Wildcat Creek Fish Passage and Community Engagement Project
Initial Study and Mitigated Negative Declaration of Environmental Impacts - Draft

Prepared for: **June 2024**

Contra Costa County Flood Control and Water Conservation District

Prepared by:

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ACRONYMS AND ABBREVIATIONS

Term	Abbreviation
Burlington Northern Santa Fe	BNSF
California Department of Fish and Wildlife	CDFW
California Department of Water Resources	DWR
Confederated Villages of Lisjan Nation	CVLN
Contra Costa County Flood Control and Water Conservation District	the District
Cubic feet per second	Cfs
East Bay Regional Park District	EBRPD
Engineer Research and Development Center	ERDC
Northwest Hydraulic Consultants	NHC
National Marine Fisheries Service	NMFS
United States Army Corps of Engineers	USACE
Waterway Experiments Station	WES
Wildcat-San Pablo Creeks Watershed Council	WSPCWC

1. PROJECT DESCRIPTION

1.1 PROJECT LOCATION AND SURROUNDING LAND USE

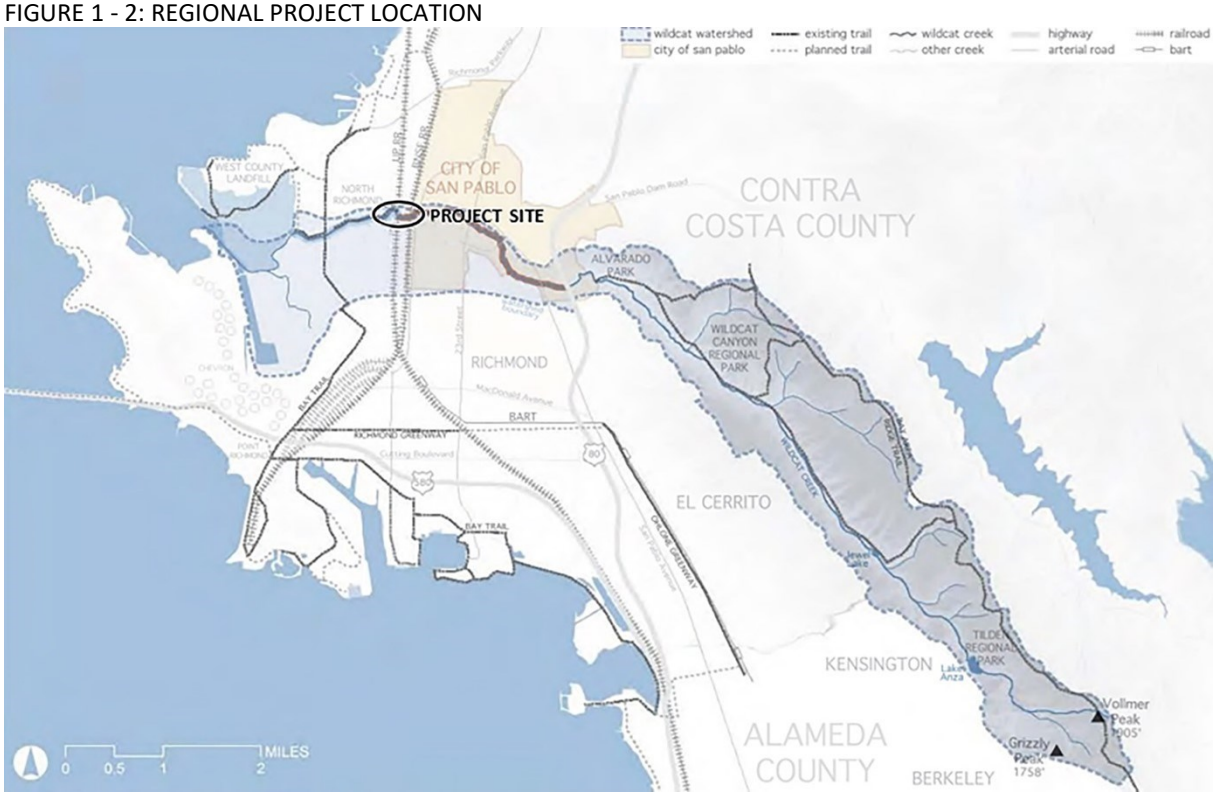
The Wildcat Creek Fish Passage and Community Engagement Project (Project) is located in North Richmond, an unincorporated area in western Contra Costa County and the Cities of Richmond and San Pablo, along the Wildcat Creek between Rumrill Boulevard and 6th Street (**FIGURE 1 - 1**). The Project Site includes the existing flood control and fish passage structures, the downstream sediment basin, the adjacent trail, and Contra Costa County Flood Control and Water Conservation District (District) corporation yard. The Project Site is located in a highly urbanized area of Contra Costa County with light industrial buildings, schools, and housing along the creek corridor. Adjacent lands include a railroad line that has been denuded of vegetation. Adjacent lots are zoned for light industrial use. Topography within the vicinity of the Project Site is generally flat.

The San Pablo Bay is approximately two miles west of the Project, and the cities of San Pablo and Richmond flank the eastern side of North Richmond – forming a dense urban area between I-580 to the south and I-80 to the east (**FIGURE 1 - 2**).

Wildcat Creek runs through the entire east-west extent of the Project and continues to flow west for approximately two miles into the San Pablo Bay. Wildcat Creek originates in Wildcat Canyon, and runs through the cities of Richmond, San Pablo, El Cerrito, and unincorporated Contra Costa County. Wildcat Creek within the Project Site runs under two bridges—the Union Pacific railroad (UPRR) and Burlington Northern Santa Fe (BNSF) railroad. Wildcat Creek Trail (managed by East Bay Regional Park District, and part of the Bay Trail) is adjacent to Wildcat Creek.

FIGURE 1 - 1: PROJECT LOCATION

FIGURE 1 - 2: REGIONAL PROJECT LOCATION



1.2 PROJECT BACKGROUND

The Wildcat Creek Flood Control Project, completed in 1995, extends approximately 2,200 feet along Wildcat Creek between the mouth at San Pablo Bay to Rumrill Boulevard. It increased the Wildcat Creek channel conveyance to 2,300 cubic feet per second (cfs), the 1 percent annual exceedance probability[1] (also known as the 100-year flood).

This project included construction of the Wildcat Creek flood control structure, an approximately 410-foot-long three-bay structure which is comprised of 8-foot tall concrete walls along the width of the channel, and two 6.5-foot tall, 300-foot-long interior concrete walls which separate the bays (**FIGURE 1 - 3**). A fish passage structure was built into the bottom of the middle bay of the flood control structure. It is comprised of a low flow concrete slot that is 4 feet wide through the entire 410-foot length of the concrete structure. Starting at the downstream end, an existing ladder fishway extends for 40 feet, which transitions into Washington baffles (also known as offset baffles or vertical slot baffles) for 365 feet. The fish passage structure flows into the sediment basin, which was designed and built to capture some of the large sediment loads from the upper watershed to prevent the accelerated filling of the marsh (Waterways Restoration Institute 2000).

FIGURE 1 - 3: FISH PASSAGE STRUCTURE

The fish passage structure currently clogs with urban debris and sediment, which increases sediment deposition in the fish passage structure (**FIGURE 1 - 4**). When blocked with debris, the fish passage structure is a barrier to upstream adult fish migration under all flows. In the sediment basin just downstream of the fish passage structure, poorly defined channels and excess sediment build up in wet

[1] 1 percent annual exceedance probabilty: 1 in 100 probability of maximum rate of flow of water at a given point in a channel, watercourse, or conduit resulting from the predetermined storm or flood being equaled or exceeded in any given year.

years also create partial fish passage barriers. The District and volunteer groups periodically clear urban debris and sediment from the fish passage structure. Even cleared of the debris, the fish passage structure does not meet California Department of Fish and Wildlife (CDFW) and National Marine Fisheries Service (NMFS) current fish passage criteria.

In order to bring the fish passage structure up to current fish passage criteria, the District engaged with environmental regulators to select a preferred alternative design for this Project. The preferred alternative incorporates boulders and rocks in the fish passage structure and improves fish passage by creating naturally replicated resting places for migrating fish.

The sediment basin presents several fish passage issues related to both natural sediment deposition and sediment removal practices. “Sediment deposited in the basin by winter storms fills the basin and low flow channel before spring migratory flows occur” (NHC 2014); without a well-defined low flow channel, braided channels may form in which none of the constituent flow paths have sufficient depth to meet fish passage criteria. Sediment from the sediment basin was last removed in the early 2010’s. Without regular removal of sediment, the basin’s sediment can pose a barrier to fish passage depending on how the low flow channel is formed in the basin bottom.

FIGURE 1 - 4: EXISTING FISH LADDER, FILLED WITH SEDIMENT, LOOKING UPSTREAM FROM SEDIMENT BASIN (PHOTO FROM 2022)

1.2.1 Project Permissions

The Project Site is either owned by the District, in easement to District, or located in Contra Costa County right-of-way (**FIGURE 1 - 5**). Sediment excavated from the fish ladder passageway and sediment basin will be directly off-hauled and/or temporarily stockpiled in the vacant, upland area of the Project Site that is used by the District as a corporation yard for maintenance. Excavated sediment may be off-hauled to the West County Wastewater District (WCWD), therefore the District will need to enter into a License Agreement with WCWD to allow them access onto the District parcel. The soil will be tested as hazardous materials prior to off-haul to determine if the soil can be accepted by WCWD or otherwise, at alternate suitable location(s) which may also require License Agreement or real estate transactions. Work beneath the UPRR in the grant deed area and near the BNSF railroad will require notification to the relevant utilities of work being conducted. Additional permissions and real estate transactions may be necessary for the Project to be implemented.

FIGURE 1 - 5: PROJECT ASSESSOR'S PARCEL NUMBERS

1.2.2 Utilities

The Project's geotechnical and subsurface investigations identified several utilities located beneath and above the project elements. The closest utility to the upstream channel modifications is a 16" high pressure gas line of unknown depth that is adjacent to the BNSF bridge, approximately 35 linear feet from the channel modifications. Beneath the fish passage structure there is a Kinder-Morgan-owned natural gas pipeline, which runs approximately 42 feet beneath the existing fish passage structure; a WCWD sanitary sewer pipe, which runs approximately 6 feet beneath the existing fish passage structure; an abandoned Shell Oil pipeline that crosses approximately 6 feet beneath the fish passage structure at the upstream end of the UPRR bridge, and a Verizon/MCI fiber optic cable which crosses

approximately 25 feet beneath the fish passage structure. Within the sediment basin, there is an existing Kinder-Morgan pipeline, of unknown depth but at least 3 feet below the design bottom elevation of the sediment basin and a Pacific Gas & Electric (PG&E) utility pole that runs north-south across the sediment basin. The PG&E utility pole will have to be relocated north of its current location to accommodate the sediment basin expansion. The Project's excavation depths will not impact any buried utilities.

1.3 PROJECT GOALS AND OBJECTIVES

The purpose of the Project is to:

- Improve habitat connectivity for aquatic species, including the Central California Coast steelhead trout (*Oncorhynchus mykiss*), by retrofitting the fish passage structure and sediment basin to meet fish passage criteria.
- Improve flow and sediment conditions of Wildcat Creek.
- Provide recreational and educational benefits to the local community.

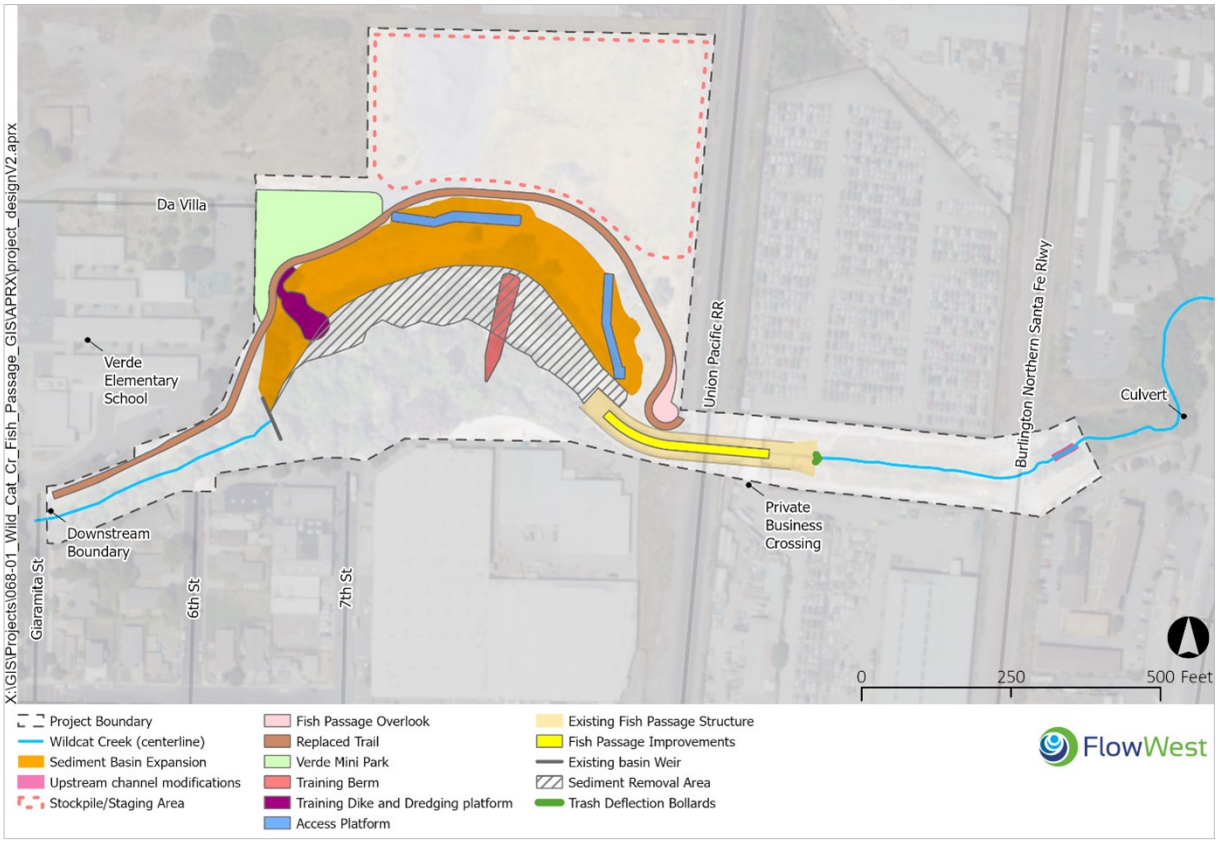
These goals will be accomplished by:

- Retrofitting the existing fish ladder and modifying sediment basin within the Lower Wildcat Creek Flood Control Channel to create a widened and more natural fish passage corridor.
- Expanding the sediment basin to the north so that the amount of sediment it captures is the same as its original capacity. No sediment removal will take place in the riparian woodland area that has formed in the original area of the sediment basin.
- Modifying the channel by removing a section of riprap and installing trash deflection bollards upstream of the fish passage structure in order to improve flow conditions.
- Providing public amenities for the community to use including trail improvements, overlook areas, interpretive features, and potential recreational and educational areas.

1.4 COMPONENTS

The Project components include improvements to the fish passage structure, modifications to the sediment basin, modifications to the flood control channel, and community amenities. **FIGURE 1 - 6** shows the Project Site and main Project components.

FIGURE 1 - 6: PROJECT ELEMENTS

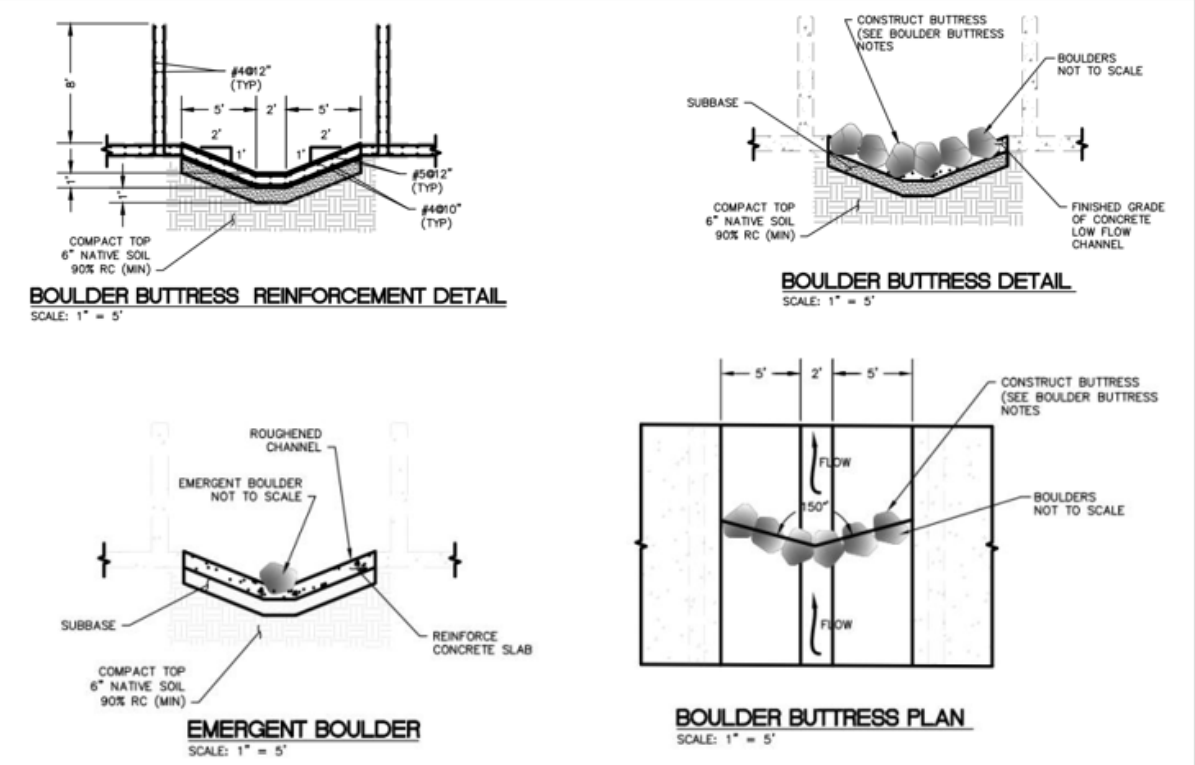


1.4.1 Fish Passage Structure Improvements

The District will modify the existing fish passage structure, which consists of a fish ladder (4 feet wide and 405 feet long) located within the middle bay of the flood control structure, in order to resolve the current issues related to flows and clogging. The structure will be modified to meet the CDFW and NMFS fish passage criteria related to fish passage design flows, water velocity, hydraulic drop height, water depth, and turbulence (CDFG 2009). This will be accomplished by demolishing the existing fish ladder and replacing it with a step pool system and roughened ramp channel. A step pool system will be constructed as the western segment (approximately 159 feet), and a roughened ramp channel will be constructed for the eastern segment (approximately 245 feet). The roughened ramp design is shown in cross-section in **FIGURE 1 - 7**. The roughened ramp will incorporate large boulders to create eddies and resting places for migrating steelhead. In order to construct a more natural streambed, the boulders will be grouted in concrete to soften edges. Boulder weirs will be used to dissipate energy from flows and to create the step pools.

The new design will also meet USACE performance criteria related to the 1% annual exceedance probability flood, or 100-year flood. With the above modifications described above, the fish passage structure will be able to accommodate flows up to 170 cfs.

FIGURE 1 - 7: CROSS-SECTIONAL VIEWS OF BOULDER BUTTRESSES



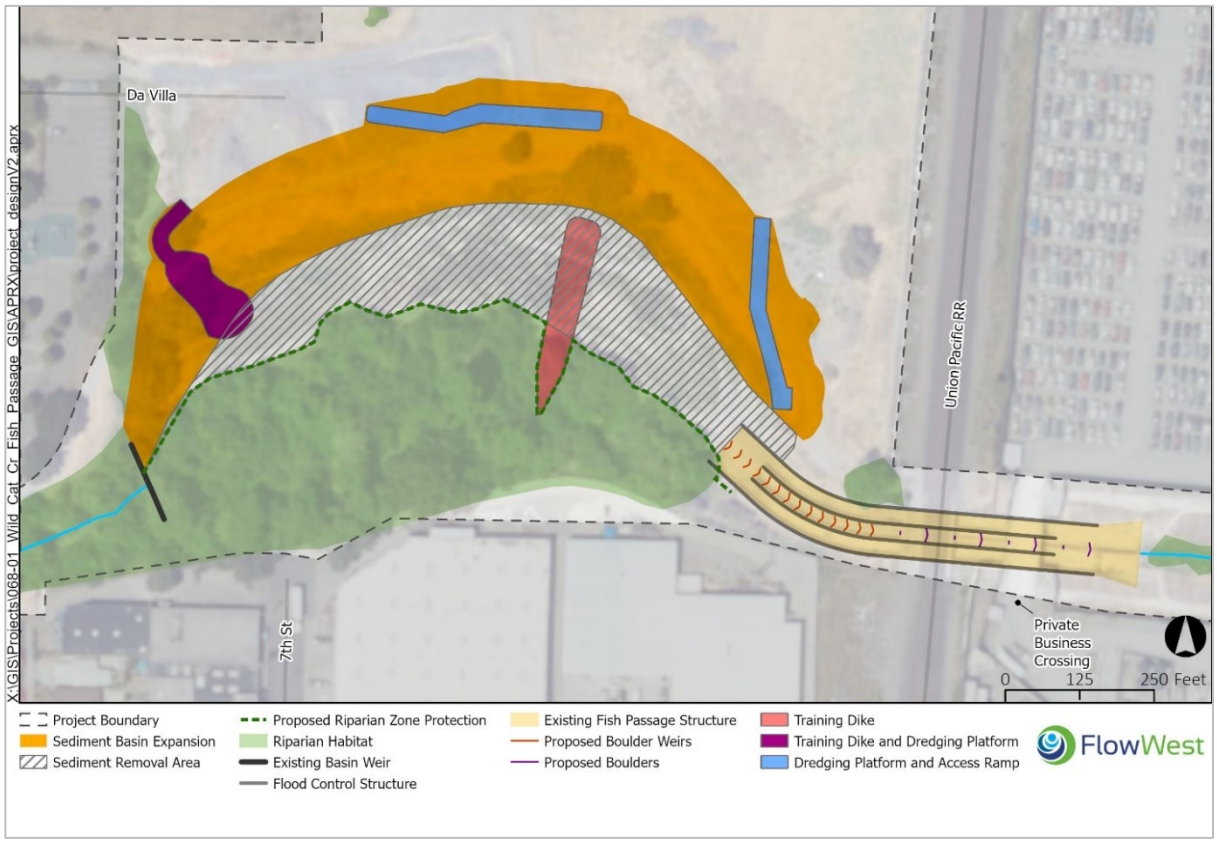
1.4.2 Sediment Basin Modifications

As described in Section 1.2, Wildcat Creek's channel through the sediment basin is often not deep enough for fish to travel through it. Sediment basin modifications will create a more stable channel for fish passage and will aid in access to maintain the sediment basin.

The existing sediment basin will first have sediment removed within the original area, excluding the riparian zone protection area. One combination Sediment Removal Platform and Access Ramp will be constructed so that equipment, such as excavators, can maintain the channel. Two training berms, one of which is combined with an access ramp, will be constructed across the sediment basin to help stabilize the low flow channel in the sediment basin. The training berms will direct flows to form and maintain a single-threaded, passable channel.

To increase basin capacity and thereby reduce the depth of deposition from a given event, the sediment basin will be expanded by approximately 50 feet to the north to a depth of 16 feet below current ground surface. A riparian zone protection area will be created along the south side of the channel to coincide with the outer limit of the riparian vegetation zone to preserve riparian vegetation, and willows will be planted along the edges of the basin and on the eastern training berm. **FIGURE 1 - 8** shows these elements.

FIGURE 1 - 8: PROJECT FISH PASSAGE AND SEDIMENT BASIN ELEMENTS



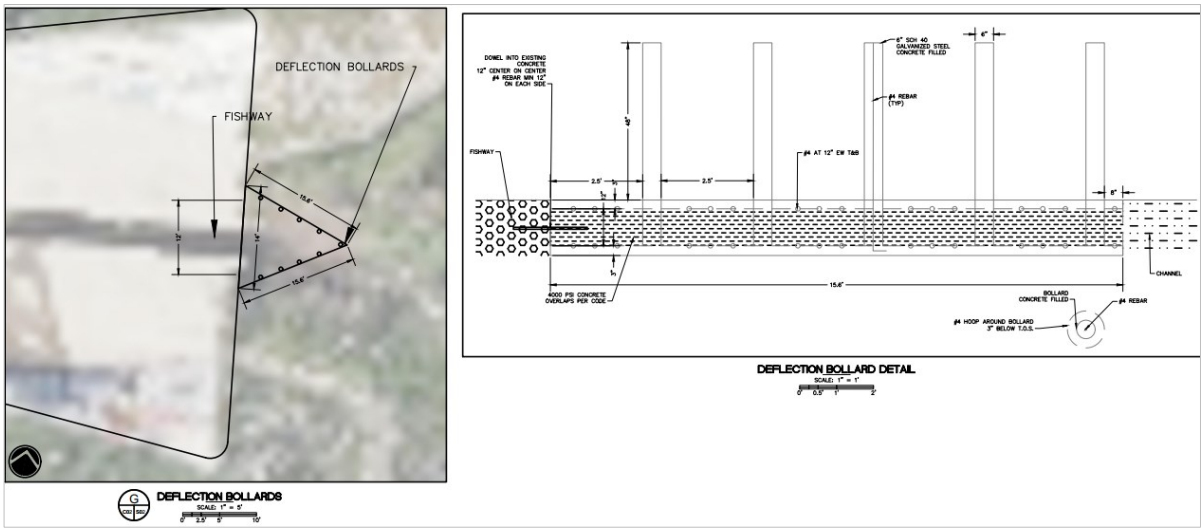
1.4.3 Flood Control Channel Modifications

The Project would regrade a segment of the channel upstream of the BNSF railroad bridge to improve flow conditions within Wildcat Creek. The Project would lower the bed of the channel by removing grouted riprap along 54 feet of the channel bed. The maximum disturbance of this element would be a temporary depth of 2 feet, with backfilling of rock to form a lip to ensure a consistent slope and ensure channel thalweg stability. This would result in lowering the bed by a maximum of approximately 0.8 feet with the goal of allowing sediment to flush downstream. All activity would take place outside of BNSF Railroad right of way.

Trash Deflection Bollards

Trash deflection bollards will be added upstream of the fish passage structure to prevent clogging from urban debris. The area immediately upstream of the existing fish passage structure will be excavated to 2 feet below the fish passage structure base. A concrete pad will be built in a triangle shape of 14 feet by 15.6 feet by 15.6 feet, with the 14-foot side facing and centered on the fish passage structure so that the bollards would divert any debris from entering the fish passage structure. Nine bollards that are 6 inches in diameter and rise 4 feet above the fishway base will be formed in a chevron shape. The bollards will be composed of galvanized steel that is filled with concrete and spaced 2.5 feet apart **(FIGURE 1 - 9)**.

FIGURE 1 - 9: TRASH DEFLECTION BOLLARDS



1.4.4 Community Amenities

The Project will include construction of public amenities for the local community. Key elements include a mini park, trail improvements, and a fish passage overlook. The maximum depth of disturbance of community amenities would be 3 feet for the mini park, 2 feet for the trail improvements, and 3 feet for the fish passage overlook. See **FIGURE 1 - 10** below.

FIGURE 1 - 10: COMMUNITY AMENITIES ELEMENTS

Verde Mini Park

The Verde Mini Park (mini park) will serve as a recreational amenity for community members to sit, play, and learn in an informal but naturalistic setting. The park includes a composite wood deck, partially covered by a fabric shade. Seating options will include wood platform benches and tree stumps. Interactive components to the mini park will include an artificial turf play area with mounds and wood logs between mounds for informal play. The park will also have bike racks in order to encourage biking as a form of transportation to the park.

Trail Improvements

The existing trail will be demolished and approximately 1,500 linear feet of replacement trail will be constructed between Verde Elementary School and the fish passage overlook. The new trail will be realigned to accommodate the expanded basin. The trail will be composed of asphalt and decomposed granite and follow the East Bay Regional Park District's (EBRPD) design guidelines to maintain consistency with other parts of the Bay Trail. Lighting that is dark-sky compliant will be placed along the trail which will also follow EBRPD's design guidance.

Fish Passage Overlook

The replacement trail will end at the fish passage overlook (overlook area). The overlook area will feature interactive features, such as interpretive signs, telescopes, art on the pavement, and a wildlife play sculpture. The overlook area's seating will include tree stump seating and cast-in-place concrete terrace seats/walls as part of a small amphitheater. The overlook area will also feature a rain garden bioretention area with native planting. Guardrails will be installed to keep visitors from the fish passage structure, which has a steep drop off.

Other Components

New Wayfinding Signage

New wayfinding signage will be included at the trail entry at the east side of the Project Site.

Plantings, Wildlife Fencing, and Gates

New plantings will include a planting mix of native, drought-tolerant plants, which will be placed along the trail.

A 6-foot-high wildlife-passage friendly fence will be built along the north side trail to keep trash from blowing into the creek and to separate the community amenities from the District corporation yard. The fencing will be constructed per EBRPD's standards.

Gates include a gate to a pedestrian walkway on the west side of the project connecting to Verde school and an 18-foot-wide gate and fence on the north side of the mini park to allow for maintenance access for the District corporation yard through the mini park.

Lighting

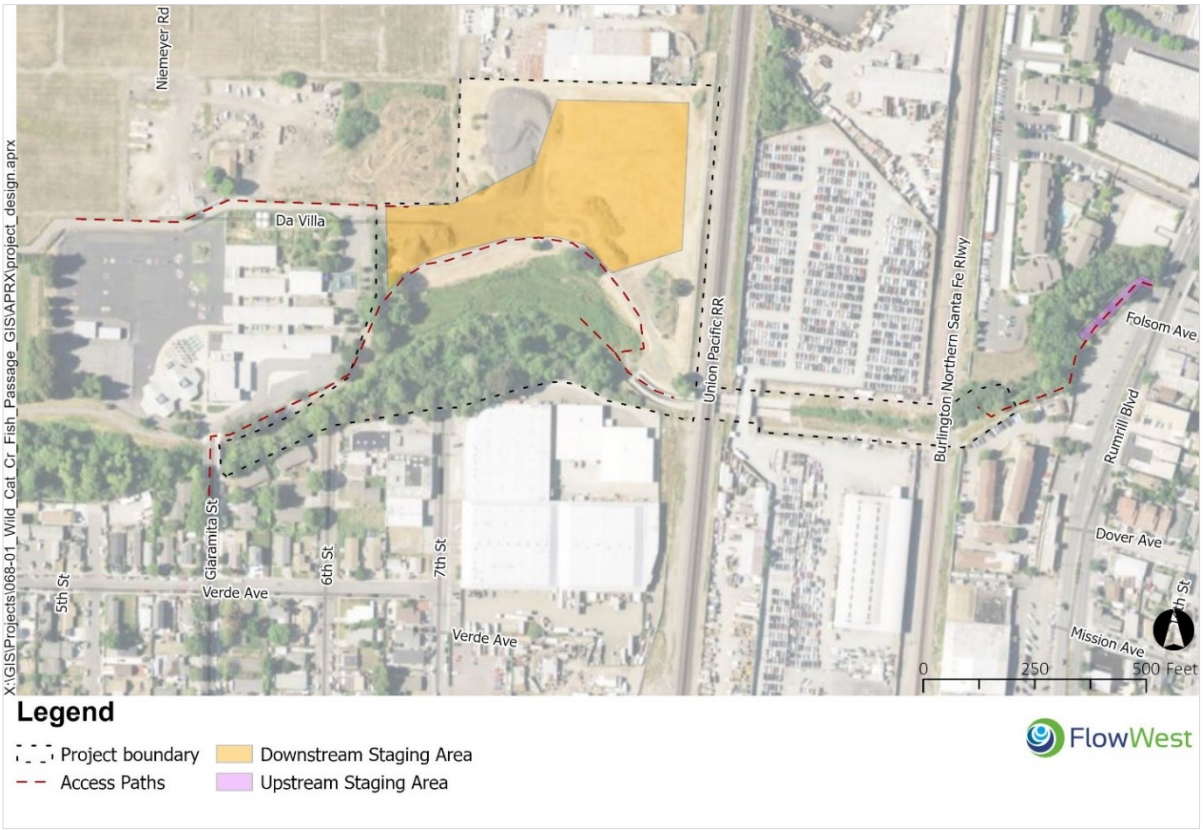
The lighting for the community amenities will include a mixture of dark sky compliant with downward-facing and low-lumen output, bollard lighting, on-ground luminaire low-level pathway lighting, and pole lighting throughout the mini park.

1.5 CONSTRUCTION DETAILS

1.5.1 Staging and Access

A portion of the large open area, located in the northern portion of the Project Site and owned by the District, will be used as a staging area. The staging area and fish passage structure and sediment basin work will be accessed from Da Villa Road. The channel modification work will be accessed from Rumrill Boulevard (**FIGURE 1 - 11**).

FIGURE 1 - 11: STAGING AND ACCESS



1.5.2 Tree Preservation and Removal

Tree removal will be limited to what is necessary to construct the Project. Approximately 28 trees, including willows, cottonwoods, and coast live oaks will be removed. Almost all of the trees on the southern side of the existing sediment basin, mapped as riparian wetland, will be preserved (see **Figure 1-8**, Proposed Riparian Zone Protection), with the exception of five willows that will be removed for the construction of the training berm.

1.5.3 Cut and Fill

The excavated sediment material from the sediment basin will be off-hauled and/or stockpiled temporarily at an upland location in the northern portion of the Project Site. The soil will be tested as

hazardous materials prior to off-haul and/or stockpile storage. If the soil contains hazardous levels, the soil will be appropriately remediated in compliance with federal, State, and local hazardous materials regulations, and any off-hauled material would be disposed of at the appropriate waste facility. Excess demolition material (including concrete and riprap) would be transported to the appropriate disposal facility. **TABLE 1 - 1** does not include concrete cut and fill for the fish passage structure demolition and construction, which is approximately 1,133 CY of cut and 600 CY of fill.

TABLE 1 - 1: PROJECT CUT AND FILL

Project Component	Cut (CY)	Fill (CY)
Sediment Basin Expansion	20,203.32	0
Basin Sediment Removal	16,142.26	72.34
Upstream Training Berm	73.31	1,266.97
Downstream Training Berm and Access Platform	163.61	367.3
Upstream Access Platform & Ramp	571.97	0
Downstream Access Platform & Ramp	970.37	0
Platform Side Slopes	2,728.36	0
Fish Passage Structure	578.71	0.02
Upstream Channel Modifications	3.27	1.05
Trash Deflection Bollards	0	100
Community Amenities	3,000	2,000
Total	36,364.05	3,807.68

1.5.4 Work Window, Construction Workers, and Equipment

Project construction is anticipated to begin in 2025 and take one construction season. The available construction window is limited by the presence of protected species and sensitive habitats. Construction would take place between April and November, and to minimize impacts to special status fish species in-water work would be further limited to June 1st through October 31st.A crew of approximately 10 construction workers, with a maximum of 15 construction workers during peak activities, is anticipated to construct the Project. It is assumed that hauling activities would be consistent over the full construction window of 125 days, which is not represented in **TABLE 1 - 2**. The community amenities are expected to be constructed separately, but could occur as shown in **TABLE 1 - 2**. The Project is broken down by phase and, equipment used for construction in **TABLE 1 - 2**, below.

TABLE 1 - 2: PROJECT PHASING AND EQUIPMENT

	Project Component	**Description**	**Equipment**	**Time**
Phase 1	Site Preparation	Grubbing/clearing	• Mower • Track Pulled Scraper • Conventional Scraper • Bulldozer	1 week
Phase 2	Sediment Removal	Removal of existing sediment within basin	• Excavator • Front Loader • Dump Truck • Crane • LGP Track Dump truck	2 weeks
Phase 3	Fish Passage Structure Modifications	Demolition and construction, including bollards	• Jackhammer • Mini Excavator	6 weeks
	Sediment Basin Expansion and Modifications	Expand sediment basin, build access and training berms	• Excavator • Front Loader • Bulldozer/Grader • LGP Track Dump truck • Dump Truck • Compactor • Water Truck	6 weeks
	Flood Control Channel Modifications	Grading/removal of riprap and lip construction	• Excavator • Front Loader • Dump Truck • Crane	2 weeks
Phase 3	Community Amenities	Construction of play area, overlook, outdoor classroom, other associated work	• Rubber-tired Dozer • Tractor/Loader/Backhoe • Water Truck • Forklift • Concrete Truck • Crane • Paver and Paving Equipment • Roller	4 weeks
Phase 4	Site clean-up and Revegetation		• Drill Seeder • Hydroseeder • Grader	2 weeks
	Total			15 weeks

1.6 OPERATION AND MAINTENANCE

Once completed, the Project will not require regular operation. Maintenance activities would include annual inspection of the low flow channel through the sediment basin to assess the extent of sedimentation and recommend potential sediment removal. Sediment removal will take place as needed to maintain fish passage through the sediment basin. Sediment removal would follow design dimensions from the as-built conditions to maintain the training berms and access ramps. Annual inspection and potential clearing of debris and sediment from the fish passage structure is anticipated, though the structure will be designed to pass sediment to the basin. The channel modification area will need annual inspection to ensure adequate cross-sections and bed elevations are maintained. If the channel through the sediment basin does not form a low-flow channel, adaptive management will be necessary to assess the need and actions to maintain fish passage through the sediment basin.

The community amenities will be maintained by a separate entity from the District. Though the separate entity has not yet been identified, community amenities maintenance will likely also be inspected bi-annually to ensure they are in serviceable conditions for community use.

Sources of Information

California Department of Fish and Game. 2009. California Salmonid Stream Habitat Restoration Manual, Part XII: Fish Passage Design and Implementation. Available at: https://nrm.dfg.cYa.gov/FileHandler.ashx?DocumentID=12512+&tabid=189&mid=601

Northwest Hydraulic Consultants. 2014. Wildcat Creek Fish Ladder Retro-fit: Alternative Analysis and Basis of Design Report.

United States Army Corps of Engineers. 1988. Wildcat and San Pablo Creeks, Modified Selected Plan, Design Memorandum No. 1, Modified Selected Plan Design Memorandum Supplement No. 2. Prepared by Sacramento District of the USACE. May 1988.

Waterways Restoration Institute. 2000. Lower Wildcat Creek Restoration Project Designed and Constructed in 2000 Richmond, California.

2. INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION OF ENVIRONMENTAL IMPACTS

CEQA ENVIRONMENTAL CHECKLIST FORM

1.	**Project Title:**	Wildcat Creek Fish Passage and Community Engagement Project
2.	**Lead Agency Name and Address:**	Contra Costa County Department of Conservation and Development 30 Muir Road, Martinez, CA 94553
3.	**Contact Person and Phone Number:**	Laura Cremin, Environmental Analyst, (925) 313-2015 , Laura.Cremin@pw.cccounty.us Contra Costa County Public Works Department
4.	**Project Location:**	North Richmond, an unincorporated area in western Contra Costa County and the Cities of Richmond and San Pablo, along the Wildcat Creek between Rumrill Boulevard and 6th Street APNs: 409-300-XXX, 409-300-036, 409-311-001, 409-320-XXX, 409-312-XXX, 411-020-XXX, 411-030-007, 411-020-034
5.	**Project Sponsor's Name and Address:**	Contra Costa County Flood Control and Water Conservation District 255 Glacier Drive, Martinez, CA 94553
6.	**General Plan Designation:**	Contra Costa County: Open Space (OS), Public/Semi-Public (PS), Light Industry (LI) City of San Pablo: Parks/Recreation City of Richmond: Parks and Recreation, Business/Light Industrial
7.	**Zoning:**	Contra Costa County: Planned Unit (P-1) City of San Pablo: Open Space District (OS)

8. Description of Project:

The purpose of the Wildcat Creek Fish Passage and Community Engagement Project (Project) is to improve habitat connectivity for aquatic species, including Central California Coast steelhead trout (*Oncorhynchus mykiss*), improve channel conveyance, and benefit the local community.
Project activities include:

- Retrofitting the existing fish ladder and sediment basin within the Lower Wildcat Creek Flood Control Channel to create a more natural fish passage corridor while maintaining sediment basin's existing capacity.
- Widening and modifying the sediment basin to create a more stable channel for fish passage and to aid in access to maintain fish passage through the sediment basin.
- Modifying the channel upstream of the fish ladder by removing riprap in the channel to improve sediment transport.
- Providing public amenities for the community to use including trail improvements, overlook areas, interpretive features, and potential recreational and educational areas.

The Project will meet California Department of Fish and Wildlife (CDFW) and National Marine Fisheries Service (NMFS) current fish passage criteria as well as U.S. Army Corps of Engineers (USACE) performance criteria related to the 1% annual exceedance probability flood, or 100-year flood.

9. Surrounding Land Uses and Setting:

The Wildcat Creek Fish Passage and Community Engagement Project (Project) is located in North Richmond, an unincorporated area in western Contra Costa County and the Cities of Richmond and San Pablo, along the Wildcat Creek between Rumrill Boulevard and 6th Street. (See **FIGURE 1 - 1** above, in Chapter 1.) The Project Site is located in a highly urbanized area of Contra Costa County with light industrial buildings, schools, and housing along the creek corridor. Adjacent lands include a railroad line that has been denuded of vegetation. Adjacent lots are zoned for light industrial use. Topography within the vicinity of the Project Site is generally flat.

The San Pablo Bay is approximately two miles west of the Project, and the cities of San Pablo and Richmond flank the eastern side of North Richmond – forming a dense urban area between I-580 to the south and I-80 to the east.

Wildcat Creek runs through the entire east-west extent of the Project and continues to flow west for approximately two miles into the San Pablo Bay. Wildcat Creek originates in Wildcat Canyon, and runs through the cities of Richmond, San Pablo, El Cerrito, and unincorporated Contra Costa County. Wildcat Creek Trail (managed by East Bay Regional Park District) is adjacent to Wildcat Creek.

10. Other public agencies whose approval is required (e.g., permits, financing, approval, or participation agreement:

U. S. Army Corps of Engineers (Section 404 Clean Water Act permit requirements, Section 408 Rivers and Harbors Act), San Francisco Bay District of the Regional Water Quality Control Board (Section 401 Clean Water Act permit requirements), California Department of Fish and Wildlife (Lake and Streambed Alteration Program), State Water Resources Control Board (Section 402 Clean Water Act- National Pollution Discharge Elimination System General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities), West County Wastewater District plant (temporary real property agreement). Coordination and/or approval from the City of Richmond may be necessary due to the Project partially taking place within the City of Richmond as a CEQA-responsible agency.

11. Have California Native American tribes traditionally and culturally affiliated with the Project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

Yes, tribes that have previously requested to be notified of Projects within Contra Costa County under AB52 include Wilton Rancheria and the Confederated Villages of Lisjan Nation (CVLN). The District conducted outreach to initiate consultation on November 10, 2023 (refer to Section XVIII. Tribal Cultural Resources for the record of contacts). Wilton Rancheria did not request consultation nor provide information about potential resources. CVLN requested consultation. The District consulted with CVLN regarding the methods of resource investigation identification and avoidance, mitigation, and monitoring measures. Refer to Section XVIII. Tribal Cultural

Resources for the record of consultation meetings. Measures were agreed upon and consultation was concluded on February 28, 2024. Additionally, coordination with CVLN may occur through Section 106 of the National Historic Preservation Act (refer to Section V. Cultural Resources).

Environmental Factors Potentially Affected		
The environmental factors checked below would be potentially affected by this Project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.		
☐ Aesthetics	☐ Agricultural and Forestry Resources	☒ Air Quality
☒ Biological Resources	☒ Cultural Resources	☐ Energy
☒ Geology/Soils	☐ Greenhouse Gas Emissions	☒ Hazards & Hazardous Materials
☐ Hydrology/Water Quality	☐ Land Use/Planning	☐ Mineral Resources
☒ Noise	☐ Population/Housing	☐ Public Services
☐ Recreation	☐ Transportation	☒ Tribal Cultural Resources
☐ Utilities/Services Systems	☐ Wildfire	☐ Mandatory Findings of Significance

ENVIRONMENTAL DETERMINATION

On the basis of this initial evaluation:

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

☒ I find that, although the Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the Project have been made by or agreed to by the Project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the Project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the Project, nothing further is required.

Syd Sotoodeh — July 2, 2024

Syd Sotoodeh
Senior Planner
Contra Costa County
Department of Conservation & Development

[Date]

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

AESTHETICS SUMMARY

a) Would the Project have a substantial adverse effect on a scenic vista?

According to the Contra Costa County General Plan 2005 – 2020 (General Plan), the District has two main scenic resources in addition to many localized scenic features: (1) scenic ridges, hillsides, and rock croppings; and (2) the San Francisco Bay/Delta estuary system. The General Plan is still in effect, as Contra Costa County is currently in the process of updating the next version of the General Plan. There are no scenic resources, as defined by General Plan, located on the Project Site. The nearest designated scenic resources to the Project Site are the San Pablo Bay, located approximately 1.2 miles to the northwest, and San Pablo Ridge located approximately five miles to the southeast. The Project Site is not visible from either of these resources.

The General Plan, in lieu of identifying scenic vistas, identifies scenic roads as they also afford publicly available views. A scenic road is defined as having a highway, road, drive, or street that, in addition to its transportation function, provides opportunities for the enjoyment of natural and human-made scenic resources. Scenic roads direct views to areas of exceptional beauty, natural resources or landmarks, or historic or cultural interest. In the General Plan, the nearest scenic route is I-580, located approximately 2.4 miles south of the site. Due to the distance and intervening development, the Project Site is not visible from this scenic route.

The Project will not have a substantial adverse effect on any scenic vista because no scenic vistas are nearby the Project Site. Therefore, there would be **no impact**.

b) Would the Project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic building within a state scenic highway?

There are no officially designated State Scenic Highways or County scenic roadways in or adjacent to the Project Site. The Project Site is located approximately 1.5 miles west of I-80, which is not designated as a State Scenic Highway. The nearest eligible State Scenic Highway, which is also designated as a Scenic Highway in the General Plan, is I-580, located approximately 2.4 miles south of the site. The nearest officially Designated State Scenic Highway is SR-24, located approximately 10.6 miles southeast of the Project Site. There are no scenic resources, as defined by the General Plan, located on the Project Site, of which a view would be available from a scenic highway or roadway. Given the absence of scenic highways proximate to the Project Site, the lack of designated scenic resources (i.e., ridgelines, hillsides, rock outcroppings) on the Project Site, and the presence of intervening development between the Project Site and the nearest scenic highways, the Project would not adversely affect views from a State Scenic Highway. Therefore, there would be **no impact**.

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

The Project is located in North Richmond, which is an urban area. The applicable governing document for scenic quality is the General Plan described in Section I.a. The Project Site is zoned as Planned Unit (P-1) and therefore has specific measures developed for the North Richmond Area. The County General Plan policy related to scenic quality within the North Richmond area states that growth and development should "Achieve an upgrading of the visual appearance and unity of the area through architectural and landscaping requirements and utility undergrounding."

Construction of the Project would include demolition and removal of the existing fish passage structure. The demolition during construction, which will include the presence of large construction equipment, could affect the existing visual character and quality of the Project Site; however, these impacts would be temporary. Components of the Project include public amenities such as lighting along with the construction of a new fish passage structure. These components would keep with the character of the area as well as upgrade the existing visual character by removing debris once construction is complete. The Project will not introduce buildings, structures, or other features. The Project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings. Therefore, the impact to the existing visual character would be **less-than-significant**.

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

The Project would not create a new permanent source of light or glare that would adversely affect day or nighttime views. No reflective surfaces would be installed by the Project. Lighting such as low-intensity outdoor lights that are directed and shielded downward to prevent light from

emanating will be included as part of the public amenities components would be a new source of light, however, it would not be substantial and would keep with the character of the area. Construction activities are expected to take place during daylight hours only and thus, no nighttime lighting would be needed. If unforeseen circumstances necessitate night work, it would be temporary and require approval by the Resident Engineer who will be available to address any concerns. Therefore, the impact would be **less-than-significant**.

Sources of Information

California Department of Transportation. 2019. List of Eligible and Officially Designated Scenic Highways. Website: https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways. Accessed January 6, 2023.

Contra Costa County. 2005. Contra Costa County General Plan 2005-2020. Chapter 9. Open Space Element, Chapter 5. Transportation and Circulation Element. Website: https://www.contracosta.ca.gov/4732/General-Plan. Accessed January 6, 2023.

FlowWest. 2024. Wildcat Fish Passage Implementation Project 90% Design.

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

AGRICULTURAL AND FOREST RESOURCES SUMMARY

a) Would the Project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

The Project would not affect any locally or statewide important farmland. According to the California Department of Conservation Farmland Mapping and Monitoring Program (DOC 2018), there is no farmland in the Project area, and the area is not currently used for agricultural purposes. Since the area immediately adjacent to the Project consists of roadways and residential, commercial, and industrial properties, the entire project area is designated as Urban and Built-Up Land. Therefore, there would be **no impact**.

b) Would the Project conflict with existing zoning for agricultural use, or a Williamson Act contract?

The Project would not conflict with existing zoning for agricultural use or a Williamson Act contract. The Project area is zoned as Planned Unit and Open Space District. There is no farmland in the Project area, and the land is not under a Williamson Act contract. Therefore, there would be **no impact**.

c) Would the Project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g), timberland (as defined by Public

Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g) or conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)?

The Project would not conflict with existing zoning or cause rezoning of forest land or timberland. The Project area is zoned as Planned Unit and Open Space District. There is no forestland, or land zoned for timberland production in the Project area. Therefore, there would be **no impact**.

d) Would the Project involve or result in the loss of forest land or conversion of forest land to non-forest use?

The Project would not result in the loss of forest land or conversion of forest land to non-forest use. There is no forestland, or land zoned for timberland production in the Project area. Therefore, there would be **no impact**.

e) Would the Project involve other changes in the existing environment, which due to their location or nature, could result in conversion of farmland, to non-agricultural use?

The Project would not convert farmland to non-agricultural use because there is no farmland in the Project area, and the area is not used for agriculture. Therefore, there would be **no impact**.

Sources of Information

California Department of Conservation. 2018. Division of Land Resource Protection, Farmland Mapping and Monitoring Program. Contra Costa County Important Farmland.

Contra Costa County. 2023. CCMAP. Website: https://ccmap.cccounty.us/Html5/index.html?viewer=CCMAP. Accessed January 2023.

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

ENVIRONMENTAL SETTING

The Project Site is in the Northern Alameda/Western Contra Costa climatological sub-region of the Bay Area. In most parts of this sub-region, the air pollution potential is low due to the steady westerly marine wind flow. However, North Richmond is an urban environment including many residential, commercial, and industrial stationary air pollutant sources, and with freeways, high-traffic-volume roadways and railroads running through or near it. The dispersion of pollutant emissions from these local sources is sometimes constrained by the confining terrain of the East Bay hills and by regularly occurring seasonal episodes of atmospheric stability with resultant elevated ambient pollutant concentrations.

Criteria air pollutants are chemical compounds for which federal or state regulatory agencies have set ambient air quality standards to protect humans from their adverse health impacts. The major criteria air pollutants include ozone, carbon monoxide (CO), nitrogen dioxide (NO2), sulfur dioxide (SO2), and two forms of airborne particulate matter (i.e., PM10, particulates with average diameters less than 10 microns, PM2.5, those with a diameter less than 2.5 microns). The Bay Area is currently designated non-attainment for state and national ozone standards, for the state PM10 standards, and for state and national PM2.5 standards. Consequently, CEQA documents for local projects require evaluation of project ozone and its precursors (i.e., reactive organic compounds [ROG] and nitrogen oxides [NOx]) and PM10/PM2.5 emissions.

Many other chemical compounds, generally termed toxic air contaminants (TACs), do not have associated ambient standards, but pose a present or potential hazard to human health through airborne exposure. This is especially the case with small-diameter particulate emissions from diesel-powered heavy trucks and construction equipment (DPM), which is the TAC responsible for 70% of California's cumulative cancer risk from airborne TAC exposures.

In the Bay Area, CEQA air quality issues are typically evaluated using the Bay Area Air Quality Management District (BAAQMD) methodologies and significance thresholds as specified in their *CEQA Air Quality Guidelines* (2022). According to the *Guidelines*, any project would have a

significant potential for causing a local air quality problem or making a cumulatively considerable contribution to a regional air quality problem if its pollutant emissions or TAC impacts would exceed any of the thresholds presented in **TABLE 2 - 1** during construction or operation.

TABLE 2 - 1: CEQA AIR QUALITY SIGNIFICANCE THRESHOLDS

Pollutant	Construction Thresholds	Operational Thresholds	
	Average Daily Emissions (pounds/day)	Average Daily Emissions (pounds/day)	Annual Average Emissions (tons/year)
Criteria Air Pollutants			
ROG	54	54	10
NO_X	54	54	10
PM_{10}	82*	82	15
$PM_{2.5}$	54*	54	10
Fugitive Dust	No significant impact if BAAQMD Best Management Practices (BMPs) are implemented	Not Applicable	
Project-Level Health Risk/Hazard/PM2.5 Thresholds			
Excess Cancer Risk	10 per one million		
Chronic or Acute Hazard Index	1.0		
Incremental annual average $PM_{2.5}$	0.3 µg/m^3		
Cumulative Health Risk/Hazard/PM2.5 Thresholds (total contribution from all sources within the Project Site Zone of Influence)			
Excess Cancer Risk	100 per one million		
Chronic Hazard Index	10.0		
Annual Average $PM_{2.5}$	0.8 µg/m^3		
Notes: *PM_{10} and $PM_{2.5}$ thresholds for construction apply only to exhaust emissions and do not include the fugitive dust component. µg/m^3 = micrograms per cubic meter			

AIR QUALITY SUMMARY

a) Would the Project conflict with or obstruct implementation of the applicable air quality plan?

The main goals of the *2017 Clean Air Plan* (prepared by the BAAQMD in cooperation with the Metropolitan Transportation Commission and the Association of Bay Area Governments) are to reduce the Bay Area's regional air pollutant emissions, thereby continuing progress toward attaining all state and federal air quality standards and eliminating health risk disparities from air pollution exposure in all communities.

The focus of the Plan's air pollutant control measures is on the Bay Area's largest source of ozone precursors and particulate emissions—the transportation sector. The plan includes incentives for construction equipment upgrades and other strategies to reduce emissions of construction vehicles on a plan level, though none are appliable to the Project. The Plan is based on projections of the effects that its control measures would have on future pollutant emissions and ambient air quality in the context of expected regional trends in population, transportation, housing, employment, etc.

The Project would improve the existing fish ladder and sediment basin on the section of Wildcat Creek. After its construction is complete, the Project will not include any new pollutant emission sources, nor require energy from external sources or transportation resources for its operation. Thus, it would have no effect on population, transportation, housing, employment, etc. assumptions that underlie the Plan. Also, Project compliance with CEQA pollutant emission thresholds is a test of consistency with Plan air quality control strategies and noninterference with the attainment of Plan goals. As the analysis for Section III. b below demonstrates, Project construction emissions would not exceed any of the CEQA significance thresholds for the Bay Area's nonattainment pollutants. Thus, the Project would not conflict with or obstruct implementation of the 2017 Clean Air Plan, and the impact would be **less-than-significant**.

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

The Bay Area is currently a designated nonattainment for the state 1-hour and 8-hour ozone standards, the federal 8-hour ozone standard, the state PM10 24-hour and annual standards, the state PM2.5 annual standard, and the federal PM2.5 24-hour standard.

