Proposed Mitigated Negative Declaration

Publication Date: November 18, 2025
Public Review Period: November 18 – December 18, 2025
State Clearinghouse Number: XXXXXXX
Permit Sonoma File Number**: UPE22-0073**
Prepared by: Robert Aguero
Phone: (707) 565-3718

Pursuant to Section 15071 of the State CEQA Guidelines, this proposed Negative Declaration and the attached Initial Study, constitute the environmental review conducted by the County of Sonoma as lead agency for the proposed project described below:

Project Name:	Halo Ranch Mitigation Bank
Project Applicant/Operator:	Halo Ranch LLC/David Brazil
Project Location/Address:	4551 Lakeville Highway Petaluma CA
APN:	068-010-004,068-010-019 and 068-010-020
General Plan Land Use Designation:	Diverse Agriculture, 30 acre density; Land Extensive Agriculture, 60 acre density
Zoning Designation:	Diverse Agriculture (DA) 30 acre density (B6 30/3) Land Extensive Agriculture (LEA) 60 acre density (B6 60) with combining districts for Biotic Habitat (BH), Floodplain (F2), Riparian Corridor (RC) 50/25, Scenic Resources, (SR) and Valley Oak Habitat (VOH)
Decision Making Body:	Board of Zoning Adjustments (BZA). Action by BZA is appealable within 10 calendar days.
Appeal Body:	Sonoma County Board of Supervisors
Project Description:	**See Item III, below**

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" or "Less than Significant with Mitigation" as indicated in the attached Initial Study and in the summary table below.

Table 1. Summary of Topic Areas

Topic Area	Abbreviation	**No**	**Yes**
Aesthetics	VIS	X	
Agricultural & Forest Resources	AG	X	
Air Quality	AIR		X
Biological Resources	BIO		X
Cultural Resources	CUL		X
Energy	ENE	X	
Geology and Soils	GEO	X	
Greenhouse Gas Emission	GHG	X	
Hazards and Hazardous Materials	HAZ		X
Hydrology and Water Quality	HYDRO	X	
Land Use and Planning	LU	X	
Mineral Resources	MIN	X	
Noise	NOISE		X
Population and Housing	POP	X	
Public Services	PS	X	
Recreation	REC	X	
Transportation	TRAF	X	
Tribal Cultural Resources	TCR		X
Utility and Service Systems	UTL	X	
Wildfire	WILD		X
Mandatory Findings of Significance		X	

RESPONSIBLE AND TRUSTEE AGENCIES

The following lists other public agencies whose approval is required for the project, or who have jurisdiction over resources potentially affected by the project.

Table 2. Public Agency Approvals

Agency	Activity	Authorization
U. S. Army Corps of Engineers	Permits for activities that involve any discharge of dredged or fill material into "waters of the United States," including wetlands,	Clean Water Act, Section 404, Rivers and Harbors Act, Section 10; Bank Enabling Instrument (BEI)
U.S. EPA	Permits for activities that involve any discharge of dredged or fill material into "waters of the United States," including wetlands	Clean Water Act Section 404; Bank Enabling Instrument (BEI)
San Francisco Regional Water Quality Control Board (SFRWQCB)	Discharge or potential discharge to waters of the state Wetland dredge or fill	California Clean Water Act (Porter Cologne) – Waste Discharge requirements, general permit or waiver Clean Water Act, Section 401, Bank Enabling Instrument (BEI)
State Water Resources Control Board	Generating stormwater (construction, industrial, or municipal)	National Pollutant Discharge Elimination System (NPDES) requires submittal of NOI
California Department of Fish and Wildlife	Lake or streambed alteration	Section 1600 of the Fish and Game Code
San Francisco Bay Conservation and Development Commission	Development within certain waterways that area subject to tidal action on named tributaries that flow into the Bay	McAteer-Petris Act
U. S. Fish and Wildlife Service (FWS) and National Marine Fisheries Service (NMFS)	Incidental take permit for listed plant and animal species and/or Letter of Concurrence	Endangered Species Act
Caltrans	Transportation Permit for any oversized or excessive load construction vehicles on Hwy 116	California Vehicle Code
Sonoma County Engineering and Grading	Grading Permit; Drainage Permit	Sonoma County Municipal Code, Chapter 11
Sonoma County Riparian Corridor Ordinance	Use Permit	Sonoma County Zoning Code, Chapter 26

ENVIRONMENTAL FINDING:

Based on the evaluation in the attached Expanded Initial Study, I find that the project described above will not have a significant adverse impact on the environment, provided that the mitigation measures identified in the Initial Study are included as conditions of approval for the project and a Mitigated Negative Declaration is proposed. The applicant has agreed in writing to incorporate identified mitigation measure into the project plans.

Robert C. Aguero

Prepared by: Robert Aguero
Senior Environmental Specialist

November 18, 2025

Initial Study

Sonoma County Permit Sonoma Department
2550 Ventura Avenue, Santa Rosa, CA 95403
(707) 565-1900 FAX (707) 565-1103

I. INTRODUCTION:

Halo Ranch, LLC propose a Use Permit for the Halo Ranch Mitigation Bank (Mitigation Bank) at 4551 Lakeville Highway, Petaluma (Assessor's Parcel Number [APN] 068-010-004). The approximately 122 acre Mitigation Bank includes rehabilitating, re-establishing and enhancing historical tidal marsh, seasonal wetland, stream and riparian habitat. The proposed Mitigation Bank would include 42.75 acres of seasonal wetlands, 59.85 acres of tidal wetlands, 4.42 acres of riparian habitat and 0.70 acres of non-perennial stream, which would be protected in-perpetuity by a conservation easement.

In addition to the establishment of the Mitigation Bank, the project also includes temporary, short term use of areas immediately across and north of Lakeville Highway (APNs 068-010-019, and 068-010-020) for Mitigation Bank habitat restoration support activities, including collection of willow cuttings and temporary placement of a pump trailer adjacent to an agricultural pond for temporary use of the stock pond for post-construction irrigation, if required. An irrigation line will lead from the agricultural pond approximately 0.22 miles southwest, passing under Lakeville Highway through an existing concrete box culvert (during the dry season) to reach the Mitigation Bank. No ground disturbing activities are anticipated as result of these temporary restoration activities proposed for north of Lakeville Highway.

In this document, the "Mitigation Bank" or "Mitigation Bank site" refers solely to the approximately 122 acre portion of APN 068-010-004 proposed for use as the Mitigation Bank, where grading and habitat restoration are proposed. The terms "project" and "project site" refer to the Mitigation Bank site together with the additional parcels across from the Mitigation Bank site and north of Lakeville Highway (APNs 068-010-019, and 068-010-020) proposed for short-term, temporary habitat restoration planting support activities, as described above. All three parcels are owned by the proposed project's property owner and permit applicant.

A referral letter was sent to the appropriate local, state and federal agencies and interest groups who may wish to comment on the project in January 2023.

This report is the Initial Study required by the California Environmental Quality Act (CEQA). The report was prepared by Deborah Waller and Robert Aguero, Senior Environmental Specialists with the Sonoma County Permit and Resource Management Department, Natural Resources Division. Information on the project was provided by David Brazil property owner and Halo Ranch LLC manager. Technical studies were provided by qualified consultants to support the conclusions in this Expanded Initial Study. Technical studies, other reports, documents, and maps referred to in this document are available for review through the Project Senior Environmental Specialist, or the Permit and Resource Management Department (Permit Sonoma) Records Section.

Please contact Robert Aguero, Senior Environmental Specialist at Robert.Aguero@sonomacounty.gov or (707) 565-3718, for more information.

II. EXISTING FACILITY

The project is located adjacent to the southeastern boundary of the City of Petaluma, in unincorporated Sonoma County approximately 3.8 miles east-southeast of downtown Petaluma, along Lakeville Highway. (Figure 1). The proposed Mitigation Bank will utilize a portion (122.26 acres) of a 241.04 acre parcel (APN 068-010-004) and temporarily utilize areas across from the Mitigation Bank site, north of Lakeville Highway (APNs 068-010-019, and 068-010-020) for willow collection and use of a stock pond for temporary irrigation, if needed (Figures 2 and 3). The Mitigation Bank site is bound by Lakeville Highway and agricultural lands to the north, agricultural lands to the east, the Petaluma River/marsh complex and Petaluma River to the south, and the City of Petaluma Ellis Creek Water Recycling Facility to the west. Access to the Mitigation Bank site is via an existing gated entrance from Lakeville Highway and is by owner permission. There is no public access.

The Mitigation Bank site is currently used for agriculture, including crops and grazing, and contains minimal infrastructure except for informal ranch roads, fencing, berms, fencing and locked entry gate along Lakeville Highway.

The Mitigation Bank site historically supported a tidal marsh and seasonal wetland complex, prior to the construction of a perimeter berm along the southern and western boundary in the 1950's and the onset of ranching and agricultural activities. Figure 4 shows historical habitats at the Mitigation Bank site.

Today, remnants of marsh and seasonal wetlands exist, including brackish marsh, seasonal and perennial wetlands, drainages and streams, portions of which are tidally influenced. Figure 5 shows existing wetlands and drainages. Wheat Creek, an intermittent stream, borders the southeastern side of the Mitigation Bank site. There are two drainages, one parallel to Lakeville Highway and the other parallel to the northwest boundary of the Mitigation Bank site, adjacent to the City of Petaluma's Ellis Creek Water Recycling Facility. There are flap (tide) gates in the permitter berm, allowing tidal flows from the Petaluma River to the remnant marsh, including along the lower portion of Wheat Creek and the drainage parallel to the northwest boundary of the parcel (Figure 2).

Prior ranching and agricultural land uses contributed to the degradation of the Bank's overall biological resources and wetland functions and values. Cattle grazing and intensive agricultural uses as well as the channelization of Wheat Creek have resulted in the impairment of ecological processes that support tidal marsh and riparian systems, including channel incision, loss of riparian habitat, and loss of floodplain.

Figure 1. Vicinity Map

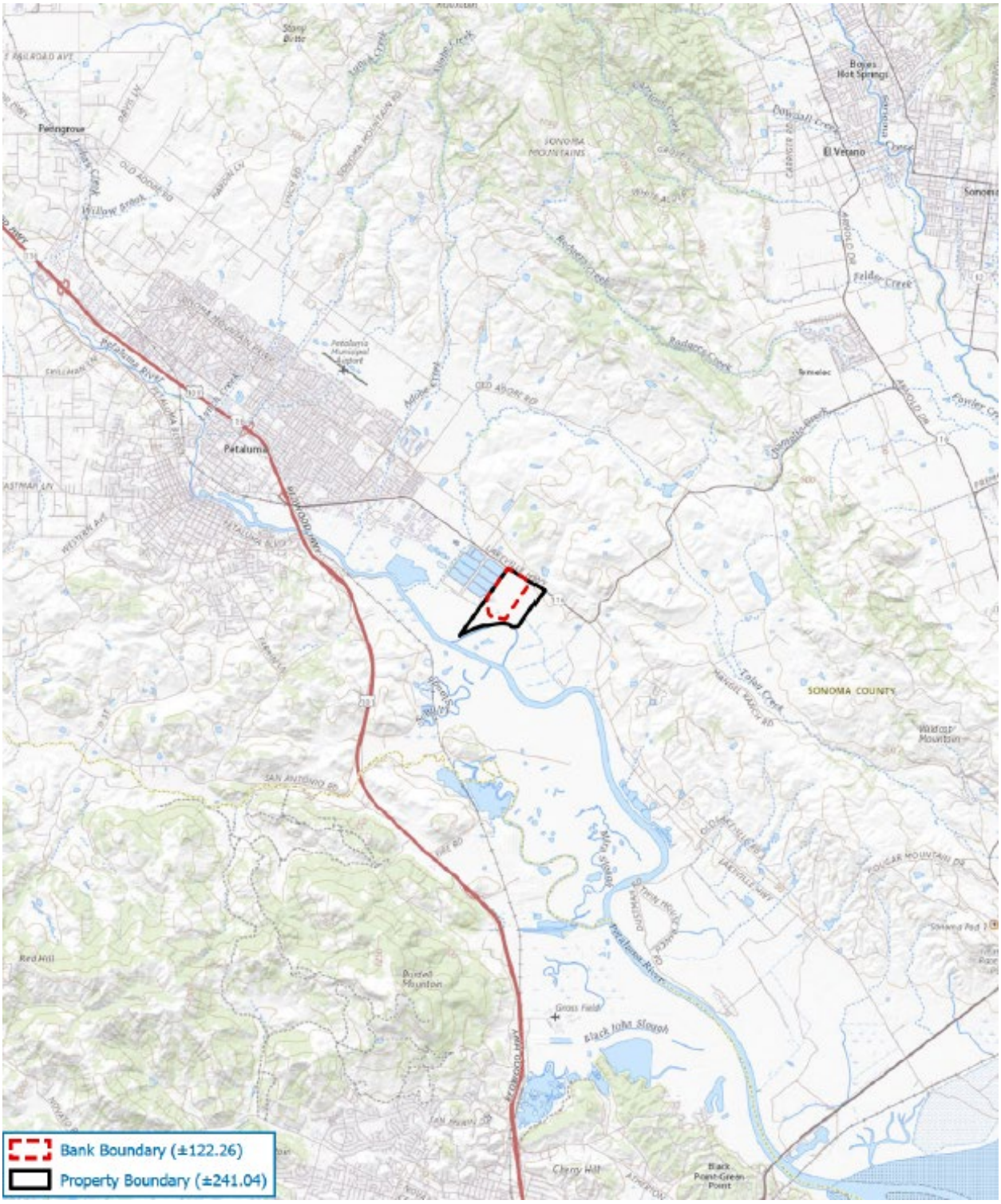


Figure 2 Existing Site Overview

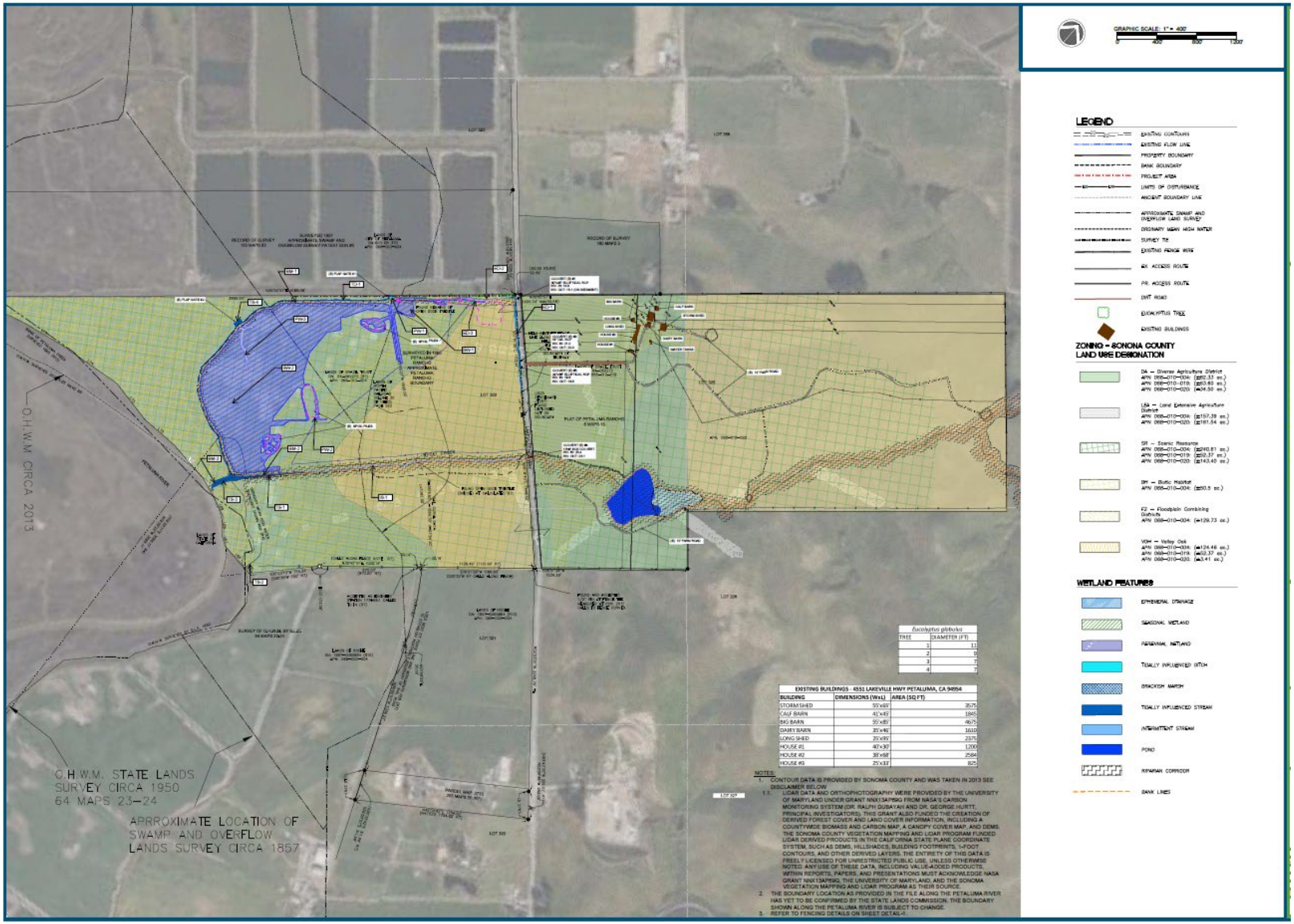


Figure 3 Mitigation Bank Boundary and Willow Cutting Collection Areas and Stock Pond

