% probability) NI = No indicator has been assigned due to a lack of information to determine indicator status NL = Not listed, assumed upland species						
<b>Sensitivity / Listing Status<sup>4</sup></b>						
FE = Federal Endangered FT = Federal Threatened FC = Federal Candidate SE = California State Endangered ST = California State Threatened SR = State Rare			1B.1 = Threatened in California and elsewhere, seriously threatened in California 1B.2 = Threatened in California and elsewhere, moderately threatened in California 2B = Plants rare, threatened, or endangered in California but more common elsewhere 3 = Plants about which more information is needed 4 = Plants of limited distribution			
<b>Growth Habit<sup>1</sup></b>		<b>Native Status<sup>3</sup></b>		<b>Source<sup>5</sup></b>		
G = Grass H = Herb S = Shrub T = Tree		N = Native I = Introduced		1 = Padre Associates, Inc 2 = Applied Technology and Sciences		

**Plant Species Observed at the PG&E I-195E L-021A Napa River Pipeline Crossing Replacement Project Site**

Common Name/Family	<i>Scientific Name</i>	Growth Habit <sup>1</sup>	Wetland Indicator Status <sup>2</sup>	Native Status <sup>3</sup>	Sensitivity / Listing Status <sup>4</sup>	Source <sup>5</sup>
V = Vine						

## **APPENDIX D**

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### **WILDLIFE SPECIES OBSERVED**

## Wildlife Species Observed at the PG&E I-195E L-021A Napa River Pipeline Crossing Replacement Project Site

Common Name/ Family	Scientific Name	Sensitivity / Listing Status <sup>1</sup>
<b>REPTILES</b>		
<b>PHRYNOSOMATIDAE (spiny lizards)</b>		
Western Fence Lizard	<i>Sceloporus occidentalis</i>	
<b>BIRDS</b>		
<b>ANATIDAE (Ducks, Geese, and Swans)</b>		
Canada Goose	<i>Branta canadensis</i>	M
Mallard	<i>Anas platyrhynchos</i>	M
<b>ODONTOPHORIDAE (New World Quail)</b>		
California Quail	<i>Callipepla californica</i>	
<b>PHASIANIDAE (Partridges, Grouse, Turkeys, and Old World Quail)</b>		
Ring-necked Pheasant	<i>Phasianus colchicus</i>	
<b>COLUMBIDAE (Pigeons and Doves)</b>		
Eurasian Collared-Dove	<i>Streptopelia decaocto</i>	
Mourning Dove	<i>Zenaidura macroura</i>	M
<b>TROCHILIDAE (Hummingbirds)</b>		
Anna's Hummingbird	<i>Calypte anna</i>	M
<b>RALLIDAE (Rails, Gallinules, and Coots)</b>		
California Black Rail	<i>Laterallus jamaicensis coturniculus</i>	M, ST, FP, BCC
<b>CHARADRIIDAE (Lapwings and Plovers)</b>		
Killdeer	<i>Charadrius vociferus</i>	M
<b>LARIDAE (Gulls, Terns, and Skimmers)</b>		
California Gull	<i>Larus californicus</i>	M, WL
<b>PELECANIDAE (Pelicans)</b>		
American White Pelican	<i>Pelecanus erythrorhynchos</i>	M, CSC
<b>ARDEIDAE (Bitterns, Herons, and Allies)</b>		
Great Blue Heron	<i>Ardea herodias</i>	M
Great Egret	<i>Ardea alba</i>	M
Black-crowned Night-Heron	<i>Nycticorax nycticorax</i>	M
<b>CATHARTIDAE (New World Vultures)</b>		
Turkey Vulture	<i>Cathartes aura</i>	M
<b>PANDIONIDAE (Ospreys)</b>		
Osprey	<i>Pandion haliaetus</i>	M, WL
<b>ACCIPITRIDAE (Hawks, Kites, Eagles, and Allies)</b>		
Red-tailed Hawk	<i>Buteo jamaicensis</i>	M
<b>PICIDAE (Woodpeckers and Allies)</b>		
Nuttall's Woodpecker	<i>Picoides nuttallii</i>	M
<b>TYRANNIDAE (Tyrant Flycatchers)</b>		
Black Phoebe	<i>Sayornis nigricans</i>	M
<b>CORVIDAE (Jays and Crows)</b>		
California Scrub-Jay	<i>Aphelocoma californica</i>	M
Common Raven	<i>Corvus corax</i>	M
<b>HIRUNDINIDAE (Swallows)</b>		
Tree Swallow	<i>Tachycineta bicolor</i>	M
Cliff Swallow	<i>Petrochelidon pyrrhonota</i>	M