The *CEQA Air Quality Guidelines* recommend quantification of project construction-related and operational air pollutants using the California Emissions Estimator Model (CalEEMod). Emissions were estimated for project construction sources using CalEEMod's internal construction equipment emission rates as applied to the equipment and construction phasing data. For the purposes of this analysis, it was assumed that the Project's main construction phases would occur from June through October 2024 and last for 125 project days and that daily average trips of haul truck activity would be spread evenly over this period.

Project construction emission estimates and their comparison with the CEQA significance thresholds are shown in **TABLE 2 - 2**.

TABLE 2 - 2: AVERAGE DAILY CONSTRUCTION EMISSIONS WITH COMPARISON TO BAAQMD THRESHOLDS

Project Phase	**ROG**	**NOx**	**PM10** (Exhaust)	**PM2.5** (Exhaust)
1. Site Preparation				
	3.6	27.1	1.1	1.0
2. Sediment Removal				
	1.7	13.6	0.6	0.6
3a. Fish Passage Structure Modifications				
	0.4	12.9	0.2	0.2
3b. Sediment Basin Expansion and Modifications				
	3.2	33.5	1.1	1.0
3c. Flood Control Channel Modifications				
	1.3	20.6	0.5	0.5
3d. Community Amenities				
	2.8	32.2	1.0	0.9
4. Site Clean-Up/Revegetation				
	0.5	13.6	0.2	0.2
Highest Daily Average (including phase overlap)	**3.6**	**36.3**	**1.3**	**1.2**
CEQA Construction Emissions Threshold	54	54	82	54
Significant Impact?	No	No	No	No
CalEEMod (Version 2022.1) User's Guide Appendix G lists all the numerical values in the model database used to calculate project criteria and GHG pollutant emissions. Diesel-powered construction equipment emission factors from the OFFROAD model and on-road motor vehicle emission rates from EMFAC2021 (the CARB's EPA-approved motor vehicle emission model) for haul trucks and worker commute vehicles were used along with project-specific equipment type/number and truck/worker commute trips to estimate project construction emissions by Excel spreadsheet.				

Project construction emissions of nonattainment pollutants from off-road equipment, trucks and worker commute vehicles would not exceed any of the CEQA significance thresholds. Thus, the impact from project construction emissions would be **less-than-significant.** Although no mitigation is required, the BAAQMD recommends implementing basic construction measures for all projects regardless of emissions. Therefore, although there is no significant impact to further reduce emissions, implementation of **Mitigation Measure AQ-1** would include BAAQMD-recommended measures for the control of short-term emissions and basic fugitive dust best management practices (BMPs).

The Project would not add any new operational sources of nonattainment pollutant emissions, nor require energy from external sources or transportation resources for its operation. Thus, net new **Project operational emissions** would be zero and have **no impact**.

c) Would the Project expose sensitive receptors to substantial pollutant concentrations?

The *CEQA Air Quality Guidelines* establish a relevant "zone of influence" for an assessment of Project-level and cumulative health risk from TAC exposure to an area within 1,000 feet of a Project Site.

There are three BAAQMD- permitted stationary emissions sources within the Project Site's zone (as shown online in the BAAQMD's *Stationary Source Screening Map*). A database of the impacts of the Bay Area's mobile TAC emissions on regional health risks/hazards is also available online (BAAQMD, *Mobile Source Screening Map*); it shows the health risks of TACs from local motor vehicle traffic and railroad activity. For the latter, two railroad lines pass very close to the Project Site – UPRR running adjacent to the Project Site eastern boundary and the BNSF parallel to it and a few hundred feet farther to the east.

The closest existing TAC-sensitive uses to the Project Site are the existing Verde Elementary School adjacent to and west of the Project Site, and the existing residential uses just across Wildcat Creek and south of the site. Although Project construction is expected to start in Summer 2025, when students will not be present at the existing school, it is expected to continue for about 6 months. Thus, students will be present at the existing school for part of the Project construction period with potential exposure to TACs emitted by construction equipment from the active on-site areas.

The cancer risk from exposure to a particular TAC is the probability of developing cancer from lifetime exposure (i.e., 70 years). Following health risk assessment methodology established by the BAAQMD, the Project's incremental cancer risk from DPM emitted by construction equipment was estimated by applying established DPM toxicity factors to the DPM concentration estimated by the SCREEN3 model at the school receptor adjacent to the Project Site.

Also, in accordance with BAAQMD methodology, the likelihood of non-cancer adverse chronic health risk from exposure to a particular TAC is measured using a chronic hazard index (CHI), which is defined as the ratio of a project's incremental annual TAC concentration to a published reference exposure level for the particular TAC of interest. If the CHI is greater than 1.0, then the impact is considered to be significant. The Project's CHI from DPM emitted by construction equipment was estimated relative to the established REL for DPM.

Virtually all of the Project construction equipment PM2.5 is DPM, for which Project-level and cumulative annual ambient concentration thresholds have been set by the BAAQMD.

TABLE 2 - 3 shows the project construction cancer risk, chronic hazard index, and PM2.5 increments, and the contribution of increments from other local TAC sources within the zone of influence.

TABLE 2 - 3: PROJECT AND CUMULATIVE TAC IMPACTS ON EXISTING MAXIMUM EXPOSED SENSITIVE RECEPTORS ON THE PROJECT SITE AND IN ITS VICINITY

BAAQMD Source #	Facility	Address	Cancer Risk	Chronic Hazard Index	$PM_{2.5}$ Concentration
From Local Permitted Stationary Sources*					
10603	R&K Industrial Products	1945 N 7th Street	0.15	0.001	0.036
17254	Professional Finishing	770 Market Avenue	0.00	0.007	0.011
23619	Pick-n-Pull Auto	1015 Market Avenue	0.009	0	0
From Local Major Mobile Sources**					
On-Road Motor Vehicles			12.46	0.036	0.260
Railroads			34.78	0.009	0.142
From Project Construction Sources***					
Project Construction TAC Impacts			1.60	0.02	0.08
Project-Level Significance Thresholds			10	1.0	0.3
Significant Project Construction Impact?			No	No	No
From Cumulative Sources					
Cumulative Sources TAC Impact			49.00	0.07	0.53
Cumulative Significance Thresholds			100	10	0.8
Significant Cumulative Impact?			No	No	No

*The BAAQMD's Stationary Source Screening Map was used to estimate the maximum cancer risk, hazard index, and $PM_{2.5}$ levels on/near the Project Site.
** BAAQMD's Mobile Source Screening Map was used to estimate risk, hazard and PM2.5 levels; the table entries are the average values that the BAAQMD contour maps show on/near the Project Site.
***project construction cancer risk, chronic hazard and $PM_{2.5}$ increments were estimated by the SCREEN3 dispersion model using project construction equipment PM2.5 emission estimates from the CalEEMod model. Project operational cancer risk, chronic hazard and PM2.5 levels are not expected to increase since no new operational TAC sources would be introduced by the Project; consequently, post-Project stationary- and mobile-source TAC emissions would be at or near their present levels.

The major influences on local cumulative health risk are from DPM and other TACs emitted by local motor vehicle traffic and local train operations on the adjacent railroad lines east of the Project Site. However, as shown in **Table 2-3** above, the cumulative totals of health risk levels would not exceed the CEQA cumulative significance thresholds, and the Project's relatively small increments (i.e., about 3% of the existing background from TACs emitted by diesel-powered equipment during the six months of Project construction) would be temporary. Thus, no sensitive receptors within the Project Site's zone of influence would experience substantial TAC exposures.

However, construction activities would result in localized emissions of dust and diesel exhaust that could result in temporary impacts to sensitive receptors (e.g., nearby residences, schools) from the Project Site. The BAAQMD recommends implementing basic construction measures for all projects regardless of emissions. Therefore, to further reduce emissions, implementation of Mitigation Measure

AQ-1 would include BAAQMD-recommended measures for the control of short-term emissions and basic fugitive dust best management practices (BMPs) to assure that ambient particulate standards are not exceeded at local sensitive receptors during project construction. With implementation of **Mitigation Measure AQ-1,** temporary impacts during construction would be **less-than-significant with mitigation incorporated**.

Once completed, the Project's recreational components bring in an additional 20 cars per week from the local community. Existing bi-annual inspections and maintenance of the sediment basin would continue as necessary and would likely be less frequent with the Project improvements. Thus, project impacts from ongoing recreational and maintenance activities would be **less-than-significant**.

Impact AQ-1:
The Project would generate localized emission of dust and diesel exhaust that could temporarily impact sensitive receptors.

MITIGATION MEASURE AQ-1: Implement BAAQMD Basic Construction Best Management Practices:

1) All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
2) All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
3) All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
4) All vehicle speeds on unpaved roads shall be limited to 15 mph.
5) All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible.
6) Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
7) All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
8) Post a publicly visible sign with the telephone number and contact information for the designated on-site construction manager available to receive and respond to dust complaints. This person shall report all complaints to Contra Costa County and take immediate corrective action as soon as practicable but not more than 48 hours after the complaint is received. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.

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

The Project's diesel-powered construction equipment is a recognized source of odorous emissions. But during the approximately six months of project construction activity, the equipment would be

distributed over a working area of about 10 acres with an average distance of several hundred feet separating equipment working locations from school/residential sensitive receptors. But with the idling time limitations and maintenance requirements imposed by the included BMPs, any construction-related odor emissions would intermittently affect only a few receptors at a time at Verde Elementary School and adjacent residences south of Wildcat Creek during short periods of work when the equipment is close to them. Thus, project construction odor impacts would be **less-than-significant**.

Sources of Information

Bay Area Air Quality Management District (BAAQMD*). California Environmental Quality Act Air Quality Guidelines* (2022).Website: https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines

BAAQMD. *CEQA Thresholds of Significance* (2023). Website: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/ceqa-guidelines-chapter-3-thresholds_final_v2-pdf.pdf?rev=a976830cce0c4a6bb624b020f72d25b3&sc_lang=en

BAAQMD. *2017 Clean Air Plan: Spare the Air, Cool the Climate*. Website: https://www.baaqmd.gov/plans-and-climate/air-quality-plans/current-plans

BAAQMD. *Recommended Methods for Screening and Modeling Local Risks and Hazards* (2023). Website: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/appendix-e-recommended-methods-for-screening-and-modeling-local-risks-and-hazards_final-pdf.pdf?rev=b8917a27345a4a629fc18fc8650951e4&sc_lang=en

BAAQMD, *Health Risk Screening and Modeling: Stationary Source Screening Map*. Website: https://baaqmd.maps.arcgis.com/apps/webappviewer/index.html?id=845658c19eae4594b9f4b805fb9d89a3

BAAQMD, *Health Risk Screening and Modeling: Mobile Source Screening Map*. Website: https://mtc.maps.arcgis.com/apps/instant/sidebar/index.html?appid=c5f9b1a40326409a89076bdc0d95e429

California Air Resources Board (CARB). *Overview: Diesel Exhaust & Health*. Website: https://ww2.arb.ca.gov/resources/overview-diesel-exhaust-and-health

California Air Pollution Control Officers Association (CAPCOA). *California Emissions Estimator Model* (CalEEMod, Version 2022.1). Website: https://www.caleemod.com

Environmental Issues	Potentially Significant Impact	Less-than-significant With Mitigation Incorporated	Less-than-significant Impact	No Impact
4. BIOLOGICAL RESOURCES – Would the Project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?	☐	☒	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

BIOLOGICAL RESOURCES SUMMARY

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

An 1,800-foot-long segment of Wildcat Creek bisects the Project Site: from the upstream (eastern) extent of the Project Site at Rumrill Boulevard the open creek flows west through the concrete-lined fish passage structure and through the earthen sediment basin to the downstream (western) extent at Giaramita Street. Beyond the Project Site, Wildcat Creek continues to flow west for approximately 4.8 miles and empties into salt marshes adjacent to San Pablo Bay.

A biological resource assessment of the Project Site, called the Biological Study Area (BSA), was conducted in February 2022 (FlowWest, 2022). The assessment included background review of literature and databases (see **Table 2-2** for CNDDB results), reconnaissance-level field surveys for special-status wildlife and plant species, and a wetland delineation was conducted on October 2022 (Vollmar Natural Lands Consulting, 2022). The Project Site is a highly modified area that is characterized by more than 90 percent non-native vegetation. Land cover types within the 13.3 acre BSA include:

Developed: Approximately 2.2% (0.3 acres) of the BSA consists of the concrete fish passage structure, which is comprised of concrete and engineered riprap.

Ruderal grassland: Approximately 60.5% (8.1 acres) of the BSA is ruderal grassland, which occurs in the upland area to the north of the sediment basin. A portion of this area will be used as staging area during construction, and is used by the District as a corporation yard. Grasslands consist of mostly non-native species including predominately rip-gut brome (*Bromus diandrus*). There are a several isolated trees, including a large Fremont cottonwood (*Populus fremontii*).

Riparian wetland: Approximately 8.8% (1.2 acres) of the BSA is riparian woodland, associated with the south side of Wildcat Creek and the sediment basin, running for approximately 1,500 feet downstream of the concrete channel. Riparian trees include arroyo willow (*Salix lasiolepis*), sandbar willow (*Salix exigua*), non-native or hybrid black walnut (*Juglans hindsii*), Oregon ash (*Fraxinus latifolia*), box elder (*Acer negundo*) and valley oak (*Quercus lobata*). Understory species include Himalayan blackberry (*Rubus armeniacus),* curly dock (*Rumex crispus*), poison hemlock (*Conium maculatum*), chicory (*Cichorium intybus*) and smooth cocklebur (*Xanthium strumarium*).

On the south bank outside of the sediment basin is a mixed riparian woodland composed of willows (*Salix laevigata*), with occasional Fremont cottonwood (*Populus fremontii*), and white alder (*Alnus rhombifolia*).

Riparian Woodland: Riparian trees, both in isolation and in groups, were mapped in 13.1% (1.7 acres) of the Project Site. These areas consist of riparian trees that are at higher elevations than the riparian wetlands mapped along the south side of the sediment basin. On the north side of the sediment basin and on the banks of the sediment basin are several isolated trees, including a non-native weeping willow (*Salix babylonica*), Fremont cottonwood, and coast live oak (*Quercus agrifolia*).

Wetlands and seasonal creek: Approximately 15.5% (2.1 acres) of wetland habitat (seasonal creek, perennial marsh, and seasonal wetland) exists in the Project Site, primarily located within the sediment basin, and along segments of Wildcat Creek. Further details are described in Section IV.c below.

The riparian woodlands, wetlands, and seasonal creek are considered environmentally sensitive areas (ESA) and provide suitable habitats for 11 special-status wildlife species and one special-status plant species that have the potential to occur in the BSA listed in **TABLE 2 - 4** below.

TABLE 2 - 4: SPECIAL STATUS SPECIES POTENTIALLY OCCURRING IN THE BSA

Common Name (Species Name)	Listing Status
Plants	
Fragrant fritillary *(Fritillaria liliacea)*	California Rare Plant Rank as 1B.2
Animals	
Western bumble bee (*Bombus occidentalis)*	Not state or federally listed
Central California Coastal Steelhead, Southern Distinct Population (DPS) (*Oncorhynchus mykiss*)	Federally threatened
Green Sturgeon, Southern DPS (*Acipenser medirostris*)	California Species of Special Concern/Federally Threatened
Western pond turtle (*Clemmys marmorata*)	California Species of Special Concern
Hoary bat (*Lasiurus cinereus*)	California Special Animal*
Black-crowned Night-heron (*Nycticorax nycticorax*)	CDFW Watch List
Burrowing Owl (*Athene cunicularia*)	Federal Birds of Conservation Concern/California Species of Special Concern
Cooper's Hawk (*Accipiter cooperii)*	CDFW Watch List
Double-crested Cormorant (*Phalacrocorax auritus*)	CDFW Watch List
Northern Harrier (*Circus cyaneus*)	California Species of Special Concern
Osprey (*Pandion haliaetus*)	CDFW Watch List
Short-eared Owl (*Asio flammeus*)	California Species of Special Concern
Snowy egret (*Egretta thula*)	California Special Animal*
White-tailed Kite (*Elanus leucurus*)	California Fully Protected Species

*"Special Animals" is a general term that refers to all of the taxa the CNDDB is interested in tracking, regardless of their legal or protection status. This list is also referred to as the list of "species at risk" or "special status species". The Department of Fish and Wildlife considers the taxa on this list to be those of greatest conservation need.

Heavy equipment operation and associated noise, creek and wetland disturbance, dust from ground disturbance including grading and excavation, and an increase in human presence have the potential to disrupt special status wildlife species and their habitats, and to introduce new invasive species to the site. Wildcat Creek and the associated sediment basin are expected to be dry during sediment removal and excavation for basin expansion, however sediment mobilization could potentially affect water quality and other fish habitat downstream of the Project Site. As further discussed in Section b (below), there will be temporary and permanent impacts to riparian habitat that occur from riparian tree removal and construction of other project elements, including the training berms and platforms and expansion of the basin. Mitigation Measures BIO-1 through BIO-3 would lessen impacts to all species and their habitat, however, specific species measures are discussed further below.

Impact BIO-1: The Project area contains habitat for special status species and other protected species that could be affected by Project implementation. The following general mitigation measures (MMs) will avoid and minimize general impact to all special status species.

MITIGATION MEASURE BIO-1: General Construction-related Mitigation Measures
The following best management practices/avoidance and minimization measures would be used for protection of the biological resources within the BSA.

1. Worker Environmental Awareness Training (WEAT): Prior to the start of construction in each year, construction personnel shall be trained by a qualified biologist on all required avoidance and minimization measures as well as permit requirements.
2. Preconstruction surveys for all special status and common wildlife species shall be conducted within the Project area by a qualified biologist immediately prior to equipment or material staging, pruning/grubbing, or surface-disturbing activities. The qualified biologist shall search aquatic vegetation, the water's surface, leaf litter, logs, snags, and other habitat features for special status and common wildlife species. If species are found, individuals shall be relocated outside of the Project area if the qualified biologist is permitted to do so by all regulatory agencies and determines that relocation is warranted. Although not expected, this includes dewatering activities. If water diversion systems are implemented, a qualified biologist shall be on site to relocate all fish, turtles, invertebrates, and other wildlife observed outside of the work area.
3. Prior to start of construction, temporary high visibility ESA fence shall be placed at the upstream and downstream ends of the Project Site and placed along the southern riparian area to exclude the ESA. The limits shall be staked by a qualified biologist.
4. The District shall require the contractor to prepare a Stormwater Pollution Prevention Plan (SWPPP) for construction activities according to the National Pollutant Discharge Elimination System (NPDES) Construction General Permit as required under Section 402 of the Clean Water Act. The SWPPP shall identify water pollution control measures and construction-waste containment measures to be implemented during and after project construction, including but not limited to:
    - Trash generated by the Project shall be promptly and properly removed from the site daily.
    - Appropriate erosion control measures (e.g., fiber rolls, filter fences, hydroseeding of exposed soils, and mulching) shall be used on site to reduce siltation and runoff of contaminants into jurisdictional waters. Filter fences and mesh shall be of material that shall not entrap reptiles and amphibians. Fiber rolls shall not contain plastics of any kind. Erosion control blankets shall be used as a last resort because of their tendency to biodegrade slowly and to trap reptiles and amphibians.
    - No erodible materials shall be deposited into watercourses. Brush, loose soils, or other debris material shall not be stockpiled within stream channels or adjacent to the basin.
    - Active construction areas shall be watered regularly.
    - Dredged sediments shall be managed during construction.
    - A hazardous materials management plan will describe the actions that shall be taken in the event of a spill that could potentially impact jurisdictional waters. Adequate spill containment materials, such as hazardous material absorbent pads and similar materials, shall be available on site at all times. The plan also shall incorporate preventive measures to be implemented (such as vehicle and equipment staging, cleaning, maintenance, and refueling) and contaminant (including fuel) management and storage.
5. All excavated steep-walled holes and trenches more than six inches deep shall be covered with plywood (or similar material) or provided with one or more escape ramps constructed of earth fill or wooden planks at the end of each work-day or 30 minutes prior to sunset, whichever occurs first. All steep-walled holes and trenches shall be inspected by the approved biologist each morning to ensure that no turtles or other wildlife has become entrapped. All construction pipes, culverts, similar structures, construction equipment, and construction debris left

overnight shall be inspected for presence of wildlife by a WEAT-trained construction monitor prior to being moved.

6. All slash materials (limbs, branches, and other woody debris) resulting from tree removal activities shall be removed from the Project Site and properly disposed of at an off-site location.
7. Temporarily affected areas shall be restored to pre-Project conditions. Before October 31 and/or immediately after construction is complete, all exposed soils shall be stabilized to reduce the effects of erosion.

Impact BIO-2:
There is a potential for the project to accidentally introduce invasive species into the Project Site during construction.

MITIGATION MEASURE BIO-2: Invasive Species Prevention

1. Only certified noxious weed-free erosion control materials shall be used. All straw and seed material shall be certified as weed-free prior to being used at the Project Site.
2. Contractor shall wash all construction equipment prior to bringing it onto the job site. Inspection shall ensure that equipment arrives on site free of mud and seed-bearing material.
3. Any reseeding of disturbed soil areas and newly constructed slopes shall use an appropriate native seed mix as specified in the plans and specifications.

Impact BIO-3:
The Project area contains riparian habitat that would be temporarily and permanently impacted by construction.

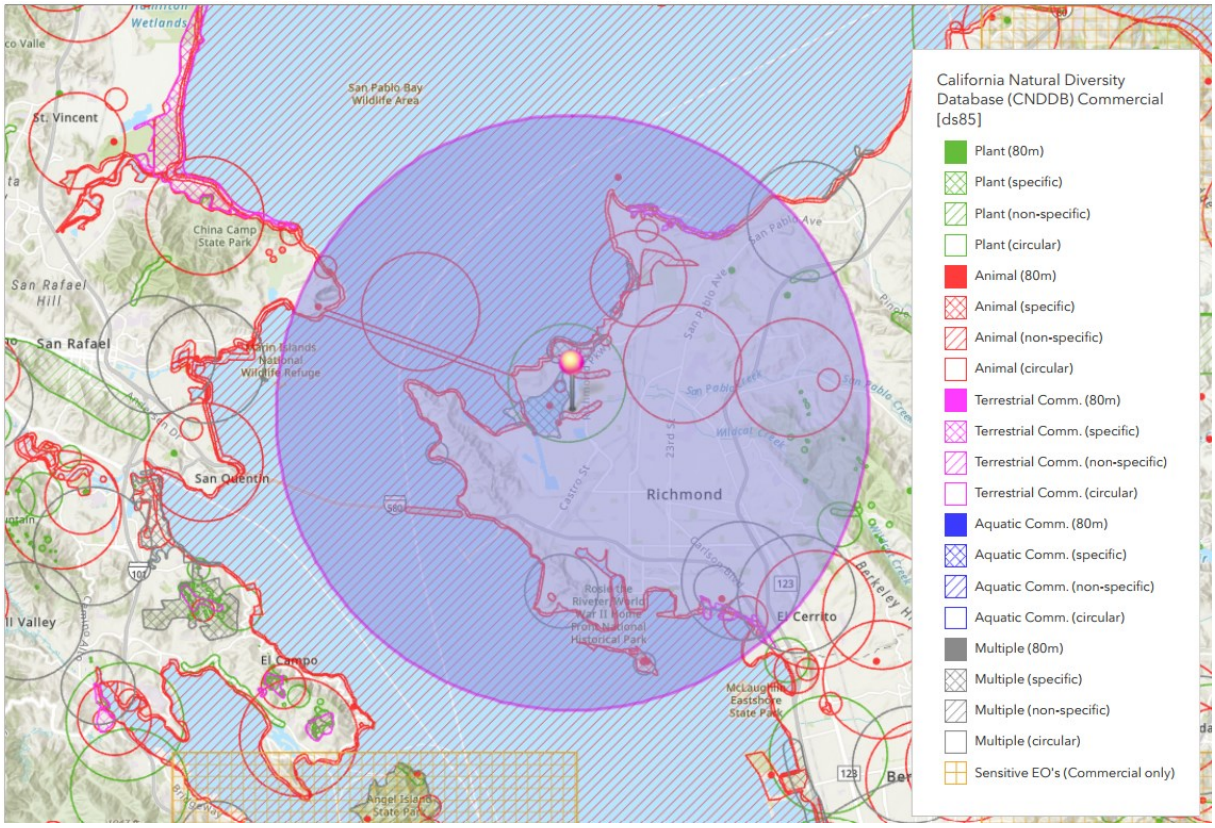
MITIGATION MEASURE BIO-3: Riparian Vegetation Protection

1. A riparian protection zone shall be established around all established vegetation in the southern portion of the existing sediment basin, coincident with the most recent sediment clearing boundary, with the exception of those trees and soil necessary to remove for building the training berm. This boundary would be established on design sheets and plan sets, as well as with protective temporary fencing placed in the field.
2. A qualified restoration biologist or botanist shall create a seed and plant palette appropriate for reestablishing impacted vegetation.

Special Status Plant Species
Fragrant fritillary *(Fritillaria liliacea)*
The BRA identified one special-status plant species that has potential to occur in and around the BSA, the fragrant fritillary, which are listed under the California Rare Plant Rank as 1B.2 (rare, threatened, or endangered in California or elsewhere). Fragrant fritillary are documented within five miles of the Project Site (CNDDB 2022). Fragrant fritillary typically occur in open hilly grasslands. Habitat in the BSA is very poor and dominated by non-native annual grasses, however there is marginally suitable habitat upslope of the sediment basin. Fragrant fritillary was not observed during the BSA survey. The blooming period for this species is between February and April, and the BSA survey was conducted in late-February (CNPS 2023). There would be no decrease in the suitable habitat area along the sediment basin in which fragrant fritillary could be established. Although access ramps and training berms would be constructed, the operation of the sediment would not change. The expanded sediment basin's slopes would be re-seeded with a native grass mix after construction but would remain in a similar condition as marginally suitable habitat for fragrant fritillary. Therefore, construction and

operation of the Project would have **no direct or indirect impact** through destruction of habitat for fragrant fritillary.

FIGURE 2 – 1: CNDDB RESULTS WITHIN 5 MILES OF THE PROJECT SITE



Special Status Wildlife Species
Project construction could potentially impact the following special status wildlife species.

Western bumble bee (*Bombus occidentalis)*
Western bumble bee is a candidate species for federal listing. There are four CNDDB reports occurrences within five miles of the BSA, however, all of them are records of collections that occurred more than 50 years ago. There have been no recent verified observations of western bumble bee in Contra Costa County. Due to bees moving from patches, there is a low possibility that the Western bumble bee could be present on the Project Site. Habitat in the BSA is very poor, not providing feeding or reproduction sites necessary. The disturbance of the sediment basin itself and its northern banks and slopes could disturb bee and bee habitat. Additionally, although no focused surveys have been conducted to date, the site is within the range for the species, and the annual grassland areas with small mammal burrows provide potentially suitable underground nesting habitat. Impacts to western bumblebee habitat will be minimized and/or avoided by restoration of temporarily impacted areas with native plants, and through implementation **Mitigation Measure BIO-4: Western Bumble Bee Mitigation Measures**, the impact would be **less-than-significant with mitigation incorporated**.

IMPACT BIO-4: The Project could impact western bumble bee, if present in the BSA during construction.

MITIGATION MEASURE BIO-4: Western Bumble Bee Mitigation Measures

1. Preconstruction Survey: A qualified biologist shall conduct a preconstruction survey 30 days prior to the onset of work. The pre-construction survey effort shall be conducted for a minimum of one hour. If bumble bees of any species are observed, they shall be photographed for identification following the USFWS guidance in Standardized Bee Photography in the Survey Protocols for the Rusty Patched Bumble Bee (*Bombus affinis*) (USFWS 2019). If construction begins between March 1 and November 1, the ground shall also be searched during the survey for active bumble bee colonies.
2. No capture or handling of bumble bees is allowed without formal State take authorization. If individual western bumble bees are observed during preconstruction surveys, in consultation with CDFW, they shall be avoided to ensure no "take" occurs. This may require biological monitoring or avoidance buffers until the bees have left the work area. If western bumble bee colonies are identified, these colonies shall be demarcated with a flagged avoidance buffer, as determined by a qualified biologist and shall be avoided during the active season from March 1 through November 1, or until the qualified biologist, in consultation with CDFW, has determined that the colony is no longer active. All sightings of western bumble bee shall be reported to the CNDDB.

Fish

Two special status fish species were determined to occur or have critical habitat in the Project area: Central California Coast Distinct Population Segment (DPS) steelhead (*Oncorhynchus mykiss irideus*), which is federally listed as a threatened species and is the anadromous form of rainbow trout, and Green Sturgeon Southern DPS (*Acipenser medirostris),* which is listed as a Threatened species under the Federal Endangered Species Act and is categorized as a state Species of Special Concern. For the CCC DPS steelhead, designated critical habitat includes the drainages of San Francisco and San Pablo Bays (Federal Register, 2000). Though CCC Steelhead have not been documented in Wildcat Creek, resident populations of rainbow trout occur in the upper watershed (which could develop anadromy), and rare occurrences of other salmonids have been documented in Wildcat Creek (only one salmonid has been documented in this area of Wildcat Creek in 10 years, which was likely a stray hatchery Chinook salmon) (Pers. Comm. NMFS 2022). Green Sturgeon have not been documented in Wildcat Creek but have critical habitat designated downstream in the San Francisco Bay (NMFS, 2009).

The 1996 Magnuson-Stevens Fishery Conservation and Management Act established essential fish habitat provisions to identify and protect important habitats of federally managed marine and anadromous fisheries. The act requires consultation with NMFS regarding the potential impacts on essential fish habitat of federal agency actions. If consultation with NMFS identifies this part of Wildcat Creek has essential fish habitat, the Project will comply with the conditions of the restoration Programmatic Biological Opinion so that the Project will not result in adverse effects to any essential fish habitat.

The Project area may provide a migration corridor for the salmonids and green sturgeon. However, Wildcat Creek is degraded in the Project area. The fish passage structure and basin are filled with sediment, and individual fish may occasionally use the Project area as a migration corridor during high-flows only during rare occasions when passage is possible through the current concrete structure between September and March. The Project is designed to provide passage during a wider range of flows.

The Project would involve work within Wildcat Creek and the associated basin. This work would occur from June 1st through October 31st, when water is usually not present in the channel and outside of the spawning season and would therefore not present a barrier to fish passage. The lack of water during the construction window means that no fish would be present during construction, either adults

or juveniles. Even if water were present due to an exceptionally wet year or a dry season storm, the temperature ranges in this part of the watershed would not be suitable habitat for spawning or rearing.

The Project would improve fish passage through this part of the creek and would not change the character or composition of the substrate through this section of the creek and sediment basin. The creek currently provides poor substrate and cover for salmonids. By preserving the southern riparian area, the Project would not negatively impact the cover conditions through the sediment basin. Some trees located on the northern part of the sediment basin would be removed, though this is an area which does not provide adequate cover for rearing. These impacts would be **less-than-significant.**

To lessen these potential impacts, mitigation measures for fish would be followed during construction as part of **Mitigation Measure BIO-5.**

IMPACT BIO-5: Special status fish and other species could be affected by Project activities in the channel and sediment basin. The following general mitigation measures will lessen the impact to all special status species.

MITIGATION MEASURE BIO-5: Best Management Practices for Fish
The Project shall limit in-water construction to the period between June 1 and October 31 to avoid the spawning season. The Project proponent shall obtain and comply with the requirements of the Section 404 permit issued by the U.S. Army Corps of Engineers and the Programmatic Biological Opinion for steelhead issued by National Marine Fisheries Service.

Western pond turtle (*Clemmys marmorata*)
The Western pond turtle is a California Species of Special Concern. There is one CNDDB report occurrences within five miles of the BSA. It is an aquatic turtle that utilizes ponds, marshes, rivers, streams and irrigation ditches with aquatic vegetation. They prefer deep (great than two feet), quiet pools along streams. Important habitat features include basking sites and suitable upland habitat for egg-laying (sandy banks or grassy open fields adjacent to aquatic habitat). The riparian corridor has features that could serve as habitat for the Western Pond Turtle. Therefore, although they were not observed during the field survey, they could potentially occur on the Project Site. If western pond turtle adults, young, or their nests are present during construction, they could be harmed by construction activities. In particular, work in the sediment basin and on its banks could result in direct impacts to individuals and nests.

To address these impacts, pre-construction surveys for western pond turtles and installation of temporary high visibility ESA fence would be conducted as part of **Mitigation Measure BIO-1: General Construction-related Mitigation.** Monitoring and CDFW consultation, would be done as part of **Mitigation Measure BIO-6: Construction Monitoring for Western Pond Turtles**. If any western pond turtle individuals are observed within a construction zone during the preconstruction surveys or construction monitoring, the individual will be relocated out of harm's way according to permit conditions. With implementation of **Mitigation Measures BIO-1** and **BIO-6,** the impact would be **less-than-significant with mitigation incorporated**.

IMPACT BIO-6: The Project could impact western pond turtle, if present in the BSA during construction.

MITIGATION MEASURE BIO-6: Construction Monitoring for Western Pond Turtles

1. If any turtles or turtle nests are found during preconstruction surveys, a qualified and permitted biologist shall flag the site and determine whether construction activities can avoid

affecting the nest. If the nest cannot be avoided, in consultation with CDFW, a no-disturbance buffer zone may be established around the nest until the young have left the nest. If weather conditions prevent implementation of construction beyond two days after completion of turtle surveys, re-survey for this species shall be completed.

2. Once a temporary high visibility ESA fence is installed within the Project Site and all vegetation has been cleared, a designated construction monitor (trained by the qualified biologist), shall inspect the work area for western pond turtles anytime work activity ceases for two days or more. If a western pond turtle is observed by the construction monitor in the immediate work area, no work shall commence in the area of the sighting until the turtle has moved out of harm's way or the qualified biologist has arrived at the site and relocated the turtle.

Birds
Several sensitive or locally rare bird species were determined to have the potential to nest, roost, or forage within the Project area.

Black-crowned Night-heron (*Nycticorax nycticorax*)
Black-crowned night-herons, which are on the CDFW Watch List, do not have any CNDDB recorded occurrences. Suitable habitat within the Project Site includes potential nesting habitat in the southern riparian area. Rookery sites are located adjacent to foraging areas including lake margins, mud-bordered bays and marshy spots.

Burrowing Owl (*Athene cunicularia*)
Burrowing owls, which are a species of special concern, have reported one CNDDB reports occurrences within five miles of the BSA. These occurrences in the vicinity are overwintering, rather than breeding, as this species breeds between February and August. Suitable habitat is present in the open ruderal vegetation of the Project Site, however no suitable burrowing owl burrows were observed during the site visit.

Cooper's Hawk (*Accipter cooperii*)
Cooper's Hawks nest primarily in deciduous riparian forests and forage in open woodlands.

Double-crested Cormorant (*Phalacrocorax auritus*)
Double-crested Cormorants are colonial nesters on coastal cliffs, offshore islands, and along lake margins in the interior of California. This species nest along the coast on sequestered islets, usually on the ground with sloping surfaces, or in tall trees along lake margins. This species may occur on the Project Site, particularly in the tall trees adjacent to the sediment basin.

Northern Harrier (*Circus cyaneus*)
Habitat for the Northern Harrier, which are a special status species, have been reported once in CNDDB reports occurrences within five miles of the BSA. Although Northern Harrier were not observed during the site visit, they nest and forage in grasslands and shrubby vegetation, usually at the edge of marshes. Therefore, there is suitable habitat present along the sediment basin and this species may occur on the Project Site year-round

Osprey *(Pandion haliaetus)*
Osprey breed in northern California from the Cascade Ranges south to Lake Tahoe, and along the coast south to the Bay Area. Associated strictly with large, fish-bearing waters, they are primarily in Ponderosa pine through mixed conifer habitats. Osprey are common around major

estuaries and salt marshes and large lakes/rivers. Though unlikely, the proximity to the San Francisco Bay of the Project Site means that this species may occur on the Project Site.

Snowy Egret (*Egretta thula)*
Snowy egrets are categorized as a California Special Animal. They are colonial nesters with nest sites situated in protected beds of dense tules. Rookery sites are situated close to foraging areas. Found in marshes, tidal-flats, streams, wet meadows, and borders of lakes. Though no tules are present and thus no suitable nesting habitat, foraging habitat exists on the Project Site for the Snowy egret.

Short-eared Owl (*Asio flammeus)*
Short-eared Owls are found in both freshwater and saltwater marshes, lowland meadows, and irrigated alfalfa fields. Short-eared owls nest and seclude themselves during the daytime in tule patches and full grass. Short-eared owls nest on dry ground in depressions concealed in vegetation. This species may occur on the Project Site foraging in the freshwater marsh areas and during nesting season in the ruderal grassland.

White Tailed Kite (*Elanus caeruleus*)
White Tailed kites can be found in marshes in the San Francisco Bay Area, and can nest near the top of dense willow stands (CDFW 2005). For these reasons, suitable foraging and nesting habitat exists on the Project Site in the marsh habitat and within the riparian woodlands in the south end of the sediment basin, respectively.

Nesting Birds
Bird and raptor species, regardless of special status listing, are protected by the federal Migratory Bird Treaty Act (MBTA) and California Fish and Game Code Sections 3503 and 3503.5. Most existing trees and vegetation within the BSA have at least some potential to support numerous bird species and their nests. Project construction could have direct impact on nesting birds, and increased noise and human presence from project construction could result in indirect impacts on nesting birds in the BSA through modifications to behavior resulting in lower breeding success. Additionally, the removal of specific trees could impact birds if active nests are present in those trees**.**

To address these impacts, pre-construction surveys for occurrence of special status bird species and nesting birds would be conducted as part of **Mitigation Measure BIO-1: General Construction-related Mitigation Measures.** General construction and prevention measures addressing impacts to nesting birds would be covered under **Mitigation Measure BIO-7: Migratory Birds and Raptors Construction Measures**. Therefore, the impact would be **less-than-significant with mitigation incorporated**.

IMPACT BIO-7: If migratory and other bird species (including Burrowing Owl, Cooper's Hawk, Double-crested Cormorant, Northern Harrier, Osprey, Short-eared Owl and White-tailed Kite) nest within the Project area, the Project could result in short-term impacts such as failure to breed, nest abandonment, reduced fecundity and decreased survivorship from noise and movement of personnel and equipment that exceeds normal background conditions within the Project area. Disturbance may alter the birds' behavior in ways that result in injury, mortality and reduced foraging success, such as the temporary loss of habitat due to avoidance of areas with intolerable levels of disturbance, and altered activity patterns.

BIO-7: Migratory Birds and Raptors Construction Measures

1. To the extent feasible, tree removal shall be conducted outside the nesting season (which occurs between February 15 – August 31) for migratory birds and raptors.

2. A preconstruction nesting bird survey, shall be conducted by a qualified biologist prior to construction activities that take place during the nesting season (February 15-August 31) including any removal of vegetation at the Project Site. If all Project work is conducted during this work window, preconstruction surveys would only be required for wintering burrowing owls and not nesting birds. The survey shall be conducted no more than 7 days prior to the start of construction. Buffers will be placed around any nests that are found during the survey, in consultation with CDFW. No work shall be conducted within the buffers until the qualified biologist has determined that the nesting attempt is complete. Buffers for songbird nests are generally on the order of 50 to 100 feet and for raptors on the order of 250 to 500 feet, with the precise distance determined by the qualified biologist conducting the preconstruction survey based on species, nest site characteristics, and the acclimation of the nesting birds to disturbance.
3. If Western Burrowing Owl burrows are found, a qualified biologist shall flag the site and in consultation with CDFW, determine whether construction activities can avoid affecting the nest. If the nest cannot be avoided, in consultation with CDFW, a no-disturbance buffer zone and monitoring plan would be established.

Roosting Bats

Within the Project Site, mature riparian trees and annual grassland may provide suitable roosting and foraging habitat for bats, including the hoary bat and other native bat species. Hoary Bat (*Lasuirus cinereus*), have been located once in CNDDB, however bats tend to be under-reporting in CNDDB sightings due to nocturnal activity. Hoary Bats roost in foliage under overhanging leaves, particularly in riparian woodland areas. Females raise pups solitarily or in very small groups, and may move their young among multiple roost locations. Crevice and cavity-roosting bats such as pallid bat, big brown bat (*Eptesicus fuscus*), and several species of myotis bats (Myotis spp.) may use any available cracks or holes in trees as roosting habitat, in addition to the bridge structures in and adjacent to the Project Site. In addition to roosting habitat, bats may forage for insects almost anywhere in the Project area. No sign of roosting bats was observed during the site visit; however, a thorough bat roost survey was not conducted. Bats could be roosting in the bridges or trees in the Project area.

Project construction could have direct impact on roosting bats, and increased noise and human presence from project construction could result in indirect impacts on roosting bats in the BSA through modifications to behavior resulting in lower breeding success, including the loss or abandonment of an active roost. The removal of specific trees could impact bats if active roosts are present in those trees**.** However, with implementation of **Mitigation Measure BIO-8: Roosting Bats and Maternity Colonies Mitigation Measures**, the impact would be **less-than-significant with mitigation incorporated**.

IMPACT BIO-8: The Project could impact roosting bats, if present in the BSA during construction.

MITIGATION MEASURE BIO-8: Roosting Bats and Maternity Colonies Mitigation Measures

1. Roosting bat habitat assessments and preconstruction surveys shall be conducted to ensure the absence of roosting bats before construction, as detailed below. Prior to the start of construction, a bat habitat assessment shall be conducted to identify suitable bat roosting habitat including bridges, snags, rotten stumps, and trees with broken limbs, exfoliating bark, cavities, etc. This shall be done within 30 days prior to the onset of work. Potential roosting

habitat shall be avoided to the maximum extent practicable. If no suitable roost sites are identified, no further minimization measures are necessary.

2. If suitable roosting habitat is identified and shall be disturbed by presence and noise of equipment and workers for more than two hours, a qualified biologist shall be present to monitor the bat roosting habitat and will stop work if any disturbance to bats is detected and contact CDFW for further guidance.
3. If suitable roosting habitat is identified and shall be removed by the Project, such as from tree removal, a qualified biologist shall survey potential suitable roost sites immediately prior to the removal. If any sign of roosting bats or observation of individual bats is observed, the roost shall be removed in coordination with CDFW or according to permit conditions. Typical removal methods include first removing nonhabitat features such as limbs smaller than 3 inches in diameter. The tree is left overnight to allow any bats using the tree/snag to find another roost during their nocturnal activity period. A qualified biologist would survey the trees/snags a second time the following morning prior to felling and removal.

b) Would the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Habitats within the Project Site that are treated as sensitive natural communities include riparian woodlands, seasonal creek, perennial marsh, seasonal wetland, and riparian wetland, as they are jurisdictional wetland features regulated by California Department of Fish and Wildlife (CDFW) under Section 1600 of the California Fish and Game Code and Regional Water Quality Control Board (RWQCB) under Section 401 of the Clean Water Act, and with the exception of the riparian woodlands, by the U.S. Army Corps of Engineer under Section 404. The Project Site includes 1.74 acres mapped as riparian woodland, and 3.23 acres of seasonal creek, perennial marsh, seasonal wetland, and riparian wetland.

Temporary impacts to riparian habitat and sensitive natural communities include grubbing and vegetation removal, construction of access roads and staging areas, the removal of sediment within the existing basin, excavation of the sediment basin to expand the basin northward, reconstruction of the fish passage structure, and the removal of riprap in the channel upstream, resulting in 1.6 acres of temporary impacts to riparian habitat and sensitive natural communities. Removal of sediment from the basin and channel is expected to improve wetland habitat. The expansion of the basin would temporarily impact sensitive natural communities which will likely be converted to wetland conditions and vegetation following construction. It is expected that all of these areas would naturally re-establish with vegetation after construction, and the area will be hydro-seeded and replanted with native vegetation.

Permanent impacts to riparian habitat and sensitive natural communities would result from the construction of training berms and platforms within the sediment basin and within its expansion area, from the construction of the trash deflection bollards, and construction of the community amenities, because these activities would place fill within the sediment basin, in the creek, and in the riparian habitat. The construction of the community amenities, particularly the Verde Mini Park on the western side of the Project Site would result in permanent impacts to riparian habitat. In total, the Project will result in 0.41 acres of permanent impacts. As a whole, however, this project is intended to be self-

mitigating; the Project would be beneficial to riparian habitats, and riparian plants including willows would be planted along the training berms, where the willows would have the most beneficial impact for the riparian habitat along Wildcat Creek. The impacts to riparian habitat would be permanent but not substantial due to the proposed improvements to the sediment basin, including the planting of riparian plantings and improvement of fish migration along the creek.

A total of 28 trees were identified for removal within the Project boundary, of which 22 had a diameter at breast height over 4 inches. Those trees included 15 Red Willows (*Salix Laevigata*), 1 non-native Willow (*Salix alba*), 4 Cottonwood (*Populus*), 7 Live Oak (*Quercus agrifolia*) and 1 dead Alder (*Alnus*). However, the loss of this relatively small amount of vegetation would not have a substantial effect on the overall quality, characteristics, or structure of the approximately 2.92 acres of riparian woodland that exists within the BSA and willows are expected to readily regenerate.

To minimize impacts to riparian habitat, the Project was designed to avoid permanent impacts to the riparian woodland. This was accomplished by expanding the sediment basin design to the north instead of removing all sediment within the basin's original 1995 design footprint.

Permits will be obtained from CDFW (Streambed Alteration Agreement) and RWQCB (Water Quality Certification). Permit requirements will be followed to minimize impacts to water quality and riparian habitat.

Temporary and permanent impacts to riparian habitat will be minimized through implementation of **Mitigation Measure BIO-3** such that their impacts would be **less-than-significant with mitigation incorporated**.

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

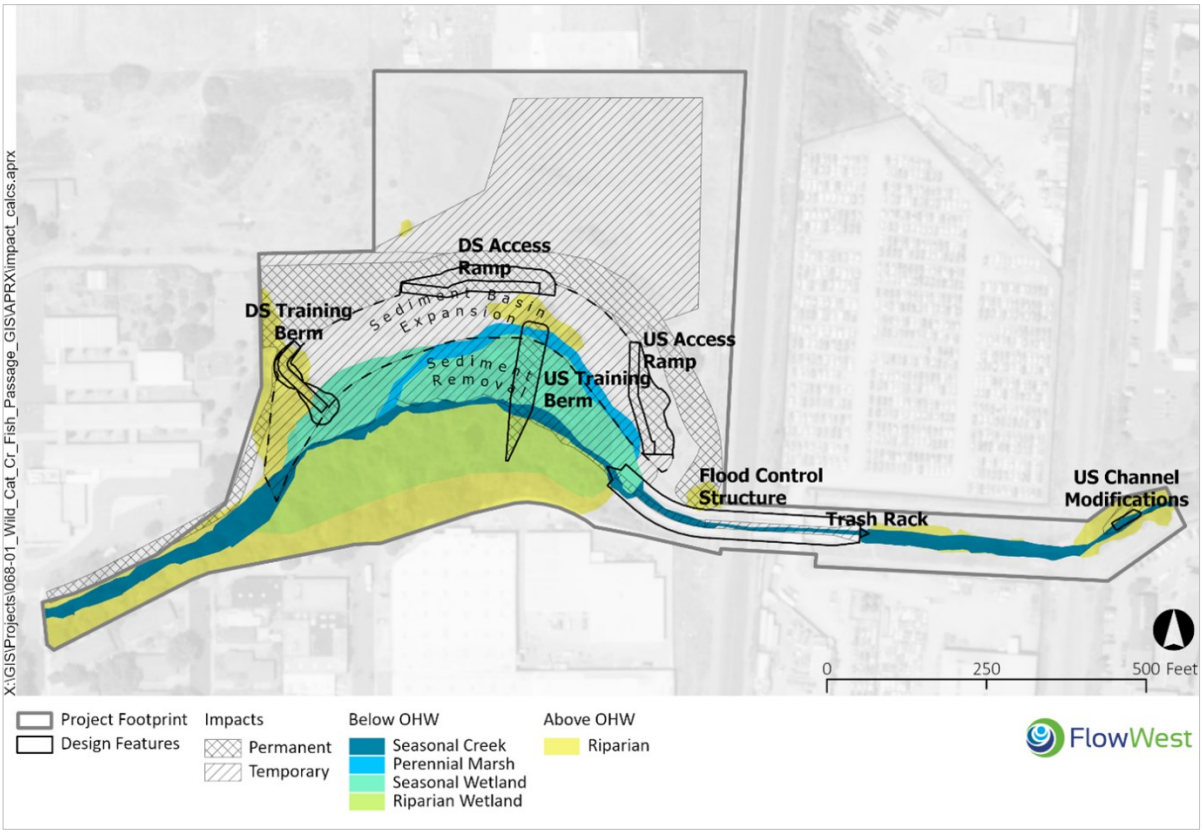
A wetland delineation was conducted by Vollmar Natural Lands Consulting in January of 2023. Vollmar identified the following types of wetland habitats, quantified in **TABLE 2 – 5** and as shown in **FIGURE 2 – 2** below. **FIGURE 2 – 3** shows impacts to wetlands by Project components.

TABLE 2 – 5: WETLANDS AND WATERS WITHIN THE PROJECT BOUNDARIES

Wetland/Water Type	Acres	Temporary Impacts (Acres)	Permanent Impacts (Acres)
Riparian Woodland	1.74	0.30	0.21
Seasonal Creek	0.78	0.18	0.02
Perennial Marsh	0.23	0.21	0.02
Seasonal Wetland	1.04	0.89	0.13
Riparian Wetland	1.18	0.02	0.03
TOTAL	**4.98**	**1.6**	**0.41**

FIGURE 2 – 2: WETLANDS AND WATERS WITHIN PROJECT BOUNDARY

FIGURE 2 – 3: WETLANDS AND WATERS WITH IMPACTS BY PROJECT ELEMENT



1.6 acres of temporary impacts to wetlands and waters would occur due to sediment removal from the basin, expansion of the sediment basin, modifications to the fish passage structure, and upstream channel modifications.

0.41 acres of permanent impacts to wetlands and waters would occur from the construction of the training berms and platforms, construction of the community amenities, and construction of the trash deflection bollards.

This Project was designed to be self-mitigating, and no compensatory mitigation is anticipated because the Project would result in an increase in wetlands and waters from the expansion of the sediment basin. Though the Project activities would result in permanent impacts to wetlands and waters, they would not change or convert the wetlands and waters to upland or non-wetland/water land types.

Temporary and permanent impacts to riparian habitat will be minimized through implementation of **Mitigation Measure BIO-3** such that their impacts would be **less-than-significant with mitigation incorporated**.

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

There are no wildlife nurseries within the Project Site. Wildcat Creek provides a movement corridor for wildlife species, including western pond turtle and steelhead, and adjacent riparian habitats provide a movement corridor for migratory birds and mammals.

The Project area does not provide suitable habitat for salmonids for any life stage (FlowWest, 2023). The Project area is designated critical habitat for the Central California Coastal steelhead (*O. mykiss*). However, steelhead have not recently been documented in the project area of Wildcat Creek (Pers. Comm. NOAA Fisheries 2022). The Project will require work within the channel of Wildcat Creek, and potentially introduce impacts to fish during construction. However, as described in Section IV.a above, the construction in-water work window will avoid the steelhead migration window and impacts to fish will be avoided by implementing **Mitigation Measure BIO-5** for fish.

The Project would not result in permanent disruption to movement of terrestrial wildlife species in the area. The Project includes new fencing, which would extend approximately 750 feet from the eastern edge of the gate at the end of the Verde Mini Park along the northern edge of the trail and terminating at the fish passage overlook. The fencing will be designed to ensure wildlife can safely pass through the fence and their movement would not be restricted by following USDA Natural Resources Conservation best practices to ensure species such as migratory birds can traverse the fence and its footings. By retrofitting the fish passage structure and sediment basin to meet fish passage criteria and improving channel conveyance by modifying the flood control channel, steelhead and other species such as the Western Pond Turtle may utilize the Project area for a migration corridor once the Project is completed, and improve the movement corridor for wildlife in the long term.

Temporary impacts include construction activities, vegetation and tree removal, and increased noise and human presence which could result in potential impacts to movement of nesting or foraging

special-status bird species. Temporary construction-related activities may temporarily inhibit dispersal, migration, and daily movement of wildlife. However, **Mitigation Measure BIO-7** would mitigate these temporary impacts by avoiding the main times and areas in which birds would be moving through the Project Site. Therefore, the impact would be **less-than-significant with mitigation incorporated**.

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

The Project would not conflict with any local policies or ordinances protecting biological resources. The trees that would be removed occur within the District right-of-way which is not subject to the County Tree Ordinance (Contra Costa County Code [CCC] Title 8, Chapter 816-6.10(6). Therefore, the impact would be **less-than-significant**.

f) Would the Project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

The Project is not located within an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Therefore, there would be **no impact**.

Sources of Information

California Department of Fish and Wildlife. 2005. California Wildlife Habitat Relationships System. California Department of Fish and Wildlife - California Interagency Wildlife Task Group. Available at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=1659#:~:text=Nest%20placed%20near%20top%20of,meets%20water%20requirements%20from%20prey. Accessed March 13, 2024.

Contra Costa County. 2005. Contra Costa County General Plan 2005-2020. Contra Costa County Community Development Department: Chapter 8, Conservation Element, Chapter 7, Public Facilities/Services Element. Website: https://www.contracosta.ca.gov/4732/General-Plan. Accessed January 6, 2023.

Contra Costa County. 2023. Ordinance Code Chapter 816-6 Tree Protection and Preservation. Website: https://library.municode.com/ca/contra_costa_county/codes/ordinance_code?nodeId=TIT8ZO_DIV816TR_CH816-6TRPRPR. Accessed January 13, 2023.

Federal Register. 2000. Designated critical habitat: critical habitat for 19 evolutionarily significant units of salmon and steelhead in Washington, Oregon, Idaho, and California. 7764, Vol. 65, No. 32, Rules and Regulations. Final rule. Department of Commerce, National Oceanic and Atmospheric Administration and National Marine Fisheries Service, Wednesday, February 16, 2000.

National Marine Fisheries Service. 2009. Designation of Critical Habitat for the threatened Southern Distinct Population Segment of North American Green Sturgeon Final Biological Report. Website: https://repository.library.noaa.gov/view/noaa/18683. Accessed February 27, 2024.

Vollmar. January 2023. Delineation of Aquatic Features Wildcat Creek Fish Passage and Community Engagement Project.

Environmental Issues	Potentially Significant Impact	Less-than-significant With Mitigation Incorporated	Less-than-significant Impact	No Impact
5. CULTURAL RESOURCES – Would the Project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☒	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

Contra Costa County Historic Resources Inventory

CULTURAL RESOURCES SUMMARY

a) Would the Project cause a substantial adverse change in the significance of a historical resource pursuant to California Environmental Quality Act Guidelines Section 15064.5?

CEQA requires lead agencies to determine if a project will have an adverse impact on a significant cultural resource (which includes historical, archaeological, and tribal cultural resources) (Public Resources Code Sections 21084, 21084.1, 21083.2). The agency must first determine if a resource is historically significant, and then determine if the Project would cause a "substantial adverse change" in its significance (Public Resource Code 21068, CEQA Guidelines 15382). According to CEQA Guidelines, a resource is considered historically significant if it 1) is listed in or has been determined eligible for listing in the California Register of Historical Resources (CRHR); 2) is included in a local register of historical resources, as defined in Public Resources Code 5020.1(k); 3) has been identified as significant in an historical resources survey, as defined in Public Resources Code 5024.1(g); or 4) is determined to be historically significant by the CEQA lead agency [CCR Title 14, Section 15064.5(a)]. The following CRHR eligibility criteria need to be considered when making a significance determination: 1. Associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage; 2. Associated with the lives of persons important in our past; 3. Embodies the distinctive characteristics of a type, period, region, or method of construction or represents the work of an important creative individual, or possesses high artistic values; or 4. Has yielded, or may be likely to yield, information important in prehistory or history. To be considered a historical resource for the purpose of CEQA, the resource must also have integrity, which is the authenticity of a resource's physical identity evidenced by the survival of characteristics that existed during the resource's period of significance.