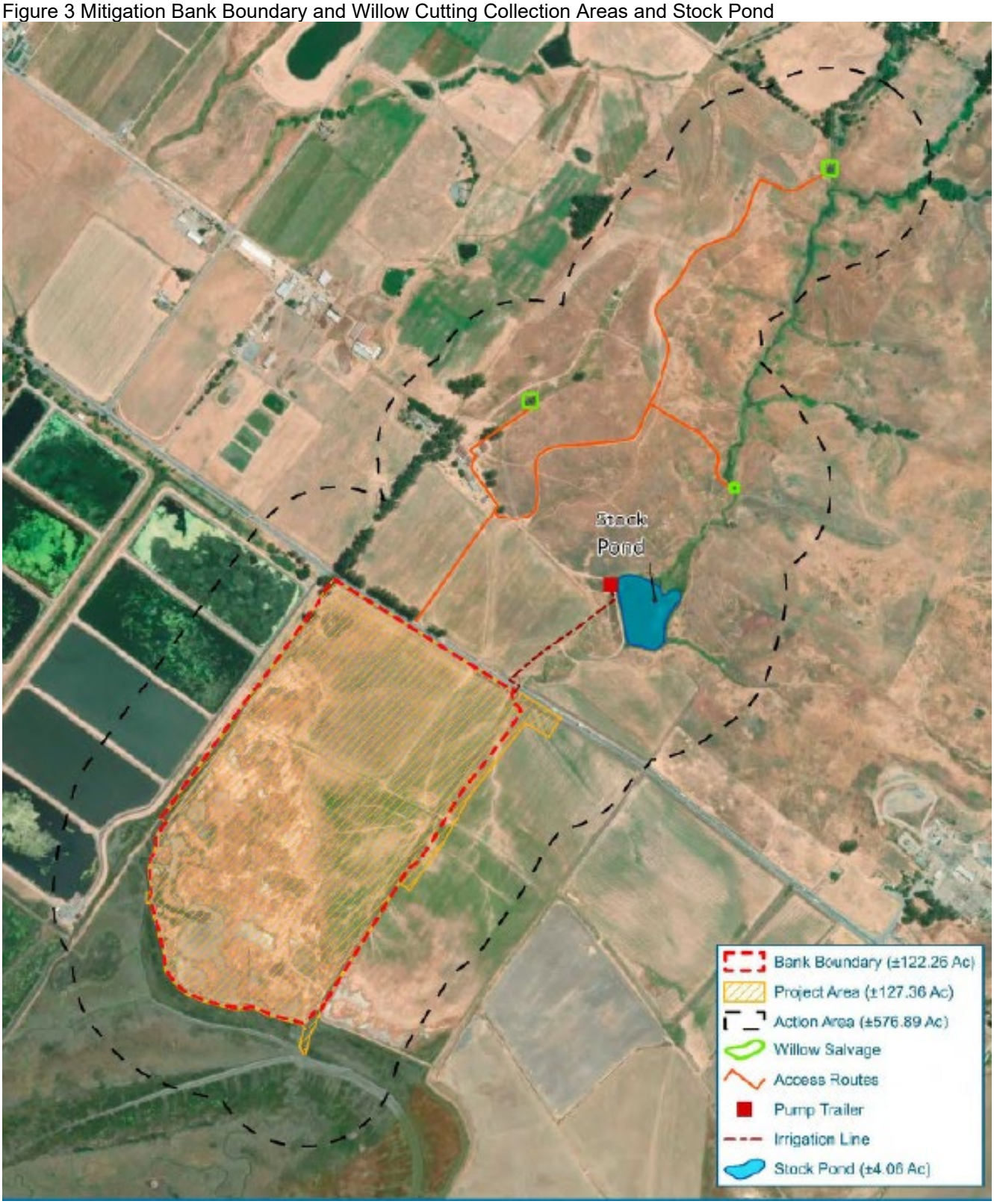


Figure 4 Historical Habitats

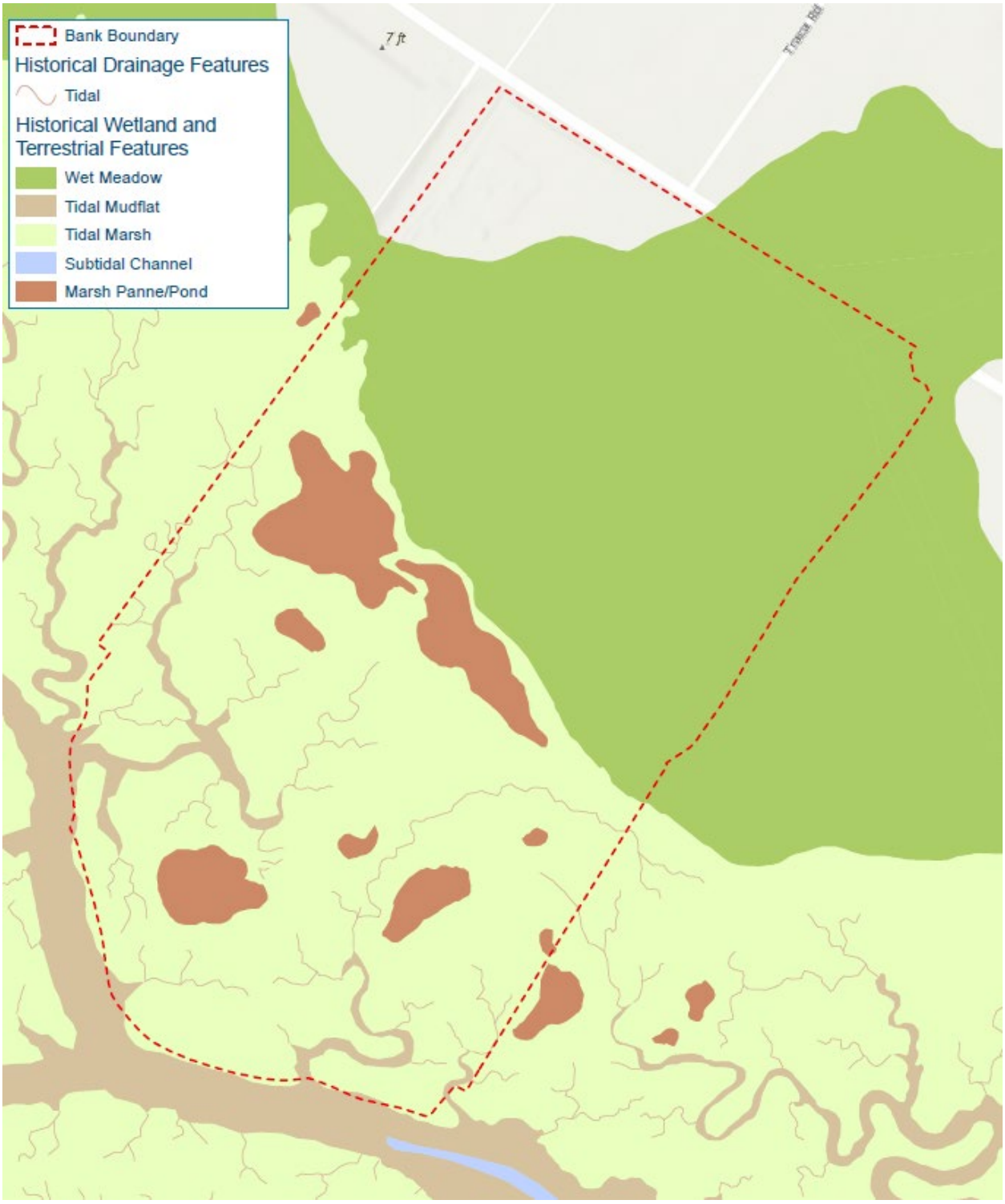
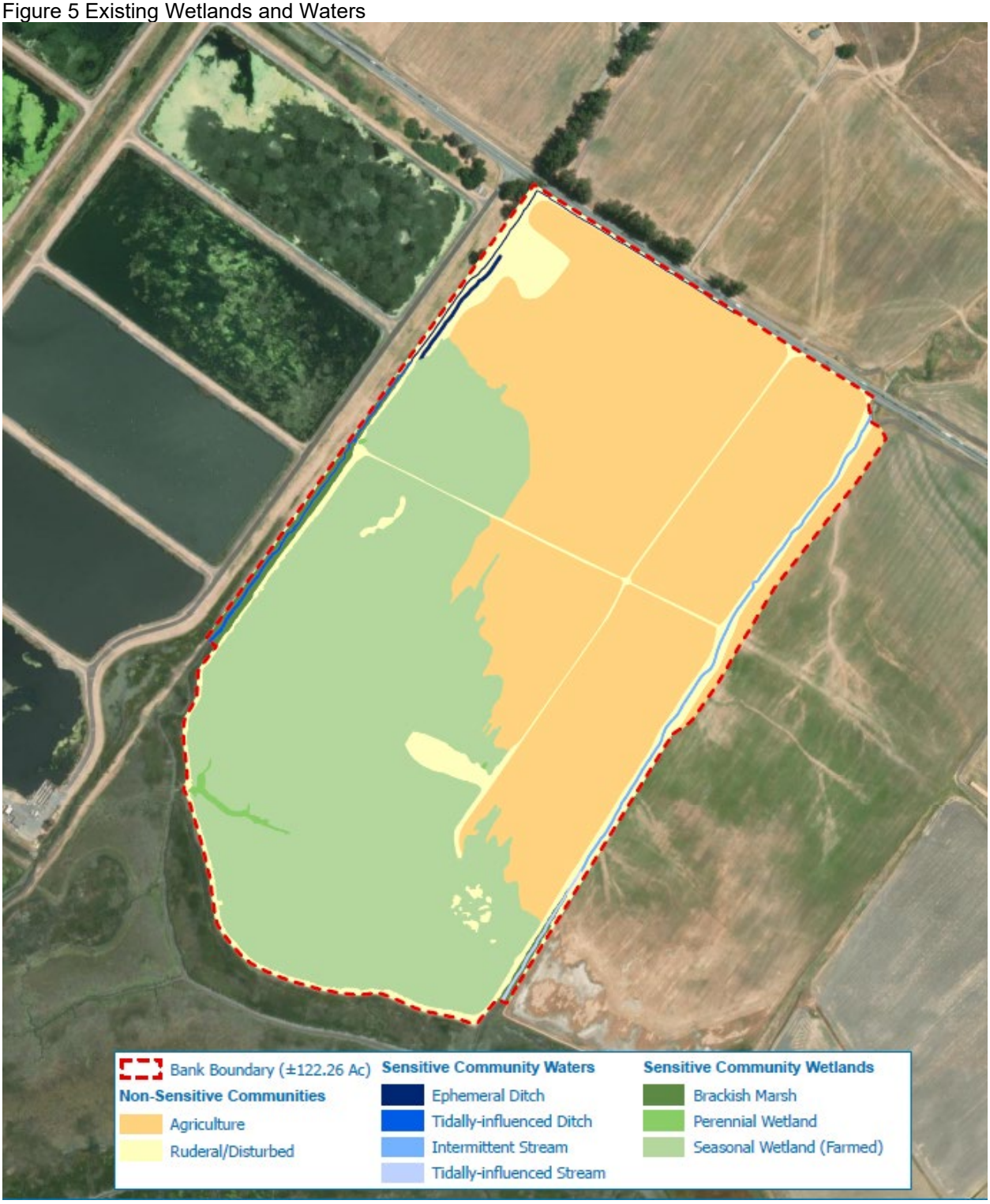


Figure 5 Existing Wetlands and Waters



III. PROJECT DESCRIPTION

The project is a request for: Use Permit for the Halo Ranch Mitigation Bank which involves rehabilitation, reestablishment, and enhancement of tidal wetland, seasonal wetland, and non-perennial stream (Wheat Creek) on a portion (122.26 acres) of a 241.04 acre parcel (APN 68-010-004). Additional areas north of the Mitigation Bank on two additional parcels (APNs 068-010-019, and 068-010-020) are proposed for temporary habitat restoration support activities, including willow cutting and use of a stock pond for temporary irrigation, if needed.

As described above, “Mitigation Bank or Mitigation Bank site” refers solely to the 122.26 acre portion APN 068-010-004, located south of Lakeville Highway, proposed for use as the Mitigation Bank that will be protected in-perpetuity (Figure 1); “project” and “project site” refers to the Mitigation Bank together with the additional areas north of the Mitigation Bank and Lakeville Highway where temporary, short term habitat restoration activities are proposed (Figures 2 and 3).

Mitigation banks are free-market enterprises that allow landowners to receive economic incentives for protecting natural resources. They can offer an alternative to individually proposed on-site mitigation projects, consolidating many small, fragmented mitigation projects into large contiguous sites with a generally higher habitat value. As such, mitigation banks generally increase protection of natural resources.

The review and approval of wetland mitigation banks generally involves a multi-agency process that includes, but is not limited to, the U.S. Army Corps of Engineers (USACE) and the U.S. Environmental Protection Agency (USEPA) as well as other agencies such as U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration’s National Marine Fisheries Service (NMFS). These agencies generally make up a mitigation bank project’s Interagency Review Team (IRT), which reviews and approves the Mitigation Bank using a Bank Enabling Instrument (BEI). The BEI is the written agreement that establishes the specific rules for a mitigation bank’s operation, maintenance and use, and includes the bank’s service area and types of wetland credits it will offer.

The Halo Ranch Mitigation Bank IRT is comprised of the San Francisco USACE, USEPA, and the San Francisco Bay RWQCB as Signatory Agencies and the USFWS, and NMFS as non-signatory agencies. The project proponent, applicant, and property owner, Halo Ranch LLC, prepared the Halo Ranch Bank Enabling Instrument (BEI), the written agreement between the Bank Sponsor (Halo Ranch LLC), landowner (Halo Ranch LLC and the IRT regarding the establishment, use, operation and maintenance of the bank in-perpetuity.

The Halo Ranch Mitigation Bank’s BEI was prepared for the project applicant, Halo Ranch LLC, by Resource Environmental Solutions (RES) (RES, 2024) and approved by the IRT in March 2025. The BEI provides the Mitigation Bank’s project description, including construction, planting, maintenance and monitoring, and long-term operation and conservation easement requirements. The BEI, including its associated technical studies and reports, were used to describe the Halo Ranch Mitigation Bank in this Initial Study. The Halo Ranch Mitigation Bank BEI is incorporated by reference as a part of the Use Permit application, including the BEI’s Development and Interim Management Plan (Attachment 1) and, the BEI Long-term Management Plan (Attachment 2).

Permit Sonoma provides planning approval of the Halo Ranch Mitigation Bank through a Use Permit for encroachment of the County’s Riparian Corridors under Sonoma County Code 26-65, Riparian Corridor Combining Zone. Encroachment of the 50-foot Riparian Corridor setbacks at the Mitigation Bank includes restoration activities along Wheat Creek and the unnamed drainage along the northwest boundary of the parcel, that continues southeast following the southern berm, before draining to the Petaluma River. The County’s Riparian Corridors at the project site are shown in Figure 2.

Two restoration areas on the drainage along the northwestern boundary of the Mitigation Bank will be included as part of the habitat restoration of the Mitigation Bank site but will not be included as areas available for Mitigation Bank credits. These two contiguous areas are along the upper portions of the

drainage, within the County's 50-foot Riparian Corridor setback, including:

- the Eucalyptus Zone: beginning at the northwest corner of the parcel to existing eucalyptus trees;
- Tidal Marsh Transition Area: beginning just south of the eucalyptus trees to the start of the tidal tidally influenced ditch.

The Eucalyptus Zone and Tidal Marsh Transition areas are shown on the Preliminary Planting Plans for the Mitigation Bank site (Figures 6 and 7).

Once approved, the Halo Ranch Mitigation Bank would operate by selling wetland, stream and riparian credits to individual project proponents and permittees per the specifications of the BEI.

Use Permit for Halo Ranch Mitigation Bank:

The applicant proposes establishing, operating and maintaining the Halo Ranch Mitigation Bank to protect and re-establish aquatic resources and increase related ecosystem functions. The Mitigation Bank's habitat restoration design restores and improves wetland functions including surface and ground water storage, soil saturation, nutrient cycling, water quality, and biodiversity, and increase wetland services by restoring an active floodplain, increasing riparian vegetation, shade, and downed wood inputs; and expanding the amount of potential habitat for sensitive species.

Once complete, the Mitigation Bank will provide the opportunity to purchase seasonal wetland, tidal wetland, stream and riparian mitigation credits to compensate for unavoidable project impacts within North Bay areas requiring mitigation by the USACE and RWQCB under Sections 401 and 404 of the CWA (33 U.S.C. § 1251 et seq.) and the Porter-Cologne Water Quality Control Act (Water Code, § 13000 et seq.). The Halo Ranch Mitigation Bank will be managed and maintained in-perpetuity through a conservation easement and establishment of a long-term endowment. California Waterfowl Association is the proposed Easement Holder and Endowment Holder.

The Halo Ranch Mitigation Bank conforms to a number of conservation planning efforts, including the Petaluma Watershed Enhancement Plan (Southern Sonoma County RCD, 1999), the BCDC Bay Plan (San Francisco BCDC, 2006), the USFWS Recovery Plan for Tidal Marsh Ecosystems of Northern and Central California (U.S. Fish and Wildlife Service, 2013), and the Baylands Ecosystem Habitat Goals Science Update (Goals Project, 2015). The San Francisco Estuary Institute (SFEI) recently produced a report titled "Petaluma Valley Historical Hydrology and Ecology Study", which identifies the Bank as a good opportunity for the restoration of tidal marsh, transition zone, and freshwater wetlands (Baumgarten et. al. 2018).

As discussed above, implementation and requirements of the Halo Ranch Mitigation Bank are provided in its Bank Enabling Instrument (BEI). The BEI's Development and Interim Management Plan (Attachment 1); the BEI's Bank Management and Operation Documents, including the Long-term Management Plan (Attachment 2); Planting Plans; and Grazing Plans are discussed below.

BEI Development Plan

Development Plans include the rehabilitation, re-establishment and enhancement of tidal and seasonal wetlands, ephemeral drainages, and Wheat Creek, a non-perennial stream together with associated non-wetland riparian habitat.

Mitigation Bank creation activities include:

- Re-establish seasonal wetlands, including seasonal wetland depressions at upper elevations of the Mitigation Bank site to mimic historic conditions;

- Rehabilitate seasonal wetlands within the ephemeral ditch along the northeast boundary of the Mitigation Bank (adjacent to Lakeville Highway) to provide hydrologic connectivity to the Mitigation Bank's restored seasonal wetlands;
- Rehabilitate Wheat Creek to promote overbank hydrology to the seasonal wetlands, including raising the elevation of Wheat Creek's channel bed to reduce the degree of incision and to encourage flows to fan out onto the seasonal wetlands. The rehabilitation of Wheat Creek would encourage overbank flows to raise groundwater elevations below the fan surface, enhancing the seasonal wetlands conditions. Increasing the roughness of the Wheat Creek channel would promote dissipation of energy and promote overbank flows to restore non-linear flow paths.
- Construct a berm on the southeastern side of the Mitigation Bank, parallel to Wheat Creek, and outside its riparian corridor, to ensure hydrological flows will be retained within the Bank Property.
- Establish riparian vegetation along both banks of the Wheat Creek corridor.
- Re-establish tidal wetlands and rehabilitate tidal wetlands by removing two (2) flap (tide) gates and lowering the berm along the southern and western boundaries of the Bank Property to restore tidal hydrology.
- Excavate tidal channels within the lower elevations of the Mitigation Bank to maximize tidal hydrology connectivity and function.
- Remove soil stockpiles and raise subsided areas within the tidal wetlands areas to create and sustain a functioning tidal wetland ecosystem.
- Enhance tidal wetlands along the western tidally-influenced drainage (adjacent to the City of Petaluma's Ellis Creek Water Recycling Facility) by improving hydrologic connections to tidal waters

Overall, the proposed project would enhance, rehabilitate and restore a total of 102.60 acres of wetlands and 0.70 acres of non-wetland waters (drainages and creeks) and create 4.42 acres of riparian habitat. The proposed restoration and preliminary planting plans are shown in Figures 6 and 7, respectfully. Table 3 below provides the pre- and post-project habitat conditions and increase in wetlands post construction.