## Wildlife Species Observed at the PG&E I-195E L-021A Napa River Pipeline Crossing Replacement Project Site

Common Name/ Family	Scientific Name	Sensitivity / Listing Status <sup>1</sup>
<b>PARIDAE (Chickadees and Titmice)</b>		
Chestnut-backed Chickadee	<i>Poecile rufescens</i>	M
<b>TROGLODYTIDAE (Wrens)</b>		
Marsh Wren	<i>Cistothorus palustris</i>	M
<b>STURNIDAE (Starlings)</b>		
European Starling	<i>Sturnus vulgaris</i>	
<b>FRINGILLIDAE (Fringilline and Cardueline Finches and Allies)</b>		
House Finch	<i>Haemorhous mexicanus</i>	M
Lesser Goldfinch	<i>Spinus psaltria</i>	M
<b>PARULIDAE (Wood-Warblers)</b>		
Common Yellowthroat	<i>Geothlypis trichas</i>	M
<b>EMBERIZIDAE (Emberizids)</b>		
Savannah Sparrow	<i>Passerculus sandwichensis</i>	M
Song Sparrow	<i>Melospiza melodia</i>	M
<b>ICTERIDAE (Blackbirds)</b>		
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	M
Brewer's Blackbird	<i>Euphagus cyanocephalus</i>	M
<b>MAMMALS</b>		
<b>LEPORIDAE (Rabbits and Hares)</b>		
Black-tailed Hare	<i>Lepus californicus</i>	
<b>GEOMYIDAE (Pocket Gophers)</b>		
Botta's Pocket Gopher	<i>Thomomys bottae</i>	
<b>PROCYONIDAE (Raccoons and Relatives)</b>		
Raccoon	<i>Procyon lotor</i>	
<b>CERVIDAE (Deer, Elk, and Relatives)</b>		
Black-tailed Deer	<i>Odocoileus hemionus</i>	
<b>Sensitivity / Listing Status<sup>1</sup></b>		
M = Protected under the federal Migratory Bird Treaty Act (MBTA) FE = Federally Endangered FT = Federally Threatened FDL = Federally Delisted FSS = Forest Service Sensitive SE = California State Endangered	ST = California State Threatened CSC = California Species of Special Concern FP = California Fully Protected Species BCC = USFWS Birds of Conservation Concern WL = CDFW Watch List	

## **APPENDIX E**

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### **SITE PHOTOGRAPHS**

Photograph A.  
Northwest view of  
HDD entry pit work  
area on east side of  
Napa River. This  
work area is located  
primarily in the wild  
oats and annual  
brome grassland  
vegetation  
community. (photo  
taken May 24, 2022)



Photograph B.  
Northwest view of a  
portion of the HDD  
alignment east of the  
Napa River. This  
portion of the HDD  
alignment is under  
pickleweed mat and  
common three-  
square vegetation  
communities (photo  
taken May 24, 2022)





Photograph C.  
Northwest view of the  
approximate HDD  
alignment on the east  
side of the Napa  
River west of the  
railroad tracks. A  
pickleweed mat  
vegetation community  
is visible in the  
foreground. This is  
the approximate  
location where two  
California black rails  
were heard calling  
during field surveys.  
(photo taken May 24)



Photograph D.  
Southeast view of  
Suscol Creek at the  
approximate pipeline  
crossing location.  
Pipeline will be  
installed using  
trenchless installation  
methods under  
Suscol Creek. This  
vegetation community  
type is defined as an  
arroyo willow thicket.  
(photo taken May 24,  
2022)



Photograph E. East-southeast view of pipeline alignment located south of an access road and Suscol Creek on the east side of Napa River. Pipeline is proposed for trench installation at this location. The perennial pepper weed patch vegetation community is visible in the foreground of the photo (photo taken May 24, 2022)



Photograph F. East-southeast view of Suscol Creek during low tide taken from Soscol Ferry Road. The pickleweed mat marshland containing the HDD alignment is visible in the left side of the photograph. The perennial pepper weed patch vegetation community pictured in Photograph E is visible in the right side of the photograph (photo taken May 16, 2022)



Photograph G. East view of the arroyo willow thicket along Suscol Creek. Photo taken from the southern edge of the HDD Entry Workspace (photo taken May 24, 2022)



Photograph H. Southeast view of HDD exit pit work area on the west side of the Napa River. This work area is located in the wild oats and annual brome grassland vegetation community (photo taken May 25, 2022)



Photograph I.  
Southeast view of  
HDD alignment at the  
river crossing location  
from the west bank of  
the Napa River  
(photo taken May 25,  
2022)



Photograph J.  
Southeast view of  
pipe staging area at  
the location of the  
proposed crossing of  
the excavated  
channel (W-01) within  
the pastureland on  
west side of Napa  
River. At this portion  
of the channel the  
vegetation community  
observed was a  
cattail marsh (photo  
taken May 25, 2022)



Photograph K. Southeast view of pipe staging area adjacent to Stanly Lane from approximately the center point of the pipe string alignment. Vegetation communities observed along the pipe staging area included eucalyptus groves and harding grass swards (photo taken May 25, 2022)



Photograph L. West view of existing pipeline crossing location from the east bank of the Napa River (photo taken May 24, 2022).



Photograph M. East view of existing pipeline crossing location from west bank of the Napa River (photo taken May 25, 2022).



Photograph N. South view of the west bank of the Napa River at the pipeline crossing location. This is the approximate location where an individual Delta mudwort (*Limosella australis*) was found during special-status plant surveys conducted on May 25, 2022 (photo taken May 25, 2022).



Photograph O. North view of the location where the Delta mudwort was observed. Follow-up surveys conducted in August found the Delta mudwort had been lost due to bank erosion shown in this photo (photo taken August 18, 2022).



Photograph P. Northwest view of Decommissioning work area on west side of Napa River adjacent to access road. A pickleweed mat community is visible in the foreground of the photo surrounded by perennial rye grass fields (photo taken May 16, 2022).