Listing in the CRHR is not necessary for a resource to be considered a historical resource. A historical resource includes, but is not limited to, any object, building, structure, site, area,

place, record, or manuscript that is historically or archaeologically significant (PRC Section 5020.1). California Public Resources Code Section 21083.2 also addresses the identification and protection of unique archaeological resources. A "unique archaeological resource" is an archaeological artifact, object, or site for which there is a high probability that it meets any of the following criteria: 1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information. 2. Has a special and particular quality, such as being the oldest of its type or the best available example of its type. 3. Is associated with a scientifically recognized important prehistoric or historic person or event. In most situations, resources that meet the definition of a unique archaeological resource also meet the definition of historical resource. As a result, it is current professional practice to evaluate cultural resources for significance based on their eligibility for listing in the CRHR. Adverse change is defined as physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the historical resource would be materially impaired. The significance of a historical resource is materially impaired when a project: demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for inclusion in the California Register, Local Register, or as determined by a lead agency for purposes of CEQA (CEQA Guidelines 15064.5(b)(1-2)(A-C).

The District maintains a Historic Resource Inventory. The most recent version was updated in July 2019 and contains a list of historic resources organized by area. None of the listed resources are located within the Project Site.

A cultural resources survey was prepared for the Project Site on June 16, 2022 by Tom Origer & Associates. A review (NWIC File No. 21-1799) was completed of the archaeological site base maps and records, survey reports, and other materials on file at the Northwest Information Center (NWIC), Sonoma State University, Rohnert Park by Eileen Barrow, M.A./RPA on April 26, 2022. The records search identified two resources within a 0.5-mile radius of the Project Site (P-07-000152 and P-07-000813). P-07-000813 is the Burlington Northern Sante Fe Railroad bridge and will not be touched or affected by Project activities. However, P-07-000152 has a high potential to contain human remains and additional investigations were conducted. Further investigations, including pedestrian surveys, a ground-penetrating radar (GPR) study, and tribal consultation with Confederated Villages with Lisjan Nation (CVLN) were conducted to determine if the site may extend into the Project Site and could be impacted by Project activities.

A pedestrian survey was conducted on May 12, 2022 by Eileen Barrow and Lena Murphy. No evidence of the site was observed within the Project Site; however, a great amount of fill within the APE has obscured the ground surface and additional investigation was recommended. A backhoe study was also recommended to determine if P-07-000152 is within the APE since fill within the APE did not allow for determination at the time of the survey. As discussed in Section XVIII. Tribal Cultural Resources, the method of subsurface investigation was agreed upon with CVLN was ground-penetrating radar.

The ground-penetrating radar study, conducted in late 2023, used ground-penetrating radar (GPR) to identify potential archaeological site deposits and indicators within and near the Project Site (Byram, 2024). The GPR study identified transects, over which the GPR machinery took readings to identify changes in the strata data that could be indicative of an archaeological site. More detail on used techniques is described at www.featuresurvey.com. The study notes that, "while GPR is very useful for identifying archaeological features such as pits and foundations…, there are limitations to the technique based on equipment, soil conditions, surface obstacles, buried utilities, and other site variability such as feature preservation" (Byram, 2023). The study identified no evidence of buried strata indicative of a resource at depths up to 6 feet (i.e. the depths that GPR could penetrate) within the Project area (Byram, 2023). Though GPR cannot conclusively rule out the presence or absence of P-07-000152 or other resources, monitoring will occur with an archaeologist and tribal monitor for excavation depths of 4.5 to 16 feet, which corresponds to the maximum depth of excavation.

The potential for subsurface resources cannot be completely ruled out and Project construction may encounter unanticipated historic or pre-historic resources; therefore, the following Mitigation Measures will be followed which require cultural resources sensitivity training for construction staff and the presence of a qualified Archaeological Monitor and Tribal Monitor during any ground disturbance that would reduce potential impacts to historic resources that may be discovered during Project construction. If a potential resource is identified, construction would be required to stop until appropriate identification and treatment measures are implemented in the event subsurface resources are discovered during Project construction. With implementation of Mitigation Measure **CUL-1: Environmentally Sensitive Area and Archaeological and Tribal Monitoring** and **CUL-2: BMPs and Archaeological and Tribal Monitoring,** the Project would have a **less than significant impact with mitigation incorporated**.

Impact CUL-1: Development of the Project could disturb unanticipated historic resources.

Mitigation Measures
CUL-1: **Environmentally Sensitive Area and Archaeological and Tribal Monitoring**

- An Environmentally Sensitive Area (ESA) shall be established in areas where excavation activities deeper than 4.5 feet would occur in previously undisturbed soil. The horizontal and vertical ESA shall be delineated on all project plans. A vertical ESA limit of 16 feet will be established, and no Project-related activities (e.g., excavation, trenching) shall take place below the vertical ESA limit.
- An archaeological monitoring plan shall be prepared prior to any ground disturbance. The plan shall outline the procedures for discoveries during construction; the chain of command and responsible parties; and special procedures should human remains be encountered.
- Archaeological monitoring by a qualified archaeologist shall be conducted during all ground disturbing activities within the boundaries of the Environmentally Sensitive Area that yield visible spoils between 4.5 feet below current ground surface and 16

feet below current ground surface. A daily archaeological monitoring log shall be completed by the archaeological monitor and submitted weekly to the County of Contra Costa for review. Should archaeological resources or human remains be encountered the procedures outlined in the monitoring plan shall be implemented.

- Tribal monitoring by a qualified Tribal monitor approved by the Confederated Villages of Lisjan Nation, the Tribe that consulted on this project pursuant to Assembly Bill 52 (the "Tribe"), shall be conducted during all ground disturbing activities within the boundaries of the Environmentally Sensitive Area between 4.5 feet below current ground surface and 16 feet below current ground surface. The Tribal monitor shall complete daily monitoring logs that provide descriptions of the day's activities, including construction activities, locations, soil, and any cultural materials identified.

CUL-2: BMPs and Archaeological and Tribal Monitoring

- Contractor shall be notified of the possibility of encountering historic, archaeological, or paleontological materials during ground-disturbing activities. A standard inadvertent discovery clause will be included in every construction contract to inform Contractors of requirements during construction.
- Prior to the initiation of construction activities, a qualified archaeologist and Tribal monitor shall provide Worker Environmental Awareness Program (WEAP) training to construction personnel with an overview of applicable laws, Project mitigation measures, and procedures to be followed with regards to historical, archaeological, and Tribal resources that may be encountered over the course of the Project.
- Procedures for discovery include:
    - If potential cultural materials are discovered during construction, the Contractor shall cease all ground disturbing activities within a 100-foot radius of the find. The Contractor shall immediately notify the District Resident Engineer or their designated representative to request a qualified archaeologist and Confederated Villages of Lisjan Nation representative to assess the nature and significance of the find.
    - If the finding(s) is determined to be potentially significant, the archaeologist in consultation with the Tribal representative shall develop a research design and treatment plan outlining management of the resource, analysis, reporting of the find, and curation or reburial of cultural items. Preservation in place (i.e., avoidance) is typically the preferred manner of treatment of Tribal resources and cultural items.
    - Any previously undiscovered resources found during construction within the Project Site shall be recorded on appropriate California Department of Parks and Recreation (DPR) 523 forms and shall be submitted to Contra Costa County Department of Conservation and Development, the Northwest Information Center (NWIC), and the California Office of Historic Preservation (OHP), as required.

b) Would the Project cause a substantial adverse change in the significance of an archaeological resource pursuant to California Environmental Quality Act Guidelines Section 15064.5?

As part of the background cultural resource studies prepared for the Project, Tom Origer & Associates conducted records searches and a pedestrian survey, and Byram Associates conducted a GPR field investigation.

As described above in Section V.a, the NWIC search identified two archaeological resources within a 0.5-mile radius of the Project Site which includes areas of permanent and temporary impacts.

Tom Origer & Associates also completed a Native American Consultation and Sacred Land database search. The Native American Heritage Commission's (NAHC) review of the Sacred Land database indicated they had no information about the presence of Native American cultural resources in the immediate Project area. The NAHC provided a list of 11 Native American tribal contacts who might have information about cultural materials within or near the Project Site. Tom Origer & Associates sent letters requesting information from these tribal representatives on April 15, 2022. To date, one Project specific response was received via follow-up email on November 14, 2022.

As described further in Section XVIII.b, the District conducted Tribal Consultation with the Confederated Villages of Lisjan Nation in order to agree to measures to mitigate or avoid a significant effect on a tribal cultural resource. An agreement was reached, and consultation was concluded on March 18, 2024 after several meetings to evaluate the potential presence of resources within the Project Site.

As described above in Section V.a, the pedestrian survey conducted by Tom Origer & Associates on April 26, 2022 noted that the presence or absence of an archaeological resource could not be confirmed during the pedestrian survey. The GPR field investigation did not identify evidence of buried strata indicative of particular resources that were the focus of the study (Byram, 2023).

The presence of a recorded resource possibly within the Project Site, information shared by the Confederated Villages of Lisjan and their associates, and the inability to conclusively determine the limits of the known resource leaves the potential to encounter an archaeological resource high.

While no evidence of the site was observed within the Project Site, fill is present within the Project Site to depths of 3.5 to 4 feet, which has obscured the native soil layer. It is unknown if the resource is present below the fill. As described in Section IV.a, the GPR study did not identify the presence of any buried resources in the 0 to 6 feet beneath the areas of excavation. Beyond the two NWIC records, no other resources have been documented within the Project Site, and no other resources were identified from a NAHC Sacred Lands File search or through outreach to Native American tribal representatives. By conducting this GPR investigation prior to construction, as well as implementing Mitigation Measures CUL-1 and CUL-2, the impact would be **less-than-significant with mitigation incorporated.**

IMPACT CUL-2: Project construction could cause a substantial adverse change in the significance of an archaeological resource

Mitigation Measures
CUL-1: **Environmentally Sensitive Area and Archaeological and Tribal Monitoring**
CUL-2: BMPs and Archaeological and Tribal Monitoring

c) Would the Project disturb any human remains, including those interred outside of formal cemeteries?

No human remains or cemeteries are known to exist within or near the Project Site (Origer, 2022). However, the site type identified in the NWIC record search has high archaeological sensitivity. Though the investigations described previously indicated no presence of buried human remains, Project construction may unearth unanticipated historical or pre-historic archaeological resources. With implementation of Mitigation Measures CUL-1 provided in V.a, and **CUL-3: Impact to previously undiscovered human remains,** Project impacts on human remains would be **less-than-significant with mitigation incorporated**.

IMPACT CUL-3: Project construction could inadvertently disturb buried human remains.

Mitigation Measures

CUL-1: **Environmentally Sensitive Area and Archaeological and Tribal Monitoring**

CUL-3: Impact to Previously Undiscovered Human Remains

- In the event of the accidental discovery or recognition of any human remains, there shall be no further excavation or disturbance within 100 feet of the remains until the Contra Costa County Coroner is contacted to determine whether the remains are Native American and if an investigation of the cause of death is required. At the same time, an archaeologist shall be contacted to assess the situation.
- If the Coroner determines the remains to be Native American, the Coroner shall contact the Native American Heritage Commission (NAHC) within 24 hours of this identification. The NAHC shall identify a Most Likely Descendant (MLD) to inspect the site and provide recommendations for the proper treatment of the remains and associated funerary objects.
- If the Confederated Villages of Lisjan Nation is designated as the MLD, the Tribe shall make every effort to recommend keeping ancestral remains and funerary objects in situ and protected. If removal of burials is necessary, Tribal representatives shall work with the qualified archaeologist to ensure that excavation and documentation are treated carefully, ethically, and respectfully. No photography or scientific study, destructive or non-destructive, shall be conducted on ancestral human remains. The archaeologist shall prepare a report of all activities, including the recommendations for the treatment of the human remains and any associated funerary objects as provided by the MLD. The report shall be submitted to the District, the Northwest Information Center, and the Tribe.
- Tribal representatives shall rebury the Native American human remains and associated funerary objects with appropriate dignity either: 1) In accordance with the recommendations of the MLD if available; or 2) In the project vicinity at a location mitigated between the Confederated Villages of Lisjan Nation representative and the County, where the reburial would be protected in perpetuity and would not be subject to further subsurface disturbance. The discovery is to be documented on DPR523 forms and otherwise kept confidential and secure to prevent any further disturbance.

Sources of Information

Byram Archaeological Consulting, LLC. 2023. Archaeological Ground-Penetrating Radar for the Wildcat Creek Fish Passage and Community Engagement Project, Richmond, CA.

Contra Costa County. 2005. Contra Costa County General Plan 2005-2020: Chapter 9 Open Space Element. Website: https://www.contracosta.ca.gov/4732/General-Plan. Accessed January 6, 2023.

Tom Origer & Associates. 2022. Cultural Resources Study for the Wildcat Creek Fish Passage and Community Engagement Project.

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

ENERGY SUMMARY

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

Construction of the Project would result in fuel consumption from the use of construction tools and equipment, truck trips to haul material, and vehicle trips generated from construction workers commuting to and from the site. Construction activities and corresponding fuel energy consumption would last less than one year in total and localized, as the use of diesel fuel and heavy-duty equipment would not be a long-term condition of the Project. In addition, there are no unusual Project characteristics that would cause the use of construction equipment or haul vehicles that would be less energy efficient compared with other similar construction sites in other parts of the State. The Project is limited to improvement of an existing sediment basin and fish passage structure, and will not require energy once it is constructed. The maintenance required following project construction would be less or equivalent to the amount of maintenance needed for the Project Site's existing conditions. Therefore, Project impacts would be **less-than-significant**.

b) Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

The Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency, including the 2015 Contra Costa County Climate Action Plan (CAP). As noted above, the Project would result in an incremental increase in energy usage during construction. However, this would be temporary in nature. Operation of the Project would not require change from existing condition. Construction workers would comply with all State requirements designed to minimize idling and associated emissions, which also minimizes use of fuel. Specifically, idling of commercial vehicles and offroad equipment would be limited to five minutes in accordance with the Commercial Motor Vehicle Idling Regulation (MVIR) and the Off-Road Regulation (ORR). Construction compliance with the MVIR/ORR as described would also prevent the Project from conflicting with this CAP goal. Therefore, Project impacts would be **less-than-significant**.

Sources of Information

Contra Costa County. 2015. Contra Costa County Climate Action Plan. Website: https://www.contracosta.ca.gov/DocumentCenter/View/39791/Contra-Costa-County-Climate-Action-Plan?bidId=. Accessed February 14, 2023.

Environmental Issues	Potentially Significant Impact	Less-than-significant With Mitigation Incorporated	Less-than-significant Impact	No Impact
7. GEOLOGY AND SOILS – Would the Project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

GEOLOGY AND SOILS SUMMARY

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

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?

The Project would not cause potential substantial adverse effects including the risk of loss, injury, or death due to the rupture of a known earthquake fault because it is not located within an Earthquake Fault Zone for active faults as defined by the State Geologist (CE&G 2022). The nearest mapped active fault is the Hayward Fault, located approximately 1.1 miles northeast of the site. Therefore, the potential for surface rupture due to primary faulting at the site is considered to be low. In addition to this, the presence of construction workers is temporary, does not include the injection of groundwater

or oil, and therefore would not exacerbate the occurrence of fault rupture. Therefore, the risk of damage to property or injury/death to people as a result of fault rupture would be **less-than-significant**.

ii. Strong seismic ground shaking?

The Project is located in the greater San Francisco Bay Area, which has numerous active fault systems traversing through it, including the Hayward Fault, Concord Fault, Franklin Fault, and Calaveras Fault. The Association of Bay Area Governments (ABAG) developed Earthquake Shaking Hazard Maps, which predict the potential for ground shaking during major earthquakes on the active faults in the Bay Area. The Project is located in an area with high earthquake shaking potential, rated as 'Violent' shaking severity on the Modified Mercalli Intensity scale for a Magnitude 8.4 earthquake on the Hayward fault.

The Project will include the demolition of the existing fish passage structure in order to create a more natural fish passage corridor. It is likely that the fish passage structure would be subjected to a major earthquake during its design life of 25 years. Ground movements resulting from an earthquake may cause damage to the concrete structure. This hazard would be taken into consideration when designing the Project components for the structure. Construction of the fish passage structure will follow the American Concrete Institute's (ACI) design requirements for concrete and the American Institute of Steel Construction's (AISC) design requirements for steel, which have taken earthquake standards into account. The project construction will also follow any requirements outlined by the California Building Code (CBC) for the Project's structural elements. This would include the consideration of things such as seismic activity. The Project's community amenities will not be affected as seismic activity due to their smaller sizes, and the basin does not have any structures. With the implementation of geotechnical design recommendations, impacts relative to seismic shaking and seismically induced ground failure would be **less-than-significant**.

iii. Seismic-related ground failure, including liquefaction?

Seismic shaking can trigger seismic-induced ground-failures caused by liquefaction. Loose soils and uncompacted or poorly compacted artificial fills located below the water table are susceptible to liquefaction.

The geotechnical design report shows that the subsurface profile consists of lean to fat clays (which are not typically prone to liquefaction), and the reference borings and Cone Penetration Testing (CPT) probes show soil layers that are medium dense to dense. With low risk of liquefaction due to the subsurface profile and incorporation of foundation reinforcement into the Project design, the impacts relative to seismic-induced ground failure such as liquefaction would be **less-than-significant**.

iv. Landslides?

Landslides generally consist of any type of ground movement that occurs primarily due to gravity acting on an over-steepened slope and can occur due to excessive precipitation, human activities, or induced by seismic activity. The Project Site is generally flat, which makes landslides unlikely. In addition, the Contra Costa County General Plan shows that the Project Site is not located on a site

susceptible to landslides or an area where landslides previously occurred. Therefore, the impacts would be **less-than-significant.**

b) Would the Project result in substantial soil erosion or the loss of topsoil?

The Project would not result in substantial soil erosion or the loss of topsoil. Modified grades associated with the completed Project would result in negligible changes in topography. Construction of the Project would temporarily increase the exposure of soils to wind and erosion from grading and excavation activities. The demolition of the existing structure is anticipated to generate concrete and sediment material, which would be removed from the Project Site. The removal of sediment from the existing sediment basin, expansion of the sediment basin, and construction of access platforms would generate material as well. Fill and other materials would be imported, primarily for construction of the fish passage structure, the sediment basin training berms, access road, and community amenities. The Project will be consistent with EPA's National Pollutant Discharge Elimination System (NPDES) permit, EPA's Stormwater Construction Pollution Prevention Permit (SWPPP), and all best management practices. Consistency with these laws and permits would minimize any potential soil erosion resulting from project construction such that there would not be substantial soil erosion or loss of topsoil. The Project will be designed in accordance with all applicable geotechnical and earthquake design criteria and the regulations detailed in the Alquist-Priolo Earthquake Fault Zoning Act. Therefore, the impact would be **less-than-significant**.

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

The Project would not be located on a geologic unit or soil that is unstable. As discussed above in Impacts a)iii) and a)iv), impacts related to liquefaction, lateral spreading (a ground failure associated with liquefaction), and landslides would be less-than-significant. Subsidence and collapse are ground failures that can occur as a result of groundwater or oil extraction. Groundwater may be extracted during construction to dewater the areas below the groundwater level. This amount of water removed would be temporary and not in significant quantities to affect subsidence in the area, due both to the amount of groundwater removed as well as type of soil in the Project area, which is not prone to subsidence. The Project does not include the operational extraction of groundwater or oil and would not otherwise create soil that is unstable. Therefore, impacts would be **less-than-significant**.

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

The Project would not create substantial risks to life or property due to being located on expansive soil. The geotechnical design report identified expansive soils on the Project Site. Expansive soils can undergo significant volume change with changes in moisture content. They shrink and harden when dry and expand and soften when wet, which could cause building foundations to crack or heave resulting in substantial risks to life or property. This would be a risk for the fish passage structure. However, the geotechnical design report includes recommendations for the types of material used for

engineered fill as well as fill placement and compaction which would address the risks related to expansive soil. Therefore, impacts related to expansive soils would be **less-than-significant**.

e) Would the Project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

Septic tanks and alternative wastewater disposal systems are not part of the Project. Therefore, the Project would have **no impact**.

f) Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

The Project would not destroy a unique paleontological resource, site, or unique geologic feature. Paleontological resources are the fossilized evidence of past life found in the geologic record. The cultural resources survey conducted by Tom Origer & Associates for the Project indicates that the soils with the Project area belong to the Botella and Sycamore series. The geotechnical report required drilling soil boring logs from an elevation about 9 to 10 feet above the existing channel creek bottom. The maximum depth of digging during project construction would be approximately 14 feet, but this is limited to the fishway. The average depth of digging during the Project construction would be approximately 6 feet. Therefore, it is unlikely that paleontological resources or geologic features will be encountered during project construction. However, should any of those resources be encountered during project construction, Project contract specifications would stipulate that construction shall stop in the area if such potential resources are discovered. In addition, **Mitigation Measure CUL-1** will be followed in the event subsurface resources are discovered. Therefore, the impact would be **less-than-significant with mitigation incorporated.**

Sources of Information

CE&G. 2022. Draft Geotechnical Design Report, Wildcat Creek Fish Passage Project.

Contra Costa County. 2005. Contra Costa County General Plan 2005-2020: Chapter 10 Safety Element. Website: https://www.contracosta.ca.gov/4732/General-Plan. Accessed January 6, 2023.

State of California Department of Conservation. 2019. California Geologic Survey – EQ Zapp: California Earthquake Hazards Zone Application. Website: https://www.conservation.ca.gov/cgs/geohazards/eq-zapp. Accessed January 13, 2023.

Environmental Issues	Potentially Significant Impact	Less-than-significant With Mitigation Incorporated	Less-than-significant Impact	No Impact
8. GREENHOUSE GAS EMISSIONS – Would the Project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

GREENHOUSE GAS EMISSIONS SUMMARY

a) Would the Project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

The *2017 Clean Air Plan: Spare the Air, Cool the Climate* (Plan) is the most recently adopted regional plan which provides a regional strategy to improve Bay Area air quality, meet public health goals and reduce GHG emissions. Through Plan implementation, the BAAQMD's goal is to reduce greenhouse gas emissions to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050.

The BAAQMD's *CEQA Air Quality Guidelines* also assists lead agencies in complying with CEQA requirements regarding potentially adverse impacts on air quality. There are no formal BAAQMD quantitative significance thresholds for GHG emissions from construction activities. However, it requires the lead agency to quantify and disclosure project construction and operational GHG emissions is recommended and to make a determination of impacts related to meeting AB 32 reduction goals.

The Project would generate greenhouse gas emissions during its construction including site preparation, sediment removal from the existing sediment basin, construction of the fish passage structure, sediment basin improvements, community amenities, and cleanup/revegetation. Construction activities would occur over about six months in 2025. GHG emissions would also come from the use of trucks transporting equipment and material to/from the site, and from the motor vehicles of the construction workers. Project construction GHG emissions were estimated using the CalEEMod model (as described in Chapter 2, Section 3 – Air Quality) to be about **532 metric tons of CO2e** from the equipment, trucks and worker vehicles over the total construction period.

Once the Project is complete, there will be no operational GHG emissions. The Project components include a fish passage structure, sediment basin, and recreational area, none of which would have any associated GHG emissions. Thus, as the significance thresholds require, there will be no natural gas use, no inefficient energy use and no VMT generated. However, existing bi-annual inspection and potential excavation of the low flow channel through the sediment basin will continue as before, but likely be less frequent after Project installation. Community use of the recreational amenities will likely increase from implementation of the Project, but most community travel to/from the Project Site

will likely be by foot or bicycle and have no associated GHG emissions. Therefore, Project impacts would be **less-than-significant**.

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

Assembly Bill 32 (AB 32), the California Global Warming Solutions Act (2006), required the CARB to lower State GHG emissions to 1990 levels by 2020—a 25 percent reduction statewide with mandatory caps for significant GHG emission sources. AB 32 directed CARB to develop discrete early actions to reduce GHG while preparing the Climate Change Scoping Plan to identify how best to reach the 2020 goal (CARB, *Assembly Bill 32 Overview*).

To attain the longer-range GHG emissions reductions required by AB 32 (i.e., reducing GHG emissions to 40% below 1990 levels by 2030), several additional climate change strategies were introduced in 2015: (1) reducing present petroleum use in cars and trucks by up to 50 percent; (2) increasing from one-third to 50 percent the share of California's electricity derived from renewable sources; (3) doubling the energy efficiency savings achieved at existing buildings and making heating fuels cleaner; (4) reducing the release of methane, black carbon, and other short-lived GHGs; (5) managing farm and rangelands, forests and wetlands to more efficiently store carbon; and (6) periodically updating the State's climate adaptation strategy.

In its most recent revision, California's 2020 Climate Change Scoping Plan lays out the sector-by-sector strategies for achieving carbon neutrality (i.e., GHGs 85% below 1990 levels) by 2045 or earlier. An important aspect of this Scoping Plan includes reducing further the remaining emissions by ensuring that California's natural and working lands — forests, shrub-lands/chaparral, croplands, wetlands, etc. — incorporate and store more carbon in the trees, plants, and soil of those lands that cover 90 percent of the state (CARB. *California's 2022 Climate Change Scoping Plan Fact Sheet* and CDFW *Wetlands Restoration for Greenhouse Gas Reduction Program*).

The Project would not conflict with GHG reduction goals set forth in Assembly Bill 32, including the Recommended Actions identified by the 2020 CARB Climate Change Scoping Plan.

The BAAQMD's *2017 Clean Air Plan* contains 85 control measures aimed at reducing air pollutant and GHG emissions in the Bay Area, but none are relevant to wildlife habitat improvements such as the Project's. Thus, there is no Project inconsistency with the 2017 Clean Air Plan.

The Project is located within the jurisdictions of Contra Costa County, City of San Pablo, and City of Richmond. The Contra Costa County General Plan (General Plan) addresses reduction of GHG emissions within the unincorporated areas of Contra Costa County through a series of 36 local programs and 23 recommended policy measures related to transportation, land use, building energy, water, waste, and green infrastructure. The Project would have no operational impacts in any of these sectors. The Contra Costa County Climate Action Plan estimated the total annual GHG emissions to be about 1.5 million metric tons of CO2e. Comparatively, the Project's estimated construction emissions would be about 532 metric tons, a de minimis and temporary increase that would not hinder

the District's progress towards its GHG reduction targets. The Project's public access features would serve mostly Verde Elementary School children and nearby residents who would travel to the site mostly by foot or bicycle. Therefore, there would not be a significant increase in operational GHG emissions. Thus, there would be no Project conflict with County plans, policies, or regulations adopted for the purpose of reducing GHG emissions and the impact would be **less-than-significant.**

Sources of Information

BAAQMD. *2017 Clean Air Plan: Spare the Air, Cool the Climate*. Website: https://www.baaqmd.gov/plans-and-climate/air-quality-plans/current-plans

Contra Costa County. Contra Costa County Climate Action Plan (2015). Website: https://www.contracosta.ca.gov/8678/Climate-Action-Plan

California's Climate Change Assessments. *California's Changing Climate 2018 A Summary of Key Findings from California's Fourth Climate Change Assessment*. Website: https://www.energy.ca.gov/sites/default/files/2019-11/20180827_Summary_Brochure_ADA.pdf

CARB. *Current California GHG Emission Inventory Data* Website: https://ww2.arb.ca.gov/ghg-inventory-data

CARB. *Assembly Bill 32 Overview* Website: http://www.arb.ca.gov/cc/ab32/ab32.htm

CARB. *2022 Scoping Plan for Achieving Carbon Neutrality Executive Summary*. Website: https://ww2.arb.ca.gov/sites/default/files/2023-04/2022-sp-es.pdf

CARB. *California's 2022 Climate Change Scoping Plan Fact Sheet* https://ww2.arb.ca.gov/resources/fact-sheets/californias-2022-climate-change-scoping-plan-fact-sheet

California Department of Fish and Wildlife (CDFW). *Wetlands Restoration for Greenhouse Gas Reduction Program* Website: https://wildlife.ca.gov/Conservation/Watersheds/Greenhouse-Gas-Reduction#:~:text=The%20Wetlands%20Restoration%20for%20Greenhouse%20Gas%20Reduction%20Program,sequestration%20rates%20that%20can%20sequester%20carbon%20for%20decades

Environmental Issues	Potentially Significant Impact	Less-than-significant With Mitigation Incorporated	Less-than-significant Impact	No Impact
9. HAZARDS AND HAZARDOUS MATERIALS – Would the Project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☒	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☒	☐	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard or excessive noise for people residing or working in the Project area?	☐	☐	☐	☒
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☒	☐

HAZARDS AND HAZARDOUS MATERIALS SUMMARY

a) Would the Project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

During construction, construction vehicles would travel to and from the site. Examples of construction vehicles include trucks and excavators, which would use hazardous materials, such as fuels (gasoline and diesel), oils and lubricants, and cleaners (which could include solvents and corrosives in addition to soaps and detergents). However, these hazardous materials would be in small quantities, therefore posing no hazard to construction workers or the public.

Compliance with federal, state, and local hazardous materials regulations would minimize the risk to the public presented by these potential hazards during desilting. The Project would not involve routine transport, use, or disposal of hazardous materials or involve potential releases of hazardous materials

into the environment beyond that which exists currently from the traveling public. Therefore, the impact would be **less-than-significant.**

b) Would the Project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment?

The Project would not create a significant hazard to the public through the release of hazardous materials into the environment because the Project Site has not stored any hazardous materials, and there is not a history of hazardous material issues at the Project Site. A Hazardous Materials Report detailing the findings of multiple databases for any hazardous waste or substances from contaminated soil or groundwater was prepared by FlowWest in April 2022. The findings state that despite being located in an industrial area and that the Project Site was historically used as a nursery, there are no identified contamination concerns near the Project on any of the government databases, including the Department of Toxic Substances Control's Hazardous Waste and Substances Site List—Site Cleanup (Cortese List). Though the Project Site does not have any history of hazardous material issues, soils in the Project Site could be contaminated with pesticides, herbicides, and metals from historical agricultural land use (nursery).

Sediment excavated from the fish passage structure and sediment basin will be directly off-hauled and/or temporarily stockpiled in the vacant, upland area of the Project Site that is used by the District as a corporation yard for maintenance. Stockpile BMPs will be in place to reduce potential impacts from stockpiled material. Examples could include covering the stockpile with tarps to secure soil and routine inspection to prevent sediment transport. During soil placement, the pile will be graded, sloped and track-walked to prevent erosion. Excavated sediment may be off-hauled to the West County Wastewater District (WCWD). The soil will be tested as hazardous materials prior to off-haul to determine if the soil can be accepted by WCWD or otherwise, at alternate suitable location(s). If WCWD cannot accept the sediment, it will be properly managed/retained onsite until another user can be identified and/or disposed of at an appropriate permitted landfill.

Appropriate safety measures would be in place during construction to isolate and protect the creek from contamination that could be associated with construction activities or from replacement of the concrete fish ladder. The SWPPP will be in place to avoid the likely release of hazardous materials into the creek.

While the Project will not have long-term operational impacts, temporary impacts could occur during construction due to inadvertent discovery of contaminated water, disturbance of potentially contaminated soils during sediment removal and excavation, and demolition of the concrete fish passage structure. The disturbance will be limited in nature and potential for accidental release or exposure will be minimized with implementation of **Mitigation Measure HAZ -1 through HAZ-4.**

IMPACT HAZ-1: Soil movement and fish passage concrete demolition activities could mobilize contaminants exposing construction workers, the general public, and the environment.

MITIGATION MEASURE HAZ-1: **Prepare and Implement a Hazardous Materials Dewatering and Management Plan**

The Project proponent or its contractor(s) shall develop and implement a Hazardous Materials Dewatering and Management Plan establishing procedures to manage potentially contaminated fluids encountered during construction of the Project to minimize potential impacts to the public or

environment from hazardous materials. The Plan shall identify proper protocols to test and handle potentially hazardous materials if any are found. The Plan shall identify potential licensed disposal facilities and their acceptance criteria; the chemicals to be analyzed to comply with those acceptance criteria, which shall include at a minimum TPH as gasoline, diesel, and motor oil, and BTEX compounds. The Plan shall identify the proper protocols for the following three dewatering fluid disposal options:

- Groundwater with petroleum hydrocarbons (could be discharged to the WCWD under their Temporary Discharge Permit, providing the contaminant concentrations are within the Temporary Discharge Permit acceptance criteria and coverage under this permit is acquired prior to the discharge).
- Groundwater with petroleum hydrocarbons could be pumped into trucks or portable storage containers and transported to an offsite licensed disposal facility permitted to accept the waste.
- Groundwater with petroleum hydrocarbons could be treated onsite under the RWQCB's General Waste Discharge Requirements for Discharge or Reclamation of Extracted and Treated Groundwater (RWQCB Order No. R2-2017-0048, NPDES Permit No. CAG912002). The pumped groundwater would be pumped into a settling tank to drop the sediments out of solution, and pumped through a treatment system (e.g., granular activated carbon [GAC] to decrease the concentration of TPH as diesel to less than 50 ug/L and TPH as motor oil to less than 100 ug analytically tested to verify that treatment has achieved the effluent limitations. Upon successful treatment, the water could be discharged to the ground.

MITIGATION MEASURE HAZ-2: Pollutant and Hazardous Materials Handling

- The Bay Area Air Quality Management District shall be notified through their Asbestos Notification System prior to demolition in compliance with the National Emissions Standards for Hazards Air Pollutants (NESHAP).
- Worker safety recommendations for employees working at the site follow state and federal hazardous material handling regulations during construction activities.

MITIGATION MEASURE HAZ-3: Soil Sampling and Investigation

Prior to commencement of sediment excavation activities for either the sediment basin expansion or the community amenities, a soil sampling plan and results report shall be prepared for the District and soil samples shall be collected. The samples shall be analyzed for heavy metals identified in California Code of Regulations (CCR) Title 22. The samples shall also be analyzed for total petroleum hydrocarbons (diesel-range, gasoline, and motor oil), semi-volatile organic compounds (SVOC), and pesticides. The sampling report indicating the results of the sampling shall be submitted to the District for review and approval. If no contamination is present, no further action is required. If contamination is present, Mitigation Measure HAZ-4 will be implemented.

MITIGATION MEASURE HAZ-4: Implement Hazard Mitigation Plan Per Soil Sampling Report

If soil testing results exceed applicable environmental screening levels (ESLs) the District shall follow the recommendations provided in the results report to minimize potential for accidental release of contaminants. Recommendations may include development and implementation of one or more of the following plans:

- Preparation and implementation of a Health and Safety Plan: If recommended, a Health and Safety Plan would be prepared and implemented by the Contractor to provide appropriate

disclosure and information to the site workers and personnel of the contaminants present, hazard identification and awareness, and appropriate personal protective equipment and procedures to be used during construction of the Project.

- Preparation and implementation of a Soil Management Plan: If recommended, a Soil Management Plan would be prepared by the District and implemented by the Contractor. Likely conditions are dust control and monitoring procedures, soil handing procedures, soil profiling, transportation and disposal procedure to ensure that the construction workers, residents and the general public are protected and that the Contractor understands and has plans and procedures for handling, managing, stockpiling, profiling, transporting and disposing of the contaminated soils at an appropriate licensed disposal facility. The plan shall include lines of reporting and responsibilities and authorities. The plan shall also detail how soil will be managed to reduce hazardous material exposure impacts from operational use of the Project Site by workers and the general public. The plan shall also be approved by appropriate regulatory agency(s) if necessary.
- Preparation and implementation of an Air Monitoring Plan: If recommended, an Air Monitoring Plan would be prepared by the District and implemented by the Contractor during construction that presents specific air monitoring procedures to be used during potentially dust generating portions of the construction activities. The Air Monitoring Plan may include sampling and testing at intervals sufficient to understand and avoid potential exposure to workers, residents, and the general public.

With implementation of Mitigation Measures HAZ-1 through HAZ-4, Project impacts will be **less than significant with mitigation incorporated**.

c) Would the Project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

The Project Site is located within 0.25 mile of an existing school, Verde Elementary School, which is located directly east of the Project Site. Construction activity will require the use of trucks carrying hazardous materials, such as diesel fuels. Although the Project would result in hazardous emissions and handle hazardous materials within 0.25 mile of a school, the Project would comply with **Mitigation Measure HAZ-1 through HAZ-4** for reducing the exposure of hazards to Verde Elementary School. Therefore, the impact would be **less-than-significant with mitigation incorporated**.

d) Would the Project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

The Project would not be located on a site which is included on a list of hazardous materials sites. Government Code Section 65962.5 requires that the Department of Toxic Substances Control (DTSC) within the California Environmental Protection Agency (CalEPA) compile and update a list (Cortese List) of all hazardous waste facilities subject to corrective action. A Hazardous Materials Report prepared by FlowWest in April 2022 included a comprehensive search of multiple government databases, including the Department of Toxic Substances Control's EnviroStor Database and Cortese List, State Water Boards' GeoTracker, California Office of Environmental Health Hazard Assessment's (OEHHA) CalEnviroScreen, and State Water Resources Control Board's Active Cease

and Desist Orders (CDOs) and Cleanup and Abatement Orders (CAOs). No identified contamination sites were located within ¼ mile of the Project Site. Therefore, there would be **no impact**.

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

The Project Site would not be located within an airport land use plan or within two miles of a public airport. The closest public airports are Gnoss Field Airport, located approximately 16.5 miles northwest of the Project Site, and Buchanan Field Airport, located approximately 16.5 miles east of the Project Site. Oakland International Airport is located approximately 18.5 miles southeast of the Project Site. At these distances, the Project is not located within an airport land use plan or within two miles of a public airport. Therefore, there would be **no impact**.

f) Would the Project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The Project would not impair or physically interfere with an adopted emergency response plan or emergency evacuation plan. During construction, it is expected that construction equipment and vehicles would be accessing and leaving the Project Site, however emergency vehicles will have access at all times.

The County Emergency Operations Plan (EOP) outlines general procedures in response to emergency crises, such as evacuations. The County EOP includes information regarding evacuations and shelter-in-place orders and is also the entity that has the authority to issue these orders. The main arterial roads into and out of the Project vicinity are Richmond Parkway and Brookside Drive, which would serve as the main emergency response and evacuation routes into and out of the Project vicinity. In addition, there are secondary roads that could be used for emergency response and evacuation, such as Fred Jackson Way, Pittsburgh Avenue, and Parr Boulevard. With adherence to the procedures of the County EOP, the Project would not conflict with the County EOP or General Plan safety policies. Therefore, impacts related to emergency response and evacuation would be **less-than-significant**.

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

The Project would not expose people or structures to a significant risk of loss, injury or death involving wildland fires. According to CAL FIRE, the Project Site is located in a local responsibility area (LRA)- Incorporated and is not located in a LRA Fire Hazard Severity Zone. The nearest Fire Hazard Severity Zone is located approximately two miles southeast of the Project Site and is designated as a Very High Fire Hazard Severity Zone. Given that the Project Site is mostly surrounded by developed land for light industrial use, the Project Site would not be prone to wildfires. Therefore, the impact would be **less-than-significant.**

Sources of Information

CAL FIRE. 2007. Contra Costa County Fire Hazard Severity Zones in SRA.

Contra Costa County. 2015. Emergency Operations Plan. Website: https://www.cocosheriff.org/home/showpublisheddocument/168/637284267426930000. Accessed January 13, 2023.

FlowWest. 2022. Hazardous Materials Report.

Environmental Issues	Potentially Significant Impact	Less-than-significant With Mitigation Incorporated	Less-than-significant Impact	No Impact
10. HYDROLOGY AND WATER QUALITY – Would the Project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☒	☐	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	☐	☒	☐	☐
i) Result in substantial erosion or siltation on- or off-site?	☐	☒	☐	☐
ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☒	☐
iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	☒
iv) Impede or redirect flood flows?	☐	☐	☒	☐
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation?	☐	☒	☐	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☒	☐	☐

HYDROLOGY AND WATER QUALITY SUMMARY

a) Would the Project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

The Project is located within the Wildcat Creek watershed. This approximately 17 square mile watershed drains the east side of the Berkeley hills, goes through both urban and natural environments, and drains into San Pablo Bay.

Wildcat Creek is designated as an impaired waterbody under the Federal Clean Water Act due to the presence of diazinon, which is a pesticide. The drainage area in the Project area is expected to be subject to regulation by the United States Army Corps of Engineers (USACE), the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB), and the State Water Resources Control Board (SWRCB). Impacts to the channels and associated wetlands require authorization with a Section 404 Individual Permit from the USACE, and a Section 401 Water Quality Certification from the SFBRWQCB. The 401 Water Quality Certification will address the waste discharge requirements of the SFRBRWQCB.

Project operation would have no negative water quality impacts; the improved fishway and sediment basin would have similar or improved impacts on water quality to existing conditions. The improved fish passage structure will operate similarly to the existing conditions, allowing sediment to pass through to the downstream sediment basin. Under existing conditions, the sediment basin is filled to capacity, so sediment travels downstream beyond the sediment basin and impacts water quality.

The sediment basin would be emptied of sediment as part of the Project. Once emptied, the sediment basin would capture sediment from traveling downstream. The sediment basin would operate similarly to how it currently operates, with the same capacity as existing conditions and no change in the elevation of the downstream weir.

Project construction would require excavation, grading, earthmoving, backfilling, and compaction, which, if water is present during construction, could impact water quality. Construction and ground disturbance activities associated with the Project would occur on the bed/banks of Wildcat Creek, within the fishway in the flood control structure, and in the sediment basin; water quality impacts, including turbidity impacts, could be significant in the immediate vicinity of construction activities. In addition, construction activities would require use of hazardous materials such as fuels and oils, which, if not managed appropriately, could become mobilized by runoff and contribute to non-point source pollution and degradation of water quality.

Project construction would involve disturbance of more than one acre of land and is thus subject to the requirements of the NPDES Construction General Permit (SWRCB Order 2009-0009- DWQ). As a result, the Project proponent would be required to implement a SWPPP to prevent discharge of sediment or pollutants from the construction site. Mitigation Measure BIO-1 includes a summary of the requirements of the NPDES Construction General Permit. Compliance with this permit and implementation of Mitigation Measure HAZ-1 through HAZ-4, which would minimize potential for release of hazardous materials encountered in groundwater (described in Section 9, Hazards and Hazardous Materials), would reduce this impact to **less-than-significant with mitigation incorporated**.

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

The Project will not require any withdrawals from an aquifer or groundwater table and will have a negligible effect on groundwater recharge, as the desilting will not change the nature of the Project Site. Therefore, the Project will have **no impact**.

c) Would the Project substantially alter the existing drainage pattern of area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i. Result in substantial erosion or siltation on- or off-site?

The community amenities elements of the Project includes construction of hardscapes for play areas and walkways; however, a rain garden would be constructed and adequately sized to treat any additional stormwater generated by project activities.

Therefore, the Project will not increase the untreated impervious surface area within the Wildcat Creek watershed. An increase in impervious area could result in additional runoff water thus increasing the flow volumes, rates, and peak durations from the loss of unpaved overland flow and native infiltration. However, the Project will not result in any changes to runoff patterns in the Wildcat Creek watershed, and therefore associated impacts will not occur. BMPs for erosion and sediment control as identified in **Best Management Practice BIO-1: General Construction-related Mitigation Measures** and standard BMPs will be implemented during the Project. Therefore, Project impacts will **be less than significant with mitigation incorporated**.

ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

As discussed in Subsection (i), above, the Project would result in a negligible increase in impervious surface as compared to existing conditions, and an appropriately sized stormwater treatment feature will be built in association to manage any additional surface runoff created from the increase in impervious surfaces as part of the community amenities; because of this treatment, surface runoff would not increase. Following sediment removal, the risk of flooding on- and off-site will decrease compared to the risk under current conditions. The Project will not increase exposure of people or property to flooding. In fact, one the goal of the Project is to lessen the potential exposure of people and property to flooding by restoring capacity to the flood control channel. Therefore, the impact would be **less-than-significant.**

iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Construction would occur during summer months when zero to little flow or precipitation would occur. No additional water or temporary impervious surfaces would contribute water to stormwater drainage systems. The Project would not reduce the capacity of the sediment basin, nor would impervious areas added as part of the community amenities create an amount of runoff water that would exceed the capacity of the existing stormwater drainage system. The rain garden would capture the stormwater. Therefore, the Project would not result in any polluted runoff. This Project would not create or contribute significant runoff that would exceed the capacity of the improvements, therefore there would be **no impact.**

iv. Impede or redirect flood flows?

The Project would not impede or significantly redirect flood flows. As discussed in Subsection (a) above, the Project will improve the hydraulic capacity of the channels and reduce flood risk to adjacent properties by excavating sediment deposits from the channels which will facilitate movement of water during high flow events. Flood flow direction in the sediment basin would be shifted because of the training berms, which are designed to redirect flows to prevent the dispersion of flow through the sediment basin that occurs in the existing condition. The fish passage structure would be lowered and is designed to prevent sediment build up, which occurs in the existing condition. Flood modeling shows that the Project would not cause a significant increase in water surface elevation in any areas (FlowWest 2023), therefore the impact would be **less-than-significant.**

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

Tsunami risks for the Bay Area were mapped by CalEMA and the project area is not at risk for tsunamis. In addition, the site is not in a seiche zone (Department of Conservation 2021). Construction of the Project would be required to comply with numerous hazardous materials regulations designed to ensure that hazardous materials are transported, used, stored, and disposed of in a safe manner to protect worker safety, and to reduce the potential for a release of construction-related fuels or other hazardous materials into the environment, including stormwater and downstream receiving water bodies the Project is in a flood hazard zone (FEMA 2023). But with implementation of mitigation measures HAZ-1 through HAZ-4, there will be no potential releases of pollutants related to the Project; therefore, the Project would have **less than significant impact with mitigation incorporated**.

e) Would the Project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

The Project would not conflict with the County Watershed Program (CWP) (water quality control plan) or the East Bay Plain Subbasin (EBP) Groundwater Sustainability Plan (GSP) (sustainable groundwater management plan). The Project would be required to comply with the terms of the Construction General Permit, which require the preparation and implementation of a SWPPP that would include BMPs to ensure reduction of pollutants from construction activities potentially entering surface or groundwater. NPDES compliance will also include requirements to treat any increase in runoff resulting from new impervious surfaces, including the new mini park and fish passage overlook, would be mitigated by the addition of rain gardens. The rain gardens, which will reduce pollutant loads to the creek, would also reduce pollutants to the EPB Subbasin. There would also be no use of or connection to groundwater related to the Project, beyond natural interactions between creeks and groundwater. Compliance with **Mitigation Measure BIO-1**, which includes the preparation and implementation of a SWPPP and compliance with the NPDES would reduce impacts related to consistency with the CWP and the East Bay Plain (EPB) Subbasin Groundwater Sustainability Plan (GSP) to **less-than-significant with mitigation incorporated**.

Sources of Information

CDFW. 2013. Contra Costa County San Pablo Bay Watershed Stream Habitat Assessment Reports.

Department of Conservation (DOC). 2024. Contra Costa County Tsunami Hazard Areas.

Federal Emergency Management Agency (FEMA). 2024. National Flood Hazard Layer FIRMette.

Environmental Issues	Potentially Significant Impact	Less-than-significant With Mitigation Incorporated	Less-than-significant Impact	No Impact
11. LAND USE AND PLANNING – Would the Project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Cause a significant environmental impact due to conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

LAND USE AND PLANNING SUMMARY

a) Would the Project physically divide an established community?

The Project would not physically divide an established community. The physical division of an already established community typically refers to construction of a linear feature, such as an interstate, railroad tracks, or the removal of a means of access that would impact mobility within an existing community and an outlying area. The Project would include the construction of a new fish passage structure and community amenities. The Project Site does not contain any residential foundations. The development of the Project's components would not impair access to any established community or otherwise divide an established community. Therefore, there would be **no impact**.

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

The Project would not conflict with any land use plan, policy, or regulation. The Project would demolish the existing fish passage structure, clear out debris, and construct a new fish passage structure, with some elements of community amenities. The land use would remain the same. Therefore, there would be **no impact**.

Sources of Information

Contra Costa County. 2005. Contra Costa County General Plan 2005-2020: Chapter 3 Land Use Element. Website: https://www.contracosta.ca.gov/4732/General-Plan. Accessed January 6, 2023.

Environmental Issues	Potentially Significant Impact	Less-than-significant With Mitigation Incorporated	Less-than-significant Impact	No Impact
12. MINERAL RESOURCES – Would the Project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

MINERAL RESOURCES SUMMARY

a) Would the Project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

There are no mines, mineral plants or geothermal wells located at the Project Site. The Project is not located in an area known to contain minerals that would be of value to the region or residents of the state. Therefore, the Project would not result in the loss of availability of a known mineral resource that would be of value to the region; there would be **no impact**.

b) Would the Project result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

Though the Contra Costa County General Plan identifies locally important mineral resources throughout the District, none are delineated in any local land use plans for the Project area, including the Contra Costa County General Plan. Therefore, the Project would not result in the loss of availability of a locally important mineral resource recovery site; there would be **no impact**.

Sources of Information

Contra Costa County. 2005. Contra Costa County General Plan 2005-2020: Chapter 8 Mineral Resources, Chapter 10 Safety Element. Website: https://www.contracosta.ca.gov/4732/General-Plan. Accessed January 6, 2023.

Environmental Issues	Potentially Significant Impact	Less-than-significant With Mitigation Incorporated	Less-than-significant Impact	No Impact
13. NOISE – Would the Project:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☒	☐	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) For a Project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

NOISE SUMMARY

a) Would the Project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Sound is created when vibrating objects produce pressure variations that move rapidly outward into the surrounding air. The more powerful the pressure variations, the louder the sound perceived by a listener. The decibel (dB) is the standard measure of loudness relative to the human threshold of perception. Noise is a sound or series of sounds that are intrusive, objectionable, or disruptive to daily life. Many factors influence how a sound is perceived and whether it is considered disturbing to a listener; these include the physical characteristics of sound and other factors relating to the situation of the listener (e.g., the time of day when it occurs.).

A sound-level meter (SLM) is an instrument used to measure the average pressure level of real-world sounds at any moment or over extended time periods. Since human hearing is less sensitive at low frequencies and high frequencies than in the mid-frequency range, the SLM applies human hearing sensitivity factors to each frequency component of the sound being measured before averaging them. This is called "A" weighting, and the average pressure level measured by an SLM in this mode is called the A-weighted sound level (dBA).

The Verde Elementary School is adjacent to the western boundary of the Project Site; an existing low-density residential neighborhood is adjacent to the south bank of Wildcat Creek just south of the Project Site; commercial/industrial uses surround the Project Site; and there are existing residential uses along Rumrill Boulevard adjacent to the eastern boundary of the Project Site.

Just as vibrating objects radiate sound through the air, if they are in contact with the ground, they also radiate mechanical energy through the ground. If such an object is massive enough and/or close enough to an observer, the ground vibrations can be perceptible and, if the vibrations are strong enough, they can cause annoyance to the observer and, if still stronger, damage to buildings. The metric most commonly used to correlate vibration levels with human annoyance and structural damage is the **vibration decibel (VdB).** There are no policies or standards in the District or either City's General Plans/Ordinances for avoiding or reducing structural damage or annoyance from construction vibration impacts. However, the Federal Transit Administration (FTA, *Transit Noise and Vibration Impact Assessment Manual*, 2018) provides methodologies for their evaluation and standards to avoid impacts, specifically a 94 VdB upper limit to prevent structural damage to wood frame structures that are characteristic of most buildings, and an 80 VdB upper limit to avoid significant annoyance to building occupants.

Contra Costa County General Plan

The following *Contra Costa County General Plan 2005-2020* policies are relevant to the Project:

- **Policy 11-7**. Public Projects shall be designed and constructed to minimize long-term noise impacts on existing residents.

- **Policy 11-8.** Construction activities shall be concentrated during the hours of the day that are not noise-sensitive for adjacent land uses and should be commissioned to occur during normal work hours of the day to provide relative quiet during the more sensitive evening and early morning periods.

Contra Costa County Code of Ordinances

Contra Costa County's Code of Ordinances does not contain quantitative standards for regulating noise from construction equipment. However, the following Code sections are applicable to the Project:

- **Section 716-8.1004. Work hours.** If operations under the permit are within five hundred feet of residential or commercial occupancies, except as otherwise provided by conditions of approval for the project, grading operations shall be limited to weekdays and to the hours, between seven-thirty a.m. and five-thirty p.m., except that maintenance and service work on equipment may be performed at any time.

- **Section 716-8.1008. Nuisances.** Operations shall be controlled to prevent nuisances to public and private ownerships because of dust, drainage, removal of natural support of land and structures, encroachment, noise, and/or vibration.

City of Richmond General Plan

The following policy found in the City of Richmond General Plan 2030 is relevant to the Project:

- **Policy SN4.1. Noise Levels.** Work with regulatory agencies to monitor and enforce noise standards in the community. Reduce or mitigate objectionable noise sources and require new

noise sources to comply with noise standards. Regulate both indoor and outdoor noise levels to protect health and safety. Use a combination of noise standards and existing noise levels to determine impacts and mitigation measures.

City of San Pablo General Plan

The following policies found in the City of San Pablo General Plan 2030 are relevant to the Project:

- **Policy SN-I-41.** Work with Caltrans, AC transit and railroad operators to mitigate transportation-related noise impacts on residential areas and sensitive uses. Additionally, continue to limit hours for construction and demolition work to reduce construction-related noises.

City of San Pablo Municipal Code

The City of San Pablo Municipal Code prohibits all construction operations between 10 p.m. and 7 a.m. unless there is an emergency.

The Project Site and vicinity were surveyed on a recent midweek school day (Thursday, December 14, 2023) to observe the influential on- and near-site noise sources and to measure noise levels at local noise-sensitive receptors with an Extech SDL600, Type II, ANSI-certified meter. Observations during the survey and the noise data collected are summarized in **TABLE 2 - 6**.

TABLE 2 - 6: MEASUREMENT DATA AND SURVEY OBSERVATIONS

Measurement Location/Time	L_{min}	L_{90}	L_{eq}	L_{10}	L_{max}	Observations during Measurement Period
Location #1 Verde Elementary School East Fence Line 1:22 pm – 1:32 pm 12/14/23	50.1	52.3	67.9	68.2	85.9	No play activity in the school's eastern outdoor areas just west of the measurement location (low 50s dBA average). Two train pass-bys lasting a total of several minutes (high 60s dBA average, 80s dBA peak from horn).
Location #2 Residential facing Giaramita Street 1:55 pm – 2:05 pm 12/14/23	45.2	47.8	60.8	61.5	81.0	Low traffic activity on Giaramita Street (vehicle pass-by peaks low 60s dBA). One train pass-by lasting a few minutes (low 60s dBA average, 80s dBA peak from horn).
Location #3 Residential near east end of Project corridor and Rumrill Boulevard 2:22 pm – 2:32 pm 12/14/23	48.2	53.9	62.1	65.6	69.4	High traffic activity on Rumrill Boulevard (vehicle pass-by peaks high 60s dBA). Traffic noise is the predominant influence for receptors facing Rumrill Boulevard.

The **decibel (dB)** is the standard measure of a sound's loudness relative to the human threshold of perception. Decibels are said to be **A–weighted (dBA)** when corrections are made to a sound's frequency components during a measurement to reflect the known, varying sensitivity of the human ear to different frequencies. The **Equivalent Sound Level (L_{eq})** is a constant sound level that carries the same sound energy as the actual time–varying sound over the measurement period. **Statistical Sound Levels – L_{min}, L_{90}, L_{10} and L_{max}** – are the minimum sound level, the sound level exceeded 90% of the time, the sound level exceeded 10% of the time and the maximum sound level, respectively; all as recorded during the 10-minute measurement periods.