Figure 6 Mitigation Bank Restoration Plan

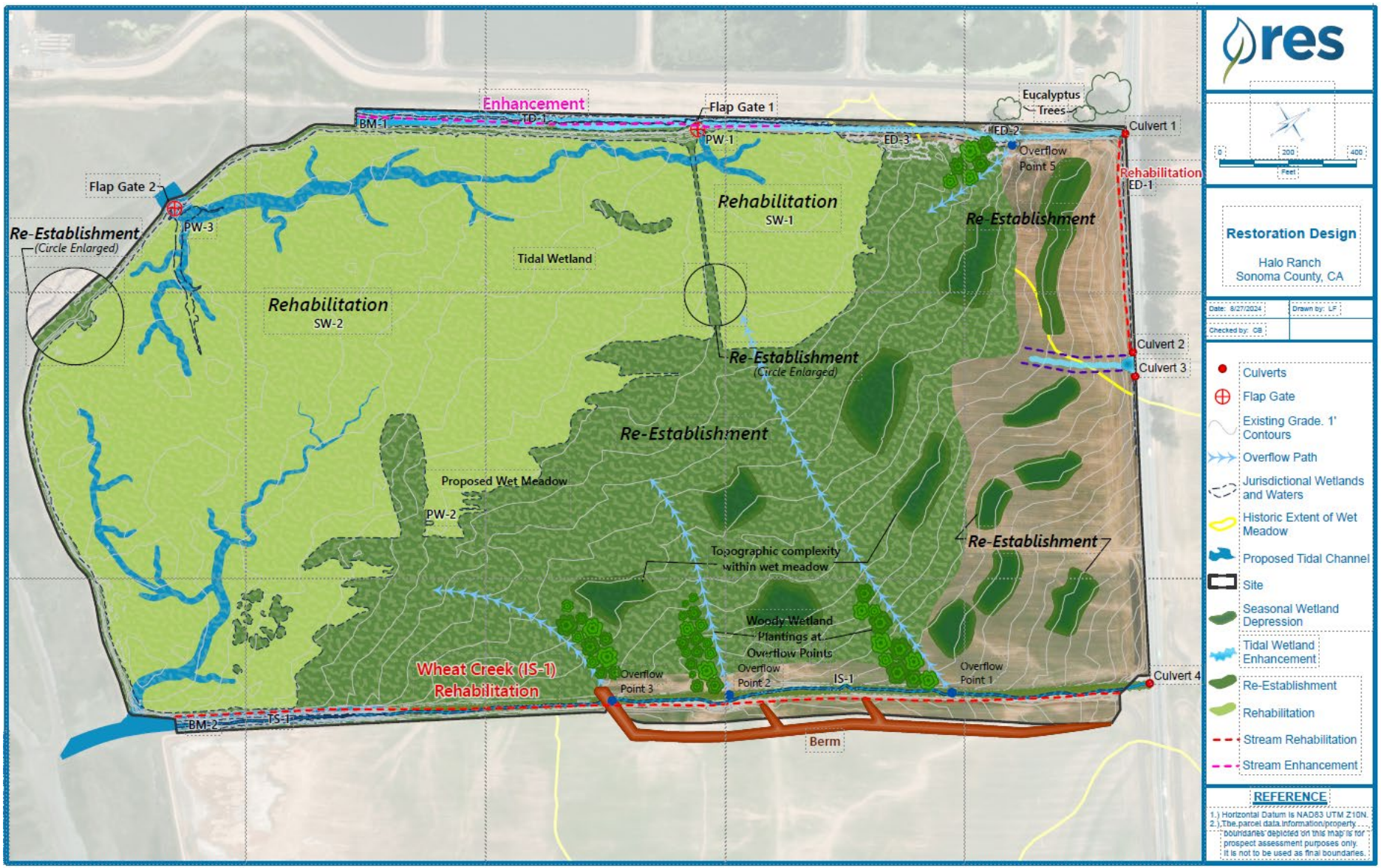


Figure 7 Preliminary Planting Plans

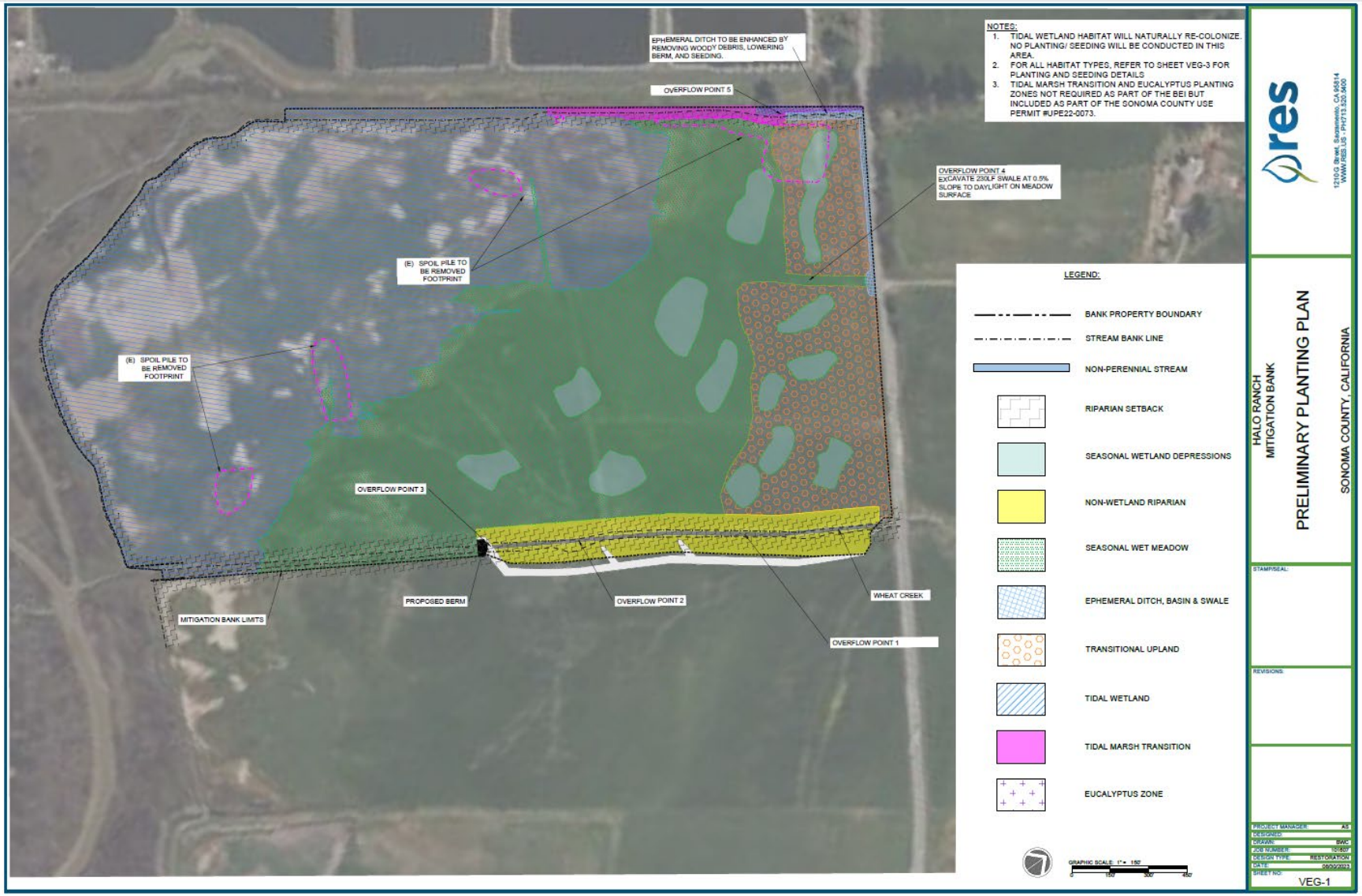


Table 3. Pre- and Post-project Habitat Type

Natural Community Type	Habitat Type	Pre-construction (Baseline) Condition	Post-project Condition
Wetlands	Seasonal Wetlands (farmed)	53.67	--
	Perennial Wetlands	0.23	--
	Brackish Marsh	1.14	--
	Seasonal Wetlands (including seasonal wetland depressions)	--	42.75
	Tidal Wetlands	--	59.85
	Wetlands Subtotal	**55.04**	**102.60**
Non-wetlands	Ephemeral Ditch	0.20	--
	Non-perennial Stream (Wheat Creek)	0.30	0.70
	Tidally-influenced Ditch	0.13	--
	Tidally-influenced Stream	0.07	--
	Non-wetland Riparian	--	4.42
Herbaceous/Disturbed	Agricultural Fields	55.86	--
	Ruderal Areas	10.66	--
	Annual Grassland	--	14.54
	Non-Wetlands Subtotal	**67.22**	**19.66**
	Grand Total	**122.26**	**122.26**

In addition to implementation of the activities listed above, the project includes tree and shrub restoration plantings along the ephemeral (non-tidal) portion of the drainage in the northwest corner of the Mitigation Bank site, (parallel to the City of Petaluma's Ellis Creek Water Recycling Facility) within the County's 50-foot Riparian Corridor Setback, described previously as the Eucalyptus Zone and Tidal Marsh Transition area. These areas are shown in Figure 7, Planting Plans.

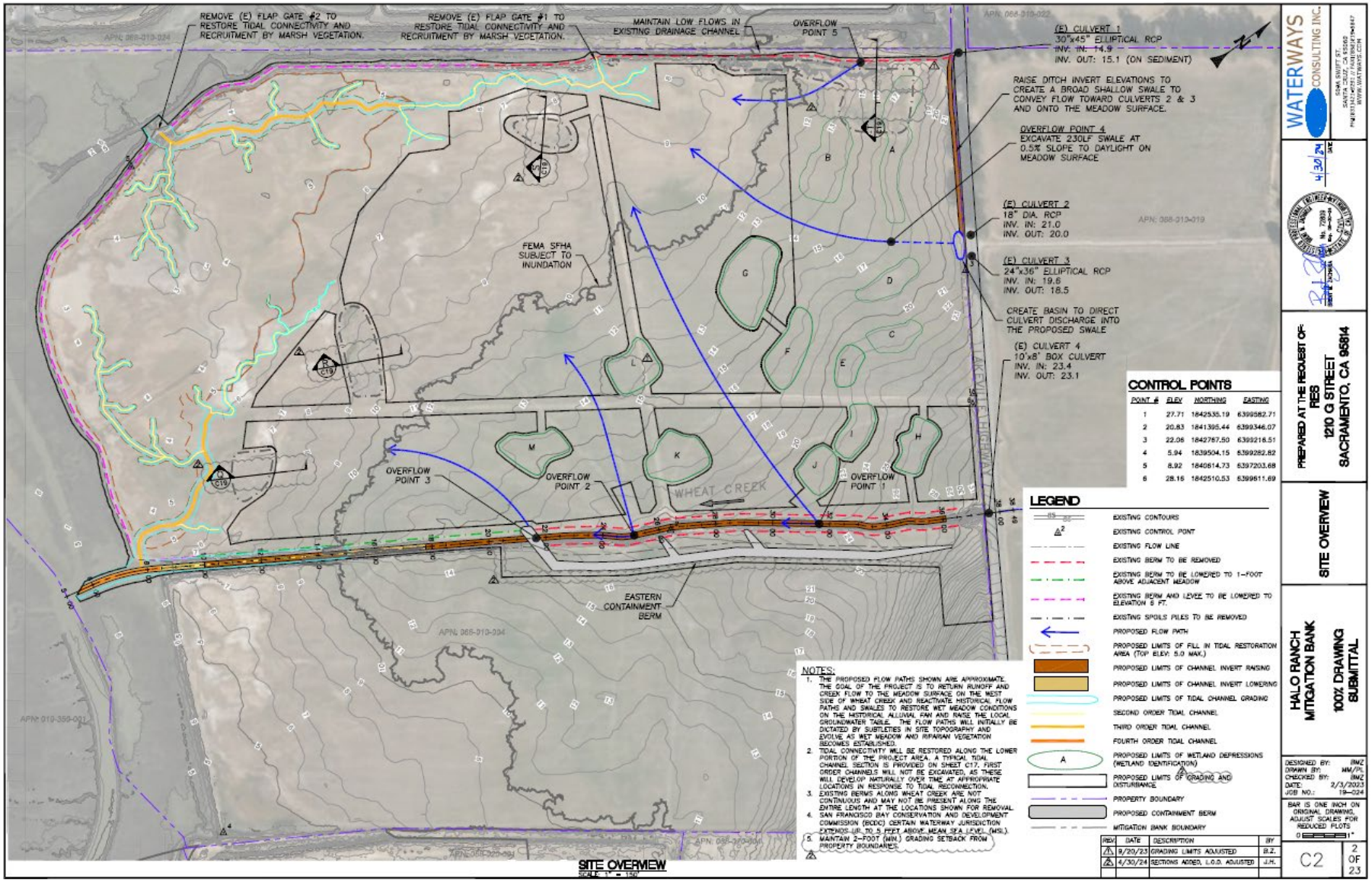
Tidal wetland areas are expected to revegetate through natural recruitment. Wheat Creek, ephemeral drainages, seasonal wetlands and wet meadow areas will be revegetated with direct native plantings from nursery stock, native seed, and with direct transplant of willow stakes collected from the areas on the northeast side of Lakeville Highway (APNS 068-010-019 and 068-010-020). Plants and seed will be sourced locally from Sonoma County to the extent feasible. No non-native plants or invasive plants will be used.

The Mitigation Bank would be constructed in accordance with the BEI's Development and Interim Management Plans (Attachment 1), unless changes are approved in writing by the IRT and local, state, and federal regulatory agencies, including the County.

Construction

All excavated materials will be redistributed within the Mitigation Bank site to raise elevations where needed, including tidal areas (outside of existing tidal channels) and Wheat Creek. A total of approximately 37,400 cubic yards of cut and fill material will be redistributed and balanced on site. There would be no off-hauling or on-hauling of materials to or from the site. Grading Site Plan is shown in Figure 8.

Figure 8 Grading Site Plan



Construction is proposed June through December 2025, with in-water work limited from June 15 through October 15, unless prior written approval is provided by regulatory agencies. The construction activity schedule is provided in Table 4, Construction Implementation Phasing. Following grading, reseeding and planting will occur prior to the start of the wet season. Revisions to the schedule require approval in writing from regulatory agencies to avoid impacts to water quality and/or special-status species.

Table 4. Construction Implementation Phasing

Construction Sequencing	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Regulatory and Sensitive Resource Work Windows												
Nesting birds*												
Fish**						In-water work window						
Dry season**												
Construction Activities												
Mobilization & Site Preparation (clearing & grubbing)												
Perimeter fence installation												
Construct seasonal wetland depressions, ephemeral ditches, basin, and swales												
Rehabilitation of Wheat Creek (northern section)												
Rehabilitation of Wheat Creek (southern section)												
Wildlife fence installation												
Excavate tidal channels & redistribute spoil materials												
Lower elevation of southern berm												
Flap Gate 1 removal, connect to tidal flows												
Flap Gate 2 removal, connect to tidal flows												
Excavate southern extent of Wheat Creek & connect to tidal flows												
Install irrigation system (if deemed necessary)												
Seeding, planting, and willow cutting installation												
Demobilization												

* *Work conducted during the nesting season (February to August) may occur if a pre-construction nesting bird survey confirms absence of special-status bird species and* ***conforms with all regulatory agency permits and approvals..***

If there are construction delays, construction activities may extend into November/December on an as-needed basis with* ***prior written agency approval(s) from all agencies with regulatory authority over the project.

The following construction equipment will be used to carry out the proposed project:

- 4 – Kenworth 10-wheel dump trucks
- 1 – Bobtail Tractor
- 1 – Excavator – CAT 330
- 1 – Excavator – JD200
- 1 – Motor Grader – CAT 772
- 1 – Dozer – CAT D5
- 1 – Dozer – CAT D6
- 1 – Scraper – CAT613
- 1 – Loader – CAT 963
- 1 – Box Scraper – Case 570
- 1 – Compactor – CAT 563
- 1 – Roller – CAT 433

Before commencement of construction activities, the project applicant would be required to obtain all permits and approvals from local, state and federal agencies (Table 2, above), including, but not limited to USACE, USFWS, NMFS, SWRCB, RWQCB, CDFW and BCDC and Permit Sonoma. All avoidance and minimization measures listed in the BEI's Development and Interim Management Plans (Attachment 2) and local, state and federal project approvals would be implemented prior to construction.

Interim Management Plan

Following restoration activities, the Bank Sponsor (Halo Ranch LLC) will begin implementation of maintenance, management and monitoring in accordance with the BEI's Interim Management Plan (Attachment 2). The purpose of the Interim Management Plan is to ensure that habitat and hydrology restoration performance standards are met and that restored areas progress toward achieving the BEI's goals and objectives. Local reference sites with similar habitats will be used for evaluation and comparison of the Bank's performance standards.

Monitoring of performance standards include:

- Aquatic resources delineations;
- Seasonal wetland hydrology and vegetation monitoring;
- Tidal wetland physical, hydrology, and vegetation monitoring;
- Stream/drainage and riparian habitat physical, hydrology and vegetation monitoring;
- California Rapid Assessment Method (CRAM) to assess the condition of riparian and wetland habitats

The seasonal wetlands and non-wetland drainages and riparian habitat performance standards will be monitored for five years and the tidal wetlands and Wheat Creek performance standards will be monitored for 10 years. Maintenance and monitoring will be extended one year at a time for areas that do not meet performance standards. Monitoring of performance standards will continue until all performance standards have been met. Detailed performance standards for the Mitigation Bank are included in the Interim Management Plan (Attachment 1).

Monitoring plantings within the County's Riparian Corridor along the northwest side of the Mitigation Bank in the areas referred to as the Eucalyptus Zone and Tidal Transition Zone (see planting plans, Figure 7) are outside of the area proposed for Mitigation Bank credits, and are not addressed in the BEI, but will adhere to Permit Sonoma's Use Permit Conditions of Approval (COA) vegetation success criteria as a minimum or as otherwise required by other regulatory agency permits and approvals for planting success.

During monitoring activities, the Bank Sponsor will implement the BEI's Operation and Maintenance Plan (included as part of the BEI's Development and Interim Management Plan, Attachment 1). Operation and Maintenance Plan activities include:

- Qualitative site assessments
- Erosion inspection and management
- Trespass, vandalism, and trash management
- Fences, gates and sign maintenance
- Fire hazard reduction activities
- Irrigation system maintenance
- Invasive plant species control
- Grazing monitoring and vegetation management

- Conservation Easement Compliance

Long-Term Management Plan (LTMP)

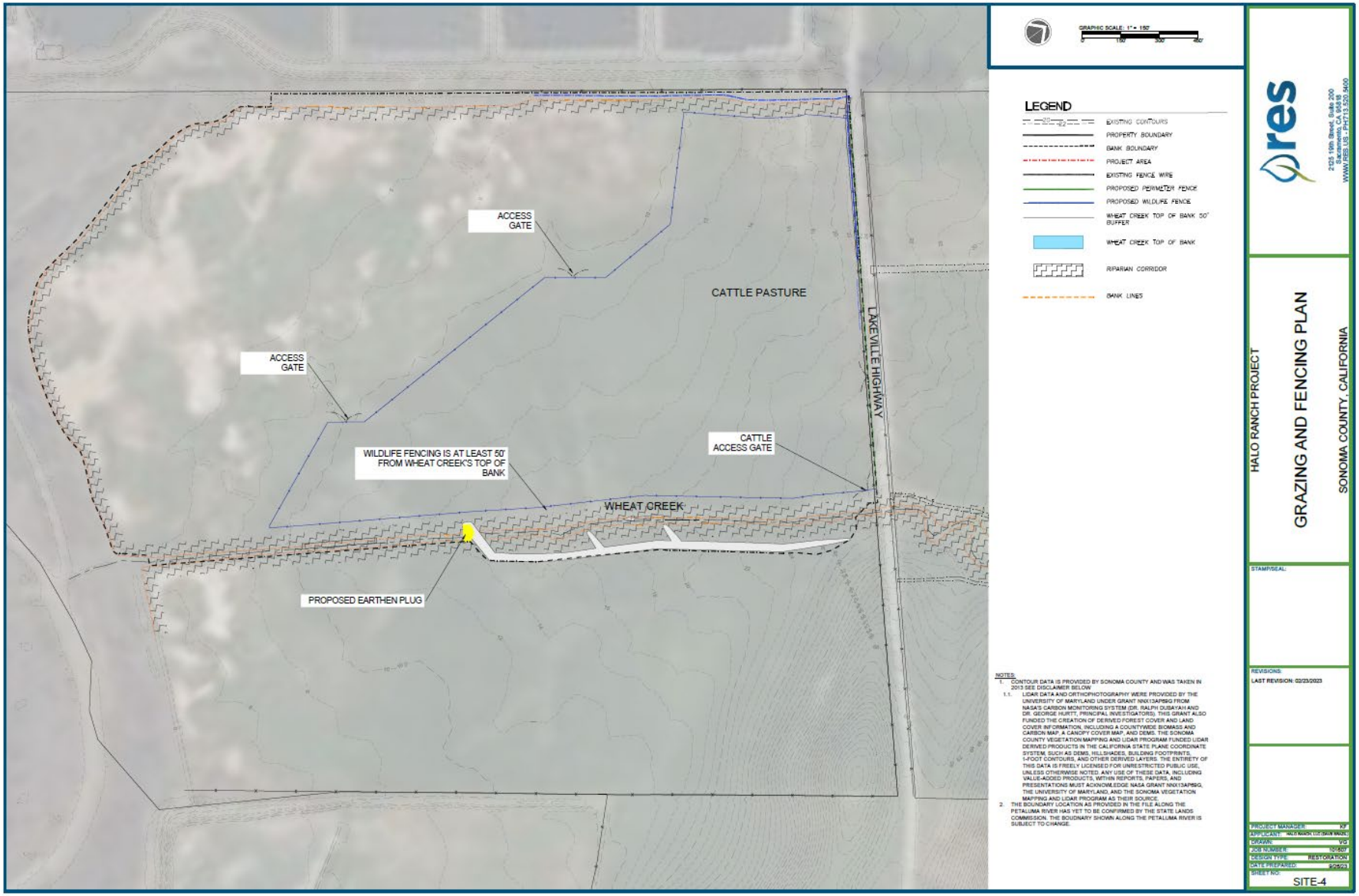
The purpose of the BEI's Long-term Management Plans (LTMP, Attachment 2) is to ensure the Mitigation Bank is managed, monitored, and maintained in-perpetuity. The LTMP establishes objectives, priorities, and tasks to monitor, manage, maintain, and report on the waters of the U.S. and waters of the State. The LTMP is a binding and enforceable instrument, implemented by the Conservation Easement for the Halo Ranch Mitigation Bank Property (Bank Property), as required by the BEI (discussed further below).