For most of the time when the SLM was recording either on the Verde school site or in the residential neighborhood to the south, measured noise levels were relatively low (i.e., high 40s-low 50s dBA) because no high-traffic roadways cross or closely approach either the school site or the residential neighborhood measurement location, and because there was no outdoor activity in the play areas near the school measurement location at the eastern school property line. There was play activity in the outdoor areas west of the school buildings, but with negligible noise effect on the measurement due to distance from the SLM and the attenuation provided by the school buildings. The most considerable noise influence came from train activity on the two railroad lines that pass closely east of the Project. There were three train pass-bys during both measurements, each pass being a few minutes long during which the average noise levels rose into the low to mid-60s dBA with momentary peak levels in the mid-80s dBA as the trains sounded horns as they approached the railroad crossings at Market Avenue. At the other measurement location near existing residential along Rumrill Boulevard, the dominant noise influence (i.e., low 60s dBA) was the relatively high motor vehicle traffic volume on that roadway.

From Off-Road Construction Equipment

Project construction would temporarily increase ambient noise levels on the Project Site and in its nearby vicinity. Each project construction phase would have its characteristic equipment mix and duration of use (as specified in the Project Description) and its locus of work activity would vary on the Project Site and in relation to the noise-sensitive uses that surround it over the course of a workday over each phase. Equipment noise levels by Project phase were modeled using the Federal Highway Administration's (FHWA) Roadway Construction Noise Model (RCNM) assuming the 2-3 dominant equipment types per phase were operating simultaneously in close proximity to each other at the chosen distances from a receptor, as shown **TABLE 2 - 7**. In actuality, the operation of such equipment would not be constant throughout the workday, so the data are highest possible workday average noise level affecting a receptor at the specified distance if all equipment operated continuously there during the day.

Given that the District and City General Plans/Ordinances have not set maximum quantitative standards at noise-sensitive receptors near construction sites, a reasonable choice for a standard for this CEQA analysis would be a daytime noise level that is clearly above local weekday average weekday levels, and which could demonstrably interfere with normal outdoor activities of the school and residences.

Noise measurements at the school and southern residential area show that noise levels most of the time (on a weekday early afternoon) were in the low to mid-50s dBA, except during train passes when the average noise levels went up to the mid-60's dBA with brief peaks from horn blasts exceeding 80 dBA (a likely common daily occurrence given that three such train pass-bys occurred during an hour of the site survey). Noise from train operations are commonly regarded as disruptive, which would argue for regarding frequent noise intrusions in the mid-60s and above from project construction as a substantial additional burden on school and residential tranquility. Such a choice would be supported by the EPA's *Protective Noise Levels*, which found that speech intelligibility in outdoor environments begins to decline rapidly when background noise levels begin to exceed 65 dBA. Conversely, intrusive Project noise would have no substantial effects in areas where existing average levels are commonly

higher than the intrusive levels. Thus, project construction phases that take place on portions of the site that are sufficiently distant from local sensitive receptors would have no substantial noise impacts. Based on the survey noise measurements, this would occur when work areas are 500 feet or more from the Verde School or any local residences.

TABLE 2 - 7: MODELED NOISE LEVELS DURING PROJECT CONSTRUCTION PHASES

Project Phase /Duration	**Dominant Equipment**	**Modeled Noise Level at x feet from work activity locus (dBA)**				
		50 feet	**100 feet**	**200 feet**	**400 feet**	**800 feet**
Site Preparation/ 1 week	Dozer Scraper (2)	83.8	77.8	71.8	65.8	59.7*
Sediment Basin Clearing/ 2 weeks	Excavator Front Loader Truck	79.9	73.9	67.8	61.8	55.8*
Fish Passage** Structure/ 6 weeks	Excavator Jackhammer	83.1**	77.0**	71.0**	65.0**	59.0*
Sediment Basin/ 6 weeks	Dozer Front Loader Truck	80.4	74.4	68.3	62.3	56.3*
Upstream** Channel Modifications/ 2 weeks	Excavator Front Loader Truck	79.9**	73.9**	67.8**	61.8	55.8*
Community Amenities/ 4 weeks	Dozer Backhoe Truck	80.0	73.9	67.9	61.9	55.9*
Site Clean-Up/Revegetation/ 2 weeks	Grader	81.0	75.0	69.0	63.0	56.9*

*For all project construction phases, at a distance of 800 feet from the equipment work locus modeled construction noise levels would be below the measured average local background levels.
**For the Project Fish Passage and Channel Modifications phases, the main work sites are 400 feet or more from the nearest sensitive receptors; modeled sound levels at closer distances would be above the average measured local background levels, but there are no sensitive receptors there to be affected.

Considering that the entire duration of project construction is about 6 months and that the purpose of the Project is improved natural habitat for local fish population and improved recreational facilities for local residents, in most cases the proposed mitigations would reduce outdoor noise levels in facing areas of the adjacent school and residential neighborhoods. But in cases where work is necessary in areas close to the school and homes, and with sufficient notice by the Project contractor, short-term voluntary shifts by residents and students/faculty/staff to less-affected outdoor or indoor spaces could

be accommodated without substantial inconvenience to allow normal community activity to continue until the more intensive project construction stages are complete.

The Project would follow the most conservative hours set forth by local municipal governments, which would be Contra Costa County's working hours for construction activities from 7:30 a.m. to 5:30 p.m., Monday through Friday for grading activities within 500-ft of sensitive receptors, and elsewhere onsite weekday hours of seven a.m. to six p.m. consistent with the Contra Costa County and City of San Pablo General Plans and Codes. If allowable work (i.e. non-grading) is necessary outside of these hours, the City and County shall both approve the extended work hours, and the Resident Engineer will be available to address any noise concerns during construction. **Mitigation Measure NOISE-1a** would be implemented to limit construction noise emissions and work activity and **Mitigation Measure NOISE-1b** and **Avoidance and Minimization Measure AQ-1** would be implemented to reduce exposure of noise to sensitive receptors. Therefore, the impact would be **less-than-significant with mitigation incorporated.**

From On-Road Trucks Hauling Debris, Fill, and Concrete to/from the Project Site
During project construction, a considerable number of truck operations would occur, specifically:

- Sediment Removal from the existing Sediment Basin, Sediment Basin Expansion, and Site Cleanup construction phases would require about 76 daily truck trips hauling debris from the Project Site to landfill averaged over 125 working days.

- Fish Passage, Sediment Basin and Channel Modification phases would require about 13 daily truck trips hauling fill from external sources to the Project Site averaged over 35 working days.

- Fish Passage, Channel Structure and Community Amenities phases would require about 10 daily truck trips hauling concrete to the Project Site averaged over 35 working days.

Such trucks' frequent close passage of the Verde Elementary School and through the existing residential neighborhood to the south of Wildcat Creek and the Project Site would be a source of frequent nuisance and disruption from the noise they emit. But with the implementation of **Mitigation Measure NOISE-2** below, this impact would be **less-than-significant with mitigation incorporated**.

Impact NOISE-1: The Project could temporarily or periodically increase ambient noise levels during construction, negatively impacting nearby sensitive receptors.

Mitigation Measure NOISE-1a: Limit Construction Noise Emissions/Intrusions
The Project shall implement the following BMPs:

- Require all construction equipment to conform to Section 14-8.02 Noise Control of the latest Caltrans Standard Specifications. This requires all internal combustion engine driven equipment to be equipped with intake and exhaust mufflers that are in good condition and

appropriate for the equipment, and provide shrouding or shielding for impact tools (i.e., jackhammers). Utilize 'quiet' air compressors and other 'quiet' equipment where such technology exists.

- Provide sound-control devices on equipment no less effective than those provided by the manufacturer.
- Locate stationary equipment, material stockpiles, and vehicle staging areas as far as practicable from sensitive receptors.
- Require applicable construction-related vehicles and equipment to use designated truck routes when entering/leaving the site.
- Designate a County representative to serve as a noise (and vibration) disturbance coordinator who shall be responsible for responding to complaints about noise (and vibration) during construction. The telephone number of the noise disturbance coordinator shall be conspicuously posted at the construction site. Provide notification to the adjacent noise-sensitive receptors (residences and Verde Elementary), including the anticipated construction schedule and contact number for the designated noise disturbance coordinator who can address noise complaints.
- Limit project construction activity to the weekday hours of 7:30 a.m. to 5:30 p.m. consistent with the Contra Costa County and City of San Pablo General Plans and Codes. If work is necessary outside of these hours, the City and County shall both approve the extended work hours, and the Resident Engineer shall be available to address any noise concerns during construction.

Mitigation Measure NOISE-1b: Inform Local School Authorities and Residents of Likely High Noise Periods during Project Construction

- When project construction work lasting more than a week is necessary in areas of the Project Site close to (i.e., within 200 feet of) the Verde Elementary School and existing homes facing the site south of Wildcat Creek, the Project contractor shall provide a minimum of 3-days' notice to school and residents and advise them on short-term shifts to less-affected outdoor play/recreation spaces or to other indoor rooms less exposed to the direct noise from the construction activity until the more noise-intensive project construction stages are complete.

Impact NOISE-2: Truck travel for the project would be a source of frequent nuisance and disruption from the noise they emit to sensitive receptors.

Mitigation Measure NOISE-2: Minimize Project haul truck access to the site from low-volume roads near sensitive receptors.

Haul trucks (i.e., trucks transporting debris, fill, and other materials on and off-site) shall access the site from the north via Rumrill Boulevard and Brookside Drive, which pass through largely commercial/industrial areas. Haul trucks shall not access the site through the southern access route of Giaramita Street and the Wildcat Creek Trail, which pass sensitive receptors, except for emergency access.

b) Would the Project result in generation of excessive groundborne vibration or groundborne noise levels?

The most vibration-intensive piece of construction equipment is a pile driver, but no pile driving would be required for the Project. Other types of construction equipment are far less vibration-intensive. Next in intensity are heavily loaded trucks or large tracked earth-moving equipment, which could pose a damage or annoyance threat if they regularly and often come close to vibration-sensitive receptors during construction.

The existing school west of the Project Site and the existing residential uses south of the Project Site would be potential targets for vibration damage and occupant annoyance from heavy construction equipment movements. But Project construction would not require substantial heavy equipment operating for long periods close to the school or residential areas. Dozers would likely be the most vibration-intensive equipment types required for the site preparation, sediment basin and cleanup phases. In **TABLE 2 - 8**, FTA vibration screening methodology has been applied to the most vibration-intensive construction equipment likely to be regularly used on the Project Site. Vibration levels during work on Project Site areas closest to the sensitive receptors (about 50-100 feet distant) would be far below the range where there would be any potential for on-going substantial annoyance (80 VdB) or structural damage (94 VdB) project construction activity.

TABLE 2 - 8: MODELED CONSTRUCTION EQUIPMENT VIBRATION LEVELS

	Modeled vibration level at x feet from work activity locus			
		(VdB)		
Equipment Type	**25 feet**	**100 feet**	**200 feet**	**300 feet**
Bulldozer	87	69	60	55
Loaded Heavy Truck	86	68	59	54
Source: Federal Transit Administration (FTA), *Transit Noise and Vibration Impact Assessment* (2018).				

Thus, the Project would not result in the generation of excessive groundborne vibration, and the impact would be **less-than-significant.**

c) For a Project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?

The Project Site is not within two miles of a public airport or public use airport. The closest public airports are Gnoss Field Airport, located approximately 16.5 miles northwest of the Project Site, and Buchanan Field Airport, located approximately 16.5 miles east of the Project Site. Oakland International Airport is located approximately 18.5 miles southeast of the Project Site.The Project is about 18.5 miles north of Oakland International Airport and is not under any of its main approach/departure routes. Since the Project would not locate new noise-sensitive uses (e.g., residential, commercial, retail) near any local airports, the Project would not expose people residing or working in the Project area to excessive noise levels. Therefore, there would be **no impact**.

Sources of Information

Contra Costa County. 2005. *Contra Costa County General Plan 2005-2020*. Contra Costa County Community Development Department. Martinez, CA. Website: https://www.contracosta.ca.gov/4732/General-Plan

Contra Costa County. 2023. Contra Costa County Code of Ordinances. Website: https://library.municode.com/ca/contra_costa_county/codes/ordinance_code?nodeId=COCOCOCO

City of Richmond. 2012. City of Richmond General Plan 2030. Website: https://www.ci.richmond.ca.us/2608/General-Plan-2030

City of San Pablo. 2022. City of San Pablo Municipal Code. Website: https://www.codepublishing.com/CA/SanPablo/

United States Environmental Protection Agency. 1978. *Protective Noise Levels*. Website: https://nepis.epa.gov/Exe/ZyNET.exe/20012HG5.txt?ZyActionD=ZyDocument&Client=EPA&Index=1976%20Thru%201980&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&UseQField=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A%5CZYFILES%5CINDEX%20DATA%5C76THRU80%5CTXT%5C00000008%5C20012HG5.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h%7C-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=hpfr&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1

Federal Highway Administration. 2006. Roadway Construction Noise Model User's Guide. Website: https://www.fhwa.dot.gov/environment/noise/construction_noise/rcnm/rcnm.pdf

Federal Transit Administration. 2018. Source: Transit Noise and Vibration Impact Assessment. Website: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf

Environmental Issues	Potentially Significant Impact	Less-than-significant With Mitigation Incorporated	Less-than-significant Impact	No Impact
14. POPULATION AND HOUSING – Would the Project:				
a) Induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

POPULATION AND HOUSING SUMMARY

a) Would the Project induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?

The Project would not induce substantial unplanned population growth because it does not propose changes to land uses that would result in new residences or businesses, nor would it extend roads or other infrastructure. During the 125 day construction period, it is estimated that a team of 10, and up to 15 construction workers would be employed. Due to the short construction period, no additional regional accommodations would be needed. Therefore, the Project would have **no impact**.

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

The Project would not displace anyone or any housing. The Project would restore and enhance natural habitats in an area with no residences and would not displace existing people or housing. Residences south of the Project would be affected and would not be displaced due to the Project. Therefore, no housing would need to be constructed due to displacement of existing housing, and there would be **no impact**.

Environmental Issues	Potentially Significant Impact	Less-than-significant With Mitigation Incorporated	Less-than-significant Impact	No Impact
15. PUBLIC SERVICES – Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
a) Fire Protection?	☐	☐	☒	☐
b) Police Protection?	☐	☐	☒	☐
c) Schools?	☐	☐	☐	☒
d) Parks?	☐	☐	☐	☒
e) Other public facilities?	☐	☐	☒	☐

PUBLIC SERVICES SUMMARY

Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

a) Fire Protection?

Fire protection and general rescue services in the unincorporated areas of Contra Costa County are provided by the Contra Costa County Fire Protection District (CCCFPD). In total, CCCFPD operates 23 fire stations, serving a population of 600,000 people across a 304 square-mile area. In particular, the industrial businesses in the Project vicinity are served by CCCFPD. In the event of a fire emergency, Fire Station 62 in Richmond, CA would respond.

The Project would not impact response times for fire protection. Because construction activities would be short-term and temporary and would involve a workforce of approximately 10 to 15 construction workers on any given day, these workers would either already live in nearby communities or would not relocate to the nearby communities for the construction work. Therefore, project construction would not significantly increase demand for fire protection services throughout the Project vicinity due to population growth and would not change any uses on the site. For these reasons, the Project would not be expected to substantially affect CCCFPD's ability to maintain service ratios, response times, other performance objectives, such that new or physically altered facilities would be required. For these reasons, the Project's impact with respect to the provision of fire service would be **less-than-significant**.

b) Police Protection?

The Project Site is served by the Contra Costa County Office of the Sheriff. The nearest County Sheriff's office is 62 Station at 1065 7th Street in the City of Richmond, approximately 0.92 miles south of the Project Site, which serves the Project area.

The Project would not impact response times for police protection. For the reasons provided in response to question a), above, the Project would not be expected to substantially affect the Contra Costa County Sheriff's Office's ability to maintain service ratios, response times, other performance objectives, such that new or physically altered facilities would be required. For these reasons, the Project's impact with respect to the provision of police protection facilities would be **less-than-significant**.

c) Schools?

The Project would not impact service ratios for schools. The Project would result in a small temporary increase in construction worker employees in the Project area. The construction workers would most likely be from nearby communities and would not require new or modification of existing school facilities. There would be **no impact** to schools.

d) Parks?

The Project would not impact service ratios for parks. The nearest park or recreational area is North Richmond Ballpark, located approximately 1,120 feet west of the Project Site. For the reasons described in response to question a), above, the Project would not result in increased population such that there would be additional demand for parks facilities during or after construction. Additionally, the Project would increase the available public access on site through the community amenity components of the Project. Impacts related to the provision of new or physically altered governmental facilities from the construction of the community amenities are addressed throughout this document, particularly in Section 4 Biological Resources, Section 5 Cultural Resources, Section 7 Geology/Soils, and Section 10 Hydrology/Water Quality. Impacts related to increasing public access are addressed in other sections of this document, particularly in Section 16, Recreation. Therefore, the Project would have **no impact** related to the need for new or physically altered parks and recreational facilities.

e) Other public facilities?

Libraries:
The Project would result in a small temporary increase in construction worker employees in the Project area. The construction workers would most likely be from nearby communities and would not require new libraries. There would be **no impact** to libraries.

Health Facilities:
The Project would result in a small temporary increase in construction worker employees in the Project area. The construction workers would most likely be from nearby communities and would not require new or modification of health facilities. There would be **no impact** to health facilities.

Flood Management:

As a flood management Project, the Project would require the provision of new or altered physical facilities. However, this is a direct impact of the Project and not an incidental indirect impact stemming from the implementation of the Project. Impacts related to the provision of new or physically altered governmental facilities from the construction of the fish passage structure and sediment basin are addressed throughout this document, particularly in Section 4 Biological Resources, Section 5 Cultural Resources, Section 7 Geology/Soils, and Section 10 Hydrology/Water Quality. The Project would have **less-than-significant impact** on flood management facilities.

Environmental Issues	Potentially Significant Impact	Less-than-significant With Mitigation Incorporated	Less-than-significant Impact	No Impact
16. RECREATION – Would the Project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	☐	☒	☐	☐

RECREATION SUMMARY

a) Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

The Project would not result in the increase of use of existing neighborhood parks or other recreational facilities. The neighborhood parks located closest to the Project area are North Richmond Ballpark and John Herbert Davis Park, located 1,340 feet west and 1,800 feet east, respectively. The existing conditions of the Project are not recreational in nature, and the Project is not residential, so the Project would not bring additional toll on the existing neighborhood parks during and after project construction. In addition to this, the Project includes components that will increase the amount of recreational use in and near the Project Site. These components include a mini park that would include an artificial turf play area with mounds, tree stump seating, and wood platform benches at varying heights, as well as a fish passage overlook section that would include a wildlife play sculpture, seat walls, tree stump seating, and educational signage. Therefore, there would be **no impact**.

b) Does the Project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?

As discussed elsewhere in other sections of this document, the Project includes recreational facilities, some of which may have impacts on the environment. The specific types of impacts, and mitigation measures identified to minimize or avoid significant impacts, are discussed in the other resource sections of this document corresponding to the affected topic area (e.g., Section 2.2.2, Air Quality; Section 2.2.4, Biological Resources; Section 2.2.13, Noise; and Section 2.2.17, Transportation). Refer to those sections for specific discussions of potential physical adverse effects on the environment and their respective resource-specific mitigations. Therefore, the impact would be **less-than-significant with mitigation incorporated**.

Environmental Issues	Potentially Significant Impact	Less-than-significant With Mitigation Incorporated	Less-than-significant Impact	No Impact
17. TRANSPORTATION – Would the Project:				
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	☐	☐	☒	☐
b) Conflict or be inconsistent with CEQA Guidelines Section 15064.3(b)?	☐	☐	☒	☐
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
d) Result in inadequate emergency access?	☐	☐	☒	☐

TRANSPORTATION SUMMARY

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

The Contra Costa County Bicycle and Pedestrian Plan (CBPP) applies to the Project. The CBPP identifies pedestrian priority areas where more people are expected to walk and where safety issues are most acute, defines the Countywide Bikeway Network, and outlines best practices for developing pedestrian and bicycle facilities (Contra Costa Transportation Authority 2018). The Project is located within a pedestrian priority area, as it is located within ¼ mile of Verde Elementary School. By preserving and improving the Wildcat Creek trail through this area, the Project would not conflict with the CBPP.

The majority of the Project will take place in the flood control channel, which is not open to cars owned by the public. Construction activities that would generate off-site traffic to local roads would include the delivery of construction vehicles and equipment to the Project Site, the daily arrival and departure of construction workers, and the delivery of materials throughout the construction period. Construction equipment would be delivered to and removed from the Project Site in phases for the different construction activities. Over the course of the Project's 125 working days, the maximum daily truck trips would be approximately 125 trips per day, including 30 worker trips and 95 maximum daily truck trips for the Project.

Construction-generated traffic would be temporary, and therefore, would not result in any long-term degradation in operating conditions on any locally used roadways for the Project. The impact of construction-related traffic would be temporary and result in intermittent reduction of the capacities of streets in the Project area because of the slower movements and larger turning radii of construction trucks compared to passenger vehicles. Drivers could experience delays if they were traveling behind a heavy truck. Project construction-related traffic would not be substantial in relation to traffic flow conditions on local access roadways. The Project trips would fall within the daily fluctuations of

traffic volumes of the local-serving roadways serving the construction site. Therefore, the impact on traffic flow would be **less-than-significant**.

All of the existing Wildcat Creek Trail along the sediment basin will be closed during the construction activities, and the path will be demolished and realigned slightly further to the north. The Wildcat Creek trail is a paved trail that runs from the Wildcat Marsh Staging area east 1.2 miles to the eastern end of our Project Site, terminating at the UPRR railroad tracks. The Wildcat Creek trail is considered a stub of the Bay Trail as it runs along the Richmond Parkway. It is a multi-use hiking and bicycle trail that is managed and maintained by the EBRPD, who will be advised of the Project, and will be advised of path closures. Pedestrians and bike riders using the recreational trail for alternative transportation will be temporarily affected by the Project; however, alternate street routes are available around the affected portion of the trail.

Once constructed, the Project's recreational components are expected to attract residents and students of Verde Elementary School nearby. Visitors would likely be local, and it would not significantly increase the amount of travel in the area. In addition to visitors, existing maintenance inspections and periodic maintenance of the channel and sediment basin would continue as necessary and would likely be less frequent under new Project conditions. This would require some travel by maintenance workers, but it would be the same if not less than current existing conditions.

Based on the discussion above, Project would not conflict with any adopted policies, plans, or programs related to public transit or bicycle and pedestrian facilities, nor would it affect the safety of such services/facilities due to the Project construction's temporary and low-level nature. Therefore, the impact would be **less-than-significant**.

b) Would the Project conflict or be inconsistent with CEQA Guidelines Section 15064.3(b)?

The Project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3(b), which is required to establish criteria for determining the significance of transportation impacts. The Contra Costa County Transportation Analysis Guidelines provide the technical guidance and criteria required for assessing of VMT, determining thresholds of significance, and outlining mitigation measures for land development and transportation Projects. The guidelines state that the following types of Projects should be expected to cause a less-than-significant impact under CEQA and would not require further VMT analysis:

1. Projects that:
    a. Generate or attract fewer than 110 daily vehicle trips; or
    b. Projects of 10,000 square feet or less of non-residential space or 20 residential units or less, or otherwise generating less than 836 VMT per day.
2. Residential, retail, office Projects, or mixed-use Projects proposed within ½ mile of an existing major transit stop or an existing stop along a high-quality transit corridor.
3. Residential Projects (home-based VMT) at 15% or below the baseline County-wide home-based average VMT per capita, or employment Projects (employee VMT) at 15% or below the baseline Bay Area average commute VMT per employee in areas with low VMT that incorporate similar VMT reducing features (i.e., density, mix of uses, transit accessibility).

4. Public facilities (e.g. emergency services, passive parks (low-intensity recreation, open space), libraries, community centers, public utilities) and government buildings.

As discussed in Section 3. Air Quality of this document, the Project would generate less than 110 daily vehicle trips during construction, and the number of vehicle trips for any maintenance trips would be equal to or less frequent than what is currently needed for the Project Site. Therefore, the Project would be consistent and not conflict with CEQA Guidelines Section 15064.3(b) under the transportation analysis guidelines set by Contra Costa County by being exempt from further VMT analysis. Therefore, the impact would be **less-than-significant**.

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

The Project would not substantially increase hazards due to a geometric design or incompatible uses. The Project does not include any roadway construction; therefore, there would be no increased hazards due to geometric design features.

The land uses adjacent to and included in the Project Site are light industrial and residential. The nearest residences are located 550 feet southwest of the Project Site. As such, the temporary introduction of construction equipment required to construct the Project on roadways in and around the Project Site would be compatible with existing uses and would not pose a safety hazard. Furthermore, the Project does not propose to make any changes to public roadways. Therefore, there would be **no impact**.

d) Would the Project result in inadequate emergency access?

The Project would not block any access roads or include increased construction vehicle access such that the Project would result in a reduction in emergency access. project construction would allow adequate access to the Project Site in the event of an emergency. Therefore, the Project would not result in inadequate emergency access.

As described under Transportation impact discussion a), increased Project-related operational traffic would not cause a significant increase in congestion and would not significantly affect roadway operations. Furthermore, the Project would not require closures of public roads, which could inhibit access by emergency vehicles. During construction of the Project, heavy construction-related vehicles could interfere with emergency response to the site or emergency evacuation procedures in the event of an emergency (e.g., slowing vehicles traveling behind the truck). However, given that there are no businesses or emergency response stations and only a limited number of residences in the immediate vicinity of the Project Site, it is not likely that heavy construction-related traffic would result in inadequate emergency access. Therefore, the impact would be **less-than-significant.**

Sources of Information

Contra Costa County. 2005. Contra Costa County General Plan 2005-2020: Chapter 5 Transportation and Circulation Element. Website: https://www.contracosta.ca.gov/4732/General-Plan. Accessed January 6, 2023.

Contra Costa Transportation Authority. 2018. Contra Costa Countywide Bicycle and Pedestrian Plan. Website: https://ccta.net/wp-content/uploads/2018/10/5b8ec26192756.pdf. Accessed January 31, 2023.

Environmental Issues	Potentially Significant Impact	Less-than-significant With Mitigation Incorporated	Less-than-significant Impact	No Impact
18. TRIBAL CULTURAL RESOURCES – Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?	☐	☒	☐	☐
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1?	☐	☒	☐	☐

TRIBAL CULTURAL RESOURCES SUMMARY

Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?

As discussed in Section IV, no listed or eligible resources or on the District's local register of historical resources are present in the Project Site. However, the presence of sub-surface resources could not be ruled out. Inadvertent discovery of tribal cultural resources could result in a significant impact. Implementation of Mitigation Measure CUL-1, CUL-2, and CUL-3, included in Section V. *Cultural Resources,* would reduce potentially significant impacts to **less-than-significant with mitigation incorporated.**

b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1?

Tribal cultural resources are: 1) sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are listed, or determined to be eligible for listing in the California Register, or local register of historical resources, as defined in PRC Section 5020.1(k); or, 2) a resource determined by the lead CEQA agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in PRC Section 5024.1(c). For a cultural landscape to be considered a tribal cultural resource, it must be geographically defined in

terms of the size and scope of the landscape (PRC Section 21074[b]). Also, a historical resource, as defined in PRC Section 21084.1, unique archaeological resource, as defined in PRC Section 21083.2(g), or non-unique archaeological resource, as defined in PRC Section 21083.2(h), may also be a tribal cultural resource. AB 52 formally added the category of "tribal cultural resources" to CEQA and extends the consultation and confidentiality requirements to all Projects, rather than just Projects subject to SB 18.

The Confederated Villages of Lisjan Nation (CVLN) and the Wilton Rancheria Tribe have submitted a general request letter to be notified of projects within Contra Costa County under AB52. On November 10, 2022, an offer to consult was sent to the AB52 contact designated in the general request letters. The record of correspondence (all via email) and meeting dates is described below. On November 14, 2022, Confederated Villages of Lisjan Nation requested records search results and cultural resources information. A series of seven consultation meetings occurred between the District and CVLN. At these meetings, the methods for subsurface investigation, likelihood of buried resources, results of investigations and avoidance, mitigation, and monitoring measures. were discussed. Based on the results, CVLN recommended that archaeological and tribal monitoring take place during excavation at depths below the depths that the ground penetrating radar could reach, and made additional recommendations for Mitigation Measures. On February 14, 2024, the District emailed CVLN revised Mitigation Measures. A final consultation meeting occurred February 28, 2024, during which the mitigation measures were agreed upon.

The Mitigation Measures agreed upon are as written in Section V.b. Therefore, implementation of Mitigation Measure CUL-1, CUL-2, and CUL-3 would reduce impacts to **less-than-significant with mitigation incorporated**.

Environmental Issues	Potentially Significant Impact	Less-than-significant With Mitigation Incorporated	Less-than-significant Impact	No Impact
19. UTILITIES AND SERVICE SYSTEMS – Would the Project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
b) Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years?	☐	☐	☒	☐
c) Result in a determination by the wastewater treatment provider, which serves or may serve the Project that it has adequate capacity to serve the Project's Projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

UTILITIES AND SERVICE SYSTEMS SUMMARY

a) Would the Project require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects?

The Project would require the relocation of a PG&E utility pole. The utility pole is located within the footprint of the expanded sediment basin and will need to be shifted north by approximately 50 feet. There would be no change in sizing from this relocation and the new location would still be within the disturbed ground of the District corporation yard. All other existing utilities are beneath the maximum excavation depths of the Project and would not be disturbed by Project activities. All utilities would be appropriately marked in the field and their owners notified before construction begins; for these other utilities, no relocation is necessary.

The Project's recreational components would include some lighting in the form of 2-to-4-foot-tall trailside fixtures for providing evening/nighttime lighting of the trail. This lighting would require a small amount of electricity power. New underground electricity lines would need to be added to tie into existing electricity service. These utility lines will be at the standard depth for low-voltage wiring (minimum of 6 inches) and will likely require some trenching or trenchless drilling that will follow

along the Wildcat Creek Trail alignment. The utility locations will be marked in the field. Therefore, the impact would be **less-than-significant**.

b) Would the Project have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years?

The Project will not require water service, and water trucks from off-site water sources would provide any water needed during construction activities, including dust control.

The Project would retrofit the existing fish ladder and sediment basin, and would include some recreational components. No Project components would require water supplies during operational use. Therefore, the impact would be **less-than-significant**.

c) Would the Project result in a determination by the wastewater treatment provider, which serves or may serve the Project that it has adequate capacity to serve the Project's Projected demand in addition to the provider's existing commitments?

The Project components would not result in wastewater that would need to be treated. Therefore, there would be **no impact**.

d) Would the Project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

The Project would generate approximately 8,637 tons of offhaul material that would need to be disposed of or reused. Sediment and vegetative matter will be removed during excavation, which may be either temporarily stockpiled on site, transferred to another user, or disposed of at an appropriate waste facility. The District has active solid waste facilities with capacity to accommodate any construction waste that may be generated (CalRecycle 2019). In addition, Project contract specifications will require that the Contractor dispose of solid waste, including sediment, in accordance with all federal, state and local regulations. Therefore, the impact would be **less-than-significant**.

e) Would the Project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

As stated above, the Project would generate offhaul material that would be disposed of at County solid waste facilities. The Project would comply with all federal, state, and local management and reduction statutes and regulations related to solid waste. Therefore, there would be **no impact**.

Sources of Information

California Department of Resources Recycling and Recovery (CalRecycle 2019). 2019. Walnut Website: https://www2.calrecycle.ca.gov/SolidWaste/Site/Search. Accessed January 12, 2023.

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

WILDFIRE SUMMARY

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:

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

The Project will not change the nature of the Project Site. Emergency vehicles will have access at all times during construction. Therefore, Project will have **no impact**.

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

The Project Site is mostly flat and is surrounded by light industrial and residential areas on relatively flat areas, and the surrounding area lacks woodlands or vegetation that could provide fuel load for wildfire, or steep slopes that could cause fire to spread more rapidly. The Project would not exacerbate wildfire risk.

According to CAL FIRE, the Project Site is not located in a State Responsibility Area (SRA) or a Local Responsibility Area (LRA) Fire Hazard Severity Zone. The nearest Fire Hazard Severity Zone is located approximately two miles southeast of the Project Site (Wildcat Canyon Regional Park) and is designated as a Very High Fire Hazard Severity Zone. Given that the Project Site is not located on or

near steep terrain surrounded by natural vegetation, is mostly surrounded by light industrial and residential uses, and does not consistently experience high winds, the Project Site would not be prone to wildfires.

The Project will not change the nature of the Project Site. No improvements are proposed that would exacerbate a wildfire risk. Construction activities may result in unanticipated fires; however, the Project construction contractor will have a fire safety plan and will be equipped appropriately. Therefore, the impact would be **less-than-significant**.

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

The Project will not change the nature of the Project Site. Construction activities, including utility relocations, may result in unanticipated fires. However, the Project construction contractor will have a fire safety plan and will be equipped appropriately. Therefore, Project impacts will be **less than significant**.

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

The Project will not change the nature of the Project Site. Therefore, the Project will have **no impact**.

Environmental Issues	Potentially Significant Impact	Less-than-significant With Mitigation Incorporated	Less-than-significant Impact	No Impact
21. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the Project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Does the Project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a Project are considerable when viewed in connection with the effects of past Projects, the effects of other current Projects, and the effects of probable future Projects.)	☐	☐	☒	☐
c) Does the Project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

MANDATORY FINDINGS OF SIGNIFICANCE SUMMARY

a) Does the Project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?

As discussed in Section IV. *Biological Resources,* implementation of Mitigation Measures BIO-1 through BIO-6 would ensure that project construction and subsequent maintenance and operation activities would not 1) substantially reduce the habitat of a fish or wildlife species; 2) cause a fish or wildlife species population to drop below self-sustaining levels; 3) threaten to eliminate a plant or animal community; or 4) reduce the number or restrict the range of a rare or endangered plant or animal. As discussed in Section V. *Cultural Resources*, implementation of Mitigation Measures CUL-1 and CUL-2 would ensure that the Project does not eliminate important examples of the major periods of California history or prehistory. Implementation of Mitigation Measures CUL-1, CUL-2, and CUL-3 would also ensure that potentially significant impacts to tribal cultural resources would be reduced to less-than-significant levels. In addition to these mitigation measures, mitigation measures would be implemented as described in the air quality, geology, and hazards sections to reduce other

impacts to less-than-significant levels. Therefore, the Project impacts would be **less-than-significant with mitigation incorporated**.

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

As noted throughout this document, the potential impacts of the Project are largely restricted to temporary and short-term construction-related impacts and are site-specific. As noted in answer a) of this section, all of the potential direct and indirect impacts of the Project were determined to be fully avoided or reduced to a less-than-significant level with incorporation of avoidance and minimization measure AQ-1 and mitigation measuresBIO-1 through BIO-6, CUL-1 through CUL-3, HAZ-1 through HAZ-4, and NOISE-1a through NOISE-2. As a result, the potential impacts of the Project are not considered to have cumulatively considerable contributions to other past, present, or probable future Projects, and impacts would be **less-than-significant with mitigation incorporated**.

c) Does the Project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?

Most of the potential impacts of the Project would be temporary and short-term. These impacts would be localized to the Project Site and may include limited adverse effects on air quality, biological resources, cultural resources, geology and soils, greenhouse gas emissions, and hazard and hazardous materials. However, the Project would not include any activities or uses that would cause substantial adverse effects on human beings, either directly or indirectly. The Project would adhere to local codes and regulations as conditions of Project approval. Compliance with applicable local, State, and federal standards, as well as incorporation of Project mitigation measures, would result in less-than-significant impacts. The Project would not cause substantial adverse direct or indirect effects on human beings as impacts would be avoided and minimized where possible and mitigated when necessary. Mitigation measures would be implemented as described in the Air Quality, Biological Resources, Cultural Resources, Hazards and Hazardous Materials, Noise, and Tribal Cultural Resources sections. Therefore, Project impacts would be **less-than-significant with mitigation incorporated**.

ATTACHMENTS

Attachment 1. Mitigation Monitoring and Reporting Program

Attachment 2. Biological Resources Reports

Attachment 3. Air Quality Emissions Calculations

Attachment 1. Mitigation Monitoring and Reporting Program

MITIGATION MONITORING REPORTING PLAN

The following Mitigation Monitoring and Reporting Plan (MMRP) will be implemented as part of the Wildcat Creek Fish Passage and Community Engagement Project. Contra Costa County Public Works Department (CCCPWD) is responsible for ensuring these measures are implemented by CCCPWD staff and by Contractors working on behalf of CCCPWD.

Mitigation, Avoidance, and Minimization Measures

(Measures begin on next page)

Impact	Mitigation Measure:	Implementation Timing	Implementation Responsibility	Verification Responsibility	Compliance Verification Date
IMPACT AQ-1: Temporary increase in emissions	**MITIGATION MEASURE AQ-1: Basic Construction Best Management Practices** 1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. 2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered. 3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. 4. All vehicle speeds on unpaved roads shall be limited to 15 mph. 5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. 6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points. 7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation. 8. Post a publicly visible sign with the telephone number and contact information for the designated on-site construction manager available to receive and respond to dust complaints. This person shall report all complaints to Contra Costa County and take immediate corrective action as soon as possible but not more than 48 hours after the complaint is received. The Bay Area Air Quality District's phone number shall also be visible to ensure compliance with applicable regulations.	During construction	Contractor and CCCPWD	Resident engineer and CCCPWD	

IMPACT BIO-1: Disturbance to special-status species and their habitats	**MITIGATION MEASURE BIO-1: General Construction-related Mitigation Measures** The following best management practices/avoidance and minimization measures would be used for protection of the biological resources within the BSA. 1. Worker Environmental Awareness Training (WEAT): Prior to the start of construction in each year, construction personnel shall be trained by a qualified biologist on all required avoidance and minimization measures as well as permit requirements. 2. Preconstruction surveys for all special status and common wildlife species shall be conducted within the Project area by a qualified biologist immediately prior to equipment or material staging, pruning/grubbing, or surface-disturbing activities. The qualified biologist shall search aquatic vegetation, the water's surface, leaf litter, logs, snags, and other habitat features for special status and common wildlife species. If species are found, individuals shall be relocated outside of the Project area if the qualified biologist is permitted to do so by all regulatory agencies and determines that relocation is warranted. Although not expected, this includes dewatering activities. If water diversion systems are implemented, a qualified biologist shall be on site to relocate all fish, turtles, invertebrates, and other wildlife observed outside of the work area. 3. Prior to start of construction, temporary high visibility ESA fence shall be placed at the upstream and downstream ends of the Project Site and placed along the southern riparian area to exclude the ESA. The limits shall be staked by a qualified biologist. 4. The District shall require the contractor to prepare a Stormwater Pollution Prevention Plan (SWPPP) for construction activities according to the National Pollutant Discharge Elimination System (NPDES) Construction General Permit as required under Section 402 of the Clean Water Act. The SWPPP shall identify water pollution control measures and construction-waste containment measures to be implemented during and after project construction, including but not limited to: o Trash generated by the Project shall be promptly and properly removed from the site daily. o Appropriate erosion control measures (e.g., fiber rolls, filter fences, hydroseeding of exposed soils, and mulching) shall be used on site to reduce siltation and runoff of contaminants into jurisdictional waters. Filter fences and mesh shall be of material that shall not entrap reptiles and amphibians. Fiber rolls shall not contain plastics of any kind. Erosion control blankets shall be used as a last resort because of their	Prior to and during construction	Qualified Biologist and CCCPWD	Resident engineer and CCCPWD	

Impact	Mitigation Measure:	Implementation Timing	Implementation Responsibility	Verification Responsibility	Compliance Verification Date
	tendency to biodegrade slowly and to trap reptiles and amphibians. o No erodible materials shall be deposited into watercourses. Brush, loose soils, or other debris material shall not be stockpiled within stream channels or adjacent to the basin. o Active construction areas shall be watered regularly. o Dredged sediments shall be managed during construction. o A hazardous materials management plan will describe the actions that shall be taken in the event of a spill that could potentially impact jurisdictional waters. Adequate spill containment materials, such as hazardous material absorbent pads and similar materials, shall be available on site at all times. The plan also shall incorporate preventive measures to be implemented (such as vehicle and equipment staging, cleaning, maintenance, and refueling) and contaminant (including fuel) management and storage. 5. All excavated steep-walled holes and trenches more than six inches deep shall be covered with plywood (or similar material) or provided with one or more escape ramps constructed of earth fill or wooden planks at the end of each work-day or 30 minutes prior to sunset, whichever occurs first. All steep-walled holes and trenches shall be inspected by the approved biologist each morning to ensure that no turtles or other wildlife has become entrapped. All construction pipes, culverts, similar structures, construction equipment, and construction debris left overnight shall be inspected for presence of wildlife by a WEAT-trained construction monitor prior to being moved. 6. All slash materials (limbs, branches, and other woody debris) resulting from tree removal activities shall be removed from the Project Site and properly disposed of at an off-site location. 7. Temporarily affected areas shall be restored to pre-Project conditions. Before October 31 and/or immediately after construction is complete, all exposed soils shall be stabilized to reduce the effects of erosion.				

Impact	Mitigation Measure:	Implementation Timing	Implementation Responsibility	Verification Responsibility	Compliance Verification Date
IMPACT BIO-2: Accidental introduction of new invasive species	**MITIGATION MEASURE BIO-2: Invasive Species Prevention** 1. Only certified noxious weed-free erosion control materials shall be used. All straw and seed material shall be certified as weed-free prior to being used at the Project Site. 2. Contractor shall wash all construction equipment prior to bringing it onto the job site. Inspection shall ensure that equipment arrives on site free of mud and seed-bearing material. 3. Any reseeding of disturbed soil areas and newly constructed slopes shall use an appropriate native seed mix as specified in the plans and specifications.	Prior to and during construction	Resident engineer and CCCPWD	Resident engineer and CCCPWD	
IMPACT BIO-3: The Construction impacts to riparian habitat	**MITIGATION MEASURE BIO-3: Riparian Vegetation Protection** 1. A riparian protection zone shall be established around all established vegetation in the southern portion of the existing sediment basin, coincident with the most recent sediment clearing boundary, with the exception of those trees and soil necessary to remove for building the training berm. This boundary would be established on design sheets and plan sets, as well as with protective temporary fencing placed in the field. 2. A qualified restoration biologist or botanist shall create a seed and plant palette appropriate for reestablishing impacted vegetation.	Prior to and during construction	Qualified Biologist and CCCPWD	Resident engineer and CCCPWD	

Impact	Mitigation Measure:	Implementation Timing	Implementation Responsibility	Verification Responsibility	Compliance Verification Date
IMPACT BIO-4: Disturbance to Western Bumble Bee	**MITIGATION MEASURE BIO-4: Western Bumble Bee Mitigation Measures** 1. Preconstruction Survey: A qualified biologist shall conduct a preconstruction survey 30 days prior to the onset of work. The pre-construction survey effort shall be conducted for a minimum of one hour. If bumble bees of any species are observed, they shall be photographed for identification following the USFWS guidance in Standardized Bee Photography in the Survey Protocols for the Rusty Patched Bumble Bee (Bombus affinis) (USFWS 2019). If construction begins between March 1 and November 1, the ground shall also be searched during the survey for active bumble bee colonies. 2. No capture or handling of bumble bees is allowed without formal State take authorization. If individual western bumble bees are observed during preconstruction surveys, in consultation with CDFW, they shall be avoided to ensure no "take" occurs. This may require biological monitoring or avoidance buffers until the bees have left the work area. If western bumble bee colonies are identified, these colonies shall be demarcated with a flagged avoidance buffer, as determined by a qualified biologist and shall be avoided during the active season from March 1 through November 1, or until the qualified biologist, in consultation with CDFW, has determined that the colony is no longer active. All sightings of western bumble bee shall be reported to the CNDDB.	Prior to and during construction	Qualified Biologist and CCCPWD	Resident engineer and CCCPWD	
IMPACT BIO-5: Disturbance to Special status fish	**MITIGATION MEASURE BIO-5: Best Management Practices for Fish** The Project shall limit in-water construction to the period between June 1 and October 31 to avoid the spawning season. The Project proponent shall obtain and comply with the requirements of the Section 404 permit issued by the U.S. Army Corps of Engineers and the Programmatic Biological Opinion for steelhead issued by National Marine Fisheries Service.	Prior to and during construction	Qualified Biologist and CCCPWD	Resident engineer and CCCPWD	

Impact	Mitigation Measure:	Implementation Timing	Implementation Responsibility	Verification Responsibility	Compliance Verification Date
IMPACT BIO-6: Disturbance to Western Pond Turtle	**MITIGATION MEASURE BIO-6: Construction Monitoring for Western Pond Turtles** 1. If any turtles or turtle nests are found during preconstruction surveys, a qualified and permitted biologist shall flag the site and determine whether construction activities can avoid affecting the nest. If the nest cannot be avoided, in consultation with CDFW, a no-disturbance buffer zone may be established around the nest until the young have left the nest. If weather conditions prevent implementation of construction beyond two days after completion of turtle surveys, re-survey for this species shall be completed. 2. Once a temporary high visibility ESA fence is installed within the Project Site and all vegetation has been cleared, a designated construction monitor (trained by the qualified biologist), shall inspect the work area for western pond turtles anytime work activity ceases for two days or more. If a western pond turtle is observed by the construction monitor in the immediate work area, no work shall commence in the area of the sighting until the turtle has moved out of harm's way or the qualified biologist has arrived at the site and relocated the turtle.	Prior to and during construction	Qualified Biologist and CCCPWD	Resident engineer and CCCPWD	

Impact	Mitigation Measure:	Implementation Timing	Implementation Responsibility	Verification Responsibility	Compliance Verification Date
IMPACT BIO-7: Disturbance to nesting birds	**MITIGATION MEASURE BIO-7: Migratory Birds and Raptors Construction Measures** 1. To the extent feasible, tree removal shall be conducted outside the nesting season (which occurs between February 15 – August 31) for migratory birds and raptors. 2. A preconstruction nesting bird survey, shall be conducted by a qualified biologist prior to construction activities that take place during the nesting season (February 15-August 31) including any removal of vegetation at the Project Site. If all Project work is conducted during this work window, preconstruction surveys would only be required for wintering burrowing owls and not nesting birds. The survey shall be conducted no more than 7 days prior to the start of construction. Buffers will be placed around any nests that are found during the survey, in consultation with CDFW. No work shall be conducted within the buffers until the qualified biologist has determined that the nesting attempt is complete. Buffers for songbird nests are generally on the order of 50 to 100 feet and for raptors on the order of 250 to 500 feet, with the precise distance determined by the qualified biologist conducting the preconstruction survey based on species, nest site characteristics, and the acclimation of the nesting birds to disturbance. 3. If Western Burrowing Owl burrows are found, a qualified biologist shall flag the site and in consultation with CDFW, determine whether construction activities can avoid affecting the nest. If the nest cannot be avoided, in consultation with CDFW, a no-disturbance buffer zone and monitoring plan would be established.	Prior to and during construction	Qualified Biologist and CCCPWD	Resident engineer and CCCPWD	

Impact	Mitigation Measure:	Implementation Timing	Implementation Responsibility	Verification Responsibility	Compliance Verification Date
IMPACT BIO-8: Disturbance to bats	**MITIGATION MEASURE BIO-8: Roosting Bats and Maternity Colonies** **Mitigation Measures** 1. Roosting bat habitat assessments and preconstruction surveys shall be conducted within 30 days prior to the onset of work to ensure the absence of roosting bats before construction, as detailed below. Prior to the start of construction, a bat habitat assessment shall be conducted to identify suitable bat roosting habitat including bridges, snags, rotten stumps, and trees with broken limbs, exfoliating bark, cavities, etc. This shall be done within 30 days. Potential roosting habitat shall be avoided to the maximum extent practicable. If no suitable roost sites are identified, no further minimization measures are necessary. 2. If suitable roosting habitat is identified and shall be disturbed by presence and noise of equipment and workers for more than two hours, a qualified biologist shall be present to monitor the bat roosting habitat and will stop work if any disturbance to bats is detected and contact CDFW for further guidance. 3. If suitable roosting habitat is identified and shall be removed by the Project, such as from tree removal, a qualified biologist shall survey potential suitable roost sites immediately prior to the removal. If any sign of roosting bats or observation of individual bats is observed, the roost shall be removed in coordination with CDFW or according to permit conditions. Typical removal methods include first removing nonhabitat features such as limbs smaller than 3 inches in diameter. The tree is left overnight to allow any bats using the tree/snag to find another roost during their nocturnal activity period. A qualified biologist would survey the trees/snags a second time the following morning prior to felling and removal.	Prior to and during construction	Qualified Biologist and CCCPWD	Resident engineer and CCCPWD	

Impact	Mitigation Measure:	Implementation Timing	Implementation Responsibility	Verification Responsibility	Compliance Verification Date
IMPACT CUL-1: Disturbance to historical resources.	**MITIGATION MEASURE CUL-1: Environmentally Sensitive Area and Archaeological and Tribal Monitoring** • An Environmentally Sensitive Area (ESA) shall be established in areas where excavation activities deeper than 4.5 feet would occur in previously undisturbed soil. The horizontal and vertical ESA shall be delineated on all project plans. A vertical ESA limit of 16 feet will be established, and no Project-related activities (e.g., excavation, trenching) shall take place below the vertical ESA limit. • An archaeological monitoring plan shall be prepared prior to any ground disturbance. The plan shall outline the procedures for discoveries during construction; the chain of command and responsible parties; and special procedures should human remains be encountered. • Archaeological monitoring by a qualified archaeologist shall be conducted during all ground disturbing activities within the boundaries of the Environmentally Sensitive Area that yield visible spoils between 4.5 feet below current ground surface and 16 feet below current ground surface. A daily archaeological monitoring log shall be completed by the archaeological monitor and submitted weekly to the County of Contra Costa for review. Should archaeological resources or human remains be encountered the procedures outlined in the monitoring plan shall be implemented. • Tribal monitoring by a qualified Tribal monitor approved by the Confederated Villages of Lisjan Nation, the Tribe that consulted on this project pursuant to Assembly Bill 52 (the “Tribe”), shall be conducted during all ground disturbing activities within the boundaries of the Environmentally Sensitive Area between 4.5 feet below current ground surface and 16 feet below current ground surface. The Tribal monitor shall complete daily monitoring logs that provide descriptions of the day’s activities, including construction activities, locations, soil, and any cultural materials identified.	Prior to and during construction	Qualified Archaeologist and CCCPWD	Resident engineer and CCCPWD	

Impact	Mitigation Measure:	Implementation Timing	Implementation Responsibility	Verification Responsibility	Compliance Verification Date
IMPACT CUL-2: Disturbance to unidentified historical resources	**MITIGATION MEASURE CUL-2: BMPs and Archaeological and Tribal Monitoring** • Contractor shall be notified of the possibility of encountering historic, archaeological, or paleontological materials during ground-disturbing activities. A standard inadvertent discovery clause will be included in every construction contract to inform Contractors of requirements during construction. • Prior to the initiation of construction activities, a qualified archaeologist and Tribal monitor shall provide Worker Environmental Awareness Program (WEAP) training to construction personnel with an overview of applicable laws, Project mitigation measures, and procedures to be followed with regards to historical, archaeological, and Tribal resources that may be encountered over the course of the Project. • Procedures for discovery include: o If potential cultural materials are discovered during construction, the Contractor shall cease all ground disturbing activities within a 100-foot radius of the find. The Contractor shall immediately notify the District Resident Engineer or their designated representative to request a qualified archaeologist and Confederated Villages of Lisjan Nation representative to assess the nature and significance of the find. o If the finding(s) is determined to be potentially significant, the archaeologist in consultation with the Tribal representative shall develop a research design and treatment plan outlining management of the resource, analysis, reporting of the find, and curation or reburial of cultural items. Preservation in place (i.e., avoidance) is typically the preferred manner of treatment of Tribal resources and cultural items. o Any previously undiscovered resources found during construction within the Project Site shall be recorded on appropriate California Department of Parks and Recreation (DPR) 523 forms and shall be submitted to Contra Costa County Department of Conservation and Development, the Northwest Information Center (NWIC), and the California Office of Historic Preservation (OHP), as required.	Prior to and during construction	Qualified Archaeologist and CCCPWD	Resident engineer and CCCPWD	

Impact	Mitigation Measure:	Implementation Timing	Implementation Responsibility	Verification Responsibility	Compliance Verification Date
IMPACT CUL-3: Inadvertently disturbance to previously undiscovered human remains	**MITIGATION MEASURE CUL-3: Impact to Previously Undiscovered Human Remains** • In the event of the accidental discovery or recognition of any human remains, there shall be no further excavation or disturbance within 100 feet of the remains until the Contra Costa County Coroner is contacted to determine whether the remains are Native American and if an investigation of the cause of death is required. At the same time, an archaeologist shall be contacted to assess the situation. • If the Coroner determines the remains to be Native American, the Coroner shall contact the Native American Heritage Commission (NAHC) within 24 hours of this identification. The NAHC shall identify a Most Likely Descendant (MLD) to inspect the site and provide recommendations for the proper treatment of the remains and associated funerary objects. • If the Confederated Villages of Lisjan Nation is designated as the MLD, the Tribe shall make every effort to recommend keeping ancestral remains and funerary objects in situ and protected. If removal of burials is necessary, Tribal representatives shall work with the qualified archaeologist to ensure that excavation and documentation are treated carefully, ethically, and respectfully. No photography or scientific study, destructive or non-destructive, shall be conducted on ancestral human remains. The archaeologist shall prepare a report of all activities, including the recommendations for the treatment of the human remains and any associated funerary objects as provided by the MLD. The report shall be submitted to the District, the Northwest Information Center, and the Tribe. • Tribal representatives shall rebury the Native American human remains and associated funerary objects with appropriate dignity either: 1) In accordance with the recommendations of the MLD if available; or 2) In the project vicinity at a location mitigated between the Confederated Villages of Lisjan Nation representative and the County, where the reburial would be protected in perpetuity and would not be subject to further subsurface disturbance. The discovery is to be documented on DPR523 forms and otherwise kept confidential and secure to prevent any further disturbance.	During construction	Resident engineer and CCCPWD	Resident engineer and CCCPWD	

Impact	Mitigation Measure:	Implementation Timing	Implementation Responsibility	Verification Responsibility	Compliance Verification Date
IMPACT HAZ-1: Disturbance of soil or water that is potentially contaminated	**MITIGATION MEASURE HAZ-1: Prepare and Implement a Hazardous Materials Dewatering and Management Plan** The Project proponent or its contractor(s) shall develop and implement a Hazardous Materials Dewatering and Management Plan establishing procedures to manage potentially contaminated fluids encountered during construction of the Project to minimize potential impacts to the public or environment from hazardous materials. The Plan shall identify proper protocols to test and handle potentially hazardous materials if any are found. The Plan shall identify potential licensed disposal facilities and their acceptance criteria; the chemicals to be analyzed to comply with those acceptance criteria, which shall include at a minimum TPH as gasoline, diesel, and motor oil, and BTEX compounds. The Plan shall identify the proper protocols for the following three dewatering fluid disposal options: • Groundwater with petroleum hydrocarbons (could be discharged to the WCWD under their Temporary Discharge Permit, providing the contaminant concentrations are within the Temporary Discharge Permit acceptance criteria and coverage under this permit is acquired prior to the discharge). • Groundwater with petroleum hydrocarbons could be pumped into trucks or portable storage containers and transported to an offsite licensed disposal facility permitted to accept the waste. • Groundwater with petroleum hydrocarbons could be treated onsite under the RWQCB's General Waste Discharge Requirements for Discharge or Reclamation of Extracted and Treated Groundwater (RWQCB Order No. R2-2017-0048, NPDES Permit No. CAG912002). The pumped groundwater would be pumped into a settling tank to drop the sediments out of solution, and pumped through a treatment system (e.g., granular activated carbon [GAC] to decrease the concentration of TPH as diesel to less than 50 ug/L and TPH as motor oil to less than 100 ug analytically tested to verify that treatment has achieved the effluent limitations. Upon successful treatment, the water could be discharged to the ground.	Prior to and during construction	Resident engineer and CCCPWD	Resident engineer and CCCPWD	
IMPACT HAZ-2: Mobilization of contaminants	**MITIGATION MEASURE HAZ-2: Pollutant and Hazardous Materials Handling** • The Bay Area Air Quality Management District shall be notified through their Asbestos Notification System prior to bridge demolition in compliance with the National Emissions Standards for Hazards Air Pollutants (NESHAP). • Worker safety recommendations for employees working at the site follow state and federal hazardous material handling regulations during construction activities.	Prior to and during construction	Resident engineer and CCCPWD	Resident engineer and CCCPWD	

Impact	Mitigation Measure:	Implementation Timing	Implementation Responsibility	Verification Responsibility	Compliance Verification Date
IMPACT HAZ-3: Mobilization of contaminants	**MITIGATION MEASURE HAZ-3: Soil Sampling and Investigation** Prior to commencement of sediment excavation activities for either the sediment basin expansion or the community amenities, a soil sampling plan and results report shall be prepared for the District and soil samples shall be collected. The samples shall be analyzed for heavy metals identified in California Code of Regulations (CCR) Title 22. The samples shall also be analyzed for total petroleum hydrocarbons (diesel-range, gasoline, and motor oil), semi-volatile organic compounds (SVOC), and pesticides. The sampling report indicating the results of the sampling shall be submitted to the District for review and approval. If no contamination is present, no further action is required. If contamination is present, Mitigation Measure HAZ-4 will be implemented.	Prior to and during construction	Resident engineer and CCCPWD	Resident engineer and CCCPWD	

Impact	Mitigation Measure:	Implementation Timing	Implementation Responsibility	Verification Responsibility	Compliance Verification Date
IMPACT HAZ-4: Mobilization of contaminants	**MITIGATION MEASURE HAZ-4: Implement Hazard Mitigation Plan Per Soil Sampling Report** If soil testing results exceed applicable environmental screening levels (ESLs) the District shall follow the recommendations provided in the results report to minimize potential for accidental release of contaminants. Recommendations may include development and implementation of one or more of the following plans: • Preparation and implementation of a Health and Safety Plan: If recommended, a Health and Safety Plan would be prepared and implemented by the Contractor to provide appropriate disclosure and information to the site workers and personnel of the contaminants present, hazard identification and awareness, and appropriate personal protective equipment and procedures to be used during construction of the Project. • Preparation and implementation of a Soil Management Plan: If recommended, a Soil Management Plan would be prepared by the District and implemented by the Contractor. Likely conditions are dust control and monitoring procedures, soil handing procedures, soil profiling, transportation and disposal procedure to ensure that the construction workers, residents and the general public are protected and that the Contractor understands and has plans and procedures for handling, managing, stockpiling, profiling, transporting and disposing of the contaminated soils at an appropriate licensed disposal facility. The plan shall include lines of reporting and responsibilities and authorities. The plan shall also detail how soil will be managed to reduce hazardous material exposure impacts from operational use of the Project Site by workers and the general public. The plan shall also be approved by appropriate regulatory agency(s) if necessary. • Preparation and implementation of an Air Monitoring Plan: If recommended, an Air Monitoring Plan would be prepared by the District and implemented by the Contractor during construction that presents specific air monitoring procedures to be used during potentially dust generating portions of the construction activities. The Air Monitoring Plan may include sampling and testing at intervals sufficient to understand and avoid potential exposure to workers, residents, and the general public.	Prior to and during construction	Resident engineer and CCCPWD	Resident engineer and CCCPWD	

Impact	Mitigation Measure:	Implementation Timing	Implementation Responsibility	Verification Responsibility	Compliance Verification Date
IMPACT NOISE-1: Temporary increase in ambient noise levels	**MITIGATION MEASURE NOISE-1a: Limit Construction Noise Emissions/Intrusions** The Project shall implement the following BMPs: • Require all construction equipment to conform to Section 14-8.02 Noise Control of the latest Caltrans Standard Specifications. This requires all internal combustion engine driven equipment to be equipped with intake and exhaust mufflers that are in good condition and appropriate for the equipment, and provide shrouding or shielding for impact tools (i.e., jackhammers). Utilize 'quiet' air compressors and other 'quiet' equipment where such technology exists. • Provide sound-control devices on equipment no less effective than those provided by the manufacturer. • Locate stationary equipment, material stockpiles, and vehicle staging areas as far as practicable from sensitive receptors. • Require applicable construction-related vehicles and equipment to use designated truck routes when entering/leaving the site. • Designate a County representative to serve as a noise (and vibration) disturbance coordinator who shall be responsible for responding to complaints about noise (and vibration) during construction. The telephone number of the noise disturbance coordinator shall be conspicuously posted at the construction site. Provide notification to the adjacent noise-sensitive receptors (residences and Verde Elementary), including the anticipated construction schedule and contact number for the designated noise disturbance coordinator who can address noise complaints. • Limit project construction activity to the weekday hours of 7:30 a.m. to 5:30 p.m. consistent with the Contra Costa County and City of San Pablo General Plans and Codes. If work is necessary outside of these hours, the City and County shall both approve the extended work hours, and the Resident Engineer shall be available to address any noise concerns during construction.	Prior to and during construction	Resident engineer and CCCPWD	Resident engineer and CCCPWD	

Impact	Mitigation Measure:	Implementation Timing	Implementation Responsibility	Verification Responsibility	Compliance Verification Date
IMPACT NOISE-1: Temporary increase in ambient noise levels	**MITIGATION MEASURE NOISE-1b: Inform Local School Authorities and Residents of Likely High Noise Periods during Project Construction**When project construction work lasting more than a week is necessary in areas of the Project Site close to (i.e., within 200 feet of) the Verde Elementary School and existing homes facing the site south of Wildcat Creek, the Project contractor shall provide a minimum of 3-days' notice to school and residents and advise them on short-term shifts to less-affected outdoor play/recreation spaces or to other indoor rooms less exposed to the direct noise from the construction activity until the more noise-intensive project construction stages are complete.	During construction	Resident engineer and CCCPWD	Resident engineer and CCCPWD	
IMPACT NOISE-2: Temporary increase in disruptive noise levels	**MITIGATION MEASURE NOISE-2: Minimize Project haul truck access to the site from low-volume roads near sensitive receptors.** Haul trucks (i.e., trucks transporting debris, fill, and other materials on and off-site) shall access the site from the north via Rumrill Boulevard and Brookside Drive, which pass through largely commercial/industrial areas. Haul trucks shall not access the site through the southern access route of Giaramita Street and the Wildcat Creek Trail, which pass sensitive receptors, except for emergency access.	During construction	Resident engineer and CCCPWD	Resident engineer and CCCPWD	

Attachment 2. Biological Resources Reports

Biological Resources Assessment

Wildcat Creek Fish Passage Improvement

Community Engagement Project

Contra Costa County, California

Prepared for

Contra Costa County Flood Control & Water Conservation District

Prepared by

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June 2024

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Acronyms and Abbreviations

Term	Abbreviation
Best Management Practices	BMP
Biological Opinion	BO
Biological Resources Assessment	BRA
Biological Study Area	BSA
California Department of Fish and Game	CDFG
California Department of Fish and Wildlife	CDFW
California Endangered Species Act	CESA
California Environmental Quality Act	CEQA
California Native Plant Society	CNPS
California Natural Diversity Data Base	CNDDB
Central California Coastal	CCC
Center for Ecosystem Management and Restoration	CEMAR
cubic feet per second	cfs
Digital Elevation Models	DEM
East Bay Regional Park District	EBRPD
Endangered Species Act	ESA
Essential Fish Habitat	EFH
Geographic Information System	GIS
Habitat Conservation Plan	HCP
Incidental Take Statement	ITS
Information for Planning and Consultation	IPaC
Longitude/Latitude Identification	LLID
Memorandum of Understanding	MOU
Migratory Bird Treaty Act	MBTA
National Environmental Policy Act	NEPA
National Hydrography Dataset	NHD
National Marine Fisheries Service	NMFS
National Oceanic and Atmospheric Administration	NOAA
Native Plant Protection Act	NPPA
Primary Constituent Element	PCE
Species of Special Concern	SOSC
Stormwater Pollution Prevention Plan	SWPPP

U.S. Army Corps of Engineers	USACE
U.S. Fish and Wildlife Service	USFWS
U.S. Geological Survey	USGS
Worker Environmental Awareness Training	WEAT
Wildcat Creek Fish Passage Improvement and Community Engagement Project	Project

Project Title Wildcat Creek Fish Passage Improvement and Community Engagement

Project Lead Contra Costa County Flood Control & Water Conservation District

1.0 INTRODUCTION

This Biological Resources Assessment (BRA) report documents the existing biological setting and serves to outline anticipated impacts to sensitive biological resources for the implementation of the Wildcat Creek Fish Passage and Community Engagement Project (Project).

The Project's lead sponsor is the Contra Costa County Flood Control & Water Conservation District. This assessment is based on information (e.g., technical reports, data, mapping, aerial imagery) readily available at the time of the study and on-site conditions observed during a field survey conducted on February 23, 2022.

The objectives of this BRA are to:

1. Determine if there is the potential for any special status plant species or special status animal species to be present within the Project site;
2. Determine if there is the potential for any sensitive habitat to be present within the Project site;
3. Analyze the potential for impacts to any special status species and sensitive habitat from the implementation of the Project in the context of California Environmental Quality Act (CEQA), National Environmental Policy Act (NEPA), and other local laws and regulations; and
4. Provide recommendations for avoidance and minimization of Project impacts to sensitive biological resources.

Based on the resources found in the Biological Study Area (BSA), which is the area within the Project boundary as shown on **Figure 2**, and through a database and literature review, the Project has the potential to affect the following sensitive biological resources listed below during the construction of the Project (See California Natural Diversity Data Base (CNDDB) Special Status Species Map, Appendix D):

Birds

- Black-crowned night-heron (*Nycticorax nycticorax*) [Nesting] – California Department of Fish and Wildlife (CDFW) Watch List
- Burrowing owl (*Athene cunicularia*)

Federal Birds of Conservation Concern / California State Species of Special Concern

- Cooper's hawk (*Accipiter cooperii*) [nesting]
  CDFW Watch List
- Double-crested cormorant (*Phalacrocorax auritus*) [rookery site] – CDFW Watch List
- Northern harrier (*Circus cyaneus*) [Nesting]
  California State Species of Special Concern
- Osprey (*Pandion haliaetus*) [Nesting]
  CDFW Watch List
- Short-eared owl (*Asio flammeus*) [Nesting]
  Species of Special Concern Priority 3
- Snowy egret (*Egretta thula*) – California Special Animal
- White-tailed kite (*Elanus caeruleus)* [nesting]
  California Fully Protected Species

Reptiles

- Western pond turtle (*Clemmys marmorata marmorata*)
  California State species of special concern

Wildlife

- Hoary Bat (*Lasuirus cinereus*) (including other bat species, if identified through pre-construction surveys)
  California Species of Special Concern

- Western bumble bee (*Bombus occidentalis*)
  State and federal candidate for threatened or endangered listing

Fish

- Central California Coastal (CCC) Steelhead (*Oncorhynchus mykiss*)
  Federally listed as threatened
- Green Sturgeon Southern DPS (*Acipenser medirostris)*
  Federally listed as threatened and categorized as a state Species of Special Concern

Plants

- Fragrant fritillary (*Fritillaria liliacea*)
  Listed under the California Rare Plant Rank as 1B.2 (rare, threatened, or endangered in California or elsewhere).

1.1 PROJECT BACKGROUND

1.1.1 **Wildcat Creek**

Wildcat Creek flows from the Wildcat Canyon to the San Francisco Bay. Wildcat Creek is a tributary to the San Pablo Bay and Pacific Ocean, and is located in Contra Costa County, California (Figure 1). Wildcat Creek's legal description at the confluence with Pacific Ocean is T01N R05W S2. Its location is 37°57'12.0" north latitude and 122°23'16.0" west longitude, Longitude/Latitude Identification (LLID) number 1223877379532. Wildcat Creek is a third order stream and has approximately 23.1 miles of blue line stream according to the United States Geological Survey (USGS) National Hydrography Dataset (NHD) San Quentin 7.5 minute quadrangle.

1.1.2 Wildcat Creek Steelhead

The Project's focus is to improve fish passage for federally threatened CCC Steelhead (*Oncorhynchus mykiss*). Wildcat Creek supported a steelhead run historically, but degradation of habitat and construction of passage barriers from urbanization likely resulted in their extirpation sometime after 1915 (UCC 2010). The steelhead population decline was caused by many factors in Wildcat Creek, including the construction of the dams that created the two Wildcat Canyon reservoirs (Jewel Lake and Lake Anza), in conjunction with increased regional urbanization. In 1977, and again in 1981, the California Department of Fish and Game (CDFG, now CDFW) conducted electroshocking surveys in the creek and did not find any steelhead or "rainbow trout," the resident freshwater descendants of former steelhead runs (Leidy 2005). In September of 1983, the East Bay Regional Park District (EBRPD) and public volunteers caught 615 rainbow trout in Redwood Creek in Oakland and transplanted them into Wildcat Creek between Alvarado Park and the Botanic Garden in Tilden Park (UCC 2010). Since their reintroduction, the trout have spread throughout the creek's 13.5 mile main stem and re-established breeding populations. This successful reintroduction of native rainbow trout carries the potential for a portion of these fish to revert back to an anadromous lifecycle (steelhead) thereby reviving a viable steelhead run in Wildcat Creek East Bay Regional Park District (EBRPD 2006).

During recent intermittent surveys, sub-adult and adult rainbow trout have been documented in the lower reaches of Wildcat Creek (in pools below Rumrill Boulevard) as early as 1997, suggesting that the lower watershed presents opportunities for spawning and rearing, not just migration. According to the Center for Ecosystem Management and Restoration (CEMAR's) San Francisco Estuary Watersheds Evaluation of 2007, only 5.1 miles of the watershed's total 22 miles of stream channel is suitable and available to steelhead.

There has been strong local interest in restoring a steelhead population to the Wildcat Creek watershed. Many West Coast steelhead stocks have declined substantially from their historic numbers and now are at a fraction of their historical abundance. There are several factors that contribute to these declines, including: overfishing, loss of freshwater and estuarine habitat, hydropower development, poor ocean conditions, sedimentation and hatchery practices (NOAA 2016). This Project addresses the interest in restoring a steelhead fishery through improvement of the fish passage structure where the Project is located (**Figures 1-3**).

Steelhead are documented in very low numbers in Wildcat Creek according to National Oceanic and Atmospheric Administration (NOAA) Fisheries (NOAA 1996). Steelhead utilize Wildcat Creek when fish passage is possible to move upstream to viable habitat for spawning. The up-migration period for

steelhead is estimated to be October through the end of March (NOAA 1996). Steelhead move through the urbanized portions of Wildcat Creek, where the Project is located, in approximately 3 hours (Pers. Comm., 2022). However, the passage window for steelhead is limited by certain flows, because Wildcat Creek flow data shows that stream flows peak and recede rapidly (NHC 2011). Adequate fish passage through this section of Wildcat Creek is therefore critical for upstream movement.

1.1.3 Fish Passage

Prior to the flood control district's channelization and the construction of levees, downstream reaches of Wildcat Creek overflowed their banks and inundated adjacent land (USACE 1977). In the early 1960's, Local and Federal agencies proposed flood protection measures along Wildcat as part of an effort to improve the area's economic vitality. Contra Costa County and the U.S. Army Corps of Engineers (USACE) worked together to develop the Wildcat Creek Flood Control Project. The Wildcat Creek Fish Passage Project was included in the USACE Flood Control Project, and was completed in 1995, extending from the mouth of Wildcat Creek to the railroad crossing. It increased the Wildcat Creek channel conveyance to 2300 cubic feet per second (cfs), the one percent annual chance peak flow[1]. The Wildcat Creek fish passage structure has subsequently had problems with debris clogging the channel and the slope of the structure is not conducive to fish passage (NHC 2014). Further, the existing fish passage structure is currently undersized; the fish passage structure's capacity is only 16 cfs, and the percent of flows in the range of 3-16 cfs is about 30%, meaning that the current fishway is undersized and does not meet current CDFW and National Marine Fisheries Service (NMFS) design criteria.

In the late 1990s, the USACE began a Section 1135 Investigation for Wildcat Creek to enhance habitat along the Flood Control Project reach of Wildcat Creek. The Section 1135 Investigation includes enhancing habitat and fish passage through the sediment basin and included the Project's concrete channel located about 1,000 feet downstream of Rumrill Boulevard.

Once updated, the Project should benefit not only listed CCC steelhead, but allow for passage of other amphibians and possibly turtles as a result of the reduction in sediment and trash blocking the thoroughfare.

1.2 PROJECT LOCATION

The Project is located on Wildcat Creek within the Cities of Richmond, San Pablo and unincorporated North Richmond in Contra Costa County, California (**Figure 1**). An 1,800-foot-long segment of Wildcat Creek defines the Project area: from the downstream (west) Giaramita Street and Wildcat Creek intersection in North Richmond, east (upstream) to the Rumrill Boulevard and Wildcat Creek intersection in the City of San Pablo.

[1] *This is the boundary of the flood that has a 1-percent chance of being equaled or exceeded in any given year.*

FIGURE 1: PROJECT VICINITY MAP.

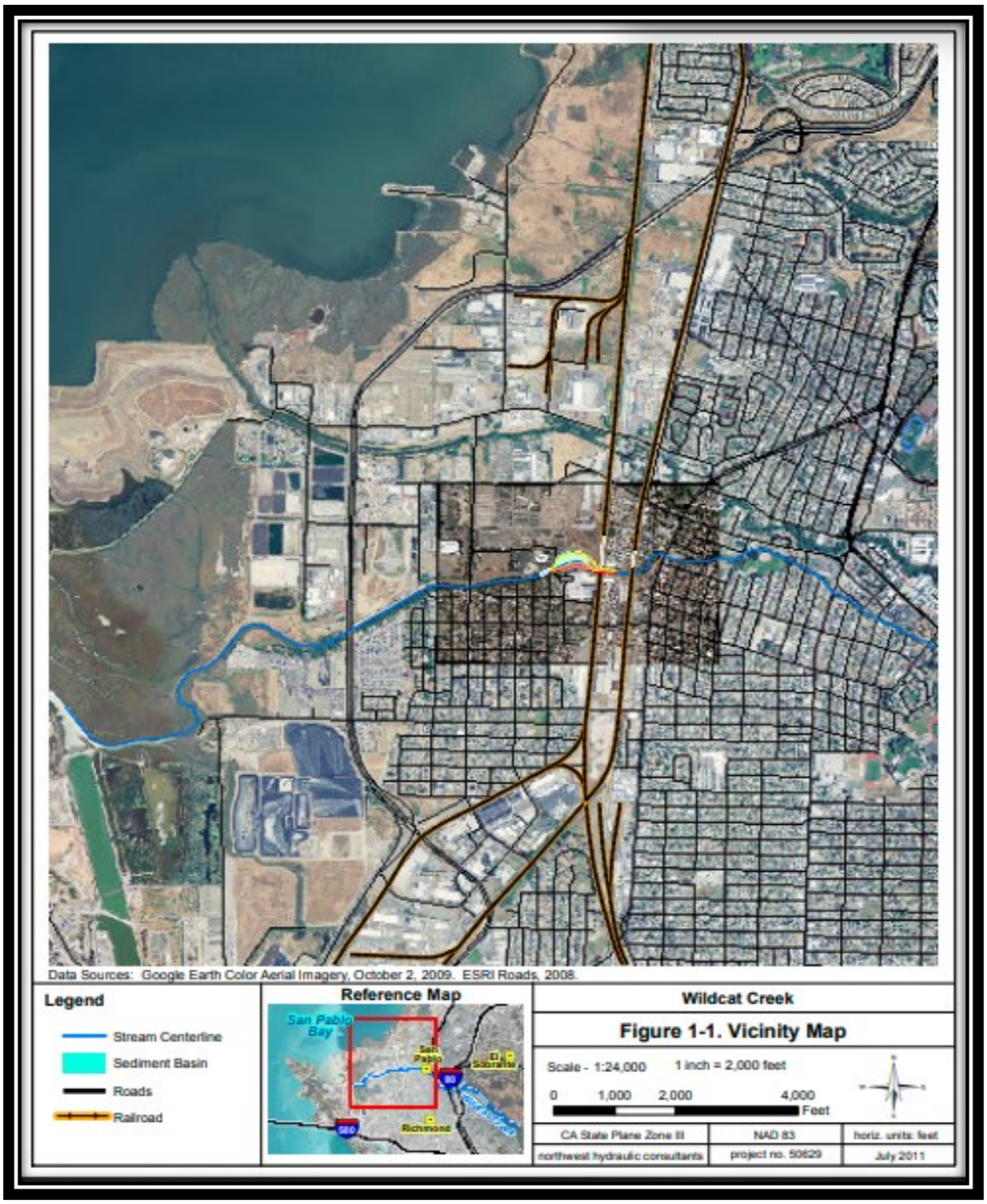


FIGURE 2: PROJECT FOOTPRINT, BIOLOGICAL STUDY AREA.

1.3 PROJECT DESCRIPTION

The Project is located in North Richmond, an unincorporated area in western Contra Costa County and the Cities of Richmond and San Pablo, along the Wildcat Creek between Rumrill Boulevard and 6th Street. The Project site includes the existing flood control and fish passage structures, the downstream sedimentation basin and the adjacent trail and Contra Costa County Flood Control District (District) corporation yard.

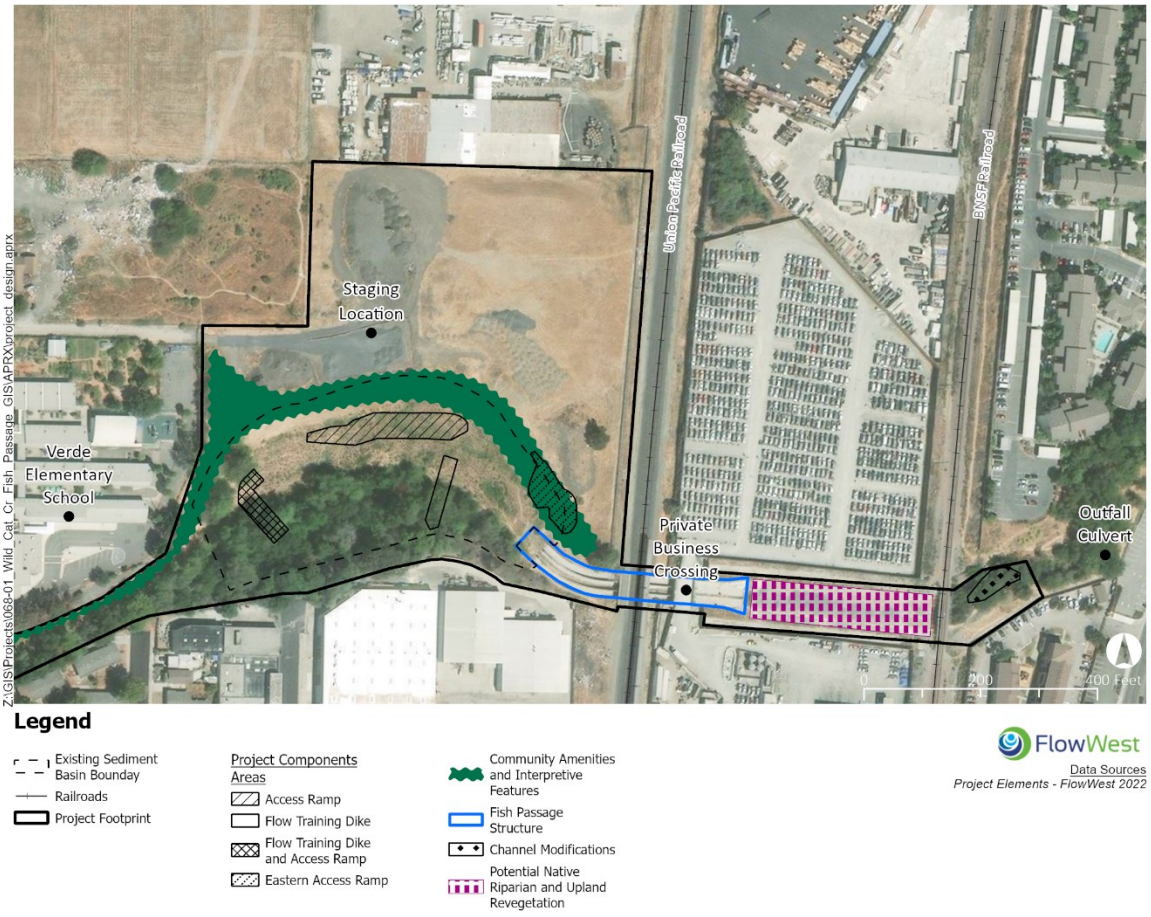
The existing structure currently clogs up with urban debris and sediment, which increases sediment deposition in the fish passage structure. When blocked with debris, the fish passage channel is a barrier to upstream adult migration under all flows. This is because the fish passage channel is blocked and the other bays of the in-flood control structure are not adequate in depth and velocity for fish passage.

The Project activities, as shown in **Figure 3** include:

- Retrofitting the existing fish ladder and sediment basin within the Lower Wildcat Creek Flood Control Channel to create a more natural fish passage corridor.
- Providing public amenities for the community to use including trail improvements, overlook areas, interpretive features and potential recreational and educational areas.

These activities will improve habitat connectivity for Central California Coast steelhead trout (*Oncorhynchus mykiss*), improve channel conveyance and benefit the local community. The Project will also meet CDFW and National Marine Fisheries Service (NMFS) current fish passage criteria as well as USACE performance criteria related to the 1% annual exceedance probability flood, or 100-year flood.

FIGURE 3: PROJECT ELEMENTS.



1.4 ENVIRONMENTAL SETTING

The Wildcat Creek watershed covers 6,848 acres and includes approximately 22 miles of creek channel. Wildcat Canyon is considered the upper watershed. Wildcat Regional Park and Tilden Regional Park, both managed by the East Bay Regional Park District as parkland, cover the upper watershed. The boundary between the upper and lower watershed falls near highway Interstate 80, where the creek flows out of the canyon onto its alluvial plain. In the lower reaches, Wildcat Creek flows through the heavily urbanized, residential, and commercial areas of the cities of Richmond and San Pablo before reaching salt marshes adjacent to San Pablo Bay. The mid-to-lower Wildcat Creek has an open channel and has a narrow remnant riparian vegetation corridor through most of the urban areas. Much of the City of San Pablo is located in Wildcat Creek's lower watershed. About 2.2 miles of Wildcat Creek run through the City. Downstream, in the unincorporated Contra Costa County community of North Richmond, another 2.5 miles of Wildcat Creek's channel flows into a tidal flat along San Pablo Bay.

The Wildcat Creek watershed has many culverts, encroaching development, altered stream flow and sediment dynamics, and pervasive urban pollutants present entrenched challenges to conservation of riparian wildlife, vegetation and fish who depend on a well-connected, high-quality creek corridor through the whole watershed.

In the Project vicinity, which includes a 5-mile radius around the project boundary, the EBRPD trail runs adjacent to the creek and the area is characterized as urbanized with parking lots and an elementary school within 0.25 miles of the Project site.

1.4.1 Climate

This region of California has a climate that is characterized by long, warm and arid summers and short, cold, wet and partly cloudy winters. Summer high temperatures average 84 degrees Fahrenheit. Average high temperatures during the winter are in the 50s, while the average daily low temperature is approximately 47 degrees Fahrenheit.

1.4.2 Land Use

The land uses for areas surrounding the Project are all designated in the General Plan as "Light Industrial." The BSA area is located in a highly urbanized area of Contra Costa County with light industrial buildings, schools and housing along the creek corridor. Adjacent lands include a railroad line that encompasses a 50-foot buffer that is denuded of vegetation, a Pick-n-Pull car lot, and light industrial warehouse buildings. A paved pedestrian/bicycle path runs through the project site along north side top of bank.

1.4.3 Vegetation

In the upland area just north of the sediment basin and the Wildcat Creek Fish Passage Structure is highly modified; approximately 60.5% (8.1 acres) of the BSA is characterized by ruderal grassland. The creek's riparian area below the fish passage structure is compromised due to excessive sedimentation that does not support healthy vegetative growth. On the south bank outside of the sedimentation basin is a mixed riparian woodland composed of willows (*Salix laevigata*), with occasional Fremont cottonwood (*Populus fremontii*), and white alder (*Alnus rhombifolia*). On the north side of the sediment basin and on the banks of the sediment basin are several isolated trees, including a non-native weeping willow (*Salix babylonica*), Fremont cottonwood, and coast live oak (*Quercus agrifolia*). Habitat types are discussed further in **Section 3.1.3**.

Wetlands and waters were also delineated as part of a wetland delineation conducted by Vollmar Natural Lands Consulting. Wildcat Creek and associated wetland features support predominantly native hydrophytic vegetation with a canopy of trees, shrubs and climbing vines within the riparian area and herbaceous grasses and forbs in the open habitat.

1.4.4 Hydrology

Wildcat Creek flows from the Wildcat Canyon to the San Francisco Bay. Wildcat Creek is a fifth-order mainstem channel that is 13.5 miles in length to its highwater end. With the addition of artificial channels, such as storm drains and inboard ditches, drainage density is 9.1 miles/square mile of watershed.

2.0 REGULATORY SETTING

2.1 FEDERAL REGULATIONS

2.1.1 Endangered Species Act

The Endangered Species Act (ESA) protects plants and animals that are listed as endangered or threatened by the U.S. Fish and Wildlife Service (USFWS) and NOAA Fisheries. The following is a summary of the provisions for relevant sections pertaining to species protections:

- **Section 9** of the ESA prohibits the taking of listed wildlife, where take is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect or attempt to engage in such conduct" (50CFR 17.3). For plants, this statute governs removing, possessing, maliciously damaging or destroying any listed plant on federal land and removing, cutting, digging up, damaging, or destroying any listed plant on non-federal land in knowing violation of state law (16 USC 1538).
- **Section 7** of the ESA requires Federal agencies to consult with the USFWS/NOAA Fisheries if their actions, including permit approvals or funding, could adversely affect a listed (or proposed) species or its critical habitat. Through consultation and the issuance of a biological opinion (BO), the agencies may also issue an incidental take statement (ITS) (Section 10) allowing take of the species that is incidental to an otherwise authorized activity provided the activity will not jeopardize the continued existence of the species.
- **Section 10** of the ESA provides for issuance of ITPs where no other Federal actions are necessary provided a habitat conservation plan (HCP) is developed.
- **Section 3** of the ESA defines Critical Habitat and Essential Habitat as (1) the specific areas within the geographical area occupied by a species, at the time it is listed in accordance with ESA, on which are found those physical or biological features essential to the conservation of the species and that may require special management considerations or protection; and (2) specific areas outside the geographical area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species. For inclusion in a critical habitat designation, habitat within the geographical area occupied by the species at the time it was listed must first have features that are essential to the conservation of the species. Critical habitat designations identify, to the extent known and using the best scientific data available, habitat areas that provide essential life cycle needs of the species (areas on which are found the primary constituent elements). Primary constituent elements (PCEs) are the physical and biological features that are essential to the conservation of the species and that may require special management considerations or protection.

  These elements include but are not limited to the following:
  - Space for individual and population growth and for normal behavior;
  - Food, water, air, light, minerals or other nutritional or physiological requirements;
  - Cover or shelter;
  - Sites for breeding, reproduction or rearing (or development) of offspring;
  - Habitats that are protected from disturbance or are representative of the historic, geographical and ecological distributions of a species

2.1.2 Magnuson-Stevens Act

Essential fish habitat (EFH) is defined and regulated by Section 3(10) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA). EFH is defined in the MSA as those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity. The MSA requires Federal agencies to consult with the National Marine Fisheries Service (NMFS) on all actions, or proposed actions, authorized, funded, or undertaken by the agency, that may adversely affect EFH.

2.1.3 Federal Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. §§ 703-712, July 3, 1918, as amended,1989) makes it unlawful to "take" (kill, harm, harass, shoot, etc.) any migratory bird listed in Title 50 of the Code of Federal Regulations, Section 10.13, including their nests, eggs or young. Migratory birds include geese, ducks, shorebirds, raptors, songbirds, wading birds, seabirds and passerine birds (such as warblers, flycatchers, swallows, etc.).

Executive Order 13186 for conservation of migratory birds (January 11, 2001) requires that any project with Federal involvement address impacts of Federal actions on migratory birds. The order is designed to assist Federal agencies in their efforts to comply with the MBTA and does not constitute any legal authorization to take migratory birds. The order also requires Federal agencies to work with the USFWS to develop a memorandum of understanding (MOU). Protocols developed under the MOU must promote the conservation of migratory bird populations through the following means:

(1) avoid and minimize, to the extent practicable, adverse impacts on migratory bird resources when conducting agency actions; and

(2) restore and enhance habitat of migratory birds, as practicable; and prevent or abate the pollution or detrimental alteration of the environment for the benefit of migratory birds, as practicable.

Applicability of the MBTA to the Project

Raptors (birds of prey: hawks, owls) such as Short-eared owl (*Asio flammeus*) among others, could nest on the Project Site. These raptors would be protected by the MBTA. Also, the common songbirds and wading birds that could occur on the site would be protected pursuant to this Act. If there is no direct mortality of species protected pursuant to this Act caused by development of the site, there should be no constraints to implementation activities. To comply with the Migratory Bird Treaty Act, *all active nest sites, if occurring, would have to be avoided while such birds were nesting*. Upon completion of nesting, the Project could continue. Review specific requirements for avoidance of nest sites for potentially occurring species in the Mitigations section below.

2.2 STATE AND LOCAL REGULATIONS

2.2.1 California Endangered Species Act

The California ESA (CESA) generally parallels the main provisions of the ESA, but unlike its Federal counterpart, CESA applies the take prohibitions to species proposed for listing (called "candidates" by the

state). Section 2080 of the CDFG Code prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit or in the regulations. Take is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture or kill, or attempt to hunt, pursue, catch, capture or kill." CESA allows for take incidental to otherwise lawful development projects. State lead agencies are required to consult with CDFW to ensure that any action they undertake is not likely to jeopardize the continued existence of any endangered, threatened or candidate species or result in destruction or adverse modification of essential habitat.

Applicability of CESA to the Project

State-listed or Species of Special Concern (SOSC) wildlife species with a slight probability to nest or occur on the Project site are:

- Burrowing owl (*Athene cunicularia*)
- Northern harrier (*Circus cyaneus*) [Nesting]
- White-tailed kite (*Elanus caeruleus)* [Nesting]
- Short-eared owl (*Asio flammeus*) [Nesting]
- Osprey (*Pandion haliaetus*) [Nesting]

Reptiles
Western pond turtle (*Clemmys marmorata marmorata*)

Wildlife
Hoary Bat (*Lasuirus cinereus*) (including other bat species, if identified through pre-construction surveys)

Invertebrates
Western bumble bee (*Bombus occidentalis*)

The presence of these sensitive species cannot be ruled out. Nesting season surveys will need to be conducted on the Project site and within an "area of influence" around the Project site to ensure that construction-related activities do not result in impacts to any nesting birds, rare or common and other species breeding sites. The area of influence is larger for some species than others. Mitigation measures would reduce these impacts to a level regarded as less than significant.

Fully Protected Species

The State of California first began to designate species as "fully protected" prior to the creation of the CESA and the ESA. Lists of fully protected species were initially developed to provide protection to those animals that were rare or faced possible extinction, and included fish, amphibians and reptiles, birds, and mammals. Most fully protected species have since been listed as threatened or endangered under CESA. The regulations that implement the Fully Protected Species Statute (Fish and Game Code Section 4700 for mammals, Section 3511 for birds, Section 5050 for reptiles and amphibians, and Section 5515 for fish) provide that fully protected species may not be taken or possessed at any time. Furthermore, CDFW prohibits any state agency from issuing ITPs for fully protected species. CDFW will issue licenses or

permits for take of these species for necessary scientific research or live capture and relocation pursuant to the permit.

Birds of Prey

Sections 3800, 3513, and 3503 of the CDFG Code specifically protect birds of prey. Section 3800 states that it is unlawful to take non-game birds, such as those occurring naturally in California that are not resident game birds, migratory game birds, or fully protected birds, except when in accordance with regulations of the commission or a mitigation plan approved by CDFW for mining operations. Section 3513 specifically prohibits the take or possession of any migratory nongame bird as designated in the MBTA.

Section 3503 of the Fish and Game Code prohibits the take, possession, or needless destruction of the nest or eggs of any bird. Additionally, Subsection 3503.5 prohibits the take, possession, or destruction of any birds and their nests in the orders Strigiformes (owls) or Falconiformes (hawks and eagles). These provisions, along with the federal MBTA, serve to protect nesting native birds.

2.2.2 Other Bird Protections

California Fish and Game Code §3503, 3503.5, 3511, and 3513 prohibit the "take, possession, or destruction of birds, their nests or eggs." Disturbance that causes nest abandonment and/or loss of reproductive effort (killing or abandonment of eggs or young) is considered "take."

All raptors (that is, hawks, eagles, owls) their nests, eggs and young are protected under California Fish and Game Code (§3503.5). Additionally, "fully protected" birds, such as the White-tailed Kite (*Elanus leucurus*) and Golden Eagle (*Aquila chrysaetos*), are protected under California Fish and Game Code (§3511). "Fully protected" birds may not be taken or possessed (that is, kept in captivity) at any time.

Applicability to the Project

As previously mentioned, there is suitable nesting habitat on the Project site and within the zone of influence of the Project site. As such, *preconstruction nesting bird surveys are recommended to ensure nesting birds are not disturbed by Project activities*. If a nest is observed, appropriate buffers will be established by a qualified biologist and/or ornithologist to ensure that nesting birds are not impacted by project activities.

2.2.3 Native Plant Protection Act

The Native Plant Protection Act (NPPA) of 1977 was created with the intent to "preserve, protect and enhance rare and endangered plants in this State." The NPPA is administered by CDFW and provided in Fish and Game Code Sections 1900-1913. The Fish and Wildlife Commission has the authority to designate native plants as "endangered" or "rare" and to protect endangered and rare plants from take. the California ESA of 1984 (Fish and Game Code Section 2050-2116) provided further protection for rare and endangered plant species, but the NPPA remains part of the CDFG code.

Plant Communities

CDFW provides oversight of habitats (i.e., plant communities) listed as sensitive on the *California Sensitive Natural Communities List* (CDFW 2022), based on global and state rarity rankings. Natural communities are described at the alliance or association level for vegetation types affiliated with ecological sections in California as described in *A Manual of California Vegetation* (MCV; Sawyer et al. 2009). CDFW considers natural communities (i.e., alliances and/or associations) with state ranks of a S1–S3 to be sensitive natural communities (CDFW 2022a). Not all associations have been assigned global and state ranking determinations at the time of the latest updated list (July 5, 2022) of sensitive natural communities. There are no sensitive plant communities occurring within the Project boundary or BSA.

All riparian vegetation along Wildcat Creek is also regulated by CDFW through the Lake and Streambed Alteration permit process (CDFG Code Section 1602).

2.2.4 Responsible Agencies, Potential Impacts to Federally Listed Species

ESA gives regulatory authority over terrestrial species and non-anadromous fish to the USFWS. NMFS has authority over marine mammals and anadromous fish. The only federally-listed species known to potentially occur on the Project site are CCC steelhead.

There is suitable habitat on the Project site that can function as a migration corridor for CCC steelhead. With the Project implementation timing occurring outside of steelhead migration timing, the Project should not affect steelhead migration.

Thus, the Project would not result in impacts to federally listed wildlife species. Benefits to sensitive fish species should be wholly beneficial and follow the Project goals to enhance and to protect fish habitat.

3.0 METHODOLOGY

3.1 SPECIAL STATUS SPECIES

Special status species include those species listed by the Federal and State governments as endangered, threatened, or rare or candidate species for these lists. Endangered or threatened species are protected by the ESA of 1973 as amended, the California Native Plant Protection Act of 1977, and the CESA of 1970.

Special status species also include those species listed by CDFW and the USFWS as Species of Special Concern which face extirpation in California if current population and habitat trends continue. Although CDFW and USFWS Species of Special Concern generally have no special legal status, they are given special consideration under CEQA. CEQA also considers impacts to plant species on CNPS Lists 1 and 2 as special status species and impacts to these species as well as those described above to be significant. CEQA provides additional protection for unlisted species that meet the “rare” or “endangered” criteria defined in Title 14, California Code of Regulations Section 15380.

Most birds in the United States, including non-special status species, are protected by the Migratory Bird Treaty Act of 1918. Under this act destroying active nests, eggs, and young is illegal. Section 3503 of the California Fish and Game Code makes it unlawful to take, possess or needlessly destroy the nests or eggs of any bird. Section 3503.5 makes it unlawful to take or possess birds of prey (hawks, eagles, vultures, owls) or destroy their nests or eggs.

Definition of Sensitive Biological Resources

For the purpose of this BRA sensitive biological resources included the following:

1. Any species that has been Listed, proposed for listing, or a candidate for listing as threatened or endangered under the ESA;
2. Any species that has been listed or a candidate for listing as rare, threatened or endangered under the California Endangered Species Act (CESA);
3. Nesting Birds protected under the federal Migratory Bird Treaty Act as well as the California Fish and Game Code Sections 3503, 3503.5, and 3513;
4. Any species that has been listed in the Special Plants, Bryophytes and Lichens List as defined by the CNDDB (California Department of Fish and Wildlife [CDFW], 2020). This includes species of special concern, special status species, and fully protected species;
5. Any species that has been Assigned a Rare Plant Rank by the California Native Plant Society (CNPS) in the online version of its Inventory of Rare and Endangered Plants of California (CNPS 2020); and
6. Sensitive Natural Communities include natural vegetation types listed in CDFW's (2020) Natural Communities List considered to have significant conservation values that have been assigned a rank of S1, S2 or S3. Sensitive Natural Communities are protected through a regulatory framework including federal and state laws and regulations. These protections come from Section 10 of the federal Rivers and Harbors Act, sections 401 and 404 of the federal Clean Water Act, Section 1600 et seq. of the California Fish and Game Code, Section 15065 of the CEQA guidelines.

3.1.1 Literature Review

Other primary references for special status species information includes sensitive species lists and information gathered using NMFS Endangered and Threatened Species Revision of Species of Concern List, Candidate Species List, California Native Plant Society's Inventory of Rare and Endangered Plants of California, Information for Planning and Consultation (IPaC) system, CDFW CNDDB, the California Native Plant Society's (CNPS) inventory of rare and endangered plants, literature review and the USFWS.

Potentially occurring Sensitive species were identified for the Project initially using the CNDDB database using a 5-mile radius for locations of sensitive fish, plants and wildlife, along with literature searches.

CDFW maintains records for the distribution and known occurrences of special status species and sensitive habitats in the CNDDB. A list of sensitive species that have the potential to occur in the survey area was compiled based on a review of the following sources:

1. USFWS Information for Planning and Conservation (USFWS 2020);

2. Reported CNDDB occurrences of special status plants within 5 miles of the survey area (CDFW 2020) shown in Figures 3 and 4;

A list of potential special status species developed from this review is provided in **Appendix C**.

3.1.2 Site Visits

In addition to database information, a field survey of the Project site to identify sensitive flora and fauna was conducted on February 23, 2022, by biologists from FlowWest. The survey area encompassed the Project area for a total of 13 acres (**Figure 2**). All plant and animal species observed during the site visit were noted.

Field surveys consisted of walking along the existing riparian corridor walking trails paralleling Wildcat Creek on the downstream end of the concrete fish passage structure. An area 250 feet on each side of the centerline of the Creek was evaluated and continued to the Project boundary on the downstream end. The surveys focused on describing the vegetation and habitat features present in the area. No protocol level wildlife and botanical surveys were conducted, however, all plant and animal species observed during the site visit were noted. During the site assessment, plant species were recorded, no terrestrial species were noted although some ground holes indicated reptile activity (**Appendix B**), and biological communities were assessed for the potential to support special status species. Representative ground-level photographs were also taken. No sensitive plant communities were identified, and no plant species were in bloom at the time of the survey.

The wetland delineation was conducted by Vollmar Natural Lands Consulting on October 5, 2022. The field survey for the wetland delineation was done by foot, investigating topographic depressions and linear drainages identified remotely with the aerial imagery and digital elevation models (DEM) (Vollmar 2022).

The boundaries of all potential Waters were identified using the three primary parameters (vegetation, soils and hydrology), though vegetation and topographic position guided most of the perimeter mapping. Where possible, delineation data points were established along the boundaries of representative habitat types to confirm feature jurisdictional status as appropriate. A total of 11 delineation data points and three habitat check points were established throughout the 13.3-acre study area. The collection of data points followed the Routine Wetland Determination Method developed by the ACOE and described in the 1987 ACOE Wetlands Delineation Manual (Environmental Laboratory 1987) and the Interim regional supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (ACOE 2008). The boundaries of all potential jurisdictional Waters identified in the study area were mapped using sub-meter precise GPS units, as required by the ACOE (Trimble Geo7x units). In areas where topography, tree canopy cover, or the overpasses diminished GPS reception and therefore precision, points were recorded along habitat boundaries, with multiple readings for each point to increase precision. To further increase the GPS data precision, all data were differentially corrected using the nearest base station, Miller Knox, five kilometers away. Where points were recorded in lieu of

polygons, they were later connected to form polygons using Geographic Information System (GIS) software (Vollmar 2022).

In addition to formal delineation points, representative habitats were investigated as "habitat checkpoints" to support the formal delineation process. The information recorded at each feature included dominant plant species, indicators of wetland hydrology, habitat connectivity and habitat features of interest (Vollmar 2022).

All riparian habitat (3.507 acres) in the study area was identified and mapped, with the habitat being defined by vegetation occurring in association with wetlands and/or being dominated by wetland vegetation but not forming three parameter wetlands (Vollmar 2022).

4.0 RESULTS AND RECOMMENDATIONS

A summary of the field observations, database review and an evaluation of biological resources potentially occurring in the Project area are included in the following sections. Species may occur at the site that were not observed due to the time of day, seasonal timing and number of site visits. Because of these limitations, species presence potential also includes database and habitat observations.

A compilation from the database and literature review for the BSA and Project vicinity found that there are 13 special status animal species and one special status plant species identified as potentially occurring in the Project vicinity, (**Appendix C**). Where a species potential account is documented as "likely not present" or has "low or no potential to occur" this indicates that their required habitats are not present in the study area. This category includes an additional 11 special status plant and 16 wildlife species (that have low or no potential to occur).

4.1 SITE VISIT RESULTS

4.1.1 Terrestrial and Avian Wildlife Species

Almost no wildlife was observed at the time of the survey. Nesting birds were documented in the area according to CNDDB. Because of the potential for nesting due to the presence of trees and grasslands that could be used for nesting, nesting surveys should occur prior to project construction. Observations that were made included common birds such as American crow (*Corvus brachyrhynchos*) and Common Pigeon (*Columba livia*) flying over the site. No mammals, reptiles or amphibians were observed. Some burrow areas and holes were observed (**Appendix B**), but no identification of species could be made due to the lack of tracks or defining characteristics of species use or evidence of recent activity seen.

4.1.2 Aquatic Wildlife Species

During the February 23, 2022 site visit, no listed fish or resident fish species were observed. Wildcat Creek at the Project site including along the concrete portion of the channel (**Appendix E**). The concrete portion of the channel is currently a fish passage barrier due to sedimentation and trash blocking the throughway. Excessive sedimentation below the fish passage structure was also observed along almost a

1,000-foot section of the creek below the concrete structure. This section of the Creek was built as a sediment detention basin and does not provide suitable habitat for salmonids for any life stage.

4.1.3 Habitat Types and Vegetation

Approximately 2.2% of the BSA consisted of a large concrete fish passage structure constructed of concrete and engineered riprap, which conveys Wildcat Creek through the Project site. The area below the concrete structure is a sediment basin which was constructed to retain up to 13 feet deep of sediment and was designed to be desilted periodically (NHC 2015). Riparian vegetation was sparse and consisted of non-native grasses with very few trees on the north side uphill portion of the riparian corridor.

The area along the south side of Wildcat Creek, running for approximately 500 yards downstream of the concrete channel, is characterized by a habitat type of mixed riparian woodland with red willows (*Salix laevigata*), with occasional Fremont cottonwood (*Populus fremontii*), white alder (*Alnus rhombifolia*) and buckeye (*Aesculus californica*) with dense Elmleaf blackberry (*Rubus ulmifolius*) in shrub and climbing vine forms as well as some Himalayan blackberry (*Rubus armeniacus*) (Vollmar 2022).

The main habitat type in the Project area is ruderal grassland (non-native spp.), which covers 60.5% of the BSA, followed by wetlands and seasonal creek across 15.5% of the Project Site, riparian woodland for approximately 13.1% of the BSA, and riparian wetland for 8.8% of the BSA, below the concrete fish passage structure. The ruderal grassland is characterized by mostly non-native species found such as rip-gut brome (*Bromus diandrus*). Scattered trees, including a large cottonwood (*Populus fremontii*) were noted. Other common species within the valley riparian habitat and downstream of the concrete channel include arroyo willow *(Salix lasiolepis*), sandbar willow (*Salix exigua*), non-native or hybrid black walnut (*Juglans hindsii*), Oregon ash (*Fraxinus latifolia*), box elder (*Acer negundo*) and valley oak (*Quercus lobata*). Understory species include species found include: Himalayan blackberry (*Rubus armeniacus*), curly dock (*Rumex crispus*), poison hemlock (*Conium maculatum*), chicory (*Cichorium intybus*) and smooth cocklebur (*Xanthium strumarium*).

Vegetation in the vicinity of the Project Site and within the BSA has been strongly influenced by urbanization and the addition of the concrete fish passage structure and silt detention basin. Prior to urbanization, the Project site and survey area was a complex of riparian forests, valley grasslands, and off-channel floodplain. Under existing conditions only remnant examples of these plant communities occur, primarily in isolated or fragmented patches. As a result of landscape alterations, plant species in areas where these native habitats still occur have also become isolated, influenced by exotic species and in some cases extirpated.

Plant communities within the survey area riparian corridors and impact areas were classified according to the habitats defined in the California Native Plant Society's (CNPS) Inventory of Rare and Endangered Plants of California (Skinner and Pavlik, 1994). CNPS habitats observed in the survey area include valley and foothill grassland and riparian woodland. Vollmar Natural Lands Consulting identified and mapped any potentially jurisdictional Waters and other regulated habitats within the project site. The regulated habitats are shown in **Figure 4**. The wetland delineation did not map plant communities, but did map habitat types, as listed below.

Wetland Habitat Classification

- **Perennial Marsh:** The 0.233 acres of perennial marsh on the project site supports predominantly native hydrophytic vegetation and is generally defined by a linear patch of broadleaf cattail (*Typha latifolia*) that follows the northern edge of the excavated feature.
- **Riparian Wetland:** The 1.178 acres of riparian habitat extends into upland soils lacking hydric indicators.
- **Seasonal Stream/Creek:** The 0.781 acres of seasonal stream support predominantly native hydrophytic vegetation. Portions of the stream are characterized by tall Cyperus (*Cyperus eragrostis*), willow herb (*Epilobium brachycarpum*), dallis grass (*Paspalum dilatatum*), prostrate knotweed (*Polygonum aviculare*), annual bear grass (*Polypogon monspeliensis*, redtop (Agrostis stolonifera), dotted smartweed (*Persicaria punctata*) and water pepper (*P. hydropiperoides*), with isolated patches of red willow.
- **Seasonal Wetland:** The 1.045 acres of seasonal wetland support predominantly native hydrophytic vegetation. Portions of the stream are characterized by tall Cyperus (*Cyperus eragrostis*), willow herb (*Epilobium brachycarpum*), dallis grass (*Paspalum dilatatum*), prostrate knotweed (*Polygonum aviculare*), annual bear grass (*Polypogon monspeliensis*, redtop (Agrostis stolonifera), dotted smartweed (*Persicaria punctata*) and water pepper (*P. hydropiperoides*), with isolated patches of red willow.

There are also 1.74 acres mapped as riparian woodland, which does not meet the three parameter wetland test but includes riparian vegetation. A tree survey was conducted, the results of which are included as **Appendix A**. The tree survey sample includes trees that could potentially be impacted by the Project, and is not inclusive of all trees on the project site. A total of 24 trees were identified within the project impact areas, of which 22 had a diameter at breast height over 4 inches). Those trees included 14 *Salix Laevigata* (Red Willows), 1 *Salix alba* (Non-Native Willow), 4 *Populus* (Fremont Cottonwood), 4 *Quercus agrifolia* (Live Oak) and 1 dead *Alnus* (Alder).

FIGURE 4: WETLAND DELINEATIONAND RIPARIAN HABITAT MAPPED.

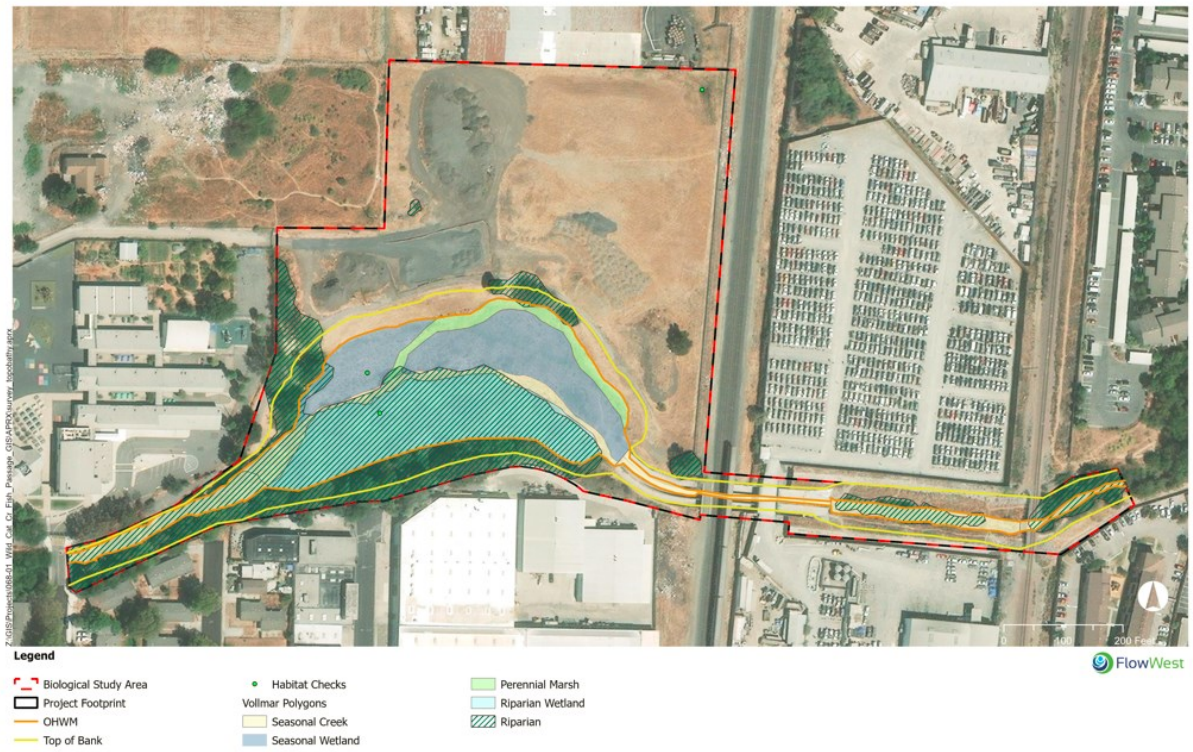


FIGURE 5: MAPPED HABITATS.