The approach to the long-term management of the Mitigation Bank's biological resources is to conduct annual site examinations and monitoring to determine stability and ongoing trends of the preserved and created waters of the U.S. and waters of the State. Annual monitoring will assess the Bank's condition, degree of erosion, invasion of exotic or deleterious (e.g., thatch producing) species, water quality, fire hazard, and/or other aspects that may warrant management actions. One objective of the LTMP is to conduct monitoring to identify any issues that arise and use adaptive management to determine what actions might be appropriate. Annual monitoring reports will be provided to the IRT to document site conditions and if necessary, implement adaptive management activities. The IRT will provide approval of any major adaptative management actions prior to implementation. Approval from other local, state, and federal regulatory agencies may also be required, depending upon the proposed action.

Grazing Management Plan

Grazing will be used in seeded and planted areas of the Mitigation Bank after installation of exclusion fencing for the purpose of invasive/nonnative species management and management of fuel loads from grasses and thatch. A total of approximately 49.01 acres of the approximately 122 acre Mitigation Bank site will be used for grazing. Grazing would follow the BEI's Grazing Management Plan and will be prohibited in the Riparian Corridor without prior approval of the IRT, state and federal regulatory agencies, and County of Sonoma. The Grazing and Fencing Plan is shown in Figure 9.

Figure 9. Grazing and Fencing Plan



Endowment and Conservation Easement

The Bank Sponsor will provide an Endowment Fund to California Waterfowl, a 501(c)(3) nonprofit (Endowment Holder), to provide perpetual funding for long-term management and conservation easement compliance, in perpetuity, per the BEI.

Adaptive Management

Adaptive Management is an approach to natural resource management which incorporates changes to post-construction management practices, including corrective actions to meet project goals. Post-construction adaptive management activities are addressed in the Mitigation Bank's Development an Interim Management Plan and Long-term Management Plan (Attachments 1 and 2, respectively).

Minor adaptive management activities would be implemented, if needed, as soon as is practicable after detection of potential impact. Such activities may include, but are not limited to:

- minor invasive species treatment technique revisions
- minor erosion control revisions;
- minor fence and gate repairs and trash removal activities and;
- changes to livestock stocking rates or rotational schedule.

While it is not anticipated that major adaptive management actions would be required, they may include, but are not limited to:

- treatment of significant invasive species infestations;
- major erosion control;
- channel stability improvements
- major repairs due to trespassing
- treatment after major natural event such as a fire, flood, or significant and prolonged drought.

Adaptive management activities will be evaluated on a site specific, case by case basis to determine what actions and approvals may be required. Because they are unforeseen, major adaptive management activities are not addressed in this Initial Study. Proposed adaptive Management actions will be included with the annual monitoring report submitted to the IRT, the County and state and federal regulatory agencies. Major adaptive management activities may trigger additional review and approvals prior to proceeding, including coordination with and approval from the IRT, County, and/or state and federal agencies regulating the Mitigation Bank.

Additional Project Information

Project Structures: The project does not include construction of any structures.

Project Employes: The mitigation bank will be operated by the Halo Ranch LLC. After restoration activities are completed, activities at the stie requiring consultant or owner presence will be limited to periodic maintenance, monitoring and management activities.

Visitors: The Mitigation Bank will not be open to the public

Access and Parking: Access to the Mitigation Bank site is via an existing gated entrance from Lakeville Highway and is by owner permission only.

Utilities and Services: The project does not include any permanent utilities or services.

Water, Wastewater, and Waste Disposal: The Project does not include any structures or facilities that would require a water, wastewater or waste disposal system.

Water Conservation Plan: There are no proposed structures or any need for a water conservation plan. Restored wetland and riparian habitats will be watered by direct precipitation and rainwater runoff. Temporary irrigation may be used during the first one to three years following installation of willow stakes to help with establishment and increase survivorship rates, if needed. Irrigation use will be determined based on forecasted rainfall. The temporary irrigation system would be

connected to an agricultural stock pond located north of the Mitigation Bank (APN 068-010-019 and 068-010-020) on the northern side of Lakeville Highway within lands owned by the Bank Sponsor. The irrigation system would be piped from the stock pond, along the Wheat Creek corridor and under Lakeville Highway, to the Mitigation Bank Property.

Storm Water Management Plan: The Project will obtain a grading permit and include appropriate drainage and stormwater management.

Energy Conservation Plan: The Project does not include any structures or facilities that would require an energy system

Fire and Emergency Services:. The Project does not include the construction of any structures or facilities that would require fire and emergency services.

IV. SETTING

The Mitigation Bank site is bounded by Lakeville Highway and agricultural lands to the north, agricultural lands to the east, the Petaluma River/marsh complex and Petaluma River to the south, and the City of Petaluma Ellis Creek Water Recycling Facility to the west. Surrounding parcels to the north and east are used for agriculture with some, single family dwelling units, accessory and agricultural structures. With the exception of the City of Petaluma's Ellis Creek Water Recycling Facility, County zoning in the surrounding areas is similar to the project site, including Diverse Agriculture and Land Extensive Agriculture.

The southwestern portion of the Mitigation Bank site connects to existing tidal marsh within the Petaluma River/marsh complex and downstream is the California Department of Fish and Wildlife's (CDFW) Petaluma Marsh Wildlife Area. This is the largest remaining natural tidal marsh habitat remaining in the San Pablo Bay. The Petaluma Marsh Wildlife Area totals approximately 4,200 acres and supports a wide variety of native wildlife including Federal and State-listed endangered species. Other publicly protected areas including in the vicinity include Shollenberger Park, Grays Ranch, Alman Marsh, San Pablo Bay National Wildlife Refuge, Sears Point Ranch, Rush Creek Open Space Preserve, and Olompali State Park.

V. ISSUES RAISED BY THE PUBLIC OR AGENCIES

On January 9, 2023, Permit Sonoma circulated a referral packet to inform and solicit comments from selected relevant local, state and federal agencies, local Tribes, neighbors within 300 feet of the project site; and to special interest groups that were anticipated to take interest in the project. Comments were received from:

- Caltrans
- City of Petaluma, Planning Division.
- California Historical Resources Information System/Northwest Information Center
- Permit Sonoma, Grading and Stormwater
- Permit Sonoma, Fire Prevention

Referral agency comments included recommended requests for further information, mitigated measures and standard conditions of approval for the project.

Assembly Bill 52 Project Notifications were sent to the Cloverdale Rancheria of Pomo Indians, Dry Creek Rancheria Band of Pomo Indians, Torres Martinez Desert Cahuilla Indians, Mishewal Wappo Tribe of Alexander Valley, Middletown Rancheria Band of Pomo Indians, Lytton Rancheria of California, Kashia Pomos Stewarts Point Rancheria and Federated Indians of Graton Rancheria. The Federated Indians of Graton Rancheria requested formal consultation on the proposed project. Formal consultation was initiated on March 21, 2024 and is ongoing pending project and permit approvals.

An Early Neighborhood Notification was mailed on August 18, 2023. Public comments received included requests for additional information and questions about project plans.

VI. Other Related Projects

There are no known private or public projects in the area that may affect the proposed project.

VII. EVALUATION OF ENVIRONMENTAL IMPACTS

This section analyzes the potential environmental impacts of this project based on the criteria set forth in the State CEQA Guidelines and the County's implementing ordinances and guidelines. For each item, one of four responses is given:

> **No Impact: The project would not have the impact described.** The project may have a beneficial effect, but there is no potential for the project to create or add increment to the impact described.
>
> **Less Than Significant Impact**: The project would have the impact described, but the impact would not be significant. Mitigation is not required, although the project applicant may choose to modify the project to avoid the impacts.
>
> **Less Than Significant with Mitigation Incorporated:** The project would have the impact described, and the impact could be significant. One or more mitigation measures have been identified that will reduce the impact to a less than significant level.
>
> **Potentially Significant Impact:** The project would have the impact described, and the impact could be significant. The impact cannot be reduced to less than significant by incorporating mitigation measures. An environmental impact report must be prepared for this project.

Each question was answered by evaluating the project as proposed, that is, without considering the effect of any added mitigation measures. The Initial Study includes a discussion of the potential impacts and identifies mitigation measures to substantially reduce those impacts to a level of insignificance where feasible. All references and sources used in this Initial Study are listed in the Reference section at the end of this report and are incorporated herein by reference.

The applicant and owner, Halo Ranch LLC, has agreed to accept all mitigation measures listed in this Initial Study as conditions of approval for the proposed project, and to obtain all necessary permits, notify all contractors, agents and employees involved in project implementation and any new owners should the property be transferred to ensure compliance with the mitigation measures.

Each section below addresses potential construction related impacts. Following Mitigation Bank construction, restored areas would be monitored and maintained in-perpetuity. No structures or public access are proposed. The project would not have any operational impacts, other than the beneficial impacts the restored tidal marsh, seasonal wetlands, creek and riparian areas that will be protected by a conservation easement in-perpetuity.

1. AESTHETICS:

Except as provided in Public Resources Code Section 21099, would the project:

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

Comment:
The project site is within the Sonoma County's Scenic Resource Combining District for a Community Separator. The project proposes to restore wetland and upland habitat, providing a benefit to the scenic vista.

All structures located within a Community Separator (CS) are subject to the standards in Zoning Code Section 26-64-020 and General Plan Policy ORSC-2d, which require that all structures within an CS use natural landforms and existing vegetation to screen them from view from public roads. If necessary, Zoning Code Section 26-64-020 specifies that new landscaping used for screening should be comprised of native, fire resistant plants and trees.

The proposed mitigation bank does not include any structures and there would be no negative impacts to the Community Separator. The project is a restoration project, with seeding and planting using native species. No landscaping is required or planned. In addition, the conservation easement implemented as a requirement of the BEI will keep the Project Area undeveloped, in-perpetuity.

Staff finds that the proposed design is consistent with the applicable County Code and would provide a beneficial impact.

Significance Level:
No Impact

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

Comment:
The project will not damage scenic resources, and will improve scenic resources by restoring wetland, riparian and upland habitat.

Significance Level:
No Impact

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

Comment:
The character of the Mitigation Bank site and the surrounding land is agricultural and rural development (with the exception of the City of Petaluma's Ellis Creek Water Recycling Facility). Using the County's Visual Assessment Guidelines, staff characterized the project site as having High visual sensitivity because it is located in the Scenic Resources Combining District and classified as a Community Separator. The project's visual dominance can be categorized as Subordinate because the Project is a wetland restoration and enhancement project, and does not include any structures or other improvements, other than fencing for grazing. Utilizing the Visual Assessment Guidelines' matrix the project's visual impact will be less than significant.

	Visual Dominance			
Sensitivity	**Dominant**	**Co-Dominant**	**Subordinate**	**Inevident**
Maximum	Significant	Significant	Significant	Less than significant
High	Significant	**Significant**	Less than significant	Less than significant
Moderate	Significant	Less than significant	Less than significant	Less than significant

Low	Less than significant	Less than significant	Less than significant	Less than significant

Significance Level:
Less than Significant

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

Comment:
The project is a wetland restoration and enhancement project. There are no new sources of light.

Significance Level:
No Impact

2. AGRICULTURE AND FOREST RESOURCES:

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

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?

Comment:
The Mitigation Bank site is used for pasturing beef cows and/or for dry-farming of grain, oat hay, rye grass or other forage crops for silage. According to the Sonoma County Important Farmlands Map, the project site is designated as a Farmland of Local Importance. No Prime Farmland, Unique Farmland or Farmland of Statewide Importance is mapped at the project site. The site would remain in agricultural use with grazing of wetland meadow areas as described in Grazing Plan included in the BEI (also see Figure 9). There are no structures or other improvements, other than fencing for grazing. Therefore, the project would not convert any farmland to non-agricultural use and therefore potential impacts are less than significant.

Significance Level:
No Impact

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

Comment:
The Mitigation Bank site (APN 068-010-004) has split zoning, with the southern 156.9 acres base zoning designated as LEA (Land Extensive Agriculture) and the northern 82 acres zoned as Diverse Agriculture. The parcel is not under a Williamson Act Contract.

Applicable Zoning Requirements:

Section 26-18-170: Land Resource Management:

LEA and DA zones: the use is allowed when incidental to a primary use. The Mitigation Bank site has historically been and is currently used for agriculture and will continue to be after the Mitigation Bank is established. After the Mitigation Bank is established, a total of approximately 49 of the 122 acre Mitigation Bank site is proposed for grazing. Currently, approximately 53.67 acres of the approximately 122 acre Mitigation Bank site is used for agriculture (farming) activities. The parcel's zoning designations are consistent with a Conditional Use Permit.

The proposed Mitigation Bank will be consistent with general plan policy AR-4a, that the primary use of any parcel within the three agricultural land use categories shall be agricultural production and related processing, support services, and visitor serving uses.

Significance Level:
No Impact

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

Comment:
The project site does not contain forest land and is not under the Timberland Production zoning; therefore, the project will not conflict with, or cause the rezoning of, forest land or timberland zoned Timberland Production.

Significance Level:
No Impact

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

Comment:
The project does not result in a loss of forest land or conversion of forest land to non-forest use as the project site does not contain forest land nor any timber resources.

Significance Level:
No Impact

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

Comment:
The project does not involve other changes in the environment that could result in conversion of farmland to non-agricultural use or forest land to non-forest use. There are no changes to zoning; the project site will remain zoned Diverse Agriculture and Land Extensive Agriculture.

Significance Level:
No Impact

3. AIR QUALITY:

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.

Would the project:

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

Comment:

The proposed project is located in Sonoma County, within the jurisdiction of the Bay Area Air Quality Management District (BAAQMD), which regulates air quality in the San Francisco Bay Area Air Basin. The San Francisco Bay Area Air Basin is currently designated as a nonattainment area for particulate matter 2.5 microns or less in diameter ($PM_{2.5}$), particulate matter 10 microns or less in diameter (PM_{10}), and ozone (O_3).

The BAAQMD's 2017 Clean Air Plan (BAAQMD 2017) is the most recently adopted air quality plan for the San Francisco Bay Area Air Basin and contains control measures in nine economic sectors. The Clean Air Plan assumptions for projected air emissions and pollutants throughout the Basin are based on General Plan Land Use Designations. The control measures require actions on the part of the BAAQMD, the California Air Resources Board (CARB), and local communities but are not directly related to actions undertaken for an individual project that aims to rehabilitate, restore, and enhance various habitat types of the Petaluma River. The proposed project is consistent with the County's General Plan and would be consistent with the development assumptions in the Clean Air Plan. As the project is a passive use, it would not increase regional population growth and would not cause changes in vehicle traffic or regional vehicle miles traveled. Therefore, the project would not conflict with or obstruct the BAAQMD from implementing 2017 Clean Air Plan actions. No impact would result.

Significance Level:
No Impact

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?

Comment:

As discussed in Impact (a) above, under California standards, the San Francisco Bay Area Air Basin is designated as a nonattainment area for $PM_{2.5}$, PM_{10}, and O_3. Under national standards, the San Francisco Bay Area Air Basin is designated as nonattainment for $PM_{2.5}$ and 8-hour O_3. Therefore, based on the current Air Basin designations, the non-attainment pollutants of concern are $PM_{2.5}$, PM_{10}, and O_3.

By its nature, air pollution is largely a cumulative impact in that individual projects are rarely sufficient in size to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions may contribute to cumulative adverse air quality impacts. The BAAQMD's CEQA Air Quality Guidelines (BAAQMD 2022) includes screening criteria for determining if an individual project could result in significant construction-phase impact relative to criteria pollutants and precursor emissions. In accordance with the BAAQMD's CEQA Air Quality Guidelines, construction activities have a less than significant impact to air quality if the following screening criteria are met:

1. The project size is at or below the applicable screening level size for its type;

2. All basic management practices are included in the project design and implemented during construction;

3. Construction-related activities would not overlap with operational activities; and

4. Construction-related activities do not include any of the following:
   - Demolition;
   - Simultaneous occurrence of more than two construction phases;
   - Simultaneous construction of more than one land use type;
   - Extensive site preparation;
   - Extensive material transport; or
   - Stationary sources (e.g., backup generators)

The BAAQMD CEQA Guidelines do not include a specific screening level size for restoration projects such as this. During construction, the project could result in a short-term increase in fugitive dust emissions from grading equipment on site. The construction-period emissions associated with the proposed project were estimated using the Road Construction Emissions Model (RCEM) version 9.0.0 by RES (RES, 2024) . Elements used to complete the model included construction equipment that would be used, duration, the length of haul routes, maximum disturbed land area/day number of construction worker, commuting distance. Project-specific material import and export was incorporated in the emissions analysis. Table 4 summarizes the modeled construction emissions for the project relative to the BAAQMD's air quality thresholds of significance.