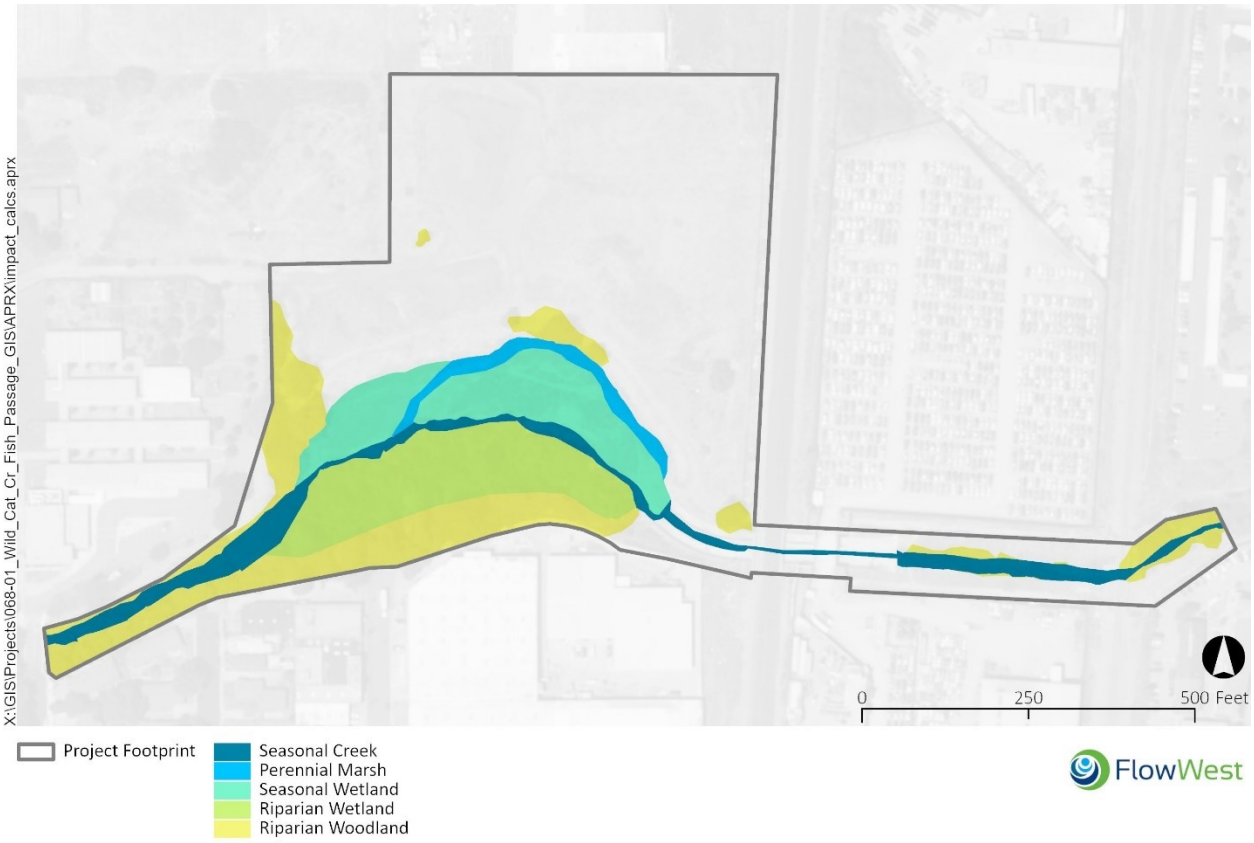


TABLE 1: TREES TO BE REMOVED SURVEY RESULTS

Tree Type	**Quantity**
Red Willow	14
Non-native Willow	1
Cottonwood	4
Live Oak	4
Alder	1

4.2 SPECIAL STATUS SPECIES AND LISTED HABITAT

Of the 41 special status species (29 animals and 12 plants) that were identified based upon field investigation and review of database and on-site habitat suitability in the vicinity of the study area (**Appendix C**), 13 special status species were somewhat likely to occur. Species that were considered likely not present based upon database review were extrapolated and eliminated from potential impacts due to extremely poor or no habitat occurring in the BSA. The special status species that were

considered to have the potential to occur might be found in stream and riparian habitats, such as those found along Wildcat Creek below the concrete fish passage structure. No sensitive natural communities are present in the area.

4.2.1 Vegetation

Special status plant species that may occur in the Project area include:

- Fragrant fritillary (*Fritillaria liliacea*)

  Fritillary are documented within 5 miles of the Project site (CNDDB 2022). Fragrant fritillary typically occur in open hilly grasslands. Habitat in the BSA is very poor and dominated by non-native annual grasses, however there is marginally suitable habitat upslope of the sediment basin. Fragrant fritillary was not observed during the BSA survey. The blooming period for this species is between February and April, and the BSA survey was conducted in late-February (CNPS 2023).

Basic conservation measures to protect sensitive plant species are outlined in Mitigation Measures.

4.2.2 Wildlife

No wildlife species were observed during the site survey. However, the riparian woodland affords minimal opportunity for various resident wildlife species that could include numerous amphibians, reptiles, small mammals, and various raptors, and songbirds. Wildlife habitats present in the site survey area were characterized by sparse riparian annual grassland and woodland habitats.

Invertebrates

Special status wildlife species that may occur in the Project area include:

- Western bumble bee (*B. occidentalis*)

Western bumble bee is a candidate species for federal listing and is eligible for state listing as threatened. There are four CNDDB reports occurrences within five miles of the BSA, however, all of them are records of collections that occurred more than 50 years ago. There have been no recent verified observations of western bumble bee in Contra Costa County. The CNDDB reports occurrences within 5 miles of the BSA, and due to bees moving from patches, there is a small possibility that the Western Bumble Bee could be present on the Project site. Habitat in the BSA is very poor, not providing feeding or reproduction sites necessary. The population size of the western bumble bee is lower than historic populations and the trend is declining. Populations crashed in the 1990s, likely due to a combination of disease and other factors.

Fish

Special status fish species that may occur in the Project area include:

- Central California Coastal (CCC) Steelhead (*Oncorhynchus mykiss*)

Wildcat Creek historically supported a small run of CCC steelhead and currently resident trout are documented both below and above Lake Anza. (Mangarella 2023) (Leedy 2015). The CCC steelhead Distinct Population Segment (DPS) was originally listed as federally threatened in 1998. The listing was later re-evaluated following the development of NMFS' hatchery listing policy. NOAA Fisheries issued a final listing determination that the DPS continues to warrant listing as a threatened species. For CCC steelhead, designated critical habitat includes the drainages of San Francisco and San Pablo Bays, including Wildcat Creek (Federal Register, 2000). EFH on the West Coast is identified in fisheries management plans (FMPs) developed by the Pacific Fishery Management Council (PFMC) and approved by the Secretary of Commerce. EFH is located in San Pablo Bay for Chinook salmon, coho salmon and California Central Coast (CCC) steelhead and includes the Project's Action area (2 miles downstream in San Pablo Bay) but not in the immediate Project implementation area on Wildcat Creek.

Habitat in the vicinity of the Project area of Wildcat Creek provides an intermittent migration corridor for resident trout up to the fish passage structure which is a barrier for trout and for CCC steelhead. These salmonids may use the Project area as a migration corridor through to the upper watershed only during rare occasions when passage is possible through the current concrete structure between September and March. The Project will be designed to afford passage during a wide range of flows. Also, habitat in the Project area is not suitable for spawning or rearing because it does not have appropriate substrate, temperatures or cover. Once the concrete structure is upgraded to be passable to CCC steelhead, the Project area would become a migration corridor for CCC steelhead. Migration corridors are part of critical habitat through physical and biological features (PBF) defined by NMFS.
One of the primary goals of the Project is to allow CCC steelhead to reach the upper portions of the Wildcat watershed, where spawning and rearing is potentially suitable. The access to the upper watershed may also help to support anadromy and re-establish a steelhead population.

- Green Sturgeon Southern DPS (*Acipenser medirostris)*

In 2006, NMFS listed the southern DPS of North American Green Sturgeon (*Acipenser medirostris)* as threatened under the U.S. Endangered Species Act (Federal Register 2006) and added designated critical habitat designation in 2009 (NMFS 2009).

Green Sturgeon are not a species designated for EFH because they are not a commercially important species. However, the Project's action area, which has potential effects that extend into the San Pablo Bay, is within critical habitat for green sturgeon[2].

PBFs for the southern DPS of the green sturgeon in the San Pablo Bay (and in the Project's action area up to the mouth of Wildcat Creek) and associated Bay habitats includes: *food resources for all life stages, water flows, water quality, migratory corridors, channel depths, and sediment quality*. Dredging, in-water construction, National Pollutant Discharge Elimination System (NPDES) activities, commercial shipping, and **habitat restoration** are identified in the final green sturgeon critical habitat rule as activities that may affect one or more PBFs through alteration of the physical parameters of the estuary. Since, as stated above, the Project has potential to increase sedimentation into San Pablo Bay (without design and protection measures), green sturgeon PBFs have potential to be adversely impacted, and are therefore included in the effects analysis here and in the Biological Resources Assessment.

Green sturgeon PBFs (for freshwater riverine systems and estuarine habitats) include:

- food resources for larval, juvenile, subadult, and adult life stages;
- water flow regime with flow magnitude, duration, seasonality, and rate-of-change supporting growth, survival, and migration of all life stages;
- water quality including temperature, salinity, oxygen content, and other chemical characteristics supporting growth and viability of all life stages.

Reptiles

Western pond turtle (*Clemmys marmorata marmorata*)

The Western pond turtle is a California Species of Special Concern. There is one CNDDB report occurrences within five miles of the BSA. It is an aquatic turtle that utilizes ponds, marshes, rivers, streams and irrigation ditches with aquatic vegetation. They prefer deep (great than two feet), quiet pools along streams. Important habitat features include basking sites and suitable upland habitat for egg-laying (sandy banks or grassy open fields adjacent to aquatic habitat). The riparian corridor has features that could serve as habitat for the Western Pond Turtle. Therefore, although they were not observed during the field survey, they could potentially occur on the Project Site.

[2] The designations of critical habitat for listed species have generally used the term primary constituent elements (PCEs). NMFS and USFWS' recently issued a final rule amending the regulations for designating critical habitat (81 FR 7414; February 11, 2016), which replaced the term PCEs with physical or biological features (PBFs). In addition, NMFS and USFWS recently issued a final rule revising the regulatory definition of "destruction or adverse modification" of critical habitat (81 FR 7214; February 11, 2016), which refers to PBFs, not PCEs. The shift in terminology does not change the approach used in conducting an analysis of the effects of the proposed action on species.

Birds

Several sensitive or locally rare bird species were determined to have the potential to nest, roost, or forage within the Project area.

Black-crowned Night-heron (*Nycticorax nycticorax*)

Black-crowned night-herons, which are on the CDFW Watch List, do not have any CNDDB recorded occurrences. Suitable habitat within the Project Site includes potential nesting habitat in the southern riparian area. Rookery sites are located adjacent to foraging areas including lake margins, mud-bordered bays and marshy spots.

Burrowing Owl (*Athene cunicularia*)

Burrowing owls, which are a species of special concern, have one CNDDB reported occurrence within five miles of the BSA. These occurrences in the vicinity are overwintering, rather than breeding, as this species breeds between February and August. Suitable habitat is present in the open ruderal vegetation of the Project Site; however, no suitable burrowing owl burrows were observed during the site visit.

Cooper's Hawk (*Accipter cooperii*)

Cooper's Hawks nest primarily in deciduous riparian forests and forage in open woodlands.

Double-crested Cormorant (*Phalacrocorax auritus*)

Double-crested Cormorants are colonial nesters on coastal cliffs, offshore islands, and along lake margins in the interior of California. This species nest along the coast on sequestered islets, usually on the ground with sloping surfaces, or in tall trees along lake margins. This species may occur on the Project Site, particularly in the tall trees adjacent to the sediment basin.

Northern Harrier (*Circus cyaneus*)

Habitat for the Northern Harrier, which are a special status species, have been reported once in CNDDB reports occurrences within five miles of the BSA. Although Northern Harrier were not observed during the site visit, they nest and forage in grasslands and shrubby vegetation, usually at the edge of marshes. Therefore, there is suitable habitat present along the sediment basin and this species may occur on the Project Site year-round.

Osprey *(Pandion haliaetus)*

Osprey breed in northern California from the Cascade Ranges south to Lake Tahoe, and along the coast south to the Bay Area. Associated strictly with large, fish-bearing waters, they are primarily in Ponderosa pine through mixed conifer habitats. Osprey are common around major estuaries and salt marshes and large lakes/rivers. Though unlikely, the proximity to the San Francisco Bay of the Project Site means that this species may occur on the Project Site. **Short-eared Owl (*Asio flammeus)***

Short-eared Owls are found in both freshwater and saltwater marshes, lowland meadows, and irrigated alfalfa fields. Short-eared owls nest and seclude themselves during the daytime in tule patches and full grass. Short-eared owls nest on dry ground in depressions concealed in vegetation. This species may

occur on the Project Site foraging in the freshwater marsh areas and during nesting season in the ruderal grassland.

Snowy Egret (*Egretta thula)*

Snowy egrets are categorized as a California Special Animal. They are colonial nesters with nest sites situated in protected beds of dense tules. Rookery sites are situated close to foraging areas. Found in marshes, tidal-flats, streams, wet meadows, and borders of lakes. Though no tules are present and thus no suitable nesting habitat, foraging habitat exists on the Project Site for the Snowy egret.

White Tailed Kite (*Elanus caeruleus*)

White Tailed kites can be found in marshes in the San Francisco Bay Area and can nest near the top of dense willow stands (CDFW 2005). For these reasons, suitable foraging and nesting habitat exists on the Project Site in the marsh habitat and within the riparian woodlands in the south end of the sediment basin, respectively.

Though no special status bird species were observed, the presence of habitat in the Project site includes all of the above as species to be considered present. The listed nesting bird species above are documented within 5 miles of Project site (CNDDB 2022).

Mammals

Hoary Bat (*Lasuirus cinereus*)

Within the Project Site, mature riparian trees and annual grassland may provide suitable roosting and foraging habitat for bats, including the hoary bat and other native bat species. Hoary Bat (*Lasuirus cinereus*) have been located once in CNDDB; however, bats tend to be under-reporting in CNDDB sightings due to nocturnal activity. Hoary Bats roost in foliage under overhanging leaves, particularly in riparian areas. Females raise pups solitarily or in very small groups, and may move their young among multiple roost locations. Crevice and cavity-roosting bats such as pallid bat, big brown bat (Eptesicus fuscus), and several species of myotis bats (Myotis spp.) may use any available cracks or holes in trees as roosting habitat, in addition to the bridge structures in and adjacent to the Project Site. In addition to roosting habitat, bats may forage for insects almost anywhere in the Project area. No sign of roosting bats was observed during the site visit; however, a thorough bat roost survey was not conducted. Bats could be roosting in the bridges or trees in the Project area.

4.3 EFFECTS DETERMINATION FOR FEDERALLY-LISTED SPECIAL STATUS SPECIES

This section is specifically focused on evaluating the impacts on the two federally-listed species that could be affected by the Project, satisfying the requirements of a Biological Assessment. The potential effects of the Project on listed species under NMFS jurisdiction are evaluated in this section and in the EFH/Critical Habitat Technical Memorandum (Appendix F). Those species include the CCC Steelhead and Southern DPS Green Sturgeon.

4.3.1 Central California Coast Steelhead

Potential adverse effects could occur to CCC Steelhead if they are migrating upstream into spawning habitat or downstream to rearing habitat during project activities. However, it should be noted that

steelhead have not been documented in recent years migrating upstream past the Project site flood control structure. The data, though not absolute, is a good indication that occurrences of adult steelhead are very rare, and that most *O. mykiss* observed are possibly resident rainbow trout. Additionally, the overarching goal of the Project is to allow *O. mykiss* to re-establish in Wildcat Creek's upper watershed where spawning and rearing can occur.

To reduce potential Project impacts to the listed fish species, mitigation measures will be in place to reduce the impacts to less than significant, which are described in Section 5.0 Avoidance and Minimization Measures. The Project implementation will avoid adverse effects to CCC steelhead due to the following:

(1) The Project work window is scheduled for a period when Wildcat Creek does not have flow, so no fish will be in the Creek. No temporary turbidity impacts will occur to downstream critical habitat from any project construction related sedimentation because of the work window as well;
(2) The Project's design includes improvement in the capacity of the sediment basin such that more sediment will be retained in the basin, reducing sedimentation at and below the Project Action Area of Wildcat Creek;
(3) Riparian habitat will be improved in the Project vicinity due to a decrease in trapped sediment; and
(4) The PBF "freshwater migration corridor" will be improved with the implementation of the Project, providing more passage opportunities at a larger range of flows.

By avoiding times when CCC Steelhead could be present due to the lack of water in the channel, and by providing long-term improvements to habitat conditions for CCC Steelhead, the Proposed Action will avoid adverse effects to CCC Steelhead. Therefore, the Proposed Action may affect, but is not likely to adversely affect, CCC Steelhead.

4.3.2 Southern Distinct Population Segment Green Sturgeon

Critical habitat for green sturgeon is found in San Pablo Bay but does not include Wildcat Creek's mainstem corridor. Although Green Sturgeon critical habitat is found in the San Francisco/San Pablo Bays and estuaries, the mouth of Wildcat Creek and the creek itself do not support PBFs (appropriate temperatures and water quality) necessary for Green Sturgeon.

Impacts to Green Sturgeon could occur if project sedimentation affected downstream critical habitat in San Pablo Bay. However, the effects from sedimentation to the mouth of Wildcat Creek where it flows into San Pablo Bay will be insignificant due to the following factors:

1. The Project will be implemented when Wildcat Creek is dry, so no sediment will be transported "downstream" during Project construction; and
2. Mitigation measures will be put in place to reduce impacts from sediment to be insignificant (not measurable levels in terms of delta Δ) levels when the channel is rewetted; and
3. Through design features that increase the capacity of the sediment basin, sedimentation will be reduced downstream when the channel is rewetted.

The lack of PBFs to support Green Sturgeon means that Green Sturgeon are not present in Wildcat Creek. Downstream effects to Green Sturgeon habitat in San Pablo Bay would be beneficial through the overall decrease in sedimentation. Therefore, the Proposed Project would have no effect on Green Sturgeon.

5.0 AVOIDANCE AND MINIMIZATION MEASURES

The presence of special status species would trigger the need for additional best management practices and mitigation measures, outlined below in Section 4.1. Species-specific avoidance and minimization measures. Before implementing these measures, the County would implement **Mitigation Measures BIO-1 and BIO-2** in order to avoid and minimize impacts to plant, fish and wildlife species.

MITIGATION MEASURE BIO-1: General Construction-related Mitigation Measures

The following best management practices/avoidance and minimization measures would be used for protection of the biological resources within the BSA.

- Worker Environmental Awareness Training (WEAT): Prior to the start of construction in each year, construction personnel shall be trained by a qualified biologist on all required avoidance and minimization measures as well as permit requirements.
- Preconstruction surveys for all special status and common wildlife species shall be conducted within the Project area by a qualified biologist immediately prior to equipment or material staging, pruning/grubbing, or surface-disturbing activities. The qualified biologist shall search aquatic vegetation, the water's surface, leaf litter, logs, snags, and other habitat features for special status and common wildlife species. If species are found, individuals shall be relocated outside of the Project area if the qualified biologist is permitted to do so by all regulatory agencies and determines that relocation is warranted. Although not expected, this includes dewatering activities. If water diversion systems are implemented, a qualified biologist shall be on site to relocate all fish, turtles, invertebrates, and other wildlife observed outside of the work area.
- Prior to start of construction, temporary high visibility ESA fence shall be placed at the upstream and downstream ends of the Project Site and placed along the southern riparian area to exclude the ESA. The limits shall be staked by a qualified biologist.
- The District shall require the contractor to prepare a Stormwater Pollution Prevention Plan (SWPPP) for construction activities according to the National Pollutant Discharge Elimination System (NPDES) Construction General Permit as required under Section 402 of the Clean Water Act. The SWPPP shall identify water pollution control measures and construction-waste containment measures to be implemented during and after project construction, including but not limited to:
    - Trash generated by the Project shall be promptly and properly removed from the site daily.
    - Appropriate erosion control measures (e.g., fiber rolls, filter fences, hydroseeding of exposed soils, and mulching) shall be used on site to reduce siltation and runoff of contaminants into jurisdictional waters. Filter fences and mesh shall be of material that shall not entrap reptiles and amphibians. Fiber rolls shall not contain plastics of any

kind. Erosion control blankets shall be used as a last resort because of their tendency to biodegrade slowly and to trap reptiles and amphibians.
    - No erodible materials shall be deposited into watercourses. Brush, loose soils, or other debris material shall not be stockpiled within stream channels or adjacent to the basin.
    - Active construction areas shall be watered regularly.
    - Dredged sediments shall be managed during construction.
    - A hazardous materials management plan will describe the actions that shall be taken in the event of a spill that could potentially impact jurisdictional waters. Adequate spill containment materials, such as hazardous material absorbent pads and similar materials, shall be available on site at all times. The plan also shall incorporate preventive measures to be implemented (such as vehicle and equipment staging, cleaning, maintenance, and refueling) and contaminant (including fuel) management and storage.
- All excavated steep-walled holes and trenches more than six inches deep shall be covered with plywood (or similar material) or provided with one or more escape ramps constructed of earth fill or wooden planks at the end of each work-day or 30 minutes prior to sunset, whichever occurs first. All steep-walled holes and trenches shall be inspected by the approved biologist each morning to ensure that no turtles or other wildlife has become entrapped. All construction pipes, culverts, similar structures, construction equipment, and construction debris left overnight shall be inspected for presence of wildlife by a WEAT-trained construction monitor prior to being moved.
- All slash materials (limbs, branches, and other woody debris) resulting from tree removal activities shall be removed from the Project Site and properly disposed of at an off-site location.
- Temporarily affected areas shall be restored to pre-Project conditions. Before October 31 and/or immediately after construction is complete, all exposed soils shall be stabilized to reduce the effects of erosion.

MITIGATION MEASURE BIO-2: Invasive Species Prevention

To prevent the accidental introduction of new invasive species into the Project Site during construction, the District will require that the Project construction contractor implement the following control measures:

1. Only certified noxious weed-free erosion control materials shall be used. All straw and seed material shall be certified as weed-free prior to being used at the Project Site.
2. Contractor shall wash all construction equipment prior to bringing it onto the job site. Inspection shall ensure that equipment arrives on site free of mud and seed-bearing material.
3. Any reseeding of disturbed soil areas and newly constructed slopes shall use an appropriate native seed mix as specified in the plans and specifications.

5.1 SPECIES-SPECIFIC AVOIDANCE AND MINIMIZATION MEASURES

5.1.1 Vegetation

Fragrant fritillary (*Fritillaria liliacea*)

There would be no decrease in the suitable habitat area along the sediment basin in which fragrant fritillary could be established. Although access ramps and training berms would be constructed, the operation of the sediment would not change. The expanded sediment basin's slopes would be re-seeded with a native grass mix after construction but would remain in a similar condition as marginally suitable habitat for fragrant fritillary. Therefore, construction and operation of the Project would have no direct or indirect impact through destruction of habitat for fragrant fritillary. Measures to protect sensitive plant species are outlined in 4.0 Avoidance and Minimization Measures, and general protection measures for plants are included in Mitigation Measure BIO-3.

MITIGATION MEASURE BIO-3: Riparian Vegetation Protection

1. A riparian protection zone shall be established around all established vegetation in the southern portion of the existing sediment basin, coincident with the most recent sediment clearing boundary, with the exception of those trees and soil necessary to remove for building the training berm. This boundary would be established on design sheets and plan sets, as well as with protective temporary fencing placed in the field.
2. A qualified restoration biologist or botanist will create a seed and plant palette appropriate for reestablishing impacted vegetation.

5.1.2 Western Bumble Bee

The disturbance of the sediment basin itself and its northern banks and slopes could disturb bee and bee habitat. Additionally, although no focused surveys have been conducted to date, the site is within the range for the species, and the annual grassland areas with small mammal burrows provide potentially suitable underground nesting habitat. Impacts to western bumblebee habitat will be minimized and/or avoided by restoration of temporarily impacted areas with native plants, and through implementation Mitigation Measure BIO-2: Western Bumble Bee Mitigation Measures. To avoid impacts on the Western Bumble Bee, the following mitigation measure shall be implemented:

MITIGATION MEASURE BIO-4: Western Bumble Bee Mitigation Measures

1. Preconstruction Survey: A qualified biologist shall conduct a preconstruction survey 30 days prior to the onset of work. The pre-construction survey effort shall be conducted for a minimum of one hour. If bumble bees of any species are observed, they shall be photographed for identification following the USFWS guidance in Standardized Bee Photography in the Survey Protocols for the Rusty Patched Bumble Bee (*Bombus affinis*) (USFWS 2019). If construction begins between March 1 and November 1, the ground shall also be searched during the survey for active bumble bee colonies.
2. No capture or handling of bumble bees is allowed without formal State take authorization. If individual western bumble bees are observed during preconstruction surveys, in consultation with CDFW, they shall be avoided to ensure no "take" occurs. This may require biological monitoring or avoidance buffers until the bees have left the work area. If western bumble bee colonies are identified, these colonies shall be demarcated with a flagged avoidance buffer, as determined by a qualified biologist and shall be avoided during the active season from March 1

through November 1, or until the qualified biologist, in consultation with CDFW, has determined that the colony is no longer active. All sightings of western bumble bee shall be reported to the CNDDB.

5.1.3 Fish

The Project may require work within the active channel of Wildcat Creek or introduce sediment during construction. It is very unlikely or discountable that impacts to listed salmonids and sturgeon would occur due to:

1. The timing of the Project implementation (outside of the migration window).
2. Very rare occurrences of CCC coho, Chinook salmon, steelhead, and Green Sturgeon (only 1 salmonid documented in this area of Wildcat Creek in 10 years) (Pers. Comm. NMFS 2022).
3. Though the project does include disturbance and removal of vegetation that is currently holding sediment in place in the sediment basin, under existing conditions, vegetation is removed and sediment displaced during high flow events. Despite this, mitigation measures will be put in place to reduce the impacts of downstream sedimentation on species such as Green Sturgeon. Best Management Practices and Mitigation Measures would be in place to reduce any sediment effects. Mitigation Measure BIO-1 would reduce impacts from accidental spills of fuel, oils and chemicals, and **Mitigation Measure BIO-5** would ensure that riparian plants would be used to the extent feasible to reduce erosion and associated turbidity impacts downstream of the Project area to protect aquatic species.

MITIGATION MEASURE BIO-5: Best Management Practices for Fish

The Project shall limit in-water construction to the period between June 1 and October 31 to avoid the spawning season. The Project proponent shall obtain and comply with the requirements of the Section 404 permit issued by the U.S. Army Corps of Engineers and the Programmatic Biological Opinion for steelhead issued by National Marine Fisheries Service.

Implementation of these mitigation measures would ensure that the direct and indirect impacts of the Project are appropriately minimized. This would make these impacts less than significant with mitigation incorporated.

5.1.4 Western Pond Turtle

If western pond turtle adults, young, or their nests are present during construction, they could be harmed by construction activities. In particular, work in the sediment basin and on its banks could result in direct impacts to individuals and nests. To avoid impacts on the Western Pond Turtle, the following avoidance and minimization measures shall be implemented:

MITIGATION MEASURE BIO-6: Construction Monitoring for Western Pond Turtles

1. If any turtles or turtle nests are found during preconstruction surveys, a qualified and permitted biologist shall flag the site and determine whether construction activities can avoid affecting the nest. If the nest cannot be avoided, in consultation with CDFW, a no-disturbance buffer zone may be established around the nest until the young have left the nest. If weather conditions

prevent implementation of construction beyond two days after completion of turtle surveys, re-survey for this species shall be completed.

2. Once a temporary high visibility ESA fence is installed within the Project Site and all vegetation has been cleared, a designated construction monitor (trained by the qualified biologist), shall inspect the work area for western pond turtles anytime work activity ceases for two days or more. If a western pond turtle is observed by the construction monitor in the immediate work area, no work shall commence in the area of the sighting until the turtle has moved out of harm's way or the qualified biologist has arrived at the site and relocated the turtle.

5.1.5 Nesting Birds

Migratory birds, burrowing owl, raptors

Burrowing owls, which are a species of special concern, may use the project site for nesting and foraging. Burrowing owls may be adversely affected if active nest sites are either removed or exposed to a substantial increase in noise or human presence during construction activities. See Mitigation measures above for Burrowing Owl. Most nesting birds are also protected by the Migratory Bird Treaty Act (MBTA). Project-related disturbance resulting in the loss or abandonment of an active nest would be considered a potentially significant impact.

To avoid impacts on nesting birds and raptors, Mitigation Measure BIO-7 shall be implemented.

Mitigation Measure BIO-7: Migratory Birds and Raptors Construction Measures

1. To the extent feasible, tree removal shall be conducted outside the nesting season (which occurs between February 15 – August 31) for migratory birds and raptors.
2. A preconstruction nesting bird survey, shall be conducted by a qualified biologist prior to construction activities that take place during the nesting season (February 15-August 31) including any removal of vegetation at the Project Site. If all Project work is conducted during this work window, preconstruction surveys would only be required for wintering burrowing owls and not nesting birds. The survey shall be conducted no more than 7 days prior to the start of construction. Buffers will be placed around any nests that are found during the survey, in consultation with CDFW. No work shall be conducted within the buffers until the qualified biologist has determined that the nesting attempt is complete. Buffers for songbird nests are generally on the order of 50 to 100 feet and for raptors on the order of 250 to 500 feet, with the precise distance determined by the qualified biologist conducting the preconstruction survey based on species, nest site characteristics, and the acclimation of the nesting birds to disturbance.
3. If Western Burrowing Owl burrows are found, a qualified biologist shall flag the site and in consultation with CDFW, determine whether construction activities can avoid affecting the nest. If the nest cannot be avoided, in consultation with CDFW, a no-disturbance buffer zone and monitoring plan would be established.

TABLE 2: GUIDELINES FOR ACTIVITIES AROUND OCCUPIED BURROWING OWL NESTS.

Location	Time of Year	Level of Disturbance		
		Low	Med	High
Nesting sites	April 1-Aug 15	200 meters	500 meters	500 meters
Nesting sites	Aug 16-Oct 15	200 meters	200 meters	500 meters
Nesting sites	Oct 16-Mar 31	50 meters	100 meters	500 meters

5.1.6 Hoary Bat, Other potential bat habitat

Mature trees and annual grassland may provide suitable roosting and foraging habitat for the hoary bat and other native bat species. Native bat species may be adversely affected by project activities if active maternity roost sites are removed or exposed to substantial increase in noise or human presence during project construction activities. Although the hoary bat is not listed under the CESA, it is included in CDFW's Special Animals list. Species on this list are considered to be those of greatest conservation need by the CDFW. Project related disturbance resulting in the loss or abandonment of an active roost would be considered a potentially significant impact. Project construction could have direct impact on roosting bats, and increased noise and human presence from project construction could result in indirect impacts on roosting bats in the BSA through modifications to behavior resulting in lower breeding success, including the loss or abandonment of an active roost. The removal of specific trees could impact bats if active roosts are present in those trees.

To avoid impacts on roosting bats and maternity colonies, the following avoidance and minimization measures shall be implemented:

Mitigation Measure BIO-8: Roosting Bats and Maternity Colonies Mitigation Measures

1. Roosting bat habitat assessments and preconstruction surveys shall be conducted to ensure the absence of roosting bats before construction, as detailed below. Prior to the start of construction, a bat habitat assessment shall be conducted to identify suitable bat roosting habitat including bridges, snags, rotten stumps, and trees with broken limbs, exfoliating bark, cavities, etc. This shall be done within 30 days. Potential roosting habitat shall be avoided to the maximum extent practicable. If no suitable roost sites are identified, no further minimization measures are necessary.
2. If suitable roosting habitat is identified and shall be disturbed by presence and noise of equipment and workers for more than two hours, a qualified biologist shall be present to monitor the bat roosting habitat and will stop work if any disturbance to bats is detected and contact CDFW for further guidance.
3. If suitable roosting habitat is identified and shall be removed by the Project, such as from tree removal, a qualified biologist shall survey potential suitable roost sites immediately prior to the removal. If any sign of roosting bats or observation of individual bats is observed, the roost shall be removed in coordination with CDFW or according to permit conditions. Typical removal methods include first removing nonhabitat features such as limbs smaller than 3 inches in

diameter. The tree is left overnight to allow any bats using the tree/snag to find another roost during their nocturnal activity period. A qualified biologist would survey the trees/snags a second time the following morning prior to felling and removal.

Implementation of these mitigation measures would ensure that the direct and indirect impacts of the Project are appropriately minimized. This would make these impacts less than significant with mitigation incorporated.

6.0 REFERENCES

California Department of Fish and Wildlife (CDFW). 2020. California Natural Diversity Database: Rarefind 5. Available online at: http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp.

California Department of Fish and Wildlife. County of San Diego Sanitation District: Los Coches Sanitary Sewer Improvements from Maintenance Hole LSMH0555 to LSMH0599 (PROJECT) MITIGATED NEGATIVE DECLARATION (MND) SCH# 2020060316, San Diego County. Viewed online at: https://files.ceqanet.opr.ca.gov/262563-2/attachment/JdNjwNIGZUMxLvGhBE-oU3-Hitfct5fg3Gu1KJs7xC9sUBriqB3bpvU70eA0PcqTmu6BsEyiQ208guRn0. Accessed: Feb. 21, 2022.

California Department of Fish and Wildlife. Zmay 3-Lot Minor Subdivision, Grading Permit and Resource Management Permits, Initial Study/Mitigated Negative Declaration, SCH #2020019052, San Mateo County. Viewed online at: https://files.ceqanet.opr.ca.gov/258585-2/attachment/ovjpUMxydIsFU2FBYNJ4q4hUwfe_Cgf_zGT_F6Uc9CGJSn6of14SoqiCM3KZ_gXs-0Vnam5jQZjx6oNn0. Accessed: Feb. 21, 2022.

California Department of Fish and Wildlife. 2005. California Wildlife Habitat Relationships System. California Department of Fish and Wildlife - California Interagency Wildlife Task Group. Available at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=1659#:~:text=Nest%20placed%20near%20top%20of,meets%20water%20requirements%20from%20prey. Accessed March 13, 2024.

California Native Plant Society (CNPS). 2020. Online Inventory of Rare and Endangered Plants of California. Search for the Niles and Altamont Quadrangles. Available online at: http://www.cnps.org/cnps/rareplants/inventory/.

Collins, L. M.; Grossinger, R. M.; McKee, L. J. .; Riley, A.; Collins, J. N. 2001. Wildcat Creek Watershed: A Scientific Study of Physical Processes and Land Use Effects. SFEI Contribution No. 363. San Francisco Estuary Institute: Richmond, CA.

Federal Register. 2000. Designated critical habitat: critical habitat for 19 evolutionarily significant units of salmon and steelhead in Washington, Oregon, Idaho, and California. 7764, Vol. 65, No. 32, Rules and Regulations. Final rule. Department of Commerce, National Oceanic and Atmospheric Administration and National Marine Fisheries Service, Wednesday, February 16, 2000.

Federal Register. 2006. Endangered and Threatened Wildlife and Plants: Threatened Status for Southern Distinct Population Segment of North American Green Sturgeon. 17757, Vol. 71, No. 67, Rules and Regulations. Final Rule. Department of Commerce, National Oceanic and Atmospheric Administration and National Marine Fisheries Service, Wednesday, April 7, 2006.

Leidy, R.A.; G.S. Becker; B.N. Harvey (2005). Historical distribution and current status of steelhead/rainbow trout (Oncorhynchus mykiss) in streams of the San Francisco Estuary, California (PDF) (Report). Oakland, California: Center for Ecosystem Management and Restoration. p. 30. Retrieved 2012-02-02.

Miles S. R. and Charles B. Goudey. 1997. Ecological Subregions of California. United States Department of Agriculture, Forest Service, Pacific Southwest Region. Publication R5-EM-TP-005. San Francisco, CA.

National Oceanic and Atmospheric Administration National Marine Fisheries Services (NOAA). 1996. NOAA Technical Memorandum NMFS-NWFSC-27, Status Review of West Coast Steelhead from Washington, Idaho, Oregon, and California. http://www.nwfsc.noaa.gov/publications/techmemos/tm27/tm27.htm

Natural Resources Conservation Service (NRCS). 2020. Official Soil Series Descriptions. https://soilseries.sc.egov.usda.gov/

NHC. 2011. Wildcat Creek Fish Ladder Retro-fit: Existing Conditions Report.

National Marine Fisheries Service. 2009. Designation of Critical Habitat for the threatened Southern Distinct Population Segment of North American Green Sturgeon Final Biological Report. https://repository.library.noaa.gov/view/noaa/18683. Accessed February 27, 2024.

Personal Communication between Gretchen Umlauf and with NOAA Fisheries Analyst. 2022a.

Personal Communication between Ariel Frink and with Gus Amirzehni. 2022b.

United States Department of Agriculture. (USDA). 2006. Land Resource Regions and Major Land Resource Areas of the United States, the Caribbean, and the Pacific. United States Department of Agriculture Handbook 296.

Urban Creeks Council (26 April 2010). Wildcat Creek Watershed Restoration Action Plan (PDF) (Report). Retrieved 4 February 2012.

U.S. Fish and Wildlife Service (USFWS). 2019. Survey Protocols for the Rusty Patched Bumble Bee. Available online at: https://www.fws.gov/sites/default/files/documents/Survey_Protocols_RPBB_12April2019.pdf

USFWS. 2020. Information for Planning and Conservation. Available online at: https://ecos.fws.gov/ipac/.

USACE. 2000. Draft Section 1135 Investigations for Wildcat Creeks San Francisco Wildcat Creek, WES Study Report

Vollmar. 2003. Delineation of Aquatic Features Wildcat Creek Fish Passage and Community Engagement Project.

Western Monarch County. 2022. Find an Overwintering Site. Available online at: https://www.westernmonarchcount.org/find-an-overwintering-site-near-you/

Web

https://thewatershedproject.org/bringing-steelhead-to-east-bay-streams/

APPENDIX A. Wildcat Creek Fish Passage Project – Observed Plant Species

Willow spp.

Water Horsetail

Curly dock

Cyperus

Willow general

Silver poplar

Elm leaf blackberry

Appendix B. Wildcat Creek Project – Wildlife observations

November 1st Site Visit – Bird Observations

2:30 PM, 57 Degrees. Cloudy skies, rain earlier in the day

Birds Observed:

- American crow (*Corvus brachyrhynchos*)
- Common Pigeon (*Columba livia*)
- Turkey Vulture (*Cathartes aura*)
- Cooper's Hawk (*Accipiter cooperii*)
- House Finch (*Amadina erthrocephala*)
- Gull, likely Common or Herring (*Larinae*)
- White-crowned sparrow (*Zonotrichia leucophrys*)
- American Bushtit (*Psaltriparus minimus*)

APPENDIX C. Special Status Species

Special status species are indicated as such in the database references and CNDDB searches.

TABLE C1: SPECIAL STATUS WILDLIFE SPECIES IN VICINITY OF PROJECT SITE (CNDDB 2022).

SPECIES	STATUS FED/STATE	HABITAT	OCCURRENCE ON THE PROJECT SITE
Special Status Species that May Occur			
Invertebrates			
Western bumble bee (*Bombus occidentalis*)	--/--	Occupy a wide range of habitats; prairies, meadows, mountainous ranges, savannas, agricultural landscapes, wetlands, and even urbanized areas. No critical habitat designated.	May occur.
Wildlife			
Western pond turtle (*Clemmys marmorata marmorata*)	--/CSC	Aquatic turtle of ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Needs basking sites and suitable upland habitat for egg-laying (sandy banks or grassy open fields). Permanent and intermittent waters of rivers and creeks. No critical habitat designated.	May occur.
Hoary bat (*Lasuirus cinereus*)	--/--	Prefers open habitats with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. No critical habitat designated.	May occur.
Birds			
Black-crowned night-heron (*Nycticorax nycticorax*) [Nesting]	--/--	Colonial nester, usually in trees but occasionally in tule patches. Rookery sites are located adjacent to foraging areas including lake margins, mud-bordered bays and marshy spots.	May occur.

SPECIES	STATUS FED/STATE	HABITAT	OCCURRENCE ON THE PROJECT SITE
		Habitat includes fresh/salt water, rivers	
Burrowing owl (*Athene cunicularia*)	BCC/CSC	Overwintering in the area, found in open dry annual or perennial grasslands, deserts and scrublands characterized by low growing vegetation.	May occur.
Cooper's hawk (*Accipiter cooperii*) [nesting]	--/WL	Nests primarily in deciduous riparian forests; forages in open woodlands	May occur.
Double-crested cormorant (*Phalacrocorax auritus*) [rookery site]	--/WL	Colonial nester on Coastal cliffs and offshore islands and along lake margins in the interior of the state. Nests along coast on sequestered islets, usually on ground with sloping surface, or in tall trees along lake margins.	May occur.
Northern harrier (*Circus cyaneus*) [Nesting]	--/SCC	Coastal salt marsh and freshwater marsh; nests and forages in grasslands; nests on ground in shrubby vegetation, usually at marsh edge.	May occur.
Osprey (*Pandion haliaetus*) [Nesting]	--/WL	Breeds in northern California from the Cascade Ranges south to Lake Tahoe, and along the coast south to the Bay Area. Associated strictly with large, fish-bearing waters, primarily in Ponderosa pine through mixed conifer habitats. Common around major estuaries and salt marshes, large lakes/rivers.	May occur.
Short-eared owl (*Asio flammeus*) [Nesting]	--/CSC	Found in marshes, both freshwater and salt; lowland meadows; irrigated alfalfa fields. Tule patches/full grass needed for nesting and daytime seclusion. Nests on dry ground in a depression concealed in vegetation.	May occur.

SPECIES	STATUS FED/STATE	HABITAT	OCCURRENCE ON THE PROJECT SITE
Snowy egret (*Egretta thula*)	--/--	Colonial nester with nest sites situated in protected beds of dense tules. Rookery sites are situated close to foraging areas. Found in marshes, tidal-flats, streams, wet meadows, and borders of lakes.	May occur.
White-tailed kite (*Elanus caeruleus*) [nesting]	--/CFP	Open grassland and agricultural areas throughout Central California. They have been sighted along the SF Bay and have been seen along WC creek corridor. No critical habitat designated.	May occur.
Fish			
Green Sturgeon, Southern DPS (*Acipenser medirostris*)	Threatened	Critical Habitat is designated for Green Sturgeon approximately 1 mile downstream from the BSA. The project site does not provide suitable habitat for Green Sturgeon, which are mostly seen from inshore waters to 200 feet, primarily in the seawater and mixing zones of bays and estuaries.	Likely not present. However, project activities could impact habitat downstream.
Central California Coastal Steelhead (*O. mykiss*)	FE/CE	Steelhead spawn in streams that are narrow, shallow, clear, and cold with a strong upwelling of water through the gravel. No critical habitat designated on Wildcat Creek.	May occur. Seasonally occurs during migration and winter/spring rearing. Only occurs when fish passage is possible.
Special Status Species Likely not Present			
Invertebrates			
Obscure bumble bee (*Bombus caliginosus*)	--/--	Found in Coastal areas from Santa Barbara County north to Washington State.	Likely not present.
Bridge's Coast Range shoulderband (*Helminthoglypta nickliniana bridgesi*)	--/--	Inhabits open hillsides of Alameda and Contra Costa Counties. Tends to colonize under tall grasses and weeds	Likely not present.

SPECIES	STATUS FED/STATE	HABITAT	OCCURRENCE ON THE PROJECT SITE
Monarch butterfly (*Danaus plexippus*)	--/CR	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress) with nectar and water sources nearby. Nearest roost site is 2.2 miles to the north (Western Monarch Count 2022).	Likely not present.
Wildlife			
***California Red-Legged Frog (Rana draytonii*)**	--/CSC	Moderate suitable habitat is present in Wildcat and San Pablo Creeks. Inhabitant of moist, lower elevation forests and requires both aquatic breeding habitats and terrestrial foraging habitats. The frogs breed in ponds, ditches, springs, marshes, margins of large lakes, and slow-moving portions of rivers	Likely not present. No CNDDB occurrences are documented within five miles of the project area.
Pallid bat (*Antrozous pallidus*)	--/CSC	Roosts primarily in oak woodland and ponderosa pine habitats; forages in open areas.	Likely not present. This species only occurs in arid or semi-arid habitats, of which there are none on the Project site.
Salt marsh harvest mouse (*Reithrodontomys raviventris*)	FE/CE,CFP	Inhabits saline emergent wetlands in the San Francisco Bay and its tributaries. Pickleweed is the primary habitat.	Likely not present. This species only occurs in salt marshes, of which there are none on the Project site.
Salt-marsh wandering shrew (*Sorex vagrans halicoetes*)	--/CSC	Found in salt marshes on the south end of San Francisco Bay in medium high marsh 6-8 feet above sea level where abundant driftwood is scattered among pickleweed (Salicornia).	Likely not present. This species only occurs in salt marshes, of which there are none on the Project site.
San Pablo vole (*Microtus californicus sanpabloensis*)	--/CSC	Found in salt marshes of San Pablo Creek on the south shore of San Pablo Bay. Constructs burrow in soft	Likely not present. This species only occurs in salt marshes, of which there are none on the Project site.

SPECIES	STATUS FED/STATE	HABITAT	OCCURRENCE ON THE PROJECT SITE
		soil. Feeds on grasses, sedges and herbs. Forms a network of runways leading from the burrow	
Birds			
Ridgway's (California clapper) rail (*Rallus obsoletus obsoletus*)	FE/CE,CFP	Found in saltwater marshes traversed by tidal sloughs in the vicinity of San Francisco Bay; associated with abundant growths of pickleweed; feeds on mollusks obtained from mud bottomed sloughs.	Likely not present. This species only occurs in salt marshes, of which there are none on the Project site.
California black rail (*Laterallus jamaicensis coturniculus*)	BCC/CT,CFP	Mainly inhabits saltmarshes bordering larger bays. Occurs in tidal salt marsh with dense growths of pickleweed; also occurs in freshwater and brackish marshes	Likely not present. No marsh habitat in project site.
San Pablo Song Sparrow (*Melospiza melodia samuelis*)	BCC/CSC	Tidal, brackish or salt marshes inSan Pablo Bay.	Likely not present. This species only occurs in tidal salt marshes, of which there are none on the Project site.
Saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*)	--/--	Suitable freshwater and salt marshes with nearby willow thickets. Nests in marshy areas that are usually higher off the ground, where they are safer from flooding.	Likely not present. This species only occurs in tidal salt marshes, of which there are none on the Project site.
Fish			
Longfin Smelt (*Spirinchus thaleichthys*)	FC/CT, CSC	In California, Longfin Smelt have been commonly collected from San Francisco Bay, Eel River, Humboldt Bay and Klamath River. As they mature in the fall, adults found throughout San Francisco Bay migrate to brackish or freshwater in Suisun Bay, Montezuma Slough, and the lower reaches of the Sacramento and San Joaquin Rivers. Spawning probably takes place in freshwater	Likely not present. No occurrences in WC area, typically found in perennial larger rivers.

Sources	Status Codes	Occurrence
1 California Natural Diversity Database (CDFW 2020)	E – Endangered, T – Threatened, R – Rare, SS – Special Status, SSC (or CSC) – Species of Special Concern, WL – Watch List,	Present: The species has been reported or is known to occur in the survey area or along Wildcat Creek in the Project Area - immediately adjacent to the survey area.
2 Inventory of Rare and Endangered Plants of California (CNPS 2020)	1A – Presumed extirpated in California and either rare or extinct elsewhere,	Likely to Occur: There are no reported occurrences in the survey area, but the species has been reported within five miles of the site and good to high quality habitat is present in the survey area or along the Project Area immediately adjacent to the survey area.
3 Information for Planning and Conservation (USFWS 2020)	1B – Rare, threatened, or endangered in California and elsewhere,	May Occur: There are no reported occurrences in the survey area, but the species has been reported within five miles of the site and moderate quality or limited habitat is present in the survey area or along the Project Area immediately adjacent to the survey area.
	2B – Rare, threatened, or endangered in California, but more common elsewhere, 4 – Limited distribution, watch list,	Likely Not Present: There are no reported occurrences in the survey area, but the species has been reported within five miles of the site but the habitat quality is poor or very limited within the survey area or along the Project Area immediately adjacent to the survey area. This category also includes species with no suitable breeding habitat, that may utilize the site for a limited amount of time during migration or as foraging habitat.
	.1 – Seriously threatened in California (more than 80% of occurrences threatened / high degree and immediacy of threat)	
	.2 – Fairly threatened in California (20 to 80% occurrences threatened / moderate degree and immediacy of threat)	
	.3—Not very threatened in California (less than 20% of occurrences threatened/low to no immediate threats)	

TABLE C2: SPECIAL STATUS PLANT SPECIES IN PROJECT VICINITY (CNDDB 2022).

SPECIES	STATUS FED/STATE/CNPS2	HABITAT	OCCURRENCE ON THE PROJECT SITE
Special Status Plants that May Occur			
Fragrant fritillary (*Fritillaria liliacea*)	--/--/1B.1	Coastal scrub, valley and foothill grassland, Coastal prairie, often on ultramafic soils. 3-410 m.	May occur. Has been found in Contra Costa County, with the nearest sightings in Point Richmond.
Special Status Plants Likely not Present			
Pallid manzanita (*Arctostaphylos pallida*)	FT/CE/1B.1	Broadleaf upland forest, closed-cone coniferous forest, chaparral, cismontane woodland, and Coastal	Likely not present. Found in East Bay Hills, including Contra Costa County

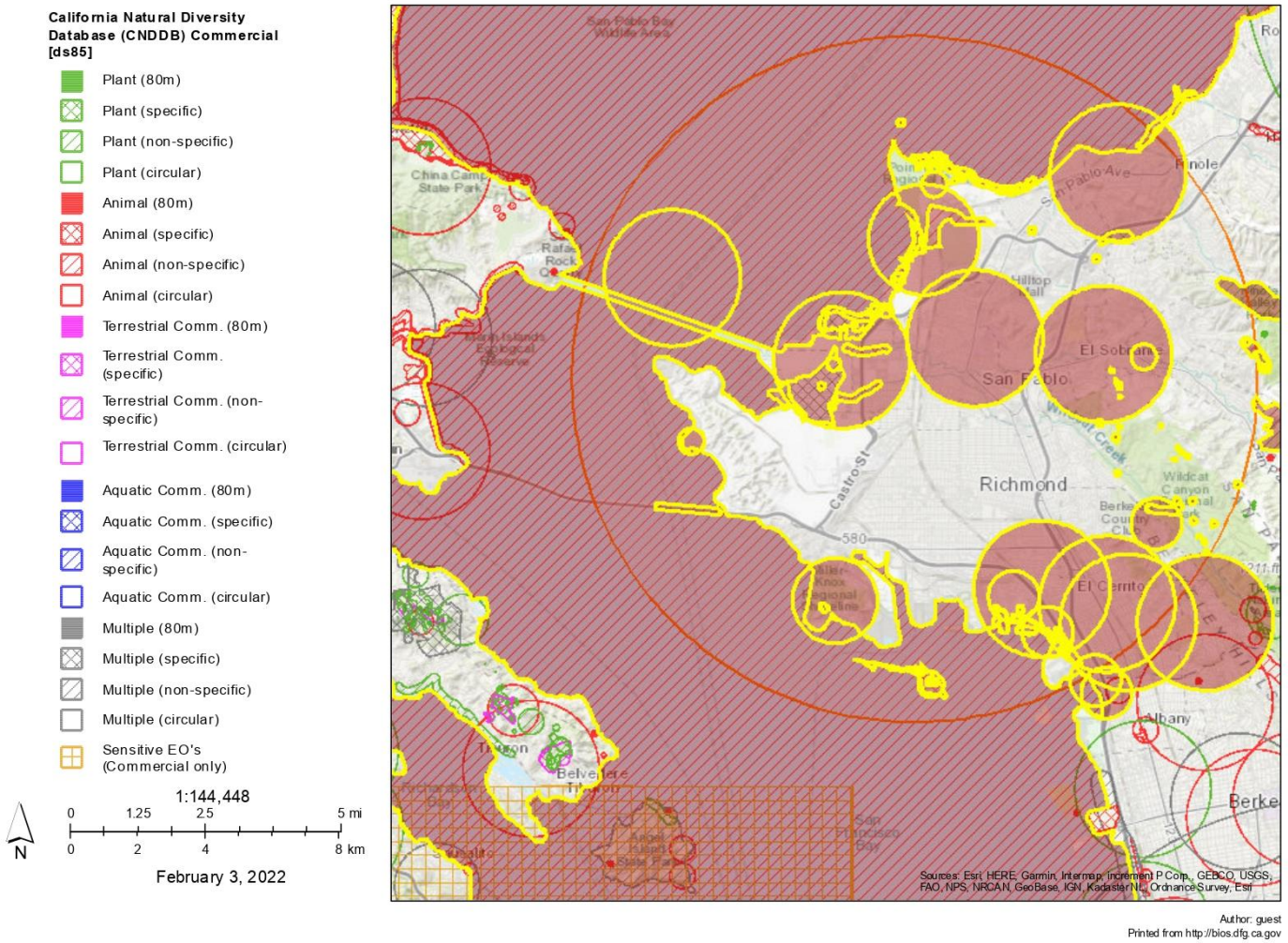
		scrub. Grows on uplifted marine terraces on siliceous shale or thin chert. May require fire. 180-460 m	
Alkali Milk-vetch (*Astragalus tener var. tener*)	--/--/1B.2	Inhabits low ground, alkali flats and flooded land in valley and foothill grasslands or in playas or vernal pools. 1- 170 m.	Likely not present.
Coastal bluff morning-glory (*Calystegia purpurata ssp. saxicola*)	--/--/1B.2	Found Coastal dunes, Coastal scrub, Coastal bluff scrub and North coniferous forest. 5-430 m.	Likely not present. No habitat.
Soft salty bird's beak (*Chloropyron molle ssp. molle*)	FT/Rare/1B.1	Found in Coastal salt marsh. 0-5 m.	Likely not present. No habitat.
Western leatherwood (*Dirca occidentalis*)	--/--/1B.2	On brushy slopes and mesic sites mostly in mixed evergreen and foothill woodland communities. 30-550 m.	Likely not present. No habitat.
Diablo helianthela (*Helianthela castenea*)	--/--/1B.2	Broadleaved upland forest, chaparral, cismontane woodland, Coastal scrub, riparian woodland, valley and foothill grassland. Usually in chaparral/oak woodland interface in rocky, azonal soils. Often in partial shade. 25-1150 m.	Likely not present.
Loma Prita hoita (*Hoita strobilina*)	--/--/1B.1	Found in mesic sites and in serpentine within chaparral, cismontane woodland, and riparian woodland. 60-975 m.	Likely not present. Known for occasional occurrences in SF Bay Area, but no adequate habitat is present on the proejct site.
Santa Cruz tarplant (*Holocarpha macradenia*)	FT/CE/1B.1	Sandy soil or sandy clay in Coastal prairie and valley and foothill grassland. 10-260 m.	Likely not present.

California seablite (*Suaeda californica*)	FE/--/1B.1	Margins of Coastal salt marshes. 0-5 m.	Likely not present. No habitat.
Suisun Marsh aster (*Symphyotrichum lentum*)	--/--/1B.2	Both brackish and freshwater marshes and swamps. Endemic to the marshes of Sacramento-San Joaquin River Delta. 0- 3 m.	Likely not present. No habitat.
Saline clover (*Trifolium depauperatum var. hydrophilum*)	--/--/1B.2	Found in mesic alkaline sites in marshes and swamps, valley and foothill grassland and vernal pools. 0-300 m.	Likely not present. No habitat. Present ins alt marshes

Sources	**Status Codes**	**Occurrence**
1 California Natural Diversity Database (CDFW 2020)	E – Endangered, T – Threatened, R – Rare, SS – Special Status, SSC (or CSC) – Species of Special Concern, WL – Watch List,	Present: The species has been reported or is known to occur in the survey area or along Wildcat Creek in the Project Area - immediately adjacent to the survey area.
2 Inventory of Rare and Endangered Plants of California (CNPS 2020)	1A – Presumed extirpated in California and either rare or extinct elsewhere,	Likely to Occur: There are no reported occurrences in the survey area, but the species has been reported within five miles of the site and good to high quality habitat is present in the survey area or along the Project Area immediately adjacent to the survey area.
3 Information for Planning and Conservation (USFWS 2020)	1B – Rare, threatened, or endangered in California and elsewhere,	May Occur: There are no reported occurrences in the survey area, but the species has been reported within five miles of the site and moderate quality or limited habitat is present in the survey area or along the Project Area immediately adjacent to the survey area.
	2B – Rare, threatened, or endangered in California, but more common elsewhere, 4 – Limited distribution, watch list,	Likely Not Present: There are no reported occurrences in the survey area, but the species has been reported within five miles of the site but the habitat quality is poor or very limited within the survey area or along the Project Area immediately adjacent to the survey area. This category also includes species with no suitable breeding habitat, that may utilize the site for a limited amount of time during migration or as foraging habitat.
	.1 – Seriously threatened in California (more than 80% of occurrences threatened / high degree and immediacy of threat)	
	.2 – Fairly threatened in California (20 to 80% occurrences threatened / moderate degree and immediacy of threat)	
	.3—Not very threatened in California (less than 20% of occurrences threatened/low to no immediate threats)	

APPENDIX D. CNDDB Special Status Species Map

Map of Project Area



IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Contra Costa County, California

Local office

Sacramento Fish And Wildlife Office

(916) 414-6600
(916) 414-6713

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

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1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).

2. 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.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Salt Marsh Harvest Mouse Reithrodontomys raviventris Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/613	Endangered

Birds

NAME	STATUS
California Least Tern Sternula antillarum browni Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/8104	Endangered
California Ridgway''s Rail Rallus obsoletus obsoletus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4240	Endangered
Western Snowy Plover Charadrius nivosus nivosus There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/8035	Threatened
Yellow-billed Cuckoo Coccyzus americanus There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/3911	Threatened

Reptiles

NAME	STATUS

Alameda Whipsnake (=striped Racer) Masticophis lateralis euryxanthus — Threatened
Wherever found
There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
https://ecos.fws.gov/ecp/species/5524

Northwestern Pond Turtle Actinemys marmorata — Proposed Threatened
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/1111

Amphibians

NAME	STATUS

California Red-legged Frog Rana draytonii — Threatened
Wherever found
There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
https://ecos.fws.gov/ecp/species/2891

Foothill Yellow-legged Frog Rana boylii — Threatened
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/5133

Fishes

NAME	STATUS

Tidewater Goby Eucyclogobius newberryi — Endangered
Wherever found
There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
https://ecos.fws.gov/ecp/species/57

Insects

NAME	STATUS

Monarch Butterfly Danaus plexippus — Candidate
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/9743

Flowering Plants

NAME	STATUS
Lassics Lupine Lupinus constancei There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/7976	Endangered
Pallid Manzanita Arctostaphylos pallida Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/8292	Threatened
Santa Cruz Tarplant Holocarpha macradenia Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/6832	Threatened

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Bald & Golden Eagles

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act[1] and the Migratory Bird Treaty Act[2].

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats[3], should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

There are likely bald eagles present in your project area. For additional information on bald eagles, refer to Bald Eagle Nesting and Sensitivity to Human Activity

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Jan 1 to Aug 31
Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

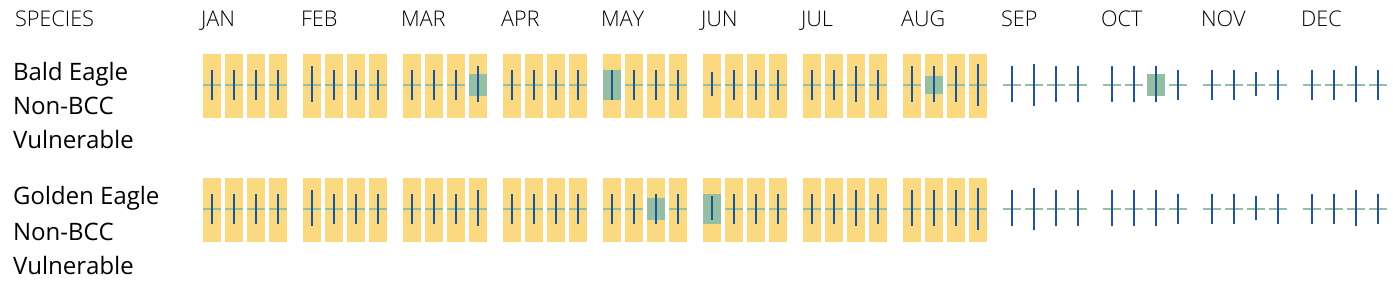
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

▪ probability of presence ▪ breeding season | survey effort – no data



What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply). To see a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs of bald and golden eagles in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur. Please contact your local Fish and Wildlife Service Field Office if you have questions.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats[3] should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Allen's Hummingbird Selasphorus sasin This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9637	Breeds Feb 1 to Jul 15

Bald Eagle Haliaeetus leucocephalus — Breeds Jan 1 to Aug 31
This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

Belding's Savannah Sparrow Passerculus sandwichensis beldingi — Breeds Apr 1 to Aug 15
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/8

Black Oystercatcher Haematopus bachmani — Breeds Apr 15 to Oct 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9591

Black Skimmer Rynchops niger — Breeds May 20 to Sep 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/5234

Black Turnstone Arenaria melanocephala — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Bullock's Oriole Icterus bullockii — Breeds Mar 21 to Jul 25
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

California Gull Larus californicus — Breeds Mar 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

California Thrasher Toxostoma redivivum — Breeds Jan 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Clark's Grebe Aechmophorus clarkii — Breeds Jun 1 to Aug 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Common Yellowthroat Geothlypis trichas sinuosa — Breeds May 20 to Jul 31
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/2084

Elegant Tern Thalasseus elegans — Breeds Apr 5 to Aug 5
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/8561

Golden Eagle Aquila chrysaetos — Breeds Jan 1 to Aug 31
This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1680

Heermann's Gull Larus heermanni — Breeds Mar 15 to Aug 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Lawrence's Goldfinch Spinus lawrencei — Breeds Mar 20 to Sep 20
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9464

Long-eared Owl asio otus — Breeds Mar 1 to Jul 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3631

Marbled Godwit Limosa fedoa — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9481

Northern Harrier Circus hudsonius — Breeds Apr 1 to Sep 15
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/8350

Nuttall's Woodpecker Dryobates nuttallii — Breeds Apr 1 to Jul 20
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9410

Oak Titmouse Baeolophus inornatus — Breeds Mar 15 to Jul 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9656

Olive-sided Flycatcher Contopus cooperi — Breeds May 20 to Aug 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3914

Red Knot Calidris canutus roselaari — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/8880

Santa Barbara Song Sparrow Melospiza melodia graminea — Breeds Mar 1 to Sep 5
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/5513

Short-billed Dowitcher Limnodromus griseus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9480

Tricolored Blackbird Agelaius tricolor — Breeds Mar 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3910

Western Grebe aechmophorus occidentalis — Breeds Jun 1 to Aug 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/6743

Western Gull Larus occidentalis — Breeds Apr 21 to Aug 25
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Willet Tringa semipalmata — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Wrentit Chamaea fasciata — Breeds Mar 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the

probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

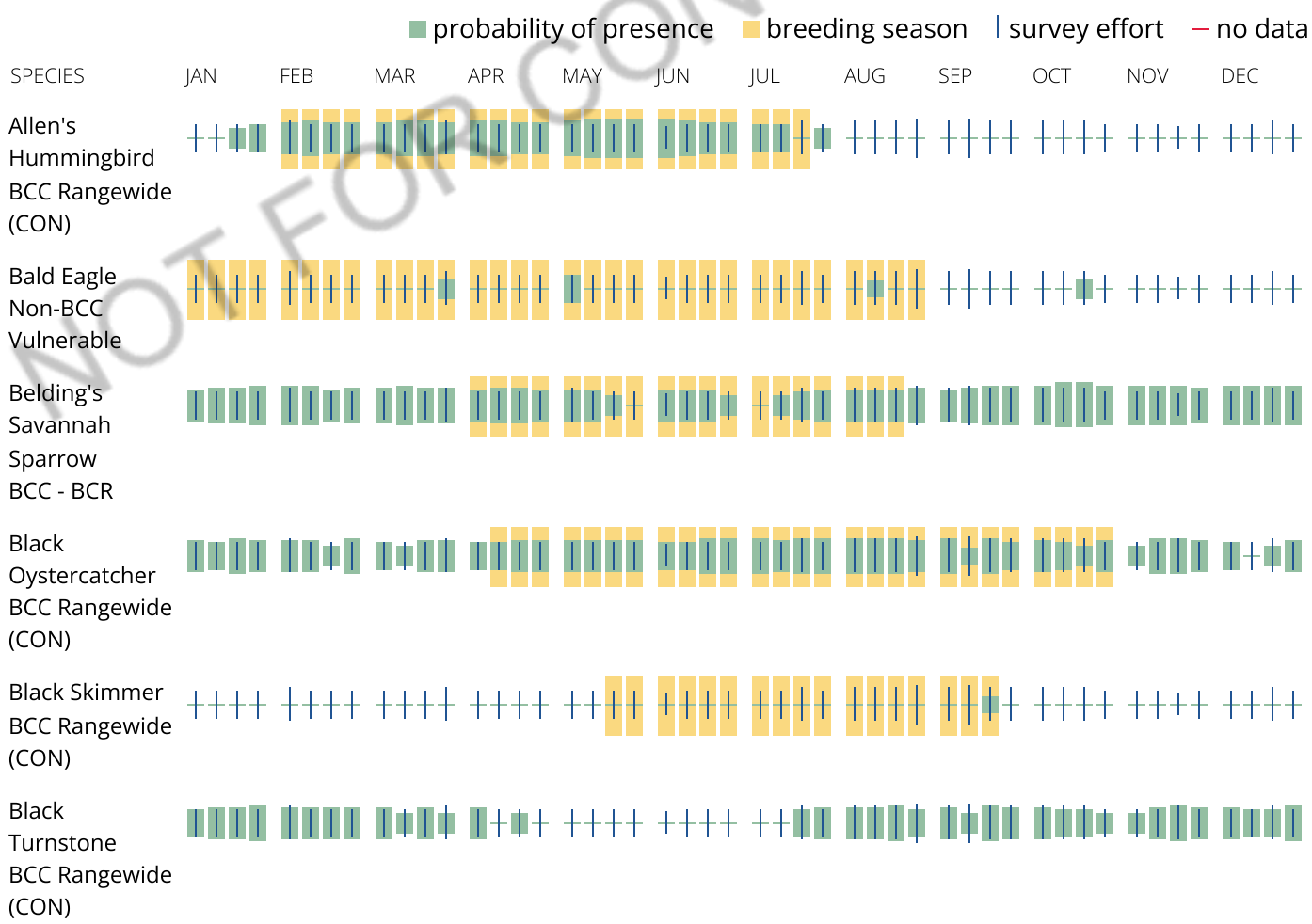
Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

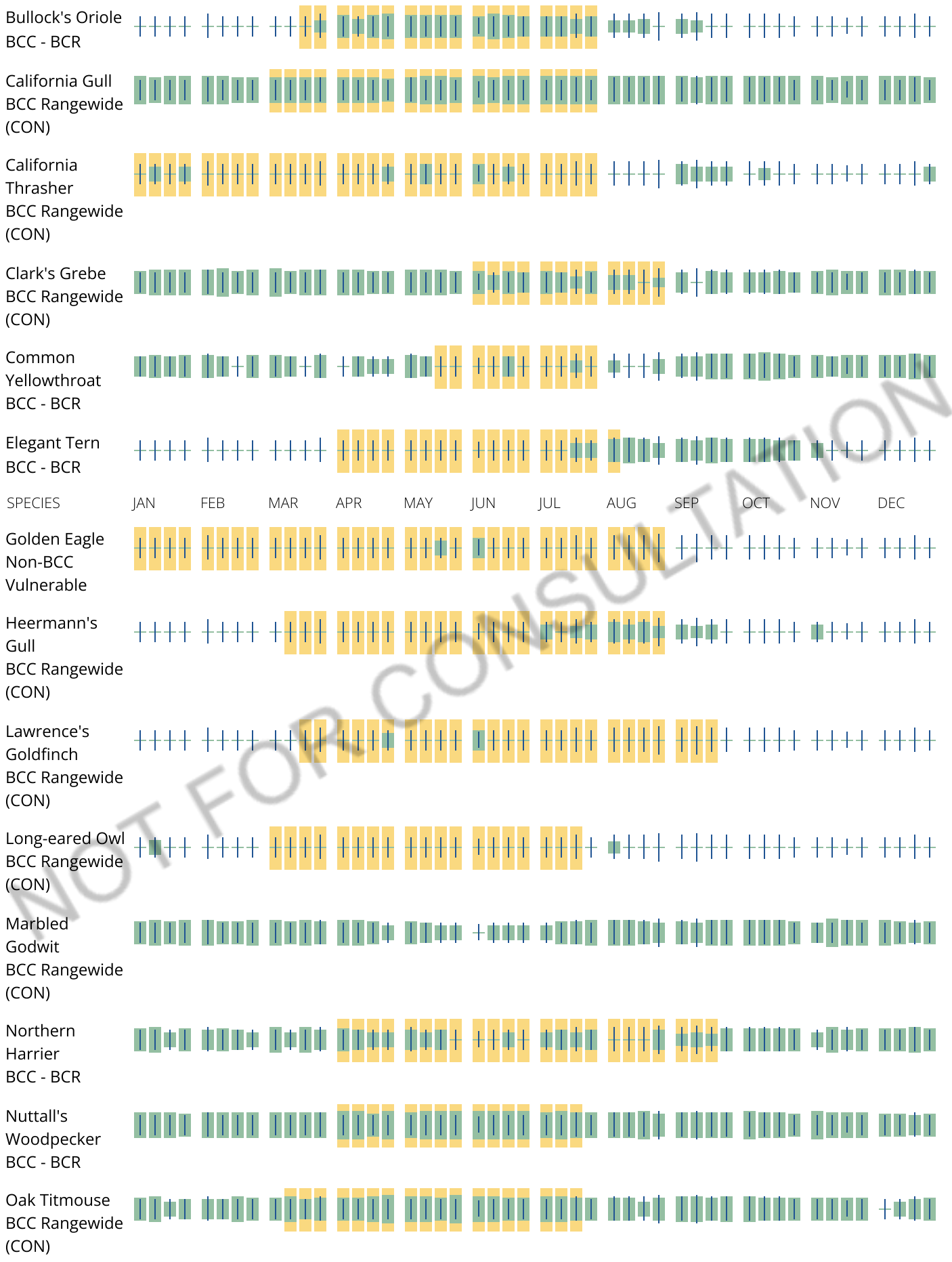
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

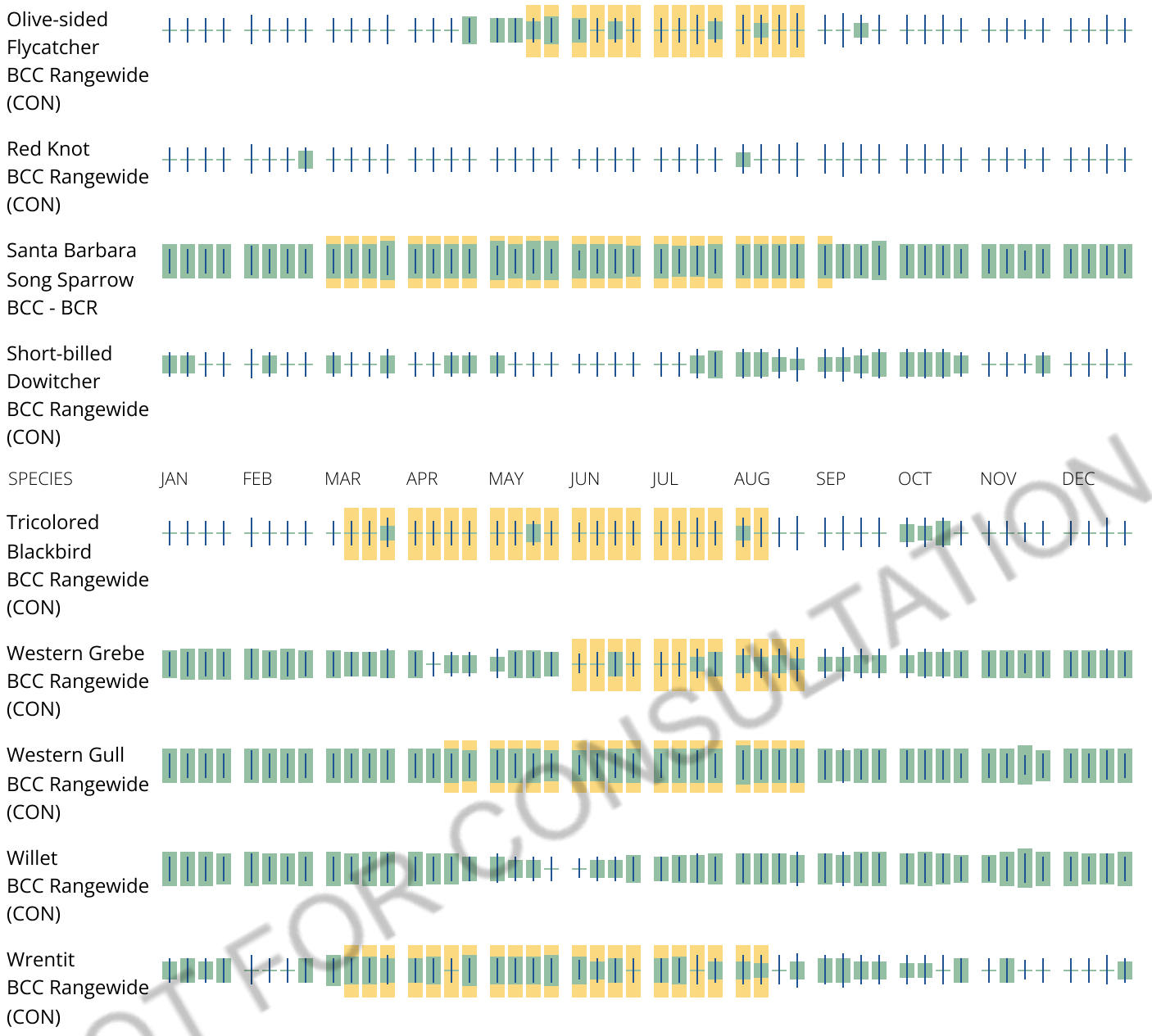
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.







Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER FORESTED/SHRUB WETLAND

- PFO1Ch
- PFO1B

FRESHWATER POND

- PUBHh

RIVERINE

- R4SBC

A full description for each wetland code can be found at the National Wetlands Inventory website

NOTE: This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

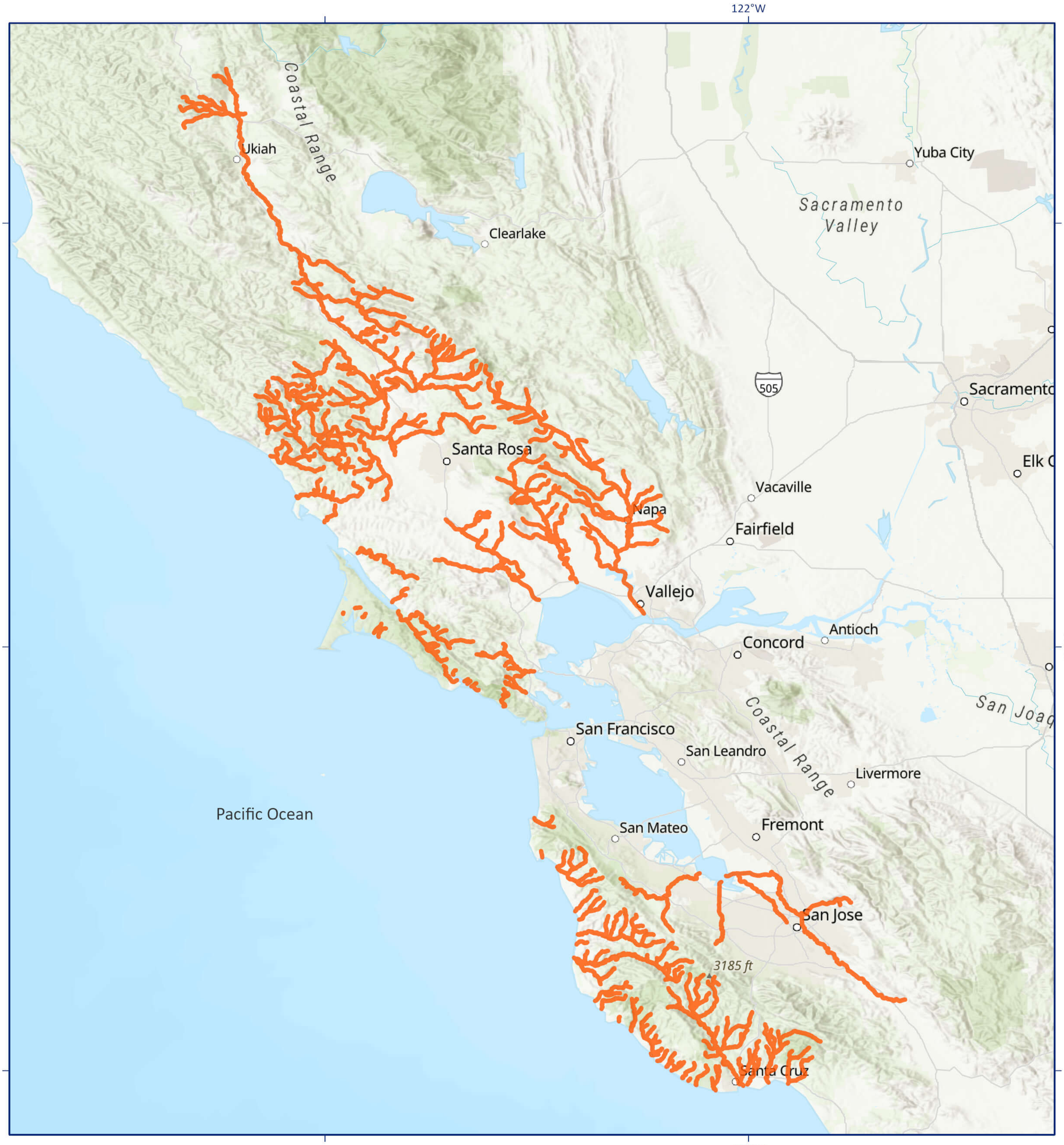
Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Endangered Species Act - Final critical habitat
Steelhead [Central California Coast DPS]
Federal Register rule: 70 FR 52488 9/2/2005

The spatial data on this map represent critical habitat locations; however, the complete description and official boundaries of critical habitat proposed or designated by NMFS are provided in proposed rules, final rules, and the Code of Federal Regulations (50 CFR 226).
Official critical habitat boundaries may include regulatory text that modifies or clarifies maps and spatial data. Proposed rules, final rules, and the CFR also describe any areas that are excluded from critical habitat or otherwise not part of critical habitat (e.g., ineligible areas), some of which have not been clipped out of the spatial data.



critical habitat

0 24 48 km

N

NOAA National Marine Fisheries Service
Endangered Species Act (ESA) critical habitat data are available via web maps, services, and a geodatabase.
National resource: https://www.fisheries.noaa.gov/resource/map/critical-habitat-maps-and-gis-data
West Coast Region resource: https://www.fisheries.noaa.gov/resource/map/protected-resources-app

Map created: 11/22/2021
Map author: Shanna Dunn (shanna.dunn@noaa.gov)
Protected Resources Division, West Coast Region, NMFS
Data source: NMFS_ESA_Critical_Habitat_20210907.gdb

Basemap credits: County of Marin, County of Napa, Esri, HERE, Garmin, FAO, NOAA, USGS, Bureau of Land Management, EPA, NPS, Esri, FAO, NOAA, Esri, USGS

Endangered Species Act - Final critical habitat
Sturgeon, green [Southern DPS]
Federal Register rule: 74 FR 52300 10/9/2009

The spatial data on this map represent critical habitat locations; however, the complete description and official boundaries of critical habitat proposed or designated by NMFS are provided in proposed rules, final rules, and the Code of Federal Regulations (50 CFR 226).
Official critical habitat boundaries may include regulatory text that modifies or clarifies maps and spatial data. Proposed rules, final rules, and the CFR also describe any areas that are excluded from critical habitat or otherwise not part of critical habitat (e.g., ineligible areas), some of which have not been clipped out of the spatial data.

NOAA National Marine Fisheries Service
Endangered Species Act (ESA) critical habitat data are available via web maps, services, and a geodatabase.
National resource: https://www.fisheries.noaa.gov/resource/map/critical-habitat-maps-and-gis-data
West Coast Region resource: https://www.fisheries.noaa.gov/resource/map/protected-resources-app

critical habitat

N

0 110 220 km

NOAA FISHERIES

Map created: 11/22/2021
Map author: Shanna Dunn (shanna.dunn@noaa.gov)
Protected Resources Division, West Coast Region, NMFS
Data source: NMFS_ESA_Critical_Habitat_20210907.gdb

Appendix E. Wildcat Creek Fish Passage Project Photos

FIGURE 1: SOUTH SIDE OF SEDIMENT BASIN.

FIGURE 2: SEDIMENT BASIN, LOOKING DOWNSTREAM, TRANSITION FROM SEDIMENT BASIN TO RIPARIAN VERGE ON SOUTH SIDE.

FIGURE 3: RIPARIAN VEGETATION ON SOUTH EDGE OF SEDIMENT BASIN, RED WILLOWS.

FIGURE 4: COMMUNITY AMENITIES AREA.

FIGURE 5: CORPORATION YARD (1)

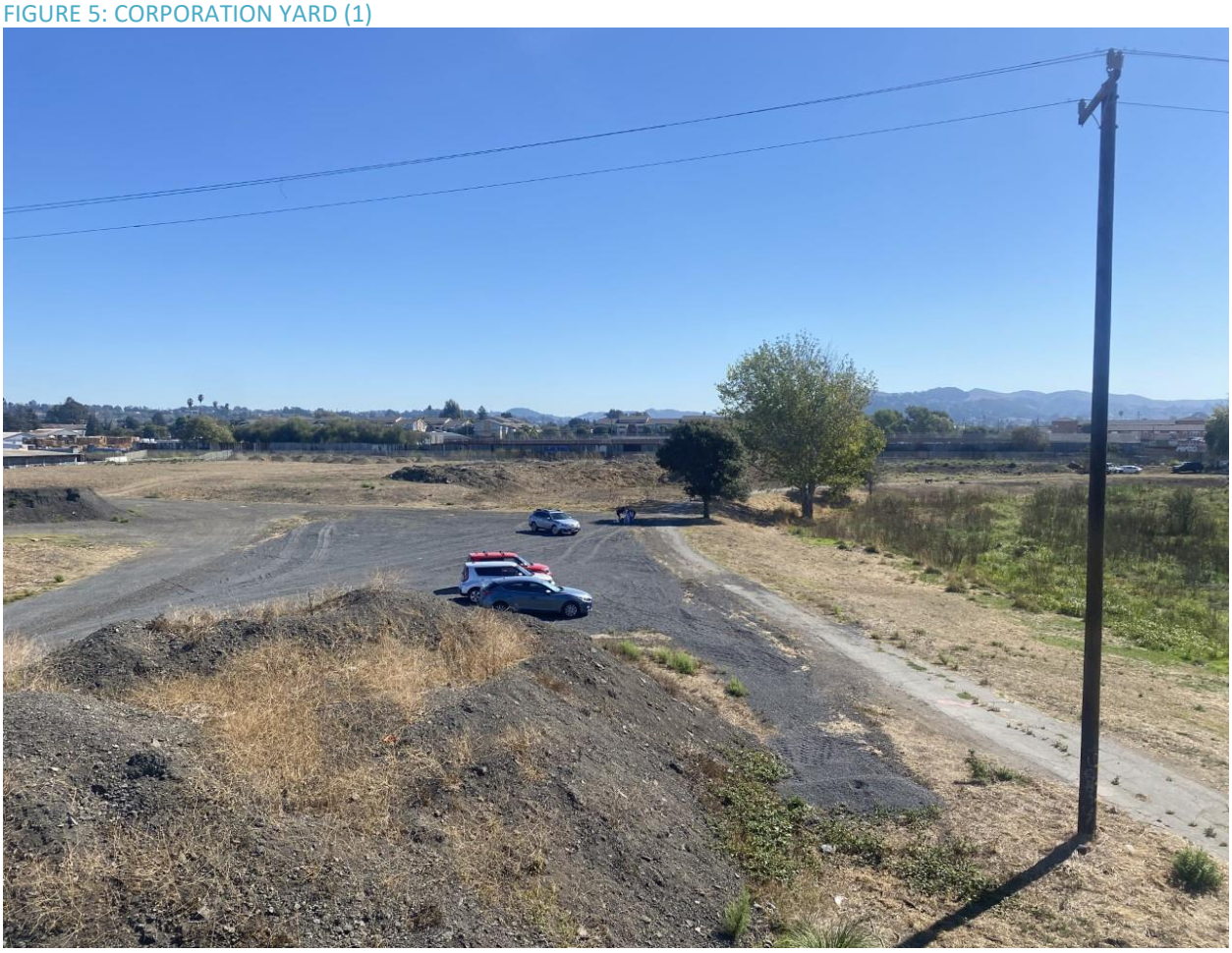


FIGURE 6: CORPORATION YARD (2).

FIGURE 7: CORPORATION YARD (3).

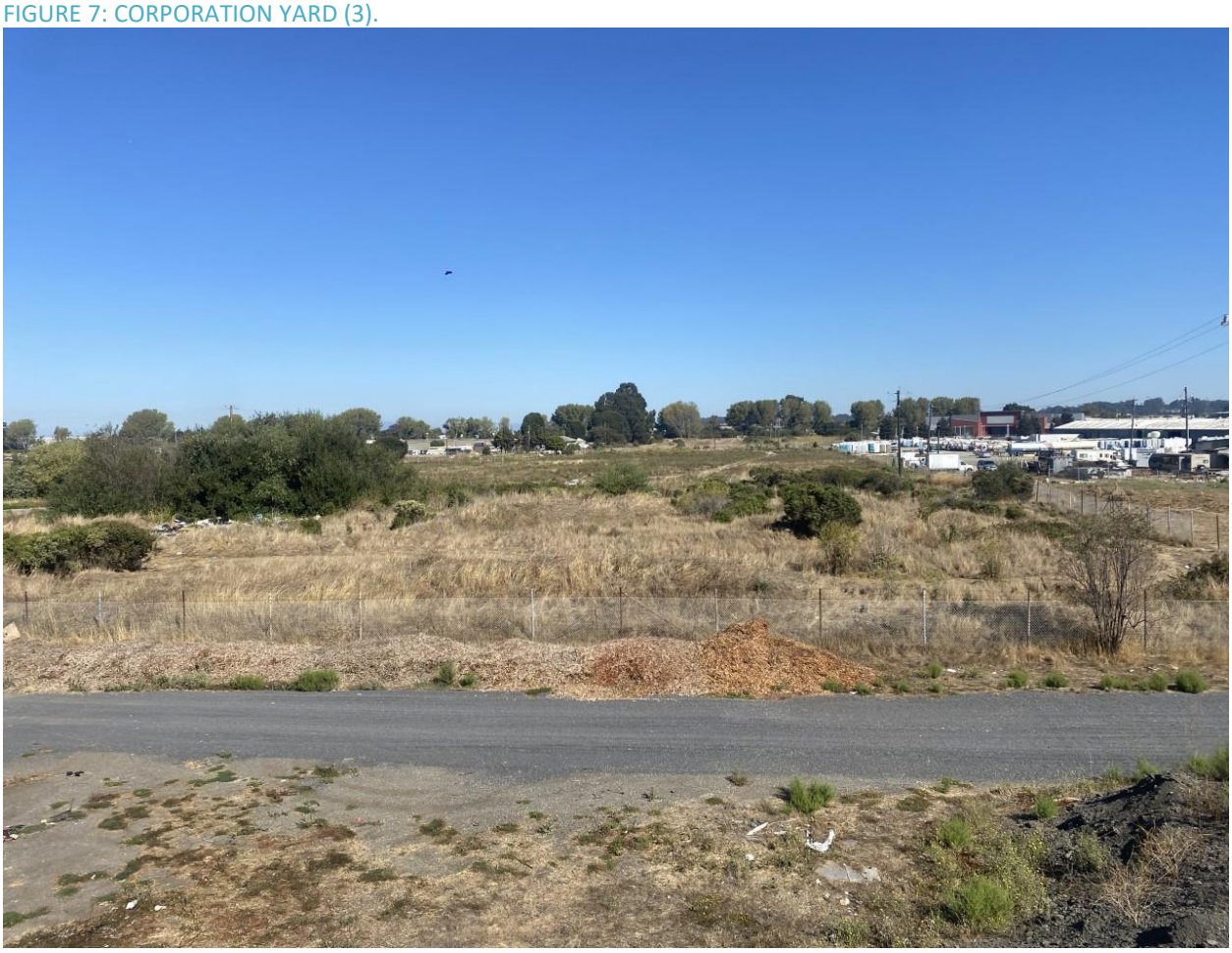


FIGURE 8: FISH PASSAGE STRUCTURE, LOOKING UPSTREAM.

FIGURE 9: CENTER BAY, LOOKING UPSTREAM, AT UPRR CROSSING (NHC 2014).

FIGURE 10: SEDIMENT BASIN, LOOKING DOWNSTREAM FROM THE BASE OF FISH PASSAGE STRUCTURE.

FIGURE 11: SEDIMENT BASIN VEGETATION.

FIGURE 12: FLOWING WATER IN THE IN THE SEDIEMNT BASIN.

FIGURE 13: VEGETATION ALONG THE CHANNEL.

FIGURE 14: EXISTING DENIL FISH LADDER, CLEARED OF SEDIMENT, LOOKING UPSTREAM FROM SEDIMENT BASIN. PHOTO FROM EBRPD IN 2007.

FIGURE 15: DENIL FISH LADDER, FILLED WITH SEDIMENT, LOOKING UPSTREAM FROM SEDIMENT BASIN. PHOTO FROM 2022.

FIGURE 16: EXAMPLE PORTION OF CLOGGED WASHINGTON BAFFLES.

APPENDIX F. Wildcat Creek Fish Passage and Community Engagement Project - Essential Fish Habitat and Critical Habitat Technical Memorandum

Wildcat Creek Fish Passage and Community Engagement Project
Essential Fish Habitat and Critical Habitat
Technical Memorandum

Introduction

This technical memorandum provides a description of essential fish habitat (EFH) within the Project area and Project effects to EFH. he National Marine Fisheries Service (NMFS), a division of the National Oceanic and Atmospheric Administration (NOAA), regulates essential fish habitat ("EFH") and anadromous fish. Protection of EFH is mandated through changes implemented in 1996 to the Magnuson-Stevens Fishery Conservation and Management Act ("Magnuson-Stevens Act"') to protect the loss of habitat necessary to maintain sustainable fisheries in the United States.

In addition to EFH, this technical memorandum provides a description of critical habitat within the Project area and Project effects to critical habitat. Critical habitat is habitat needed to support recovery of listed species. When a species is listed under the Endangered Species Act, NOAA Fisheries is required to determine whether there are areas that meet the definition of critical habitat (NOAA 2009).

The following sections provide a description of what EFH and critical habitat are, a description of the Project, specifically any actions which may have an effect on listed species, a description of the listed species or critical habitats that may be affected, and a description of the effects to EFH and critical habitat.

Essential Fish Habitat

Section 3(10) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA), as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), established procedures designed to identify, conserve, and enhance important habitats for sensitive fish species and that are defined as Essential Fish Habitat (EFH). The species under the MSA and their habitat requirements are regulated under the Pacific Fisheries Management Council's (PMFC) Federal fisheries management plans (FMP). The MSA requires Federal agencies to consult with the National Marine Fisheries Service (NMFS) on all actions, or proposed actions, authorized, funded, or undertaken by the agency, that may adversely affect EFH.

EFH is defined in the MSA as those waters and substrate necessary to fish for *spawning, breeding, feeding, or growth to maturity*. The habitat or substrate includes sediment, hard bottom, structures underlying the waters, and associated biological communities. "Necessary" means the habitat required to support a sustainable fishery and the managed species contribution to a healthy ecosystem; and spawning, breeding, feeding, or growth to maturity covers a species full life cycle (NMFS 2014).

The objective of this EFH and critical habitat technical memo is to determine whether or not the proposed action(s) "may adversely affect" designated critical habitat and EFH

(for relevant commercially, federally-managed fisheries species) within the proposed action area. Adverse effects mean any impact which reduces quality and/or quantity of EFH, and may include direct (e.g., contamination or physical disruption), indirect (e.g., loss of prey or reduction in species fecundity), site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

In Washington, Oregon, and California, there are three FMPs, covering groundfish, coastal pelagic species, and Pacific salmon. EFH is located in San Pablo Bay for Chinook salmon, coho salmon and California Central Coast (CCC) steelhead and includes the Project's Action area (2 miles downstream in San Pablo Bay) but not in the immediate Project implementation area on Wildcat Creek.

Critical Habitat

NMFS defines critical habitat as:

- Specific areas within the geographical area occupied by the species at the time of listing that contain physical or biological features (PBFs) essential to conservation of the species and that;
- may require special management considerations or protection; and
- Specific areas outside the geographical area occupied by the species if the agency determines that the area itself is essential for conservation.

Critical habitat for NMFS-listed fish species occurs for CCC steelhead, located on Wildcat Creek where implementation of the Project will occur and for Southern DPS Green Sturgeon, located in San Pablo Bay, where the Project Action Area could have potential impacts (Federal Register, 2000.

Project Location and Background

The Wildcat Creek Fish Passage and Community Engagement Project (Project) is in North Richmond, an unincorporated area in western Contra Costa County and the Cities of Richmond and San Pablo, along the Wildcat Creek between Rumrill Boulevard and 6th Street. Wildcat Creek flows into the San Pablo Bay approximately two miles west of the Project, where EFH for Pacific Salmon is located (PFMC 2014). The Project Site includes the existing flood control and fish passage structures, the downstream sediment basin, the adjacent trail, and Contra Costa County Flood Control and Water Conservation District (District) corporation yard. The Project Site is located in a highly urbanized area of Contra Costa County with light industrial buildings, schools, and housing along the creek corridor. Wildcat Creek originates in Wildcat Canyon, and runs through the cities of Richmond, San Pablo, El Cerrito, and unincorporated Contra Costa County.

Project's Action Area

The Project's Action Area[1] addressed within this document occurs in Wildcat Creek and has potential effects two miles downstream at the mouth or terminus, and therefore includes the outlet at San Pablo Bay. Effects from the Project could occur if not for protection measures and design features incorporated into the Project. Effects from the Project, such as sedimentation could potentially occur downstream in Wildcat Creek or San Pablo Bay, within EFH, for CCC steelhead, Chinook and coho salmon (and in critical habitat for CCC steelhead and Southern DPS green sturgeon). (see effects below).

Essential Fish Habitat - Species Discussion

Salmon and Steelhead
EFH on the West Coast is identified in FMPs developed by the Pacific Fishery Management Council (PFMC) and approved by the Secretary of Commerce. Pacific Salmon EFH definitions and protections are outlined in the Pacific Salmon FMP which is designed to protect habitat for commercially important salmonid species. **Chinook salmon** managed by the PFMC's FMP, are the one of these species that may be seasonally present in the San Pablo Bay, although historically **coho salmon** were common in San Francisco Bay, including the San Pablo Bay, they are not common currently. Both Chinook salmon and coho salmon, that are managed under the PFMC's FMP, do not utilize habitat in the Project area, but may be affected downstream of the Project in the Action area where EFH occurs (The Action Area of the Project would extend into San Pablo Bay if adverse effects from the Project were measurable, via sedimentation from Project implementation that moves downstream and into San Pablo Bay after the Project is implemented and Wildcat Creek has active flow again).

Steelhead are also included in the EFH designation for San Pablo Bay and occasionally are documented using habitat in the Project area along Wildcat Creek for migration (critical habitat). However, steelhead are not managed under the PFMC's FMP as a commercially viable species and are therefore not included as part of the EFH protections through the FMP.

Project Effects to EFH

The PFMC identifies habitat areas of particular concern (HAPC)**,** which are a subset of EFH that highlight especially important habitat areas or types.

Because the Project's action area could affect San Pablo Bay at the downstream outlet of Wildcat Creek, and contains the following HAPC: *estuaries*, (that are necessary for

[1] *The "action area" includes all areas affected directly or indirectly by the Federal action and not merely the immediate area involved in the action. The action area is usually larger than the project footprint and extends out to a point where no measurable effects from the project occur.*

listed fish life history success), it is necessary to analyze the Project's potential effects on EFH for CCC steelhead and salmon. The FMP defines the estuary HAPC as follows:

Estuaries: Estuaries include nearshore areas such as *bays*, sounds, inlets, *river mouths* and deltas, pocket estuaries, and lagoons influenced by ocean and freshwater. Because of tidal cycles and freshwater runoff, salinity varies within estuaries and results in great diversity, offering freshwater, brackish and marine habitats within close proximity. Such areas tend to be shallow, protected, nutrient rich, and are biologically productive, providing important habitat for marine organisms, including salmon.

The proposed Action will not temporarily or permanently adversely modify EFH for Chinook and coho salmonids or for CCC steelhead within localized portions of the San Pablo Bay downstream of the Project site due to:

1. The Project will be implemented when Wildcat Creek is dry;
2. Mitigation measures will be put in place to reduce impacts from sediment to insignificant levels (not measurable) when the channel is rewetted (mainly through design features that increase the capacity of the sediment basin therefore reducing sedimentation over the long term).

Effects from Project implementation will not result in any permanent habitat loss or create any displacement of MSA-managed species and habitat. The implementation of the proposed avoidance, minimization, and conservation measures will reduce any measurable impacts to EFH to an insignificant level.[2]

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[2] *HAPCs have been identified under the Pacific Coast Groundfish Fishery Management Plan (FMP) and the Pacific Coast Salmon FMP as follows:*

Salmon HAPCs

The following describe components of the salmon HAPCs. For a more detailed description of these HAPCs, see Appendix A to the Pacific Coast Salmon FMP.

Complex Channels and Floodplains: *Both complex channels and floodplains provide valuable habitat for all Pacific salmon species. Complex channels consist of meandering, island-braided, pool-riffle and forced pool-riffle channels. Complex floodplain habitats consist of wetlands, oxbows, side channels, sloughs and beaver ponds, and steeper, more constrained channels with high levels of large woody debris (LWD). Densities of spawning and rearing salmon are highest in areas of high-quality, naturally-functioning floodplain habitat and in areas with LWD, compared to anthropogenically modified floodplains.*

Complex floodplain habitats are dynamic systems that change over time. As such, the habitat-forming processes that create and maintain these habitats (e.g., erosion and aggradation, input of large wood from riparian forests) should be considered integral to the habitat.

Thermal Refugia: *Thermal refugia typically include coolwater tributaries, lateral seeps, side channels, tributary junctions, deep pools, areas of groundwater upwelling, and other mainstem river habitats that are cooler than surrounding waters (≥2° C cooler). Spatial scales can range from entire tributaries (e.g., spring-fed streams), to stream reaches, to highly localized pockets of water only a few square meters in size embedded within larger rivers. Thermal refugia provide areas to escape high water temperatures and are critical to salmon survival, especially during hot, dry summers in California, Idaho, and eastern Oregon and Washington. Thermal refugia also provide important holding and rearing habitat for adults and juveniles.*

Thermal refugia are susceptible to blockage by artificial barriers. Reduced flows can also reduce or eliminate access to refugia. Loss of structural elements such as large wood can also influence the formation of thermal refugia.

Spawning Habitat: *Salmon spawning habitat is typically defined as low gradient stream reaches (<3%), containing clean gravel with low levels of fine sediment and high inter gravel flow. Many spawning areas have been well defined by historical and current spawner surveys, and detailed maps exist for some watersheds. Spawning habitat is especially sensitive to stress and degradation by a number of land- and water-use activities that affect the quality, quantity, and stability of spawning habitat (e.g., sediment deposition from land disturbance, streambank armoring, water withdrawals).*

Effects to EFH

The PFMC identifies habitat areas of particular concern (HAPC)**,** which are a subset of EFH that highlight especially important habitat areas or types.

Because the Project's action area could affect San Pablo Bay at the downstream outlet of Wildcat Creek, and contains the following HAPC: *estuaries*, (that are necessary for listed fish life history success), it is necessary to analyze the Project's potential effects on EFH for CCC steelhead. The FMP defines the estuary HAPC as follows:

Estuaries: Estuaries include nearshore areas such as *bays*, sounds, inlets, *river mouths* and deltas, pocket estuaries, and lagoons influenced by ocean and freshwater. Because of tidal cycles and freshwater runoff, salinity varies within estuaries and results in great diversity, offering freshwater, brackish and marine habitats within close proximity. Such areas tend to be shallow, protected, nutrient rich, and are biologically productive, providing important habitat for marine organisms, including salmon.

The proposed Action will not temporarily or permanently adversely modify EFH for Chinook and coho salmonids or for CCC steelhead within localized portions of the San Pablo Bay downstream of the Project site due to:

1. The Project will be implemented when Wildcat Creek is dry; and
2. Mitigation measures will be put in place to reduce impacts from sediment to insignificant levels when the channel is rewetted; and
3. through design features that increase the capacity of the sediment basin).

Effects from Project implementation will not result in any permanent habitat loss or create any displacement of MSA-managed species and habitat. The implementation of the proposed avoidance, minimization, and conservation measures will reduce any measurable impacts to EFH to and insignificant level.

Estuaries: *Estuaries include nearshore areas such as bays, sounds, inlets, river mouths and deltas, pocket estuaries, and lagoons influenced by ocean and freshwater. Because of tidal cycles and freshwater runoff, salinity varies within estuaries and results in great diversity, offering freshwater, brackish and marine habitats within close proximity. Such areas tend to be shallow, protected, nutrient rich, and are biologically productive, providing important habitat for marine organisms, including salmon.*

Marine and Estuarine Submerged Aquatic Vegetation: *Submerged aquatic vegetation includes the canopy kelps and eelgrass. These habitats have been shown to have some of the highest primary productivity in the marine environment and provide a significant contribution to the marine and estuarine food webs.*

Kelps are brown macroalgae and include those that float to form canopies and those that do not, such as Laminaria spp. Canopy-forming kelps of the eastern Pacific Coast are dominated by two species, giant kelp (Macrocystis pyrifera) and bull kelp (Nereocystis leutkeana). Kelp plants, besides requiring moderate to high water movement and energy levels, are most likely limited by the availability of suitable substrate. Native eelgrass (Zostera marina) forms dense beds of leafy shoots year-round in the soft sediments of the lower intertidal and shallow subtidal zone. Eelgrass forms a three-dimensional structure in an otherwise two-dimensional (sand or mud) environment.

Critical Habitat Species discussion

CCC Steelhead
Critical habitat for steelhead is found in the mainstem of Wildcat Creek. Steelhead historically used the Project area of Wildcat Creek as a migration corridor to find their way up to the upper watershed for spawning and rearing, where there is cooler refugia.

Critical habitat is defined as Physical and Biological Features (PBFs) important for the survival and recovery of a species.

Steelhead PBFs include:

- spawning habitat with water quantity and quality conditions and substrate supporting spawning,
- incubation and larval development;
- freshwater rearing habitat with water quantity and quality, floodplain connectivity, forage, and natural cover supporting juvenile development, growth, mobility, and survival;
- **freshwater migration corridors free of obstruction** (Project area PBF) and excessive predation with water quantity and quality conditions and natural cover supporting juvenile and adult mobility and survival;
- estuarine areas free of obstruction and excessive predation supporting mobility and survival, with water quantity, water quality, and salinity conditions supporting juvenile and adult physiological transitions between fresh and saltwater, and natural cover and forage supporting growth, maturation and survival.

The PBF for Wildcat Creek steelhead in the Project area is a *freshwater migration corridor*.

Southern DPS Green Sturgeon

In 2006, NMFS listed the southern DPS of North American Green Sturgeon (*Acipenser medirostris)* as threatened under the U.S. Endangered Species Act (ESA 1973, Section 4 as amended; NMFS 2006) and added designated critical habitat designation in 2009 (NMFS 2009).

However, the Project's action area, which has potential effects that extend into the San Pablo Bay, is within critical habitat for green sturgeon[3].

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[3] The designations of critical habitat for listed species have generally used the term primary constituent elements (PCEs). NMFS and USFWS' recently issued a final rule amending the regulations for designating critical habitat (81 FR 7414; February 11, 2016), which replaced the term PCEs with physical or biological features (PBFs). In addition, NMFS and USFWS recently issued a final rule revising the regulatory definition of "destruction or adverse modification" of critical habitat (81 FR 7214; February 11, 2016), which refers to PBFs, not PCEs. The shift in terminology does not change the approach used in

PBFs for the southern DPS of the green sturgeon in the San Pablo Bay (and in the Project's action area mouth of Wildcat Creek) and associated Bay habitats includes: *food resources for all life stages, water flows, water quality, migratory corridors, channel depths, and sediment quality*. Dredging, in-water construction, National Pollutant Discharge Elimination System (NPDES) activities, commercial shipping, and **habitat restoration** are identified in the final green sturgeon critical habitat rule as activities that may affect one or more PBFs through alteration of the physical parameters of the estuary. Since, as stated above, the Project has potential to increase sedimentation into San Pablo Bay (without design and protection measures), green sturgeon PBFs have potential to be adversely impacted, and are therefore included in the effects analysis here and in the Biological Resources Assessment.

Green sturgeon PBFs (for freshwater riverine systems and estuarine habitats) include:

- food resources for larval, juvenile, subadult, and adult life stages;
- water flow regime with flow magnitude, duration, seasonality, and rate-of-change supporting growth, survival, and migration of all life stages;
- water quality including temperature, salinity, oxygen content, and other chemical characteristics supporting growth and viability of all life stages.

Effects to Critical Habitat

<u>CCC Steelhead</u>

The Project implementation will avoid adverse effects to CCC steelhead critical habitats due to the following:

(1) The Project work window is scheduled for a period when Wildcat Creek does not have flow, so no fish will be in the Creek. No temporary turbidity impacts will occur to downstream critical habitat from any project construction related sedimentation because of the work window as well;
(2) The Project's design includes improvement in the capacity of the sediment basin such that more sediment will be retained in the basin, reducing sedimentation at and below the Project Action Area of Wildcat Creek;
(3) Riparian habitat will be improved in the Project vicinity due to a decrease in trapped sediment; and
(4) The PBF of freshwater migration corridor will be improved with the implementation of the Project, providing more passage opportunities at a larger range of flows.

By avoiding times when CCC Steelhead could be present due to the lack of water in the channel, and by providing long-term improvements to habitat conditions for CCC

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conducting an analysis of the effects of the proposed action on species.

Steelhead, the Proposed Action will avoid adverse effects to CCC Steelhead. Cumulative effects to CCC Steelhead include the effects of future state, tribal, local, or private actions that are reasonably certain to occur in the Action Area. Cumulative effects in the Action Area may result from new infrastructure, infrastructure maintenance, or increases to sedimentation in the Wildcat Creek watershed. Such unrelated infrastructure projects, maintenance, and other development projects would undergo separate environmental review and permitting processes. CEQA, Section 1600 of the California Fish and Game Code, the Coastal Zone Management Act, the California Coastal Act, and Sections 401 and 404 of the Clean Water Act permitting process would require mitigation of effects from future projects. At this time, no other federal, state, or private projects or continuing maintenance projects in or adjacent to the Action Area have been identified. With the proper environmental permitting and AMMs, future projects are not expected to have any considerable cumulative effects

Therefore, the Proposed Action may affect, but is not likely to adversely affect, CCC Steelhead.

Southern DPS Green Sturgeon

Critical habitat for green sturgeon is found in San Pablo Bay but does not include Wildcat Creek mainstem corridor. Green sturgeon would also probably not utilize the terminus of Wildcat Creek, where the creek flows into the Bay due to temperature and habitat quality issues. Impacts to Green Sturgeon critical habitat could occur if project sedimentation affected downstream critical habitat in San Pablo Bay. However, the effects to the mouth of Wildcat Creek where it flows into San Pablo Bay will be insignificant due to:

1. The Project will be implemented when Wildcat Creek is dry, so no sediment will be transported “downstream” during Project construction; and
2. Mitigation measures will be put in place to reduce impacts from sediment to insignificant (not measurable levels in terms of delta Δ) levels when the channel is rewetted; and
3. Through design features that increase the capacity of the sediment basin.

The lack of PBFs to support Green Sturgeon means that Green Sturgeon are not present in Wildcat Creek. Downstream effects to Green Sturgeon habitat in San Pablo Bay would be beneficial through the overall decrease in sedimentation. Therefore, the Proposed Project would have no effect on Green Sturgeon.

References

Federal Register. 2000. Designated critical habitat: critical habitat for 19 evolutionarily significant units of salmon and steelhead in Washington, Oregon, Idaho, and California. 7764, Vol. 65, No. 32, Rules and Regulations. Final rule. Department of Commerce, National Oceanic and Atmospheric Administration and National Marine Fisheries Service, Wednesday, February 16, 2000.

Federal Register. 2006. Endangered and Threatened Wildlife and Plants: Threatened Status for Southern Distinct Population Segment of North American Green Sturgeon. 17757, Vol. 71, No. 67, Rules and Regulations. Final Rule. Department of Commerce, National Oceanic and Atmospheric Administration and National Marine Fisheries Service, Wednesday, April 7, 2006.

National Marine Fisheries Service. 2009. Designation of Critical Habitat for the threatened Southern Distinct Population Segment of North American Green Sturgeon Final Biological Report. Website: https://repository.library.noaa.gov/view/noaa/18683. Accessed February 27, 2024.

Attachment 3. Air Quality Emissions Calculations

Wildcat Creek Fish Passage Construction - Average Daily Emissions (lbs.)