Table 4. Modeled Construction Emissions Summary

	Reactive Organic Gases	Nitrogen Oxide	PM_{10}	$PM_{2.5}$
Construction Emissions	3.52 lb/day	3.91 lb/day	31.54 lb/day	7.59 lb/day
BAAQMD Threshold of Significance	54 lb/day	54 lb/day	82 lb/day	54 lb/day

The modeled construction emissions for the project do not exceed the BAAQMD's thresholds of significance. In addition, project-related construction activities are not anticipated to encounter asbestos-containing materials during construction, would not involve the simultaneous occurrence of more than two construction phases, or require construction of more than one land-use type. With implementation of the BAAQMD's recommended basic construction measures identified in Mitigation Measure AIR-1, any potential impact of construction-related criteria air pollutants and precursor emissions would be less than significant.

Significance Level:
Less than Significant with Mitigation Incorporated

Mitigation Measure AIR-1:
The following dust control measures shall be included in the project:

To limit dust, criteria pollutants, and precursor emissions associated with the construction activity, the project will include the following Bay Area Air Quality Management District (BAAQMD) recommended Basic Construction Measures:

- Exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas and unpaved access roads) shall be watered two times per day;
- Haul trucks transporting soil, sand, or other loose material off-site shall be covered or shall have at least two feet of freeboard;
- Visible mud or dirt tracked-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 shall be prohibited;
- Vehicle speeds on unpaved areas shall be limited to 15 miles per hour;
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations). Clear signage shall be provided for construction workers at all access points;
- 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; and

- A publicly visible sign shall be posted with the telephone number and person to contact at the County regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Mitigation Monitoring AIR-1:
Building/grading permits shall not be approved for issuance by Permit Sonoma staff until the above notes are printed on all construction plans including plans for building and grading.

c) Expose sensitive receptors to substantial pollutant concentrations?

Comment:
Under CEQA, residences, schools, daycare centers, and healthcare facilities such as hospitals or retirement and nursing homes are considered sensitive receptors. The closest receptor, a single family residence at one of the project parcels north of Lakeville Highway (APN 068-010-020) owed by the Mitigation Bank property owner and Bank Sponsor, is approximately 0.25 miles from the ground disturbing construction activities at the Mitigation Bank site. The residence is closer to areas where other limited, short term, non-ground disturbing activities, such as willow collecting, will occur. However, the property is owned by the project applicant and Bank Sponsor, and activities will be short term and limited. No ground disturbing activities are proposed for areas north of Lakeville Highway.

Construction activities would temporarily generate air contaminants due to the operation of construction equipment. Concentrations of mobile source diesel particulate matter would be present during temporary construction activities. Given the lack of sensitive receptors, short construction period of approximately five months, and the implementation of dust and air quality control measures, exposure of sensitive receptors to substantial pollutant concentrations is unlikely to occur. Such measures include minimizing idling times for trucks and equipment, ensuring that construction equipment is maintained in accordance with manufacturer's specifications, watering exposed surfaces, and other best management practices. With implementation of the BAAQMD's recommended basic construction measures identified in Mitigation Measure AIR-1, any potential construction-related impact would be less than significant with mitigation incorporated.

Significance Level:
Less than Significant with Mitigation

Mitigation: See Mitigation Measure AIR-1

Mitigation Monitoring – See Mitigation Monitoring AIR-1

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

Comment:

Construction activities may generate short-term detectable odors such as diesel exhaust from construction equipment. However, such odors would be temporary, dissipate rapidly, and are not known to be substantially offensive to receptors. In addition, the closest receptor is the project applicant and Mitigation Bank project sponsor's residence, located north of Lakeville Highway approximately 0.25 miles away from the construction activities, The impact would be less than significant.

Significance Level:
Less than Significant

4. BIOLOGICAL RESOURCES:

Regulatory Framework

The following discussion identifies federal, state and local environmental regulations that serve to protect sensitive biological resources relevant to the California Environmental Quality Act (CEQA) review process.

Federal

Federal Endangered Species Act (FESA)

FESA establishes a broad public and federal interest in identifying, protecting, and providing for the recovery of threatened or endangered species. The Secretary of Interior and the Secretary of Commerce are designated in FESA as responsible for identifying endangered and threatened species and their critical habitat, carrying out programs for the conservation of these species, and rendering opinions regarding the impact of proposed federal actions on listed species. The USFWS and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries) are charged with implementing and enforcing the FESA. USFWS has authority over terrestrial and continental aquatic species, and NOAA Fisheries has authority over species that spend all or part of their life cycle at sea, such as salmonids.

Section 9 of FESA prohibits the unlawful "take" of any listed fish or wildlife species. Take, as defined by FESA, means "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such action." USFWS's regulations define harm to mean "an act which actually kills or injures wildlife." Such an act "may include "significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering" (50 CFR § 17.3). Take can be permitted under FESA pursuant to sections 7 and 10. Section 7 provides a process for take permits for federal projects or projects subject to a federal permit, and Section 10 provides a process for incidental take permits for projects without a federal nexus. FESA does not extend the take prohibition to federally listed plants on private land, other than prohibiting the removal, damage, or destruction of such species in violation of state law.

The Migratory Bird Treaty Act of 1918 (MBTA)

The U.S. MBTA (16 USC §§ 703 et seq., Title 50 Code of Federal Regulations [CFR] Part 10) states it is "unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, kill; attempt to take, capture or kill; possess, offer for sale, sell, offer to barter, barter, offer to purchase, purchase, deliver for shipment, ship, export, import, cause to be shipped, exported, or imported, deliver for transportation, transport or cause to be transported, carry or cause to be carried, or receive for shipment, transportation, carriage, or export any migratory bird, any part, nest, or egg of any such bird, or any product, whether or not manufactured, which consists, or is composed in whole or in part, of any such bird or any part, nest or egg thereof…" In short, under MBTA it is illegal to disturb a nest that is in active use, since this could result in killing a bird, destroying a nest, or destroying an egg. The USFWS enforces MBTA. The MBTA does not protect some birds that are non-native or human-introduced or that belong to families that are not covered by any of the conventions implemented by MBTA. In 2017, the USFWS issued a memorandum stating that the MBTA does not prohibit incidental take; therefore, the MBTA is currently limited to purposeful actions, such as directly and knowingly removing a nest to construct a project, hunting, and poaching.

The Clean Water Act (CWA)

The CWA is the primary federal law regulating water quality. The implementation of the CWA is the responsibility of the U.S. Environmental Protection Agency (EPA). However, the EPA depends on other agencies, such as the individual states and the U.S. Army Corps of Engineers (USACE), to assist in implementing the CWA. The objective of the CWA is to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." Section 404 and 401 of the CWA apply to activities that would

impact waters of the U.S. The USACE enforces Section 404 of the CWA and the California State Water Resources Control Board enforces Section 401.

Section 404.

As part of its mandate under Section 404 of the CWA, the EPA regulates the discharge of dredged or fill material into “waters of the U.S.”. “Waters of the U.S: include territorial seas, tidal waters, and non-tidal waters in addition to wetlands and drainages that support wetland vegetation, exhibit ponding or scouring, show obvious signs of channeling, or have discernible banks and high-water marks. Wetlands are defined as those areas “that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 CFR 328.3(b)). The discharge of dredged or fill material into waters of the U.S. is prohibited under the CWA except when it is in compliance with Section 404 of the CWA. Enforcement authority for Section 404 was given to the USACE, which it accomplishes under its regulatory branch. The EPA has veto authority over the USACE’s administration of the Section 404 program and may override a USACE decision with respect to permitting. Substantial impacts to waters of the U.S. may require an Individual Permit’s Projects that only minimally affect waters of the U.S. may meet the conditions of one of the existing Nationwide Permits, provided that such permit’s other respective conditions are satisfied. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions (see below).

Section 401.

Any applicant for a federal permit to impact waters of the U.S. under Section 404 of the CWA, including Nationwide Permits where pre-construction notification is required, must also provide to the USACE a certification or waiver from the State of California. The “401 Certification” is provided by the State Water Resources Control Board through the local Regional Water Quality Control Board (RWQCB). The RWQCB issues and enforces permits for discharge of treated water, landfills, storm-water runoff, filling of any surface waters or wetlands, dredging, agricultural activities and wastewater recycling. The RWQCB recommends the “401 Certification” application be made at the same time that any applications are provided to other agencies, such as the USACE, USFWS, or NOAA Fisheries. The application is not final until completion of environmental review under the CEQA. The application to the RWQCB is similar to the pre-construction notification that is required by the USACE. It must include a description of the habitat that is being impacted, a description of how the impact is proposed to be minimized and proposed mitigation measures with goals, schedules, and performance standards. The RWQCB looks for mitigation that is on site and in-kind, with functions and values as good as or better than the water-based habitat that is being removed.

State

California Endangered Species Act (CESA)

Provisions of CESA protect state-listed threatened and endangered species. The CDFW is charged with establishing a list of endangered and threatened species. CDFW regulates activities that may result in “take” of individuals (i.e., “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill”). Habitat degradation or modification is not expressly included in the definition of “take” under the California Fish and Game Code (CFGC), but CDFW has interpreted “take” to include the killing of a member of a species which is the proximate result of habitat modification.

Fish and Game Code 1600-1602

Sections 1600-1607 of the CFGC require that a Notification of Lake or Streambed Alteration Agreement (LSAA) application be submitted to CDFW for “any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake.” CDFW reviews the proposed actions in the application and, if necessary, prepares a LSAA that includes measures to protect affected fish and wildlife resources, including mitigation for impacts to bats and bat habitat.

Nesting Birds

Nesting birds, including raptors, are protected under CFGC Section 3503, which reads, “It is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.” In addition, under CFGC Section 3503.5, “it is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto”. Passerines and non-passerine land birds are further protected under CFGC 3513. As such, CDFW typically recommends surveys for nesting birds that could potentially be directly (e.g., actual removal of trees/vegetation) or indirectly (e.g., noise disturbance) impacted by project-related activities. Disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered “take” by CDFW.

Non-Game Mammals

Sections 4150-4155 of the CFGC protects non-game mammals, including bats. Section 4150 states “A mammal occurring naturally in California that is not a game mammal, fully protected mammal, or fur-bearing mammal is a nongame mammal. A non-game mammal may not be taken or possessed except as provided in this code or in accordance with regulations adopted by the commission”. The non-game mammals that may be taken or possessed are primarily those that cause crop or property damage. Bats are classified as a non-game mammal and are protected under the CFGC.

California Fully Protected Species and Species of Special Concern

The classification of “fully protected” was the CDFW’s initial effort to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish, amphibians and reptiles, birds, and mammals. Most of the species on these lists have subsequently been listed under CESA and/or FESA. The Fish and Game Code sections (fish at §5515, amphibians and reptiles at §5050, birds at §3503 and §3511, and mammals at §4150 and §4700) dealing with “fully protected” species state that these species “…may not be taken or possessed at any time and no provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to take any fully protected species,” although take may be authorized for necessary scientific research. This language makes the “fully protected” designation the strongest and most restrictive regarding the “take” of these species. In 2003, the code sections dealing with “fully protected” species were amended to allow the CDFW to authorize take resulting from recovery activities for state-listed species.

California Species of Special Concern (CSC) are broadly defined as animals not listed under the FESA or CESA, but which are nonetheless of concern to the CDFW because they are declining at a rate that could result in listing or because they historically occurred in low numbers and known threats to their persistence currently exist. This designation is intended to result in special consideration for these animals by the CDFW, land managers, consulting biologists, and others, and is intended to focus attention on the species to help avert the need for costly listing under FESA and CESA and cumbersome recovery efforts that might ultimately be required. This designation also is intended to stimulate collection of additional information on the biology, distribution, and status of poorly known at-risk species, and focus research and management attention on them. Although these species generally have no special legal status, they are given special consideration under the CEQA during project review.

Porter-Cologne Water Quality Control Act

The intent of the Porter-Cologne Water Quality Control Act (Porter-Cologne) is to protect water quality and the beneficial uses of water, and it applies to both surface and ground water. Under this law, the State Water Resources Control Board develops statewide water quality plans, and the RWQCBs develop basin plans that identify beneficial uses, water quality objectives, and implementation plans. The RWQCBs have the primary responsibility to implement the provisions of both statewide and basin plans. Waters regulated under Porter-Cologne, referred to as “waters of the State,” include isolated waters that are not regulated by the USACE. Projects that require a USACE permit, or fall under other federal jurisdiction, and have the potential to impact waters of the State are required to comply with the terms of

the Water Quality Certification Program. If a proposed project does not require a federal license or permit, any person discharging, or proposing to discharge, waste (e.g., dirt) to waters of the State must file a Report of Waste Discharge and receive either waste discharge requirements (WDRs) or a waiver to WDRs before beginning the discharge.

Local

Sonoma County General Plan

The *Sonoma County General Plan 2020* Land Use Element and Open Space & Resource Conservation Element both contain policies to protect natural resource lands including, but not limited to, watershed, fish and wildlife habitat, biotic areas, and habitat connectivity corridors.

Riparian Corridor Ordinance

The RC combining zone is established to protect biotic resource communities, including critical habitat areas within and along riparian corridors, for their habitat and environmental value, and to implement the provisions of the General Plan Open Space and Resource Conservation and Water Resources Elements. These provisions are intended to protect and enhance riparian corridors and functions along designated streams, balancing the need for agricultural production, urban development, timber and mining operations and other land uses with the preservation of riparian vegetation, protection of water resources, floodplain management, wildlife habitat and movement, stream shade, fisheries, water quality, channel stability, groundwater recharge, opportunities for recreation, education and aesthetic appreciation and other riparian functions and values.

Sonoma County Tree Protection Ordinance

The Sonoma County Tree Protection Ordinance (Sonoma County Code of Ordinances, Chapter 26, Article 88, Sec. 26-88-015 (D) establishes policies for-protected tree species in Sonoma County. Protected trees are defined (Chapter 26, Article 02, Sec. 26- 04-020) as the following species: Big Leaf Maple (*Acer macrophyllum*), Black Oak (*Quercus kelloggii*), Blue Oak (*Quercus douglasii*), Boxelder (*Acer negundo*), California Black Walnut (*Juglans californica*), California Buckeye (*Aesculus californica*), Canyon Live Oak (*Quercus chrysolepis*), Coast Live Oak (*Quercus agrifolia*), Cottonwood species (*Populus fremontii, P. trichocarpa*), Interior Live Oak (*Quercus wislizenii*), Madrone (Arbutus menziesii), Oregon Ash (*Fraxinus latifolia*), Oregon Oak (*Quercus garryana*), Red or White Alder (*Alnus rubra, A. rhombifolia*), Valley Oak (*Quercus lobata*), Willow species (*Salix laevigata, S. lucida*) 2) Softwoods: Cypress species (*Hesperocyparis macrocarpa, H. macnabiana*), Grand Fir (*Abies grandis*), Pine species (*Pinus attenuata, P. contorta, P. lambertiana, P. muricata, P. ponderosa, P. sabiniana*), Redwood (*Sequoia sempervirens*),Western Hemlock (*Tsuga heterophylla*) and their hybrids.

Sonoma County Oak Woodland and VOH Valley Oak Habitat Ordinance

The Sonoma County Oak Woodland Ordinance (Sonoma County Code Ordinances, Chapter 26, Article 67, Sec. 26-07-010 to 26-67-110) establishes protections for oak woodlands in Sonoma County. Type conversion of oak woodland to developed uses and other oak woodland impacts are prohibited unless an exemption or exception specified in the ordinance applies. The ordinance establishes protection categories for different levels of oak woodland ecological quality and, if conversion or impacts are authorized, specifies mitigation requirements. Zoning or Use Permits, depending on the project, are required for oak woodland type conversion and oak woodland impacts.

Biotic Resource Combining District

The Sonoma County Biotic Resource Combining District (Sonoma County Code Ordinances, Chapter 26, Article 66, Sections 26-66-005 to 26-66-020 establishes protections for mapped biotic habitat areas in the General Plan Open Space and Conservation Element in Sonoma County.

Project Analysis

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 Wildlife or U.S. Fish and Wildlife Service?

Comment:

Special-Status Species

Special-status species include those plant and wildlife species that have been formally listed, are proposed as endangered or threatened, or are candidates for such listing under the federal Endangered Species Act (ESA) or California Endangered Species Act (CESA). These acts afford protection to both listed and proposed species. In addition, California Department of Fish and Wildlife (CDFW) Species of Special Concern, which are species that face extirpation in California if current population and habitat trends continue, U.S. Fish and Wildlife Service (The Service) Birds of Conservation Concern, and CDFW special-status invertebrates, are all considered special-status species. Although CDFW Species of Special Concern generally have no special legal status, they are given special consideration under the California Environmental Quality Act (CEQA). In addition to regulations for special-status species, most birds in the United States, including non-status species, are protected by the Migratory Bird Treaty Act of 1918. Plant species on California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants with California Rare Plant Ranks (Rank) of 1 and 2 are also considered special-status plant species and must be considered under CEQA. Bat species designated as “High Priority” by the Western Bat Working Group (WBWG) qualify for legal protection under Section 15380(d) of the CEQA Guidelines. Species designated High Priority” are defined as “imperiled or are at high risk of imperilment based on available information on distribution, status, ecology and known threats.

Endangered Species Act

The Endangered Species Act (ESA) of 1973, as amended (16 USC 1531 *et seq*.) was enacted to provide a means to identify and protect endangered and threatened species. Under the Section 9 of the ESA, it is unlawful to take any listed species. “Take” is defined as harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting a listed species. “Harass” is defined as an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. “Harm” is defined as an act which actually kills or injures fish or wildlife and may include significant habitat modification or degradation which actually kills or injures fish or wildlife by significantly impairing essential behavioral patterns, including breeding, spawning, rearing, migrating, feeding, or sheltering. Actions that may result in “take” of a federal-listed species are subject to the Service or National Marine Fisheries Service (NOAA Fisheries) permit issuance and monitoring. Section 7 of ESA requires federal agencies to ensure that any action authorized, funded, or carried out by the agency is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of designated critical habitat for such species. Any action authorized, funded, or carried out by a federal agency or designated proxy (e.g., Army Corps of Engineers) which has potential to affect listed species requires consultation with The Service or NOAA Fisheries under Section 7 of the ESA.

Critical Habitat

Critical habitat is a term defined in the ESA as a specific geographic area that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. The ESA requires federal agencies to consult with the USFWS and NMFS to conserve listed species on their habitat and to ensure that any activities or projects they

fund, authorize, or carry out will not jeopardize the survival of a threatened or endangered species. In consultation for those species with critical habitat, federal agencies must also ensure that their activities or projects do not adversely modify critical habitat to the point that it will no longer aid in the species' recovery. In many cases, this level of protection is similar to that already provided to species by the ESA jeopardy standard. However, areas that are currently unoccupied by the species, but which are needed for the species' recovery, are protected by the prohibition against adverse modification of critical habitat.

Essential Fish Habitat

Essential Fish Habitat (EFH) is regulated through the NMFS, a division of the National Oceanic and Atmospheric Administration (NOAA). Protection of Essential Fish Habitat 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. The Magnuson-Stevens Act defines Essential Fish Habitat as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity" [16 USC 1802(10)]. NMFS further defines essential fish habitat as areas that "contain habitat essential to the long-term survival and health of our nation's fisheries" Essential Fish Habitat can include the water column, certain bottom types such as sandy or rocky bottoms, vegetation such as eelgrass or kelp, or structurally complex coral or oyster reefs. Under regulatory guidelines issued by NMFS, any federal agency that authorizes, funds, or undertakes action that may affect EFH is required to consult with NMFS (50 CFR 600.920).