Project Phase/Emission Source	ROG	NOx	PM10 (Exhaust)	PM 2.5 (Exhaust)
Site Preparation				
Off-Road Construction Equipment	3.6	27.1	1.1	1.0
Fill/Debris/Concrete Trucks	0.0	0.0	0.0	0.0
Worker Commute Vehicles	0.00	0.01	0.00	0.00
Subtotal	3.6	27.1	1.1	1.0
Sediment Basin Clearing				
Off-Road Construction Equipment	1.7	13.6	0.6	0.6
Fill/Debris/Concrete Trucks	0.0	0.0	0.0	0.0
Worker Commute Vehicles	0.00	0.01	0.00	0.00
Subtotal	1.7	13.6	0.6	0.6
Fish Passage Structure				
Off-Road Construction Equipment	0.3	2.8	0.2	0.2
Fill/Debris/Concrete Trucks	0.1	10.2	0.04	0.04
Worker Commute Vehicles	0.00	0.00	0.00	0.00
Subtotal	0.4	12.9	0.2	0.2
Sediment Basin				
Off-Road Construction Equipment	3.0	23.3	1.0	1.0
Fill/Debris/Concrete Trucks	0.1	10.2	0.04	0.04
Worker Commute Vehicles	0.00	0.02	0.00	0.00
Subtotal	3.2	33.5	1.1	1.0
Upstream Channel Modifications				
Off-Road Construction Equipment	1.2	10.5	0.5	0.5
Fill/Debris/Concrete Trucks	0.1	10.2	0.0	0.04
Worker Commute Vehicles	0.00	0.01	0.00	0.00
Subtotal	1.3	20.6	0.5	0.5
Community Amenities				
Off-Road Construction Equipment	2.6	22.0	1.0	0.9
Fill/Debris/Concrete Trucks	0.1	10.2	0.0	0.04
Worker Commute Vehicles	0.00	0.02	0.00	0.00
Subtotal	2.8	32.2	1.0	0.9
Site Clean-Up/Revegetation				
Off-Road Construction Equipment	0.4	3.4	0.2	0.2
Fill/Debris/Concrete Trucks	0.1	10.2	0.0	0.04
Worker Commute Vehicles	0.00	0.00	0.00	0.00
Subtotal	0.5	13.6	0.2	0.2
Highest Daily Average (including phase overlap)	**3.6**	**36.3**	**1.3**	**1.2**
CEQA Construction Emissions Threshold	54	54	82	54
Significant Impact?	No	No	No	No

CalEEMod (Version 2022.1) User's Guide Appendix G lists all the numerical values in the model database used to calculate project criteria and GHG pollutant emissions. Diesel-powered construction equipment emission factors from the OFFROAD model and on-road motor vehicle emission rates from EMFAC2021 (the CARB's EPA-approved motor vehicle emission model) for haul trucks and worker commute vehicles were used along with project-specific equipment type/number and truck/worker commute trips to estimate project construction emissions by Excel spreadsheet.

Wildcat Creek Fish Passage Emissions (Year 2024)

Pollutant: CO2

Site Preparation

										On- Site		Off-Site			Total	
EQUIPMENT	hp*	LoadFac*	CO2Fac*		Quantity	T DURATION	UNIT	D DURATION	UNIT	DayEmis	TotEmis	Emfac	Length	DayEmis	TotEmis	DayEmis	TotEmis
Dozer	367	0.40	532.2030		1	5	work days	8.00	hours/day	625019	3125096					625019	3125096
Mower (Landscape)	21	0.38	623.7900		1	5	work days	8.00	hours/day	39823	199114					39823	199114
Scraper	423	0.48	528.9680		2	5	work days	8.00	hours/day	1718427	8592133					1718427	8592133
Worker Commute					6	5	work days	2	trips/day	0	0	298.1	14.2	25395	126976	25395	126976
		* Equipment: CalEEMod 2022.1.1.3 Appendix G					**Tot (grams)**			**2,383,269**	**11,916,343**			**25,395**	**126,976**	**2,408,664**	**12,043,318**
		Haul Truck: EMFAC 2021 HHD Idle					**Tot (metric tons)**			**2.4**	**11.9**			**0.0**	**0.1**	**2.4**	**12.0**

Haul Truck: EMFAC2021 HHDT 35 mph
Worker Commute: EMFAC2021 LDT2 35 mph

Sediment Basin Clearing

										On- Site		Off-Site			Total	
EQUIPMENT	hp*	LoadFac*	CO2Fac*		Quantity	T DURATION	UNIT	D DURATION	UNIT	DayEmis	TotEmis	Emfac	Length	DayEmis	TotEmis	DayEmis	TotEmis
Excavator	36	0.38	527.683		1	10	work days	8.00	hours/day	57750	577496					57750	577496
Front Loader	150	0.36	526.332		1	10	work days	8.00	hours/day	227375	2273754					227375	2273754
Dump Truck (same as Water)	376	0.38	527.763		2	10	work days	8.00	hours/day	1206508	12065084					1206508	12065084
Crane	367	0.29	527.567		1	10	work days	8.00	hours/day	449192	4491916					449192	4491916
Worker Commute					7.5	10	work days	2	trips/day	0	0	298.1	14.2	31744	317439	31744	317439
		* Equipment: CalEEMod 2022.1.1.3 Appendix G					**Tot (grams)**			**1,940,825**	**19,408,251**			**31,744**	**317,439**	**1,972,569**	**19,725,690**
		Haul Truck: EMFAC 2021 HHD Idle					**Tot (metric tons)**			**1.9**	**19.4**			**0.0**	**0.3**	**2.0**	**19.7**

Haul Truck: EMFAC2021 HHDT 35 mph
Worker Commute: EMFAC2021 LDT2 35 mph

Fish Passage Structure

										On- Site		Off-Site			Total	
EQUIPMENT	hp*	LoadFac*	CO2Fac*		Quantity	T DURATION	UNIT	D DURATION	UNIT	DayEmis	TotEmis	Emfac	Length	DayEmis	TotEmis	DayEmis	TotEmis
Excavator	36	0.38	527.683		1	30	work days	8.00	hours/day	57750	1732489					57750	1732489
Jackhammer (use Compressor)	37	0.48	568.361		1	30	work days	8.00	hours/day	80753	2422582					80753	2422582
Worker Commute					3	30	work days	2	trips/day	0	0	298.1	14.2	12698	380927	12698	380927
		* Equipment: CalEEMod 2022.1.1.3 Appendix G					**Tot (grams)**			**138,502**	**4,155,071**			**12,698**	**380,927**	**151,200**	**4,535,997**
		Haul Truck: EMFAC 2021 HHD Idle					**Tot (metric tons)**			**0.1**	**4.2**			**0.0**	**0.4**	**0.2**	**4.5**

Haul Truck: EMFAC2021 HHDT 35 mph
Worker Commute: EMFAC2021 LDT2 35 mph

Sediment Basin - On-site Equipment

										On- Site		Off-Site			Total	
EQUIPMENT	hp*	LoadFac*	CO2Fac*		Quantity	T DURATION	UNIT	D DURATION	UNIT	DayEmis	TotEmis	Emfac	Length	DayEmis	TotEmis	DayEmis	TotEmis
Dozer	367	0.40	532.2030		1	30	work days	8.00	hours/day	625019	18750576					625019	18750576
Water Truck	376	0.38	527.763		1	30	work days	8.00	hours/day	603254	18097627					603254	18097627
Excavator	36	0.38	527.683		1	30	work days	8.00	hours/day	57750	1732489					57750	1732489
Front Loader	150	0.36	526.332		1	30	work days	8.00	hours/day	227375	6821263					227375	6821263
Dump Truck (same as Water)	376	0.38	527.763		2	30	work days	8.00	hours/day	1206508	36195253					1206508	36195253
Compactor	8	0.43	568.353		1	30	work days	8.00	hours/day	15641	469232					15641	469232
Worker Commute					10.5	30	work days	2	trips/day	0	0	298.1	14.2	44441	1333243	44441	1333243
		* Equipment: CalEEMod 2022.1.1.3 Appendix G					**Tot (grams)**			**2,735,548**	**82,066,440**			**44,441**	**1,333,243**	**2,779,989**	**83,399,683**
		Haul Truck: EMFAC 2021 HHD Idle					**Tot (metric tons)**			**2.7**	**82.1**			**0.0**	**1.3**	**2.8**	**83.4**

Haul Truck: EMFAC2021 HHDT 35 mph
Worker Commute: EMFAC2021 LDT2 35 mph

Sediment Basin - Trucks

										On- Site				Off-Site		Total	
EQUIPMENT	hp*	LoadFac*	CO2Fac*		Quantity	T DURATION	UNIT	D DURATION	UNIT	DayEmis	TotEmis	Emfac	Length	DayEmis	TotEmis	DayEmis	TotEmis
Debris Haul Truck	1	1	11982.4		6	125	work days	12.7	day	71894	8986763	1702.7	20.0	2588080	323510037	2659974	332496800
Fill Haul Truck	1	1	11982.4		1	35	work days	13	day	11982	419382	1702.7	20.0	442698	15494428	454680	15913810
Concrete Truck	1	1	11982.4		2	35	work days	5	day	23965	838765	1702.7	7.4	125828	4403993	149793	5242758
		* Equipment: CalEEMod 2022.1.1.3 Appendix G					**Tot (grams)**			**107,841**	**10,244,910**			**3,156,607**	**343,408,459**	**3,264,448**	**353,653,369**
		Haul Truck: EMFAC 2021 HHD Idle					**Tot (metric tons)**			**0.1**	**10.2**			**3.2**	**343.4**	**3.3**	**353.7**

Haul Truck: EMFAC2021 HHDT 35 mph
Worker Commute: EMFAC2021 LDT2 35 mph

Upstream Channel Modifications

										On- Site				Off-Site		Total	
EQUIPMENT	hp*	LoadFac*	CO2Fac*		Quantity	T DURATION	UNIT	D DURATION	UNIT	DayEmis	TotEmis	Emfac	Length	DayEmis	TotEmis	DayEmis	TotEmis
Excavator	36	0.38	527.683		1	10	work days	8.00	hours/day	57750	577496					57750	577496
Front Loader	150	0.36	526.332		1	10	work days	8.00	hours/day	227375	2273754					227375	2273754
Dump Truck (same as Water)	376	0.38	527.763		1	10	work days	8.00	hours/day	603254	6032542					603254	6032542
Crane	367	0.29	527.567		1	10	work days	8.00	hours/day	449192	4491916					449192	4491916
Worker Commute					6	10	work days	2	trips/day	0	0	298.1	14.2	25395	253951	25395	253951
		* Equipment: CalEEMod 2022.1.1.3 Appendix G					**Tot (grams)**			**1,337,571**	**13,375,709**			**25,395**	**253,951**	**1,362,966**	**13,629,660**
		Haul Truck: EMFAC 2021 HHD Idle					**Tot (metric tons)**			**1.3**	**13.4**			**0.0**	**0.3**	**1.4**	**13.6**

Haul Truck: EMFAC2021 HHDT 35 mph
Worker Commute: EMFAC2021 LDT2 35 mph

Community Amenities

										On- Site				Off-Site		Total	
EQUIPMENT	hp*	LoadFac*	CO2Fac*		Quantity	T DURATION	UNIT	D DURATION	UNIT	DayEmis	TotEmis	Emfac	Length	DayEmis	TotEmis	DayEmis	TotEmis
Dozer	367	0.40	532.2030		1	20	work days	8.00	hours/day	625019	12500384					625019	12500384
Tractor/Loader/Backhoe	84	0.37	529.933		1	20	work days	8.00	hours/day	131763	2635251					131763	2635251
Water Truck	376	0.38	527.763		1	20	work days	8.00	hours/day	603254	12065084					603254	12065084
Crane	367	0.29	527.567		1	20	work days	8.00	hours/day	449192	8983833					449192	8983833
Forklift	82	0.2	527.04		1	20	work days	8.00	hours/day	69148	1382953					69148	1382953
Paver	81	0.42	526.332		1	20	work days	8.00	hours/day	143247	2864930					143247	2864930
Roller	36	0.38	586.798		1	20	work days	8.00	hours/day	64219	1284383					64219	1284383
Worker Commute					10.5	20	work days	2	trips/day	0	0	298.1	14.2	44441	888829	44441	888829
		* Equipment: CalEEMod 2022.1.1.3 Appendix G					**Tot (grams)**			**2,085,841**	**41,716,819**			**44,441**	**888,829**	**2,130,282**	**42,605,648**
		Haul Truck: EMFAC 2021 HHD Idle					**Tot (metric tons)**			**2.1**	**41.7**			**0.0**	**0.9**	**2.1**	**42.6**

Haul Truck: EMFAC2021 HHDT 35 mph
Worker Commute: EMFAC2021 LDT2 35 mph

Site clean up and Revegetation

										On- Site				Off-Site		Total	
EQUIPMENT	hp*	LoadFac*	CO2Fac*		Quantity	T DURATION	UNIT	D DURATION	UNIT	DayEmis	TotEmis	Emfac	Length	DayEmis	TotEmis	DayEmis	TotEmis
Drill seeder					0	10	work days	8.00	hours/day	0	0					0	0
Hydroseeder					0	10	work days	8.00	hours/day	0	0					0	0
Grader	148	0.41	530.17		1	10	work days	8.00	hours/day	257366	2573657					257366	2573657
Worker Commute					1.5	10	work days	2	trips/day	0	0	298.1	14.2	6349	63488	6349	63488
		* Equipment: CalEEMod 2022.1.1.3 Appendix G					**Tot (grams)**			**257,366**	**2,573,657**			**6,349**	**63,488**	**263,715**	**2,637,145**
		Haul Truck: EMFAC 2021 HHD Idle					**Tot (metric tons)**			**0.3**	**2.6**			**0.0**	**0.1**	**0.3**	**2.6**

Haul Truck: EMFAC2021 HHDT 35 mph
Worker Commute: EMFAC2021 LDT2 35 mph

Wildcat Creek Fish Passage Emissions (Year 2024)

Pollutant: NOx

Site Preparation

											On- Site		Off-Site				Total	
EQUIPMENT	hp*	LoadFac*	NOxFac*		Quantity	T DURATION	UNIT	D DURATION	UNIT		DayEmis	TotEmis	Emfac	Length	DayEmis	TotEmis	DayEmis	TotEmis
Dozer	367	0.40	4.0100		1	5	work days	8.00	hours/day		4709	23547					4709	23547
Mower (Landscape)	21	0.38	2.2700		1	5	work days	8.00	hours/day		145	725					145	725
Scraper	423	0.48	2.2920		2	5	work days	8.00	hours/day		7446	37229					7446	37229
Worker Commute					6	5	work days	2	trips/day		0	0	0.0489	14.2	4	21	4	21
		* Equipment: CalEEMod 2022.1.1.3 Appendix G					**Tot (grams)**				**12,300**	**61,501**			**4**	**21**	**12,304**	**61,522**
		Haul Truck: EMFAC 2021 HHD Idle					**Tot (lbs)**				**27.1**	**135.6**			**0.0**	**0.0**	**27.1**	**135.6**
							Avg. Day (lbs)						Haul Truck: EMFAC2021 HHDT 35 mph					**27.1**
													Worker Commute: EMFAC2021 LDT2 35 mph					

Sediment Basin Clearing

											On- Site		Off-Site				Total	
EQUIPMENT	hp*	LoadFac*	NOxFac*		Quantity	T DURATION	UNIT	D DURATION	UNIT		DayEmis	TotEmis	Emfac	Length	DayEmis	TotEmis	DayEmis	TotEmis
Excavator	36	0.38	6.389		1	10	work days	8.00	hours/day		699	6992					699	6992
Front Loader	150	0.36	1.902		1	10	work days	8.00	hours/day		822	8217					822	8217
Dump Truck (same as Water)	376	0.38	1.236		2	10	work days	8.00	hours/day		2826	28256					2826	28256
Crane	367	0.29	2.131		1	10	work days	8.00	hours/day		1814	18144					1814	18144
Worker Commute					7.5	10	work days	2	trips/day		0	0	0.0489	14.2	5	52	5	52
		* Equipment: CalEEMod 2022.1.1.3 Appendix G					**Tot (grams)**				**6,161**	**61,609**			**5**	**52**	**6,166**	**61,661**
		Haul Truck: EMFAC 2021 HHD Idle					**Tot (lbs)**				**13.6**	**135.8**			**0.0**	**0.1**	**13.6**	**135.9**
							Avg. Day (lbs)						Haul Truck: EMFAC2021 HHDT 35 mph					**13.6**
													Worker Commute: EMFAC2021 LDT2 35 mph					

Fish Passage Structure

											On- Site		Off-Site				Total	
EQUIPMENT	hp*	LoadFac*	NOxFac*		Quantity	T DURATION	UNIT	D DURATION	UNIT		DayEmis	TotEmis	Emfac	Length	DayEmis	TotEmis	DayEmis	TotEmis
Excavator	36	0.38	6.389		1	30	work days	8.00	hours/day		699	20976					699	20976
Jackhammer (use Compressor)	37	0.48	3.865		1	30	work days	8.00	hours/day		549	16474					549	16474
Worker Commute					3	30	work days	2	trips/day		0	0	0.0489	14.2	2	62	2	62
		* Equipment: CalEEMod 2022.1.1.3 Appendix G					**Tot (grams)**				**1,248**	**37,451**			**2**	**62**	**1,250**	**37,513**
		Haul Truck: EMFAC 2021 HHD Idle					**Tot (lbs)**				**2.8**	**82.6**			**0.0**	**0.1**	**2.8**	**82.7**
							Avg. Day (lbs)						Haul Truck: EMFAC2021 HHDT 35 mph					**2.8**
													Worker Commute: EMFAC2021 LDT2 35 mph					

Sediment Basin - On-site Equipment

											On- Site		Off-Site				Total	
EQUIPMENT	hp*	LoadFac*	NOxFac*		Quantity	T DURATION	UNIT	D DURATION	UNIT		DayEmis	TotEmis	Emfac	Length	DayEmis	TotEmis	DayEmis	TotEmis
Dozer	367	0.40	4.0100		1	30	work days	8.00	hours/day		4709	141280					4709	141280
Water Truck	376	0.38	1.236		1	30	work days	8.00	hours/day		1413	42384					1413	42384
Excavator	36	0.38	6.389		1	30	work days	8.00	hours/day		699	20976					699	20976
Front Loader	150	0.36	1.902		1	30	work days	8.00	hours/day		822	24650					822	24650
Dump Truck (same as Water)	376	0.38	1.236		2	30	work days	8.00	hours/day		2826	84768					2826	84768
Compactor	8	0.43	4.143		1	30	work days	8.00	hours/day		114	3420					114	3420
Worker Commute					10.5	30	work days	2	trips/day		0	0	0.0489	14.2	7	219	7	219
		* Equipment: CalEEMod 2022.1.1.3 Appendix G					**Tot (grams)**				**10,583**	**317,479**			**7**	**219**	**10,590**	**317,697**
		Haul Truck: EMFAC 2021 HHD Idle					**Tot (lbs)**				**23.3**	**699.9**			**0.0**	**0.5**	**23.3**	**700.4**
							Avg. Day (lbs)						Haul Truck: EMFAC2021 HHDT 35 mph					**23.3**
													Worker Commute: EMFAC2021 LDT2 35 mph					

Sediment Basin - Trucks

									On- Site		Off-Site				Total	
EQUIPMENT	hp*	LoadFac*	NOxFac*		Quantity	T DURATION	UNIT	D DURATION	UNIT	DayEmis	TotEmis	Emfac	Length	DayEmis	TotEmis	DayEmis	TotEmis
Debris Haul Truck	1	1	62.4167		6	125	work days	12.7	day	374	46812	2.5917	20.0	3939	492425	4314	539237
Fill Haul Truck	1	1	62.4167		1	35	work days	13	day	62	2185	2.5917	20.0	674	23585	736	25769
Concrete Truck	1	1	62.4167		2	35	work days	5	day	125	4369	2.5917	7.4	192	6703	316	11073
		* Equipment: CalEEMod 2022.1.1.3 Appendix G					**Tot (grams)**			**562**	**53,366**			**4,805**	**522,713**	**5,367**	**576,079**
		Haul Truck: EMFAC 2021 HHD Idle					**Tot (lbs)**			**1.2**	**117.7**			**10.6**	**1152.4**	**11.8**	**1270.0**
							Avg. Day (lbs)										**10.2**
												Haul Truck: EMFAC2021 HHDT 35 mph					
												Worker Commute: EMFAC2021 LDT2 35 mph					

Upstream Channel Modifications

									On- Site		Off-Site				Total	
EQUIPMENT	hp*	LoadFac*	NOxFac*		Quantity	T DURATION	UNIT	D DURATION	UNIT	DayEmis	TotEmis	Emfac	Length	DayEmis	TotEmis	DayEmis	TotEmis
Excavator	36	0.38	6.389		1	10	work days	8.00	hours/day	699	6992					699	6992
Front Loader	150	0.36	1.902		1	10	work days	8.00	hours/day	822	8217					822	8217
Dump Truck (same as Water)	376	0.38	1.236		1	10	work days	8.00	hours/day	1413	14128					1413	14128
Crane	367	0.29	2.131		1	10	work days	8.00	hours/day	1814	18144					1814	18144
Worker Commute					6	10	work days	2	trips/day	0	0	0.0489	14.2	4	42	4	42
		* Equipment: CalEEMod 2022.1.1.3 Appendix G					**Tot (grams)**			**4,748**	**47,481**			**4**	**42**	**4,752**	**47,523**
		Haul Truck: EMFAC 2021 HHD Idle					**Tot (lbs)**			**10.5**	**104.7**			**0.0**	**0.1**	**10.5**	**104.8**
							Avg. Day (lbs)										**10.5**
												Haul Truck: EMFAC2021 HHDT 35 mph					
												Worker Commute: EMFAC2021 LDT2 35 mph					

Community Amenities

									On- Site		Off-Site				Total	
EQUIPMENT	hp*	LoadFac*	NOxFac*		Quantity	T DURATION	UNIT	D DURATION	UNIT	DayEmis	TotEmis	Emfac	Length	DayEmis	TotEmis	DayEmis	TotEmis
Dozer	367	0.40	4.0100		1	20	work days	8.00	hours/day	4709	94187					4709	94187
Tractor/Loader/Backhoe	84	0.37	2.192		1	20	work days	8.00	hours/day	545	10900					545	10900
Water Truck	376	0.38	1.236		1	20	work days	8.00	hours/day	1413	28256					1413	28256
Crane	367	0.29	2.131		1	20	work days	8.00	hours/day	1814	36288					1814	36288
Forklift	82	0.2	2.751		1	20	work days	8.00	hours/day	361	7219					361	7219
Paver	81	0.42	2.708		1	20	work days	8.00	hours/day	737	14740					737	14740
Roller	36	0.38	3.814		1	20	work days	8.00	hours/day	417	8348					417	8348
Worker Commute					10.5	20	work days	2	trips/day	0	0	0.0489	14.2	7	146	7	146
		* Equipment: CalEEMod 2022.1.1.3 Appendix G					**Tot (grams)**			**9,997**	**199,938**			**7**	**146**	**10,004**	**200,084**
		Haul Truck: EMFAC 2021 HHD Idle					**Tot (lbs)**			**22.0**	**440.8**			**0.0**	**0.3**	**22.1**	**441.1**
							Avg. Day (lbs)										**22.1**
												Haul Truck: EMFAC2021 HHDT 35 mph					
												Worker Commute: EMFAC2021 LDT2 35 mph					

Site clean up and Revegetation

									On- Site		Off-Site				Total	
EQUIPMENT	hp*	LoadFac*	NOxFac*		Quantity	T DURATION	UNIT	D DURATION	UNIT	DayEmis	TotEmis	Emfac	Length	DayEmis	TotEmis	DayEmis	TotEmis
Drill seeder					0	10	work days	8.00	hours/day	0	0					0	0
Hydroseeder					0	10	work days	8.00	hours/day	0	0					0	0
Grader	148	0.41	3.176		1	10	work days	8.00	hours/day	1542	15418					1542	15418
Worker Commute					1.5	10	work days	2	trips/day	0	0	0.0489	14.2	1	10	1	10
		* Equipment: CalEEMod 2022.1.1.3 Appendix G					**Tot (grams)**			**1,542**	**15,418**			**1**	**10**	**1,543**	**15,428**
		Haul Truck: EMFAC 2021 HHD Idle					**Tot (lbs)**			**3.4**	**34.0**			**0.0**	**0.0**	**3.4**	**34.0**
							Avg. Day (lbs)										**3.4**
												Haul Truck: EMFAC2021 HHDT 35 mph					
												Worker Commute: EMFAC2021 LDT2 35 mph					

Wildcat Creek Fish Passage Emissions (Year 2024)

Pollutant: PM10

Site Preparation

										On- Site		Off-Site				Total	
EQUIPMENT	hp*	LoadFac*	PM10Fac*		Quantity	T DURATION	UNIT	D DURATION	UNIT	DayEmis	TotEmis	Emfac	Length	DayEmis	TotEmis	DayEmis	TotEmis
Dozer	367	0.40	0.1790		1	5	work days	8.00	hours/day	210	1051					210	1051
Mower (Landscape)	21	0.38	0.0100		1	5	work days	8.00	hours/day	1	3					1	3
Scraper	423	0.48	0.0890		2	5	work days	8.00	hours/day	289	1446					289	1446
Worker Commute					6	5	work days	2	trips/day	0	0	0.0056	14.2	0	2	0	2
		* Equipment: CalEEMod 2022.1.1.3 Appendix G					**Tot (grams)**			**500**	**2,500**			**0**	**2**	**500**	**2,502**
		Haul Truck: EMFAC 2021 HHD Idle					**Tot (lbs)**			**1.1**	**5.5**			**0.0**	**0.0**	**1.1**	**5.5**
							Avg. Day (lbs)										**1.1**
												Haul Truck: EMFAC2021 HHDT 35 mph					
												Worker Commute: EMFAC2021 LDT2 35 mph					

Sediment Basin Clearing

										On- Site		Off-Site				Total	
EQUIPMENT	hp*	LoadFac*	PM10Fac*		Quantity	T DURATION	UNIT	D DURATION	UNIT	DayEmis	TotEmis	Emfac	Length	DayEmis	TotEmis	DayEmis	TotEmis
Excavator	36	0.38	0.559		1	10	work days	8.00	hours/day	61	612					61	612
Front Loader	150	0.36	0.102		1	10	work days	8.00	hours/day	44	441					44	441
Dump Truck (same as Water)	376	0.38	0.044		2	10	work days	8.00	hours/day	101	1006					101	1006
Crane	367	0.29	0.086		1	10	work days	8.00	hours/day	73	732					73	732
Worker Commute					7.5	10	work days	2	trips/day	0	0	0.0056	14.2	1	6	1	6
		* Equipment: CalEEMod 2022.1.1.3 Appendix G					**Tot (grams)**			**279**	**2,791**			**1**	**6**	**280**	**2,796**
		Haul Truck: EMFAC 2021 HHD Idle					**Tot (lbs)**			**0.6**	**6.2**			**0.0**	**0.0**	**0.6**	**6.2**
							Avg. Day (lbs)										**0.6**
												Haul Truck: EMFAC2021 HHDT 35 mph					
												Worker Commute: EMFAC2021 LDT2 35 mph					

Fish Passage Structure

										On- Site		Off-Site				Total	
EQUIPMENT	hp*	LoadFac*	PM10Fac*		Quantity	T DURATION	UNIT	D DURATION	UNIT	DayEmis	TotEmis	Emfac	Length	DayEmis	TotEmis	DayEmis	TotEmis
Excavator	36	0.38	0.559		1	30	work days	8.00	hours/day	61	1835					61	1835
Jackhammer (use Compressor)	37	0.48	0.136		1	30	work days	8.00	hours/day	19	580					19	580
Worker Commute					3	30	work days	2	trips/day	0	0	0.0056	14.2	0	7	0	7
		* Equipment: CalEEMod 2022.1.1.3 Appendix G					**Tot (grams)**			**80**	**2,415**			**0**	**7**	**81**	**2,422**
		Haul Truck: EMFAC 2021 HHD Idle					**Tot (lbs)**			**0.2**	**5.3**			**0.0**	**0.0**	**0.2**	**5.3**
							Avg. Day (lbs)										**0.2**
												Haul Truck: EMFAC2021 HHDT 35 mph					
												Worker Commute: EMFAC2021 LDT2 35 mph					

Sediment Basin - On-site Equipment

										On- Site		Off-Site				Total	
EQUIPMENT	hp*	LoadFac*	PM10Fac*		Quantity	T DURATION	UNIT	D DURATION	UNIT	DayEmis	TotEmis	Emfac	Length	DayEmis	TotEmis	DayEmis	TotEmis
Dozer	367	0.40	0.1790		1	30	work days	8.00	hours/day	210	6307					210	6307
Water Truck	376	0.38	0.044		1	30	work days	8.00	hours/day	50	1509					50	1509
Excavator	36	0.38	0.559		1	30	work days	8.00	hours/day	61	1835					61	1835
Front Loader	150	0.36	0.102		1	30	work days	8.00	hours/day	44	1322					44	1322
Dump Truck (same as Water)	376	0.38	0.044		2	30	work days	8.00	hours/day	101	3018					101	3018
Compactor	8	0.43	0.162		1	30	work days	8.00	hours/day	4	134					4	134
Worker Commute					10.5	30	work days	2	trips/day	0	0	0.0056	14.2	1	25	1	25
		* Equipment: CalEEMod 2022.1.1.3 Appendix G					**Tot (grams)**			**471**	**14,124**			**1**	**25**	**472**	**14,149**
		Haul Truck: EMFAC 2021 HHD Idle					**Tot (lbs)**			**1.0**	**31.1**			**0.0**	**0.1**	**1.0**	**31.2**
							Avg. Day (lbs)										**1.0**
												Haul Truck: EMFAC2021 HHDT 35 mph					
												Worker Commute: EMFAC2021 LDT2 35 mph					

Sediment Basin - Trucks

									On- Site		Off-Site				Total	
EQUIPMENT	hp*	LoadFac*	PM10Fac*		Quantity	T DURATION	UNIT	D DURATION	UNIT	DayEmis	TotEmis	Emfac	Length	DayEmis	TotEmis	DayEmis	TotEmis
Debris Haul Truck	1	1	0.0333		6	125	work days	12.7	day	0	25	0.0115	20.0	17	2181	18	2206
Fill Haul Truck	1	1	0.0333		1	35	work days	13	day	0	1	0.0115	20.0	3	104	3	106
Concrete Truck	1	1	0.0333		2	35	work days	5	day	0	2	0.0115	7.4	1	30	1	32
		* Equipment: CalEEMod 2022.1.1.3 Appendix G					**Tot (grams)**			**0**	**28**			**21**	**2,315**	**22**	**2,343**
		Haul Truck: EMFAC 2021 HHD Idle					**Tot (lbs)**			**0.0**	**0.1**			**0.0**	**5.1**	**0.0**	**5.2**
							Avg. Day (lbs)					Haul Truck: EMFAC2021 HHDT 35 mph					**0.0**
												Worker Commute: EMFAC2021 LDT2 35 mph					

Upstream Channel Modifications

									On- Site		Off-Site				Total	
EQUIPMENT	hp*	LoadFac*	PM10Fac*		Quantity	T DURATION	UNIT	D DURATION	UNIT	DayEmis	TotEmis	Emfac	Length	DayEmis	TotEmis	DayEmis	TotEmis
Excavator	36	0.38	0.559		1	10	work days	8.00	hours/day	61	612					61	612
Front Loader	150	0.36	0.102		1	10	work days	8.00	hours/day	44	441					44	441
Dump Truck (same as Water)	376	0.38	0.044		1	10	work days	8.00	hours/day	50	503					50	503
Crane	367	0.29	0.086		1	10	work days	8.00	hours/day	73	732					73	732
Worker Commute					6	10	work days	2	trips/day	0	0	0.0056	14.2	0	5	0	5
		* Equipment: CalEEMod 2022.1.1.3 Appendix G					**Tot (grams)**			**229**	**2,288**			**0**	**5**	**229**	**2,292**
		Haul Truck: EMFAC 2021 HHD Idle					**Tot (lbs)**			**0.5**	**5.0**			**0.0**	**0.0**	**0.5**	**5.1**
							Avg. Day (lbs)					Haul Truck: EMFAC2021 HHDT 35 mph					**0.5**
												Worker Commute: EMFAC2021 LDT2 35 mph					

Community Amenities

									On- Site		Off-Site				Total	
EQUIPMENT	hp*	LoadFac*	PM10Fac*		Quantity	T DURATION	UNIT	D DURATION	UNIT	DayEmis	TotEmis	Emfac	Length	DayEmis	TotEmis	DayEmis	TotEmis
Dozer	367	0.40	0.1790		1	20	work days	8.00	hours/day	210	4204					210	4204
Tractor/Loader/Backhoe	84	0.37	0.097		1	20	work days	8.00	hours/day	24	482					24	482
Water Truck	376	0.38	0.044		1	20	work days	8.00	hours/day	50	1006					50	1006
Crane	367	0.29	0.086		1	20	work days	8.00	hours/day	73	1464					73	1464
Forklift	82	0.2	0.157		1	20	work days	8.00	hours/day	21	412					21	412
Paver	81	0.42	0.144		1	20	work days	8.00	hours/day	39	784					39	784
Roller	36	0.38	0.192		1	20	work days	8.00	hours/day	21	420					21	420
Worker Commute					10.5	20	work days	2	trips/day	0	0	0.0056	14.2	1	17	1	17
		* Equipment: CalEEMod 2022.1.1.3 Appendix G					**Tot (grams)**			**439**	**8,773**			**1**	**17**	**439**	**8,790**
		Haul Truck: EMFAC 2021 HHD Idle					**Tot (lbs)**			**1.0**	**19.3**			**0.0**	**0.0**	**1.0**	**19.4**
							Avg. Day (lbs)					Haul Truck: EMFAC2021 HHDT 35 mph					**1.0**
												Worker Commute: EMFAC2021 LDT2 35 mph					

Site clean up and Revegetation

									On- Site		Off-Site				Total	
EQUIPMENT	hp*	LoadFac*	PM10Fac*		Quantity	T DURATION	UNIT	D DURATION	UNIT	DayEmis	TotEmis	Emfac	Length	DayEmis	TotEmis	DayEmis	TotEmis
Drill seeder					0	10	work days	8.00	hours/day	0	0					0	0
Hydroseeder					0	10	work days	8.00	hours/day	0	0					0	0
Grader	148	0.41	0.175		1	10	work days	8.00	hours/day	85	850					85	850
Worker Commute					1.5	10	work days	2	trips/day	0	0	0.0056	14.2	0	1	0	1
		* Equipment: CalEEMod 2022.1.1.3 Appendix G					**Tot (grams)**			**85**	**850**			**0**	**1**	**85**	**851**
		Haul Truck: EMFAC 2021 HHD Idle					**Tot (lbs)**			**0.2**	**1.9**			**0.0**	**0.0**	**0.2**	**1.9**
							Avg. Day (lbs)					Haul Truck: EMFAC2021 HHDT 35 mph					**0.2**
												Worker Commute: EMFAC2021 LDT2 35 mph					

Wildcat Creek Fish Passage Emissions (Year 2024)

Pollutant: PM25

Site Preparation

										On- Site		Off-Site				Total	
EQUIPMENT	hp*	LoadFac*	PM25Fac*		Quantity	T DURATION	UNIT	D DURATION	UNIT	DayEmis	TotEmis	Emfac	Length	DayEmis	TotEmis	DayEmis	TotEmis
Dozer	367	0.40	0.1640		1	5	work days	8.00	hours/day	193	963					193	963
Mower (Landscape)	21	0.38	0.0100		1	5	work days	8.00	hours/day	1	3					1	3
Scraper	423	0.48	0.0810		2	5	work days	8.00	hours/day	263	1316					263	1316
Worker Commute					6	5	work days	2	trips/day	0	0	0.0054	14.2	0	2	0	2
		* Equipment: CalEEMod 2022.1.1.3 Appendix G					**Tot (grams)**			**456**	**2,282**			**0**	**2**	**457**	**2,284**
		Haul Truck: EMFAC 2021 HHD Idle					**Tot (lbs)**			**1.0**	**5.0**			**0.0**	**0.0**	**1.0**	**5.0**
							Avg. Day (lbs)					Haul Truck: EMFAC2021 HHDT 35 mph					**1.0**
												Worker Commute: EMFAC2021 LDT2 35 mph					

Sediment Basin Clearing

										On- Site		Off-Site				Total	
EQUIPMENT	hp*	LoadFac*	PM25Fac*		Quantity	T DURATION	UNIT	D DURATION	UNIT	DayEmis	TotEmis	Emfac	Length	DayEmis	TotEmis	DayEmis	TotEmis
Excavator	36	0.38	0.514		1	10	work days	8.00	hours/day	56	563					56	563
Front Loader	150	0.36	0.094		1	10	work days	8.00	hours/day	41	406					41	406
Dump Truck (same as Water)	376	0.38	0.041		2	10	work days	8.00	hours/day	94	937					94	937
Crane	367	0.29	0.079		1	10	work days	8.00	hours/day	67	673					67	673
Worker Commute					7.5	10	work days	2	trips/day	0	0	0.0054	14.2	1	6	1	6
		* Equipment: CalEEMod 2022.1.1.3 Appendix G					**Tot (grams)**			**258**	**2,579**			**1**	**6**	**258**	**2,584**
		Haul Truck: EMFAC 2021 HHD Idle					**Tot (lbs)**			**0.6**	**5.7**			**0.0**	**0.0**	**0.6**	**5.7**
							Avg. Day (lbs)					Haul Truck: EMFAC2021 HHDT 35 mph					**0.6**
												Worker Commute: EMFAC2021 LDT2 35 mph					

Fish Passage Structure

										On- Site		Off-Site				Total	
EQUIPMENT	hp*	LoadFac*	PM25Fac*		Quantity	T DURATION	UNIT	D DURATION	UNIT	DayEmis	TotEmis	Emfac	Length	DayEmis	TotEmis	DayEmis	TotEmis
Excavator	36	0.38	0.514		1	30	work days	8.00	hours/day	56	1688					56	1688
Jackhammer (use Compressor)	37	0.48	0.125		1	30	work days	8.00	hours/day	18	533					18	533
Worker Commute					3	30	work days	2	trips/day	0	0	0.0054	14.2	0	7	0	7
		* Equipment: CalEEMod 2022.1.1.3 Appendix G					**Tot (grams)**			**74**	**2,220**			**0**	**7**	**74**	**2,227**
		Haul Truck: EMFAC 2021 HHD Idle					**Tot (lbs)**			**0.2**	**4.9**			**0.0**	**0.0**	**0.2**	**4.9**
							Avg. Day (lbs)					Haul Truck: EMFAC2021 HHDT 35 mph					**0.2**
												Worker Commute: EMFAC2021 LDT2 35 mph					

Sediment Basin - On-site Equipment

										On- Site		Off-Site				Total	
EQUIPMENT	hp*	LoadFac*	PM25Fac*		Quantity	T DURATION	UNIT	D DURATION	UNIT	DayEmis	TotEmis	Emfac	Length	DayEmis	TotEmis	DayEmis	TotEmis
Dozer	367	0.40	0.1640		1	30	work days	8.00	hours/day	193	5778					193	5778
Water Truck	376	0.38	0.041		1	30	work days	8.00	hours/day	47	1406					47	1406
Excavator	36	0.38	0.514		1	30	work days	8.00	hours/day	56	1688					56	1688
Front Loader	150	0.36	0.094		1	30	work days	8.00	hours/day	41	1218					41	1218
Dump Truck (same as Water)	376	0.38	0.041		2	30	work days	8.00	hours/day	94	2812					94	2812
Compactor	8	0.43	0.149		1	30	work days	8.00	hours/day	4	123					4	123
Worker Commute					10.5	30	work days	2	trips/day	0	0	0.0054	14.2	1	24	1	24
		* Equipment: CalEEMod 2022.1.1.3 Appendix G					**Tot (grams)**			**434**	**13,025**			**1**	**24**	**435**	**13,049**
		Haul Truck: EMFAC 2021 HHD Idle					**Tot (lbs)**			**1.0**	**28.7**			**0.0**	**0.1**	**1.0**	**28.8**
							Avg. Day (lbs)					Haul Truck: EMFAC2021 HHDT 35 mph					**1.0**
												Worker Commute: EMFAC2021 LDT2 35 mph					

Sediment Basin - Trucks

									On- Site		Off-Site				Total	
EQUIPMENT	hp*	LoadFac*	PM25Fac*		Quantity	T DURATION	UNIT	D DURATION	UNIT	DayEmis	TotEmis	Emfac	Length	DayEmis	TotEmis	DayEmis	TotEmis
Debris Haul Truck	1	1	0.0319		6	125	work days	12.7	day	0	24	0.0110	20.0	17	2086	17	2110
Fill Haul Truck	1	1	0.0319		1	35	work days	13	day	0	1	0.0110	20.0	3	100	3	101
Concrete Truck	1	1	0.0319		2	35	work days	5	day	0	2	0.0110	7.4	1	28	1	31
		* Equipment: CalEEMod 2022.1.1.3 Appendix G					Tot (grams)			0	27			20	2,215	21	2,242
		Haul Truck: EMFAC 2021 HHD Idle					Tot (lbs)			0.0	0.1			0.0	4.9	0.0	4.9
							Avg. Day (lbs)										0.0
												Haul Truck: EMFAC2021 HHDT 35 mph					
												Worker Commute: EMFAC2021 LDT2 35 mph					

Upstream Channel Modifications

									On- Site		Off-Site				Total	
EQUIPMENT	hp*	LoadFac*	PM25Fac*		Quantity	T DURATION	UNIT	D DURATION	UNIT	DayEmis	TotEmis	Emfac	Length	DayEmis	TotEmis	DayEmis	TotEmis
Excavator	36	0.38	0.514		1	10	work days	8.00	hours/day	56	563					56	563
Front Loader	150	0.36	0.094		1	10	work days	8.00	hours/day	41	406					41	406
Dump Truck (same as Water)	376	0.38	0.041		1	10	work days	8.00	hours/day	47	469					47	469
Crane	367	0.29	0.079		1	10	work days	8.00	hours/day	67	673					67	673
Worker Commute					6	10	work days	2	trips/day	0	0	0.0054	14.2	0	5	0	5
		* Equipment: CalEEMod 2022.1.1.3 Appendix G					Tot (grams)			211	2,110			0	5	211	2,114
		Haul Truck: EMFAC 2021 HHD Idle					Tot (lbs)			0.5	4.7			0.0	0.0	0.5	4.7
							Avg. Day (lbs)										0.5
												Haul Truck: EMFAC2021 HHDT 35 mph					
												Worker Commute: EMFAC2021 LDT2 35 mph					

Community Amenities

									On- Site		Off-Site				Total	
EQUIPMENT	hp*	LoadFac*	PM25Fac*		Quantity	T DURATION	UNIT	D DURATION	UNIT	DayEmis	TotEmis	Emfac	Length	DayEmis	TotEmis	DayEmis	TotEmis
Dozer	367	0.40	0.1640		1	20	work days	8.00	hours/day	193	3852					193	3852
Tractor/Loader/Backhoe	84	0.37	0.089		1	20	work days	8.00	hours/day	22	443					22	443
Water Truck	376	0.38	0.041		1	20	work days	8.00	hours/day	47	937					47	937
Crane	367	0.29	0.079		1	20	work days	8.00	hours/day	67	1345					67	1345
Forklift	82	0.2	0.145		1	20	work days	8.00	hours/day	19	380					19	380
Paver	81	0.42	0.133		1	20	work days	8.00	hours/day	36	724					36	724
Roller	36	0.38	0.177		1	20	work days	8.00	hours/day	19	387					19	387
Worker Commute					10.5	20	work days	2	trips/day	0	0	0.0054	14.2	1	16	1	16
		* Equipment: CalEEMod 2022.1.1.3 Appendix G					Tot (grams)			403	8,069			1	16	404	8,085
		Haul Truck: EMFAC 2021 HHD Idle					Tot (lbs)			0.9	17.8			0.0	0.0	0.9	17.8
							Avg. Day (lbs)										0.9
												Haul Truck: EMFAC2021 HHDT 35 mph					
												Worker Commute: EMFAC2021 LDT2 35 mph					

Site clean up and Revegetation

									On- Site		Off-Site				Total	
EQUIPMENT	hp*	LoadFac*	PM25Fac*		Quantity	T DURATION	UNIT	D DURATION	UNIT	DayEmis	TotEmis	Emfac	Length	DayEmis	TotEmis	DayEmis	TotEmis
Drill seeder					0	10	work days	8.00	hours/day	0	0					0	0
Hydroseeder					0	10	work days	8.00	hours/day	0	0					0	0
Grader	148	0.41	0.161		1	10	work days	8.00	hours/day	78	782					78	782
Worker Commute					1.5	10	work days	2	trips/day	0	0	0.0054	14.2	0	1	0	1
		* Equipment: CalEEMod 2022.1.1.3 Appendix G					Tot (grams)			78	782			0	1	78	783
		Haul Truck: EMFAC 2021 HHD Idle					Tot (lbs)			0.2	1.7			0.0	0.0	0.2	1.7
							Avg. Day (lbs)										0.2
												Haul Truck: EMFAC2021 HHDT 35 mph					
												Worker Commute: EMFAC2021 LDT2 35 mph					

Wildcat Creek Fish Passage Emissions (Year 2024)

Pollutant: ROG

1 Site Preparation

EQUIPMENT	hp*	LoadFac*	ROGFac*		Quantity	T DURATION	UNIT	D DURATION	UNIT	On- Site DayEmis	On- Site TotEmis	Off-Site Emfac	Off-Site Length	Off-Site DayEmis	Off-Site TotEmis	Total DayEmis	Total TotEmis
Dozer	367	0.40	0.4860		1	5	work days	8.00	hours/day	571	2854					571	2854
Mower (Landscape)	21	0.38	5.2700		1	5	work days	8.00	hours/day	336	1682					336	1682
Scraper	423	0.48	0.2290		2	5	work days	8.00	hours/day	744	3720					744	3720
Worker Commute					6	5	work days	2	trips/day	0	0	0.0149	14.2	1	6	1	6
		* Equipment: CalEEMod 2022.1.1.3 Appendix G					**Tot (grams)**			**1,651**	**8,256**			**1**	**6**	**1,652**	**8,262**
		Haul Truck: EMFAC 2021 HHD Idle					**Tot (lbs)**			**3.6**	**18.2**			**0.0**	**0.0**	**3.6**	**18.2**
							Avg. Day (lbs)										**3.6**
												Haul Truck: EMFAC2021 HHDT 35 mph					
												Worker Commute: EMFAC2021 LDT2 35 mph					

2 Sediment Basin Clearing

EQUIPMENT	hp*	LoadFac*	ROGFac*		Quantity	T DURATION	UNIT	D DURATION	UNIT	On- Site DayEmis	On- Site TotEmis	Off-Site Emfac	Off-Site Length	Off-Site DayEmis	Off-Site TotEmis	Total DayEmis	Total TotEmis
Excavator	36	0.38	0.415		1	10	work days	8.00	hours/day	45	454					45	454
Front Loader	150	0.36	0.248		1	10	work days	8.00	hours/day	107	1071					107	1071
Dump Truck (same as Water)	376	0.38	0.183		2	10	work days	8.00	hours/day	418	4184					418	4184
Crane	367	0.29	0.21		1	10	work days	8.00	hours/day	179	1788					179	1788
Worker Commute					7.5	10	work days	2	trips/day	0	0	0.0149	14.2	2	16	2	16
		* Equipment: CalEEMod 2022.1.1.3 Appendix G					**Tot (grams)**			**750**	**7,497**			**2**	**16**	**751**	**7,513**
		Haul Truck: EMFAC 2021 HHD Idle					**Tot (lbs)**			**1.7**	**16.5**			**0.0**	**0.0**	**1.7**	**16.6**
							Avg. Day (lbs)										**1.7**
												Haul Truck: EMFAC2021 HHDT 35 mph					
												Worker Commute: EMFAC2021 LDT2 35 mph					

3a Fish Passage Structure

EQUIPMENT	hp*	LoadFac*	ROGFac*		Quantity	T DURATION	UNIT	D DURATION	UNIT	On- Site DayEmis	On- Site TotEmis	Off-Site Emfac	Off-Site Length	Off-Site DayEmis	Off-Site TotEmis	Total DayEmis	Total TotEmis
Excavator	36	0.38	0.415		1	30	work days	8.00	hours/day	45	1363					45	1363
Jackhammer (use Compressor)	37	0.48	0.581		1	30	work days	8.00	hours/day	83	2476					83	2476
Worker Commute					3	30	work days	2	trips/day	0	0	0.0149	14.2	1	19	1	19
		* Equipment: CalEEMod 2022.1.1.3 Appendix G					**Tot (grams)**			**128**	**3,839**			**1**	**19**	**129**	**3,858**
		Haul Truck: EMFAC 2021 HHD Idle					**Tot (lbs)**			**0.3**	**8.5**			**0.0**	**0.0**	**0.3**	**8.5**
							Avg. Day (lbs)										**0.3**
												Haul Truck: EMFAC2021 HHDT 35 mph					
												Worker Commute: EMFAC2021 LDT2 35 mph					

3b Sediment Basin - On-site Equipment

EQUIPMENT	hp*	LoadFac*	ROGFac*		Quantity	T DURATION	UNIT	D DURATION	UNIT	On- Site DayEmis	On- Site TotEmis	Off-Site Emfac	Off-Site Length	Off-Site DayEmis	Off-Site TotEmis	Total DayEmis	Total TotEmis
Dozer	367	0.40	0.4860		1	30	work days	8.00	hours/day	571	17123					571	17123
Water Truck	376	0.38	0.183		1	30	work days	8.00	hours/day	209	6275					209	6275
Excavator	36	0.38	0.415		1	30	work days	8.00	hours/day	45	1363					45	1363
Front Loader	150	0.36	0.248		1	30	work days	8.00	hours/day	107	3214					107	3214
Dump Truck (same as Water)	376	0.38	0.183		2	30	work days	8.00	hours/day	418	12551					418	12551
Compactor	8	0.43	0.547		1	30	work days	8.00	hours/day	15	452					15	452
Worker Commute					10.5	30	work days	2	trips/day	0	0	0.0149	14.2	2	67	2	67
		* Equipment: CalEEMod 2022.1.1.3 Appendix G					**Tot (grams)**			**1,366**	**40,977**			**2**	**67**	**1,368**	**41,044**
		Haul Truck: EMFAC 2021 HHD Idle					**Tot (lbs)**			**3.0**	**90.3**			**0.0**	**0.1**	**3.0**	**90.5**
							Avg. Day (lbs)										**3.0**
												Haul Truck: EMFAC2021 HHDT 35 mph					
												Worker Commute: EMFAC2021 LDT2 35 mph					

3c **Sediment Basin - Trucks**

EQUIPMENT	hp*	LoadFac*	ROGFac*		Quantity	T DURATION	UNIT	D DURATION	UNIT	On- Site DayEmis	On- Site TotEmis	Off-Site Emfac	Off-Site Length	Off-Site DayEmis	Off-Site TotEmis	Total DayEmis	Total TotEmis
Debris Haul Truck	1	1	5.0849		6	125	work days	12.7	day	31	3814	0.0196	20.0	30	3732	60	7546
Fill Haul Truck	1	1	5.0849		1	35	work days	13	day	5	178	0.0196	20.0	5	179	10	357
Concrete Truck	1	1	5.0849		2	35	work days	5	day	10	356	0.0196	7.4	1	51	12	407
		* Equipment: CalEEMod 2022.1.1.3 Appendix G					**Tot (grams)**			**46**	**4,348**			**36**	**3,962**	**82**	**8,310**
		Haul Truck: EMFAC 2021 HHD Idle					**Tot (lbs)**			**0.1**	**9.6**			**0.1**	**8.7**	**0.2**	**18.3**
							Avg. Day (lbs)					Haul Truck: EMFAC2021 HHDT 35 mph					**0.1**
												Worker Commute: EMFAC2021 LDT2 35 mph					

3d **Upstream Channel Modifications**

EQUIPMENT	hp*	LoadFac*	ROGFac*		Quantity	T DURATION	UNIT	D DURATION	UNIT	On- Site DayEmis	On- Site TotEmis	Off-Site Emfac	Off-Site Length	Off-Site DayEmis	Off-Site TotEmis	Total DayEmis	Total TotEmis
Excavator	36	0.38	0.415		1	10	work days	8.00	hours/day	45	454					45	454
Front Loader	150	0.36	0.248		1	10	work days	8.00	hours/day	107	1071					107	1071
Dump Truck (same as Water)	376	0.38	0.183		1	10	work days	8.00	hours/day	209	2092					209	2092
Crane	367	0.29	0.21		1	10	work days	8.00	hours/day	179	1788					179	1788
Worker Commute					6	10	work days	2	trips/day	0	0	0.0149	14.2	1	13	1	13
		* Equipment: CalEEMod 2022.1.1.3 Appendix G					**Tot (grams)**			**541**	**5,405**			**1**	**13**	**542**	**5,418**
		Haul Truck: EMFAC 2021 HHD Idle					**Tot (lbs)**			**1.2**	**11.9**			**0.0**	**0.0**	**1.2**	**11.9**
							Avg. Day (lbs)					Haul Truck: EMFAC2021 HHDT 35 mph					**1.2**
												Worker Commute: EMFAC2021 LDT2 35 mph					

3e **Community Amenities**

EQUIPMENT	hp*	LoadFac*	ROGFac*		Quantity	T DURATION	UNIT	D DURATION	UNIT	On- Site DayEmis	On- Site TotEmis	Off-Site Emfac	Off-Site Length	Off-Site DayEmis	Off-Site TotEmis	Total DayEmis	Total TotEmis
Dozer	367	0.40	0.4860		1	20	work days	8.00	hours/day	571	11415					571	11415
Tractor/Loader/Backhoe	84	0.37	0.215		1	20	work days	8.00	hours/day	53	1069					53	1069
Water Truck	376	0.38	0.183		1	20	work days	8.00	hours/day	209	4184					209	4184
Crane	367	0.29	0.21		1	20	work days	8.00	hours/day	179	3576					179	3576
Forklift	82	0.2	0.292		1	20	work days	8.00	hours/day	38	766					38	766
Paver	81	0.42	0.248		1	20	work days	8.00	hours/day	67	1350					67	1350
Roller	36	0.38	0.618		1	20	work days	8.00	hours/day	68	1353					68	1353
Worker Commute					10.5	20	work days	2	trips/day	0	0	0.0149	14.2	2	44	2	44
		* Equipment: CalEEMod 2022.1.1.3 Appendix G					**Tot (grams)**			**1,186**	**23,713**			**2**	**44**	**1,188**	**23,757**
		Haul Truck: EMFAC 2021 HHD Idle					**Tot (lbs)**			**2.6**	**52.3**			**0.0**	**0.1**	**2.6**	**52.4**
							Avg. Day (lbs)					Haul Truck: EMFAC2021 HHDT 35 mph					**2.6**
												Worker Commute: EMFAC2021 LDT2 35 mph					

4 **Site clean up and Revegetation**

EQUIPMENT	hp*	LoadFac*	ROGFac*		Quantity	T DURATION	UNIT	D DURATION	UNIT	On- Site DayEmis	On- Site TotEmis	Off-Site Emfac	Off-Site Length	Off-Site DayEmis	Off-Site TotEmis	Total DayEmis	Total TotEmis
Drill seeder					0	10	work days	8.00	hours/day	0	0					0	0
Hydroseeder					0	10	work days	8.00	hours/day	0	0					0	0
Grader	148	0.41	0.361		1	10	work days	8.00	hours/day	175	1752					175	1752
Worker Commute					1.5	10	work days	2	trips/day	0	0	0.0149	14.2	0	3	0	3
		* Equipment: CalEEMod 2022.1.1.3 Appendix G					**Tot (grams)**			**175**	**1,752**			**0**	**3**	**176**	**1,756**
		Haul Truck: EMFAC 2021 HHD Idle					**Tot (lbs)**			**0.4**	**3.9**			**0.0**	**0.0**	**0.4**	**3.9**
							Avg. Day (lbs)					Haul Truck: EMFAC2021 HHDT 35 mph					**0.4**
												Worker Commute: EMFAC2021 LDT2 35 mph					