Staff Analysis:
Several biological surveys and reports for the Halo Ranch Mitigation Bank were conducted and provided by the applicant to evaluate biological resources, including:

- Aquatic Resources Delineation (Section 404 and of CWA and Section 10 of Rivers and Harbor Act, Halo Ranch Mitigation Bank (WRA, 2018a)
- Biological Resources Inventory, Halo Ranch Mitigation Bank (WRA, 2018b)
- Halo Ranch Mitigation Bank Rare Plant Report (Resource Environmental Solutions (RES), 2020)
- Halo Ranch Project Section 7 Biological Assessment (Resource Environmental Solutions, 2022)
- Halo Ranch Project Biological Assessment Addendum Letter (Resource Environmental Solutions, February 16, 2023)
- Revised Halo Ranch Project Biological Assessment Addendum Letter (Resource Environmental Solutions, February 28, 2023)

State and federal resource agency verification and approvals for the Halo Ranch Mitigation Bank Project were also used to evaluate biological resources, including:

- USACE Jurisdictional Determination Letter and Map (September 20, 2018)
- Endangered Species Act Section 7(a)(2) Concurrence Letter and Magnuson-Stevens Fisheries Conservation and Management Act Essential Fish Habitat Response for the Halo Ranch Restoration Project (National Marine Fisheries Service, August 30, 2021)
- Formal Section 7 Consultation on the Halo Ranch Mitigation Bank Project (April 2023)
- Draft CDFW Streambed Alteration Agreement (SAA) (March 2022)

The applicant intends to submit an updated Section 404 Nationwide Permit Pre-construction Notification (PCN) to the USACE prior to construction. Upon review of the PCN, the USACE will determine the level, of any additional coordination or consultation with NMFS and USFWS under Section 7 of the ESA, as necessary. In addition, the applicant will obtain a Final CDFW SAA, RWQCB 401 and BCDC Development Permit.

The analysis below for special-status plants and wildlife evaluates potential impacts based on activities to construct the Mitigation Bank. Post-construction, the Mitigation Bank will provide ecosystem benefits to general and special-status wildlife and plants, and improved wetland, riparian

and upland habitats, including restoration of Wheat Creek. The re-establishment of historic wetland habitat is expected to enhance tidal wetlands and contribute to improved ecosystem function, including hydrologic and water quality improvements, ground water recharge, sediment accretion and nutrient update, providing improved habitat for plants and wildlife. In addition, the restored Mitigation Bank habitat will be protected in-perpetuity. Overall, the benefits of the project fully outweigh any potential, residual, or temporary impacts that will result from the construction of the Mitigation Bank and there is an overall beneficial impact for plants and wildlife.

Special Status Plant Species:

The Applicant's consultant WRA conducted rare plant surveys at the Mitigation Bank site concurrently with wetland delineations on September 21, October 27, and November 22, 2017, and February 9, 2018. An additional rare plant survey was conducted on October 3, 2017 (WRA 2018b). On July 7, 2020, Resource Environmental Solutions (RES) conducted a rare plant survey for those species that were not in bloom during the 2017 and 2018 surveys (RES 2020).

Seventy-one (71) special-status plant species were identified as potentially occurring in the project vicinity as discussed in the WRA Biological Resource Inventory and Rare Plant Reports (WRA 2018b and 2020; RES 2020). Of these, 65 special-status plant species were identified as having no potential to occur or as unlikely to occur at the Mitigation Bank site. Six special-status plants were identified as having moderate potential to occur including soft bird's-beak (*Chloropyron molle* ssp. *molle*), pappose tarplant (*Centromadia parryi* ssp. *parryi*); Point Reyes bird's-beak (*Chloropyron maritimum ssp. palustre*); small spikerush (*Eleocharis parvula*); Petaluma popcorn flower (*Plagiobothrys mollis* var. *vestitus*), and Marin knotweed (*Polygonum marinense*). Although included as unlikely to occur in the WRA and RES biological reports, CDFW added two-fork clover (*Trifolium amoenum*) as a special-species that could potentially be impacted, if present, in its Draft Lake and Streambed Alteration Agreement (LSAA) CDFW, 2022) However, neither two-fork clover or any other special status plants were observed at the Mitigation Bank site during the 2017, 2018 or 2020 rare plant surveys. No surveys were conducted north of Lakeville Highway.

A number of other special-status species were identified as unlikely to occur at the Mitigation Bank site based on lack of habitat; however, some of these special-status plant species may have potential to occur north of Lakeville Highway including bent-flowered fiddleneck (*Amsinckia lunaris);* alkali milk-vetch (*Astragalus tener var. tener*); johnny-nip (*Castilleja ambigua var ambigua*); Contra Costa goldfields (*Lasthenia conjugens)*; fragrant fritillary (*Fritillaria lilacea*); congested-headed tarplant (*Hemizonia congesta ssp congesta)*; cotula navarretia (*Naverretia cotulifolia*); Baker's navarretia (Navarretia *leucocephala ssp bakeri*); and saline clover (*Trifolium hydrophilum*).

While no special-status plants were observed during the 2017, 2018 or 2020, these surveys are over five (5) years old and are outdated. If special-status plants have established at the Mitigation Bank site since surveys were conducted, or occur in areas north of Lakeville Highway that were not surveyed, they could be impacted by ground disturbing restoration activities at the Mitigation Bank site, or could be trampled, broken, crushed or other otherwise impacted in areas north of Lakeville Highway along willow plant access routes, willow collection areas, or where the irrigation pump would be temporary installed adjacent to the stock pond for irrigation, if irrigation is needed.

Any impacts to any potentially occurring special-status plants at the project site will be avoided by incorporating Mitigation Measure BIO-1, BIO-2 and BIO-3 and impacts would be less than significant. Post-construction, the Mitigation Bank will provide improved habitat for special-status plants.

Special Status Wildlife Species

State and federal special-status wildlife species were evaluated in the Biological Resources Inventory prepared by WRA (WRA 2018b). In addition, federally proposed, candidate and listed species were also evaluated in the Halo Ranch Section 7 Biological Assessment (RES, 2022) and its two (2) addendums (RES February 16 2023a and February 28, 2023b).

USFWS issued a Biological Opinion (BO) on April 7, 2023. NMFS issued an ESA Section 7

Concurrence Letter and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Response for the Halo Ranch Restoration Project (Concurrence Letter) on August 30, 2021. The applicant is preparing a revised Biological Assessment to address minor revisions to the proposed project which will be provided to USACE for submittal to and coordination with USFWS and NMFS. CDFW prepared a Draft Lake and Streambed Alteration Agreement in 2022, which will be finalized prior to project construction.

WRA identified seventy-three (73) special-status species as being recorded in the general vicinity of the Mitigation Bank site (WRA 2018b). One (1) of these species, burrowing owl (*Athene cunicularia*) was observed multiple times at the Mitigation Bank site (WRA 2018b). Several other special-status wildlife species are known to occur in the Petaluma River marsh complex directly adjacent to the Bank and therefore, may occasionally enter the Mitigation Bank site, including. salt marsh harvest mouse (*Reithrodontomys raviventris*); California Ridgway's rail (*Rallus obsoletus obsoletus*); California black rail *Laterallus jamaicensis coturniculus*)*;* Samuel's (San Pablo) song sparrow (*Melospiza melodia samuelis*), and San Francisco (salt marsh) common yellowthroat (*Geothlypis trichas sinuosa*).

Four (4) other special-status species were identified as having moderate to high potential to occur at the Mitigation Bank site including, Suisun ornate shrew (*Sorex ornatus sinuosus*), white-tailed kite (*Elanus leucurus*), Bryant's savannah sparrow (*Passerculus sandwichensis alaudinus*), and California red-legged frog (*Rana draytonii).*

WRA identified 48 additional special-status wildlife species as unlikely to occur at the Mitigation Bank site due to lack or poor of quality breeding, spawning, or roosting habitat, however several of these species may occur or forage in habitats near or at the Mitigation Bank site and have potential to occur at the stock pond and willow collection sites north of Lakeville Highway. Although identified as unlikely to occur CDFW added western pond turtle (*Emys marmorata*) and American badger (*Taxidea Taxus*) as species potentially impacted by the project in their CDFW Draft LSAA (CDFW, 2022), NMFS addressed steelhead (Central CA Coast ESU) and green sturgeon (Southern San Franscisco Bay-Delta DPS) in thier 2021 Letter of Concurrence, and USFWS recently requested additional evaluation for long-fin smelt (*Spirinchus thaleichtys*) (RES, 2024b), based on its recent (2024) listing as federally endangered. Additional species identified as unlikely to occur in applicant biological documents but addressed in this Initial Study include monarch butterfly (*Danaus Plexippus*); Ricksecker's water scavenger beetle (*Hydrochara ricksecker*i) and special-status raptors such as short-eared owl (*Asio flammeus*) and long-eared owl as well as other special-status birds such as least bittern (*Ixobrychus exilis*) and grasshopper sparrow (*Ammodramus savannarum*).

Special-status wildlife species with potential to occur at the project site are discussed further below.

Terrestrial Invertebrates

Monarch Butterfly: **Federal Status: Candidate; State Status: None**
Monarchs are known to occur throughout Sonoma County both as migrants and breeders, including in the project vicinity (iNaturalist, 2025) Larvae eat only milkweed, which was not observed at the Mitigation Bank site, but may be present in areas north of Lakeville Highway. Both milkweed and other nector plants are typically found in or adjacent to riparian habitat, as well as native and non-native grasslands and meadows (RES 2022). A few large eucalyptus trees are located along the boundary of the Mitigation Bank site parcel and the City of Petaluma's Ellis Creek Watery Recycling Facility, which could be utilized for roosting. However, given the limited number of individual trees and that trees are isolated and are exposed (not sheltered from wind and rain), the trees provide limited potential roost habitat. No trees are proposed for removal and there would be no impacts to permeant impacts to potential overwintering roosts.

If monarch butterflies are present during construction activities at the Mitigation Bank site or north of Lakeville Highway for temporary restoration activities, they may be exposed to direct effects such as injury or crushing. The project includes general construction measures to avoid and minimize direct and indirect effects from project construction, including implementation of an approved biological monitor to assure that if a dispersing monarch is detected within the construction area, operations will

be stopped or adjusted to accommodate the safe passage of the individuals out of the work area on their own accord, in addition to a Worker Environmental Training as described in BIO-1 and BIO-2.

Overall, the project site currently provides minimal roosting or foraging habitat for the monarch butterfly. All potential roosting will remain, and the uplands will be restored using a native plant palate that will include species that would improve foraging habitat for monarch butterflies.

Aquatic Invertebrates

Ricksecker's Water Scavenger Beetle: Federal Status: None; State Status: None
Although this species is not federally or state listed, it has a NatureServe Global Status (rounded) of G2 (Imperiled) and a State Status (rounded) of S2 (Imperiled). Ricksecker's Water Scavenger Beetle is tracked in the California Natural Diversity Datebase (CNDDB) and is listed on CDFW's Special Animals List (CDFW, 2025).

This species may occur in shallow water ponds and lakes and creeks and springs, including artificial ponds. Adults can fly or swim on top of or in the water, larvae are aquatic, and attach to plant material (NatureServe, 2025).

If present in the stock pond on the north side of Lakeville Highway, larvae could be impacted by pumping of the stock pond waters for temporary irrigation activities at the Mitigation Bank site, if irrigation is needed. Screening of intake hoses included as a general construction measure in BIO-1 and BIO-2 would minimize the potential for entrainment and impact to less than significant.

Fish

- **Longfin Smelt San Francisco Bay-Delta DPS; Federal Status Threatened; State Status Threatened**
- **Central California Coast Steelhead DPS Federal Status: Threatened; State Status Species of Special Concern**
- **Green Sturgeon Southern DPS Federal Status Threatened State Status: Species of Special Concern**

Construction activities such as removal of the flap (tide) gates, lowering of the berms separating the Petaluma River marsh complex from the Mitigation bank site, redistribution of sediment during grading activities, and restoration activities at the mouth of Wheat Creek could result in direct impacts on fish such as crushing or entrapment resulting in injury or mortality. Indirect impacts could include fine sediments, dust, debris, and construction materials falling into the river which could affect water quality and degrade surface waters, including critical habitat for Central California Coast steelhead and green sturgeon. Tidally influenced areas may result in increased turbidity and disturbance of benthic habitat, resulting in impacts to benthic invertebrates, which serve as a prey resource for fish.

With the implementation of avoidance and minimization measures provided in BIO-1, BIO-2, BIO-4 and erosion and sediment control requirements outlined in Section 10, below, potential impacts to fish would be less than significant. In its August 30, 2021 Letter of Concurrence, NMFS indicated that although the project may affect steelhead and green sturgeon, is not likely to adversely affect either species or its critical habitat based on the temporary nature of the activities and implementation of avoidance and minimization measures. Potential project impacts to Essential Fish Habitat (EFH) and critical habitat would also be temporary and localized with implementation of avoidance and minimization measures.

Post-construction, the Mitigation Bank would provide ecosystem benefits to fish and their habitat through the restored wetlands, drainages and Wheat Creek. The subsequent re-establishment of historic wetland habitat is expected to enhance tidal wetlands and contribute to improved ecosystem function, including hydrologic and water quality improvements, sediment accretion and nutrient update, which would be an overall benefit to fish and their habitat.

Amphibians and Reptiles

California Red-legged Frog Federal Status Threatened; State Status Species of Special Concern
California red-legged frog is known in the vicinity of the project, with the nearest recorded occurrence is 0.6-mile northwest of the Mitigation Bank site in Ellis Creek, west of the City of Petaluma Ellis Creek Water Recycling Facility (CNDDB, 2025). Areas within Wheat Creek may provide suitable breeding and dispersal habitat. Suitable upland habitat also occurs within the project site, although occurrences in ruderal and agricultural areas are likely low. The stock pond north of Lakeville Highway, proposed for irrigation water, if needed, could provide suitable breeding habitat, however, it is known to support bull frogs, which generally reduce habitat suitability for red-legged frog (RES, 2023b). Given no species-specific surveys for California red-legged frog were conducted, USFWS determined in its 2023 Biological Opinion for the Mitigation Bank that California red-legged frog may use the stock pond for breeding and dispersal habitat (USFWS, 2023).

If present, California red-legged frog could be impacted by ground disturbance and construction activities, including crushing of burrows or crevices, and individuals may be crushed, buried, or other otherwise injured. They may fall into trenches or excavations, or become entangled in erosion control materials. Construction activities could reduce prey base, or cause the dispersal of individuals into unsuitable habitat, increasing the potential for impact. If California red-legged frog is present in the stock pond north of Lakeville Highway, this species could be injured, entrained, crushed or dispersed into unsuitable habitat as a result of willow collection activities and/or use of the stock pond for temporary irrigation, if needed.

With mitigation and avoidance measures such as pre-construction surveys, biological monitoring, and water intake screening included as Mitigation Measures BIO-1, BIO-2 and BIO-5, potential impacts would be less than significant. Mitigation Measures BIO-1, BIO-2 and BIO-5 include the Conservation Measures listed in the USFWS Biological Opinion for the Halo Ranch Mitigation Bank Project dated April 7, 2023 and the Avoidance and Minimization Measures required by CDFW as outlined in the Draft LSAA dated March 8, 2022.

In its 2023 Biological Opinion for the Mitigation Bank, the USFWS anticipated take incidental to the proposed project in the form of harm, including injury or mortality from construction disturbance and impairing the essential behaviors of California red-legged frogs as well as take incidental to the proposed project from translocation, should the biological monitor be required to translocate any individuals. The USFWS concluded that project-related effects will not rise to the level of appreciably reducing the likelihood of survival or recovery of the species.

The project includes restoration and rehabilitation of wetland, riparian and upland habitats, and overall, would result in improved and increased habitat for California red-legged frog. The USFWS Biological Opinion for the Mitigation Bank site included potential impacts to California red-legged frog habitat of approximately 0.19 acres, with restored habitat of approximately 3.78 acres, an overall benefit for California red-legged frog (USFWS, 2023).

Foothill Yellow-legged Frog Federal Status None; State Status Species of Special Concern

Wheat Creek provides suitable habitat for foothill yellow-legged frog. There are several CNDDB occurrences of foothill yellow-legged frogs within 5-miles of the project site. The nearest CNDDB occurrence is located approximately 1.75 miles to the west of the Mitigation Bank site at Adobe Creek (CNDDB, 2025). Construction activities associated with the Mitigation Bank site have the potential to impact this species similarly to the impacts associated with California red-legged frog described above, if it occurs at the project site.

Preconstruction surveys using an approved CDFW methodology will be required and if found, a Habitat Improvement Plan per Mitigation Measures BIO-8 and BIO-9, as well as implementation of BIO-1 and BIO-2, will reduce potential impacts to a less-than-significant level. The restoration of Wheat Creek would provide an overall benefit for foothill yellow legged frog following construction, if present in the area, through restoration of Wheat Creek and its associated riparian habitat .

Western Pond Turtle Federal Status Proposed Threatened; State Status Species of Special Concern
Western pond turtle occurs in reservoirs, ponds, vernal pools, brackish estuaries, sloughs, drainage ditches, and perennial streams. They require basking sites and suitable upland habitat adjacent to aquatic habitats for egg-laying. Basking sites are typically logs, small islands and docks. Upland areas typically used by this species include sandy banks or grassy open areas.

There is unprocessed CNDDB occurrence data reporting the observance of nine (9) western pond turtles in the stock pond, based on an observation by a local biologist in 2010 (CNDDB, 2025). The closest processed CNDDB occurrence includes multiple observations of western pond turtle from Ellis Creek, approximately 0.6 miles west of the Mitigation Bank site.

Construction activities associated with the Mitigation Bank site and areas north of Lakeville Highway, such as the temporary use of the stock pond for irrigation activities, if needed, and access to and at the willow stakes collection areas has the potential to impact this species in the event it occurs at the project site. Noise from the pump, if used for temporary irrigation activities, could also disturb behavior or disperse turtles. Mitigation Measure BIO-7 includes pre-construction habitat surveys for western pond turtle and their nests, and if found, implementation of a CDFW approved Western Pond Turtle Habitat Improvement Plan. Implementation of Mitigation Measure BIO-7 would reduce potential impacts on western pond turtle to a less-than-significant level.

Special-Status Birds

Raptors

Burrowing Owl Federal Status None; State Status Species of Special Concern
Typical habitat for burrowing owl includes annual or perennial grassland, although human-modified areas such as agricultural lands and airports can also be habitat. This species is dependent on burrowing mammals to provide the burrows that are characteristically used for shelter and nesting. Pipes or debris piles and other anthropogenic substrates may also be used in place of burrows. Breeding typically takes place from March to July. Burrowing owls are not known to regularly nest in Sonoma County, but they are known to roost in appropriate habitats over the non-breeding season.

Burrowing owl was observed within the Mitigation Bank site outside the nesting period on several occasions and one active burrow was identified in riprap along Wheat Creek (WRA 2018b). If present, burrowing owl could be disturbed or impacted by restoration construction activities, including grading. Mitigation Measure Bio-10 together with BIO-1 and BIO-2 would protect burrowing owl in their winter habitat by requiring a habitat assessment and surveys prior to the commencement of project activities. If burrowing owl is detected, suitable buffers shall be implemented to ensure the owl is not disturbed and will remain in effect until the burrow is no longer occupied.

Short-eared owl (*Asio flammeus*, State Species of Special Concern) although addressed as “unlikely,” to occur in the project’s biological reports, would also be protected by pre-construction surveys as described in BIO-10, if present.

The project includes restoration and rehabilitation of wetland, riparian and upland habitats, and overall, would result in improved and increased habitat for ground-nesting owls.

White-tailed Kite – Federal Status: None; State Status: Endangered, Fully Protected
White-tailed kite is state Fully Protected species and take (as defined by the state) or possession is prohibited.

White-tailed is a resident in a variety of open habitats including agricultural areas, grasslands, scrub habitats, wet meadows, and emergent wetlands throughout the lower elevations of California. Nests are constructed mostly of twigs and placed in small to large trees, often at habitat edges or in isolated groves. The Mitigation Bank site provides open grassland habitat for foraging and suitable trees for nesting. Additionally, white-tailed kites have been observed on multiple occasions by WRA biologists

between 2012 and 2018 (WRA 2018b).

There is small stand of eucalyptus trees in the northwest corner of the Mitigation Bank site that may be suitable for nesting. Additionally, the project site provides open foraging habitat. However, no trees are proposed for removal and there would not be any permeant loss of nesting habitat or foraging habitat.

Pre-construction nesting surveys described as Mitigation Measure BIO-11 and BIO-1 and 2, including a biological monitor with ability to stop work if necessary to protect the species, would reduce impacts on white tailed kites as well as other raptors, special-status birds, and other birds to a less-than-significant level because preconstruction surveys would be conducted, and active raptor and other bird nests would be protected from construction activities.

The project includes restoration and rehabilitation of wetland, riparian and upland habitats, and overall, would result in improved and increased habitat for raptors, including white-tailed kite.

California Black Rail Federal Status: None; State Status: Threatened, Fully Protected

The California black rail is the resident black rail subspecies that occurs in California coastal salt and brackish marshes. Black rails are extremely secretive and very difficult to observe or flush; identification typically relies on voice. Nests are located on the ground in dense wetland vegetation. This species has been documented in the Petaluma Marsh Wildlife Area adjacent to the Mitigation Bank site (CDFW 2025). California black rail may occur in the tidal emergent vegetation along the lower reaches of Wheat Creek as well as in the adjacent tidal marshes (WRA, 2018b, CNDDB 2025).

Construction activities such as removal of the flap (tide) gates, lowering of the berms separating the Petaluma River marsh complex from the Mitigation bank site, and restoration activities at the mouth of Wheat Creek could result in impacts to black rails and their habitat.

With the implementation of avoidance and minimization measures provided in BIO-1, BIO-2, BIO-11 BIO-12, BIO-13, and BIO-14 including limiting activities during high tide events and/or when the tidal marsh is flooded, restricting work periods to avoid nesting period, and requirement for a biological monitor with ability to stop work if necessary to protect the species, potential impacts would be less than significant.

The project includes restoration tidal and brackish marshes and rehabilitation of wetland, riparian and upland habitats, and overall, would result in improved and increased habitat and habitat connectively for California black rail.

California Ridgway's Rail - Federal Status: Endangered State Status: Endangered, Fully Protected

The California Ridgway's rail, formerly known as California clapper rail (*R. longirostris obsoletus*), is the resident Ridgway's/clapper rail subspecies of northern and central California. Although more widespread in the past, it is currently restricted to the San Francisco Bay estuary. California Ridgway's rail nests are constructed of wetland vegetation platform-shaped, are placed near the ground in clumps of dense vegetation.

This species has been documented in the Petaluma River marsh complex adjacent to the Mitigation Bank site (CDFW 2025). This species may occur in tidal wetland vegetation along the lowest reaches of Wheat Creek as well as in the adjacent tidal marshes (WRA, 2018b, CNDDB 2025).

Construction activities such as removal of the flap (tide) gates, lowering of the berms separating the Petaluma River marsh complex from the Mitigation bank site, restoration activities at the mouth of Wheat Creek and ground disturbance, could result in indirect or direct impacts California Ridgway's rails, if present, and their habitat.

With the implementation of avoidance and minimization measures provided in BIO-1, BIO-2, BIO-11

BIO-12, BIO-13, and BIO-14 including limiting activities during high tide events and/or when the tidal marsh is flooded, restricting work periods to avoid nesting period, and requirement for a biological monitor with ability to stop work if necessary to protect the species, potential impacts would be less than significant.

The project includes restoration and rehabilitation of wetland, riparian and upland habitats, and overall, would result in improved and increased habitat and habitat connectively for California black rail. The USFWS 2023 BO for the Mitigation Bank lists potential impacted California Ridgway rail habitat of approximately 1.15 acres, with restored habitat of approximately 59.83 acres, which would be an overall benefit for this species.

San Pablo Song Sparrow Federal None; State Status: Species of Special Concern
This subspecies of the San Pablo song sparrow is endemic to tidal and semi-tidal marshes of San Pablo Bay and northern San Francisco Bay. The essential habitat requirement is dense, taller emergent and herbaceous vegetation, particularly in the upper marsh plain; high-quality habitat tends to include woody shrubs in the upper marsh and adjacent transitional areas. This species has been documented in the Petaluma Marsh Wildlife Area adjacent to the Bank Property (CNDDB, 2025).

Construction activities such as removal of the flap (tide) gates, lowering of the berms separating the Petaluma River marsh complex from the Mitigation bank site, and restoration activities at the mouth of Wheat Creek and grading activities could result in indirect or direct impacts this species and its habitat. However, with the implementation of avoidance and minimization measures provided in BIO-1, BIO-2, BIO-11, and BIO-13 including pre-construction nesting surveys, implementation of a biological monitor and limiting activities during high tide events or when the tidal marsh is flooded, potential impacts would be less than significant.

The project includes restoration and rehabilitation of wetland, riparian and upland habitats, and overall, would result in improved and increased habitat and habitat connectively for San Pablo Song Sparrow.

San Francisco (salt marsh) Common Yellowthroat Federal None; State Status: Species of Special Concern
This subspecies of the common yellowthroat is found in freshwater marshes, coastal swales, riparian thickets, brackish marshes, and saltwater marshes (WRA, 2018b). This species requires thick, continuous cover such as tall grasses, tule patches, or riparian vegetation down to the water surface for foraging and prefers willows for nesting.

This subspecies has been documented in the Petaluma Marsh Wildlife Area adjacent to the Bank Property (CNDDB, 2025) and may inhabit tidal emergent vegetation along the lowest reaches of Wheat Creek as well as in the adjacent tidal marshes.

Construction activities such as removal of the flap (tide) gates, lowering of the berms separating the Petaluma River marsh complex from the Mitigation bank site, and restoration activities at the mouth of Wheat Creek, grading and other restoration activities throughout the Mitigation Bank site could result in indirect or direct impacts this species and its habitat. However, with the implementation of avoidance and minimization measures provided in BIO-1, BIO-2, BIO-11, and BIO-13 including pre-construction nesting surveys, implementation of a biological monitor and limits to activities during high tide events or when the tidal marsh is flooded, potential impacts would be less than significant.

The project includes restoration and rehabilitation of wetland, riparian and upland habitats, and overall, would result in improved and increased habitat and habitat connectively for San Francisco common yellowthroat.

Bryant's Savannah Sparrow Federal None; State Status: Species of Special Concern
Bryant's savannah sparrow typically occupies upper tidally influenced habitats and higher marsh areas, and is often found at the transition between wetland communities and grasslands. Nesting occurs in vegetation on or near the ground, including along roads, levees, and canals. This species is a year-round resident in Sonoma County. It forages and breeds within various vegetation types occurring within the Mitigation Bank site, although past agricultural practices may have reduced the area's suitability for nesting (WRA, 2018b). No occurrences for Bryant’s savannah sparrow have been recorded or tracked in the California Natural Diversity Database (CNDDB) (CNDDB, 2025), although

this does not rule out the potential for occurrence in the project vicinity.

Construction activities such as removal of the flap (tide) gates, lowering of the berms separating the Petaluma River marsh complex from the Mitigation bank site, grading activities at the mouth of Wheat Creek and other grading and restoration activities at the Mitigation Bank site could result in indirect or direct impacts to this species, if present, and/or its habitat. However, with the implementation of avoidance and minimization measures provided in BIO-1 BIO-2, BIO 11, and BIO-13, including pre-construction nesting surveys, implementation of a biological monitor and limits to activities during high tide events or when the tidal marsh is flooded, potential impacts would be less than significant.

The project includes restoration and rehabilitation of wetland, riparian and upland habitats, and overall, would result in improved and increased habitat and habitat connectively for this species.

Mammals

Salt Marsh Harvest Mouse – Federal Endangered; State Status: Endangered, Fully Protected

Salt marsh harvest mouse primarily inhabits saline or brackish marsh habitats within the San Francisco Bay Estuary, particularly those dominated by pickleweed (*Salicornia* sp.). Specifically, they are found in marshes around San Pablo Bay, Suisun Bay, the Petaluma River, and some marshes on the Marin Peninsula, as well as south of the central San Francisco Bay. Salt marsh harvest mouse does not typically use burrows, and thus it is dependent on year-round vegetative cover as well as upland or marsh refuge habitat to escape high tide and flooding events. This species has been documented in the Petaluma River marsh complex adjacent to the Mitigation Bank Property (CNDDB 2025).

Suitable nesting and foraging habitat is present within the tidally-influenced portion of Wheat Creek, the tidally-influenced drainage on the western side of the Bank Property, along the berm on the southern extent of the Mitigation Bank site, and within brackish marsh habitat (WRA 2018b). Salt marsh harvest mouse is expected to access habitat within the Mitigation Bank site, and may nest or forage seasonally there, even though there may be higher quality and more abundant tidal marsh habitat across the berm in the Petaluma River/marsh complex.

Adverse effects to salt marsh harvest mouse could occur from the use of heavy equipment, use of hand tools, noise, vibration, and increased human activity). If salt marsh harvest mice are present during construction, they could experience disruption in their normal behavioral patterns. They could also respond to construction activities by relocating to refugial habitat within adjacent marsh to avoid noise and human interactions (USFWS, 2023)

Vegetation removal may result in the removal of mouse nests and excavation of occupied habitat may cause mice to flee into adjacent habitat where predation could occur. Construction equipment could run over salt marsh harvest mice that move into the construction footprint. Walking through the emergent vegetation during construction clearance actions and post-construction maintenance and monitoring activities could result in salt marsh harvest mice being stepped on or crushed, resulting in injury or death (USFWS, 2023)

Displaced salt marsh harvest mice may also be subject to increased competition for resources in a more densely-occupied habitat or habitat which contains sparser patches of suitable food. Disturbance to females from March to November could result in consequences such as nest abandonment or failure of the current litter. Therefore, displaced salt marsh harvest mice could suffer from increased predation, competition, and potentially reduced reproductive success overall (USFWS, 2023).

With implementation of Mitigation Measures BIO-1, BIO-2, BIO-14, BIO-15, BIO-16, BIO-17, and BIO-18 including high tide construction restrictions, pre-construction surveys and manual vegetation removal, installation and maintenance of exclusion fencing and monitoring during construction, potential impacts would be less than significant.

The project includes restoration and rehabilitation of wetland, riparian and upland habitats, and

overall, would result in improved and increased habitat and habitat connectively for salt marsh harvest mouse. The USFWS 2023 BO for the Halo Ranch Mitigation Bank includes potentially impacted salt marsh harvest mouse habitat of approximately 1.15 acres, with restored habitat of approximately 59.83 acres, an overall benefit for this species.

Suisun Shrew - Federal Endangered; State Status: None, State Status Species of Special Concern

Suisun shrew requires habitat with dense, low-lying cover with an abundance of small invertebrates. Driftwood and other detritus above the mean high-tide line are required for nesting and foraging sites. Contiguous upland habitats, offering sufficient cover and sources of food during prolonged flooding of marshes are also essential (WRA, 2018b).

Shrews construct their nests above the high-tide line, in domed nests made from dead plant material, such as pickleweed and saltgrass. Nests are located on the soil surface, under driftwood or other materials. Breeding is typically from February through September. After the young are dispersed, the nests may be used by other small mammals, such as salt marsh harvest mouse.

Although this wetland subspecies has not been recently documented in the Petaluma Marsh Wildlife Area adjacent to the Bank Property (CNDDB 2025), this area provides suitable marsh habitat to support it, and within the Mitigation Bank project area, the tidal marsh in the lowest portions of Wheat Creek and flap gates, and adjacent to the Mitigation Bank site appear to provide suitable habitat for this species. The most recent CNDDB occurrence is located approximately 9 miles away at the San Pablo Bay National Wildlife Refuge (CNDDB, 2025).

Adverse effects to shrews, if present, would be similar to those for salt marsh harvest mouse, detailed above, including dispersal and displacement, disruption of normal behavior patterns, and crushing from equipment, as well as potentially suffering from increased predation, competition, and potentially reduced reproduction success.

With the implementation of avoidance and minimization measures provided in BIO-1, BIO 2 and also BIO-16, BIO-17, BIO-18 and BIO-19 including pre-construction surveys and manual vegetation removal, exclusion fencing, impacts would be less than significant.

The project includes restoration and rehabilitation of wetland habitats, and overall, would result in improved and increased habitat and habitat connectively for this species, should it occur.

American Badger Federal Status None; State Status: Species of Special Concern
American badger are generally found in open pasture and grassland habitats and are most abundant in drier open stages of most shrub, forest and herbaceous habitats with friable soils on uncultivated ground. They dig their own burrows and prey primarily on burrowing rodents. The project site provides limited, but potentially suitable habitat for this species. Although there are no California Natural Diversity Database records of this species at the project site, there are multiple records of occurrence in the project vicinity (CNDDB, 2025).

If present, grading and restoration activities at the Mitigation Bank site and along access routes to and at willow collection locations could result in direct or indirect impacts if burrows and badgers are present. Noise from the pump, if used for temporary irrigation activities, could also disturb behavior or disperse badgers.

Implementation of Mitigation Measure BIO-20 including implementation of avoidance measures and buffers, as well as an approved CDFW relocation plan (if needed) would reduce potential impacts to less than significant.

<u>Significance Level for the Species Discussed Above:</u>
Less than Significant with Mitigation Incorporated

During vegetation removal and earth moving activities to restore habitat, the measures listed below will be implemented to avoid impacts to sensitive biological resources. These measures may be refined based upon the final requirements of approvals and permits provided by USACE, USFWS, NMFS, SWRCB, SF RWQCB, CDFW and BCDC.

Mitigation Measure BIO-1 – General Conservation Measures

General construction measures included in the Mitigation Bank's BEI Development Plan (RES, 2024; (Attachment 1) shall be implemented, unless otherwise revised by regulatory agency permits and approvals, including, but not limited to, USACE, USFWS, NMFS, RWQCB, CDFW and BCDC.

a) The Construction Foreman/Manager will maintain a readily available copy of all regulatory permits as required by each authorizing agency.

b) Construction activities will follow all relevant Best Management Practices (BMPs) as detailed in the Sonoma County Construction BMPs, including SCC Chapters 11 Construction Grading and Drainage and 11a Stormwater Quality.

c) Equipment staging, materials storage, and stockpile areas will be located in upland areas only. Soil stockpiles will be located at least 50 feet upland from the high tide line of the Petaluma River/marsh complex or as otherwise required by regulatory agency permits and approvals (including but not limited to USACE, USFWS, NMFS, RWQCB, CDFW, and BCDC) . If stockpiles are to remain during the rainy season (November to May), stockpiles will be seeded to prevent erosion and runoff. Seeding will occur at the appropriate time of year to ensure proper germination.

d) A hazardous materials management/fuel spill containment plan for the emergency cleanup of any spills of fuel or other materials will be prepared. This plan will be given to all contractors working on the proposed project and at least one copy will be located on the project Area at all times during ground disturbing activities.

e) Equipment will be refueled and serviced at designated construction staging areas at least 50 feet from aquatic resources or use a secondary containment method at designated refueling areas.

f) Construction vehicles and equipment will be inspected daily to prevent discharge and contamination of soil or water (from external grease and oil or from leaking hydraulic fluid, fuel, oil, and grease).

g) All spoils and construction debris shall be moved outside the work area prior to inundation by water. Spoil disposal sites shall not be located within a stream channel or areas that may be subjected to stream flows, where spoil may be washed into a stream, or where it may impact streambed habitat, aquatic, or riparian vegetation. All removed materials shall be disposed of according to federal, state, and local laws and ordinances.

h) All trash will be removed from the worksite at the end of each workday to eliminate any attraction to predators of special-status species.

i) All construction haul and access roads (including access roads to willow collection aeras and the stock pond) will be clearly identified and marked in the field and construction equipment will be restricted to these roads at all times.

j) All construction activities shall occur within the dry season work window of June 15 to October 15. Planting activities may occur outside of this work window but must be completed within the same season as construction activities. If time outside of June 15 to Oct 15 work window is required, written approval shall be obtained from all regulatory agencies as needed, including, but not limited to the County, USACE, USFWS, NMFS, RWQCB, CDFW, and BCDC.

k) All work shall be restricted to daylight hours (one hour after sunrise to sunset).

l) A USFWS and CDFW approved biologist(s) will be responsible for overseeing the implementation of avoidance and minimization measures. Approved biologist(s) will be given the authority to stop work that may impact a special-status species. The approved biologist(s) will be the contact for personnel who observe a special-status species. If a special-status species is observed at any time during construction activities work will not be initiated or will be stopped immediately within a minimum of 200 feet of the animal, or as otherwise determined by the approved biologist, until the animal leaves the vicinity of the work area of its own volition. If the animal in question does not leave the work area, work will not be reinitiated in the vicinity of the animal until the appropriate regulatory agency(s) with oversight over the species is contacted and has decided on how to proceed with work activities or otherwise pre-approved in writing by the state and/or federal permitting agencies prior to construction. The biological monitor will direct the contractor on how to proceed accordingly.

m) No trees will be removed. Ground disturbing activities will avoid impacts to existing trees. Fencing, including signs stating, “tree protection area”, will be erected outside of the critical root zone (dripline) of all trees. Prior to the start of any ground-disturbing activities, fencing and signs will be installed and will remain in place throughout all ground-disturbing activities. Any ground disturbing activities that may occur within the critical root zone (drip line) of a tree shall be approved by the County of Sonoma prior to the start of construction and protective measures updated as deemed necessary.

n) Erosion and sediment control measures (i.e., straw waddles, silt fencing) will be installed and remain in place during construction and immediately following construction to minimize fine sedimentation and siltation from occurring. These control measures will be placed at all locations where sediment input is likely to occur, including around soil stockpiles, along the outboard side of the southern berm adjacent to the Petaluma River marsh complex, the outboard side of Flap Gate 1 and Flap Gate 2, and at the terminus of Wheat Creek where it intersects with the Petaluma River/marsh complex.

o) Construction activities associated with the removal of Flap Gate 1 and Flap Gate 2, and construction along the tidally-influenced portion of Wheat Creek, will be conducted at low-tide to reduce impacts to water quality and special-status species, including, but not limited to, California Ridgway rails and other birds, salt marsh harvest mice, shrews, fish and other aquatic species.

p) Upon completion of construction activities, all temporary fencing and/or barriers to flow will be removed and disposed of offsite.

q) No equipment shall be operated from within the stream or drainage when surface water is present.

r) No work shall occur in the portion of the stream be where surface is present or anticipated.

s) Excavation of the outlet of Wheat Creek will be completed using an excavator equipped with an open (digging) bucket and operated from the shore/upland.

t) 21. The suction end of any intake hoses at the stock pond north of Lakeville Highway (if needed for irrigation of restoration plantings) shall be fitted with 0.125-inch mesh or netting, or as otherwise approved in writing by USFWS and CDFW to prevent entrapment or impingement of aquatic species.

u) 22. At the end of each workday, all trenches and holes greater than one foot deep shall be covered to prevent wildlife from entering. When trenches cannot be covered, an escape ramp shall be placed at each end of any constructed open trench or area that wildlife may become entrapped. The ramp may be constructed of soil or wood planking or other suitable material that is placed at an angle no greater than 30 degrees.

v) 23.All pipes, hoses, or similar structures less than 12 inches in diameter shall be closed or covered to prevent animal entry. All construction pipes or similar structures greater than 2 inches in diameter stored at the project site overnight shall be inspected thoroughly for wildlife before the pipe or similar structure is buried, capped, used, or moved.

w) 24. At the beginning of each workday, the USFWS and CDFW approved biologist shall inspect the project work area unless otherwise approved in writing by CDFW and USFWS. If special-status species are encountered at the beginning of each workday or during project activities, all work shall cease and not proceed until written approval by CDFW, USFWS, and NMFS unless otherwise approved by state and federal permitting agencies in writing prior to construction (i.e., USFWS/NMFS Biological Opinion or CDFW Incidental Take Permit).

x) 25. All project personnel shall implement measures to avoid avoidance and minimize spread of phytophthora, including sanitizing equipment and footwear, following requirements of CDFW Streambed Alteration Agreement and other state and federal permits/approvals, as required.

y) 28. No monofilament or plastic netting will be used in erosion control measures which could lead to entrapment of general wildlife or special status species, including California red-legged frog, foothill yellow-legged frog, or western pond turtle.

Mitigation Monitoring Bio-1
Permit Sonoma shall include this mitigation measure in the conditions of approval for any planning and grading permits. Permit Sonoma staff shall ensure authorization or clearance by regulatory agencies including USACE, USFWS, NMFS, RWQCB, CDFW and BCDC has been obtained prior to starting Project activities.

Mitigation Measure BIO-2- Worker Environmental Training Prior to ground-disturbing activities, a Worker Environmental Awareness Program (WEAP) training will be conducted by an approved USFWS and CDFW biologist to discuss potential special status species that may be in the area. At a minimum, the training will consist of a presentation on special-status species with potential to be in the project vicinity, their biology, how they may be encountered and protection measures to be followed. The training shall be conducted for all personnel working at the project site. Contractors, their employees, and other on-site personnel will undergo training prior to involvement with construction activities. The program will include a description of the various species and their habitat needs, reports of occurrences in the project vicinity, an explanation of the status of each special-status species and their legal protections penalties for violations, how they may be encountered at the project site, and protective measures to reduce potential impacts to the species during proposed project implementation. Fact sheets conveying this information will be prepared for distribution for all workers containing this information for workers to have with them at the project site.

Records of special-status species training will be retained by the approved biologist. The approved biologist will train any new personnel who were not working on the project during the initial employee education training. Training materials and sign-in sheets shall be maintained during all construction activities, in all areas of the project. The approved biologist will collect sign-in sheets for documentation purposes. Training materials will comply with all final project state and federal regulatory agency permits and approvals, as applicable. Training materials, fact sheets, and sign in sheets shall be available to the County and regulatory agencies including USACE, USFWS, NMFS, RWQCB, CDFW and BCDC, upon request.

Mitigation Monitoring BIO-2
Permit Sonoma shall include this mitigation measure in the conditions of approval for any planning, and grading permits. Permit Sonoma staff shall ensure authorization or clearance from the regulatory agencies including USACE, USFWS, NMFS, RWQCB, CDFW and BCDC has been obtained prior to starting Project activities. Training materials, fact sheets, and sign in sheets shall be available to the County and state and federal regulatory agencies including USACE, USFWS, NMFS, RWQCB, CDFW and BCDC, upon request.

Mitigation Measure BIO-3 – Special-Status Plants Habitat Assessment and Surveys

Prior to ground disturbance, not more than a year before construction, a qualified botanist shall conduct a botanical survey and an evaluation of potential direct and indirect impacts to any special status plants. Results of the survey shall be provided to the County, CDFW and USFWS for review and written approval prior to commencing with project activities.

The botanical survey and report shall follow CDFW's survey protocols for *Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Sensitive Natural Communities* (2018b, or most current protocols) and USFWS *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants* (2020, or most current guidelines). If USFWS or CDFW are unable to accept the survey results, the project shall conduct additional surveys prior to initiation of project activities or may assume presence of any potentially occurring special status species, if allowed by CDFW and USFWS. The surveys shall be completed in conformance with the above survey protocols and guidelines, including, but not limited to, conducting surveys during appropriate conditions, utilizing appropriate reference sites, and evaluating all direct and indirect impacts such as altering hydrological conditions where the above species may be present. Surveys conducted during drought conditions may not be acceptable.

If the botanical surveys result in the detection of any of Petaluma popcorn flower, soft salty bird's beak, two-fork clover, Marin knotweed, or any other special-status plant potential impacted by the project, the project shall 1) avoid all direct and indirect impacts to special status plants and 2) prepare and implement an avoidance plan approved in writing by the County, CDFW and USFWS (as applicable for state and federal special-status plants) prior to the start of the project.

If special status plants are observed during pre-construction surveys, or are assumed present and cannot be avoided, the project shall coordinate with CDFW, and if needed obtain an Incidental Take Permit (ITP) prior to construction and comply with all ITP and other CDFW requirements, including providing habitat compensation, if needed. In addition, the project shall consult with USFWS for any impacts to plants listed under the federal Endangered Species Act and provide compensatory mitigation as required

Mitigation Monitoring BIO-3
Permit Sonoma shall include this mitigation measure in the conditions of approval for any planning and, grading permits. Permit Sonoma staff shall ensure authorization or clearance from CDFW and USFWS has been obtained prior to starting project activities.

Mitigation Measure BIO-4 - Fish

All construction activities occurring within the Petaluma River/marsh complex subject to tidal activity (tidally-influenced stream, tidally-influenced drainage, and brackish marsh habitats), will be performed within the environmental work windows for salmonids (June 15 to October 15) and longfin smelt (August 1 to December 31) or as otherwise determined by USFWS, NMFS and CDFW. Construction activities will be conducted during low tides, when there is no surface water present.

Mitigation Monitoring BIO-4
Permit Sonoma shall include this mitigation measure in the conditions of approval for any planning and grading permits. Permit Sonoma staff shall ensure authorization or clearance from USFWS, NMFS, CDFW prior to start of project activities.

Mitigation Measures BIO-5 California Red-legged Frog Habitat Assessment and Surveys.

At least two weeks prior to the commencement of ground-disturbing activities, the project area and nearby vicinity, including a minimum 500-foot radius surrounding the project activity area, shall be assessed by a USFWS and CDFW approved biologist for the presence of California red-legged frog individuals and habitat features. Habitat features include both aquatic habitat such as plunge pools and ponds and terrestrial habitat such as burrows or other refugia.

No more than 48 hours prior to construction activities the area shall be surveyed by the approved biologist. The results of the habitat assessment and survey shall be submitted to CDFW and USFWS for written acceptance prior to starting project activities. Potential burrows and refugia sites shall be flagged or otherwise marked for avoidance; project activities shall avoid habitat features to the extent feasible.

In accordance with the USFWS BO (USFWS 2023), if a California red-legged frog is detected during the habitat assessment and survey, project activity shall not proceed or all work shall cease and USFWS shall be immediately notified. If the individual does not move out of the work area on its own accord, the approved biologist will relocate the individual to a USFWS and CDFW approved relocation site within the Project vicinity, at least 200 feet from the disturbance footprint, and within similar riparian or aquatic habitat. Prior to handling the California red-legged frog, the approved biologist will assure their hands are free of toxins or use latex or nitrile gloves to capture the animals. The animals will be moved in a clean bucket containing leaf litter or a sponge moistened with non-chlorinated water. Information regarding the capture and relocation will be recorded or as otherwise required by USFWS and CDFW.

If a rain event (more than one half inch of precipitation in a 24-hour period) occurs during construction, the approved biologist shall conduct a follow-up preconstruction survey for California red-legged frog within 48 hours prior to the continuance of construction activities. If any California red-legged frog are found during construction, construction activities will stop, and the USFWS will be contacted.

Mitigation Monitoring BIO-5
Permit Sonoma shall include this mitigation measure in the conditions of approval for any planning and grading permits. Permit Sonoma staff shall ensure authorization or clearance from USFWS and CDFW prior to start of project activities.

Mitigation Measure BIO-6- Wildlife Exclusion Fencing
Prior to the start of construction activities, suitable wildlife exclusion fencing will be installed along the outlet of Wheat Creek into the project site at the culvert beneath Lakeville Highway. Suitable exclusion fencing will also be installed along the western border of the Project Area from Lakeville Highway south to the start of the tidally-influenced drainage. This will ensure that any dispersing special-status wildlife, including California red-legged frogs, foothill yellow frog and western pond turtle, are excluded from the work area. This fence will be maintained throughout the duration of work and be removed once all activities have concluded.

Fencing will be installed prior to the time any site grading or other construction related activities are implemented. Fencing, which will be constructed under the guidance of a CDFW and USFWS approved biologist, will consist of a three-foot tall, tight cloth, smooth plastic, or sheet-metal (or similar material approved by CDFW and USFWS), fence toed into the soil at least three inches deep and supported with stakes placed on the inside of the barrier. The top six inches of the fence will be bent over in a semi-circle facing outwards to ensure that the fence cannot be climbed. An opening for vehicle access will be maintained with sandbags placed at the base to ensure California red-legged frogs and other amphibians and reptiles are excluded. If a hard surface is present and toed-in fencing is not feasible, sandbags will be used to maintain a seal at the base of the fence. A CDFW and USFWS approved biologist will monitor the installation and maintenance of the fence.

The CDFW and USFWS approved biologist will oversee grading activities in order to conduct inspections of the exclusion fencing and to ensure that stranded animals are relocated. The biological monitor will, at minimum, inspect the fencing on a weekly basis. The biological monitor will be responsible for ensuring that the fencing is not compromised and will notify both the onsite contractor and supervisor when fencing needs to be repaired.

Mitigation Monitoring BIO-6
Permit Sonoma shall include this mitigation measure in the conditions of approval for any planning and, grading permits. Permit Sonoma staff shall ensure authorization or clearance from CDFW and USFWS has been obtained prior to starting project activities.

The CDFW and USFWS approved biologist will oversee grading activities in order to conduct inspections of the exclusion fencing and to ensure that stranded animals are relocated. The biological monitor will, at minimum, inspect the fencing on a weekly basis. The biological monitor will be responsible for ensuring that the fencing is not compromised and will notify both the onsite contractor and supervisor when fencing needs to be repaired.

Mitigation Measure BIO-7 Western Pond Turtle
Western Pond Turtle Surveys: A CDFW approved biologist shall conduct a pre-construction survey for the western pond turtle and their nests in all project areas, including areas north of Lakeville Highway such as access routes for willow stake collection, willow collection sites, and the stock pond, including areas for the temporary pump and irrigation lines, if needed. Surveys shall be conducted within 48 hours of the commencement of project activities. Surveys shall be repeated daily along access routes to and at willow plant collection areas. If species or their nests are detected at any time CDFW shall be notified immediately. If the western pond turtle does not leave the work area on its own, a CDFW approved Biologist shall relocate the individual to appropriate habitat within the stream it was found, outside of the project work area. Nests shall not be disturbed or moved. The project shall prepare and implement a Western Pond Turtle Habitat Improvement Plan, if western pond turtle or their nests are found, if required and approved by CDFW.

If translocation of a western pond turtle is required, the CDFW approved biologist will move the individual to a suitable area of the creek or pond with adequate cover and access to water >100 m (~330 ft) from access routes or work areas. The biologist will relocate the individual in a sturdy plastic container or cooler with ventilation holes. Gloves will be worn and plastic containers will be washed between each use. Individuals will be handled to the minimum extent necessary.

Mitigation Monitoring BIO-7:
Permit Sonoma shall include this mitigation measure in the conditions of approval for any planning and grading permits. Permit Sonoma staff shall ensure the surveys have been completed and, if any western pond turtle are found, that CDFW has been notified and a Habitat Improvement Plan has been prepared and approved prior to starting Project activities.

Mitigation Measure BIO-8- Yellow Legged Frog- Survey Methodology
A CDFW-approved Qualified Biologist shall provide a foothill yellow-legged frog survey methodology for CDFW review and written approval at least 30 days prior to conducting project activities, unless otherwise approved in writing by CDFW. Project activities shall not begin until foothill yellow-legged frog surveys have been completed using a methodology approved by CDFW. Survey methodology is not required if the stream is dry and there are no areas of persistent summer moisture present in or within 500 feet upstream and downstream of the project area. Survey methodology shall target all life stages and shall include carefully searching under rocks, within vegetation such as sedges and other clumped vegetation, and under undercut banks, no less than 50 feet from the streambed, where appropriate, and at least 500 feet upstream and downstream of the project area. Surveys should be conducted at different times of day and under variable weather conditions, if possible. Surveys should avoid windy days (15 miles per hour or greater), as ripples in the water make it more challenging to detect frogs.

Mitigation Monitoring BIO-8:
Permit Sonoma shall include this mitigation measure in the conditions of approval for any planning, grading and building permits. Permit Sonoma staff shall ensure authorization or clearance from CDFW has been obtained prior to starting project activities.

Mitigation Measure BIO-9- Yellow Legged Frog- Surveys
Prior to starting project activities, a CDFW- approved Qualified Biologist shall conduct surveys for foothill yellow-legged frog using a CDFW-approved methodology. The results of the surveys shall be emailed to a CDFW representative, and the project shall receive written acceptance of the survey results from CDFW prior to starting project activities. The project shall install exclusionary fencing and prepare and implement a foothill yellow-legged frog Relocation and Habitat Improvement Plan if foothill yellow-legged frog adults, larva, or their eggs are found, if required and

approved by CDFW.

If documentation is provided to CDFW that the stream has been completely dry for greater than 30 days prior to starting project activities, and no water or moist areas within the streambed exist within 500 feet upstream and downstream of the project site, then surveys for foothill yellow-legged frogs are not necessary.

Mitigation Monitoring BIO-9
Permit Sonoma shall include this mitigation measure in the conditions of approval for any planning, and grading permits. Permit Sonoma staff shall ensure authorization or clearance from CDFW has been obtained prior to starting project activities.

Mitigation Measure BIO-10: Nesting Bird Survey
The following measures shall be taken to avoid potential inadvertent destruction or disturbance of protected nesting birds on and near the project site as a result of construction-related vegetation removal and site disturbance:

(a) To avoid impacts to nesting birds, all construction-related activities (including but not limited to mobilization and staging, clearing, grubbing, vegetation removal, fence installation, demolition, and grading) shall occur outside the avian nesting season (generally prior to February 1 or after August 31).

(b) If project-related activities are scheduled to occur during the nesting season (generally February 1 through August 31), a USFWS and CDFW approved biologist shall conduct a preconstruction nesting survey for nesting bird species within seven (7) days prior to initiation of work. The approved biologist conducting the surveys shall be familiar with the breeding behaviors and nest structures of birds known to nest on the project site. Surveys shall be conducted at the appropriate times of day during periods of peak activity (e.g., early morning or dusk) and shall be of sufficient duration to observe movement patterns. Surveys shall be conducted on the project site and within a 500-foot radius around the project site. Results of surveys shall be provided to CDWF and the County.

(c) If project activities are delayed by more than seven (7) days an additional nesting bird survey shall be performed before work can be reinitiated. Additional surveys shall be also conducted if work is delayed or phased in different portions of the work area, including willow collection areas and the stock pond north of Lakeville Highway.

(d) Active bird nest sites shall be designated as “Ecologically Sensitive Areas” (ESA) and protected (while occupied) during project work by demarking a “No Work Zone” buffer around each nest site.

i. Buffer distances for bird nests shall be site specific and an appropriate distance, as determined by the USFWS and CDFW approved biologist. The buffer distance shall be specified to protect the bird’s normal behavior thereby preventing nesting failure or abandonment. The buffer distance recommendation shall be developed after filed investigations that evaluate the bird(s) apparent distress in the presence of people or equipment at various distances. Abnormal nesting behaviors which may cause reproductive harm include, but are limited to, defensive flights/vocalizations directed towards project personnel, standing up from a brooding position, and flying away from the nest. The USFWS and CDFW approved biologist shall have authority to order the cessation of all nearby project activities if the nesting birds exhibit abnormal behavior, which may cause reproductive failure (nest abandonment and loss of eggs and/or young) until an appropriate buffer is established.

ii. The USFWS and CDFW approved biologist shall monitor the behavior of birds (adults and young, when present) at the nest site to ensure that they are not

disturbed by project work. Nest monitoring shall continue during project work until the young have fully fledged (have completely left the nest site and are no longer being fed by the parents), as determined by the USFWS and CDFW approved biologist, unless otherwise approved in writing by USFWS and CDFW.

(e) No habitat removal or modification shall occur with the ESA-fenced nest zone until the young have fledged and will no longer be adversely affected by the project. Any trees or shrubs that are removed shall be "downed" in such a manner as to minimize disturbance to stable soil conditions.

(f) Exclusion netting or mesh may be erected around the underside of the culvert under Lakeville Highway in order to exclude swallows, prior to construction activities, with prior approval in writing from CDFW and Caltrans, to prevent swallows from using the culvert as a nest site during ground disturbing activities. Netting shall be ¼ inch, or as otherwise approved by CDFW. Netting will be attached so it can be pulled taut. No loose pockets or wrinkles in the net will be allowed that could trap and entangle birds. With written approval from CDFW and Caltrans, netting may be installed outside of the nesting season when swallows are not present and left up until after ground disturbing activities are completed. If installed, netting shall be inspected daily.

(g) Active nests occurring near project activities shall be avoided and California Fish and Game Code Sections 3503, 3503.5 and 3513 and the Migratory Bird Treaty Act of 1918, shall be complied with, regardless of the time of year.

Mitigation Monitoring BIO-10:
Permit Sonoma shall include this mitigation measure in the conditions of approval for any planning, and grading permits. Permit Sonoma staff shall ensure authorization or clearance from CDFW and Caltrans has been obtained prior to starting project activities.

Mitigation Measure BIO-11- Burrowing Owl

A USFWS and CDFW approved biologist shall conduct a habitat assessment and surveys, if warranted based on the habitat assessment, pursuant to the Department of Fish and Game Staff Report on Burrowing Owl Mitigation (2012) survey methodology prior to the commencement of project activities. The survey area shall include the project area and up to a 500-meter (1,640-foot) radius around the project area based on the level of project impact as outlined in the 2012 methodology. Written approval of the habitat assessment and any survey reports shall be obtained from CDFW prior to the start of construction.

If burrowing owl is detected, CDFW and USFWS shall be immediately notified and the approved biologist shall establish suitable buffers to ensure the owl is not disturbed by the project pursuant to the buffer distances outlined in the Department of Fish and Game Staff Report on Burrowing Owl Mitigation (2012) or obtain CDFW written approval for any reduction of the no disturbance buffer. To prevent encroachment, the established buffers shall be clearly marked by high visibility material. The established buffers shall remain in effect until the burrow is no longer occupied as confirmed by the approved biologist. If wintering burrowing owl exclusion is necessary, an exclusion plan shall be submitted to CDFW and CDFW's comments shall be incorporated into the plan. The exclusion plan shall include permanent protection of occupied wintering burrowing habitat, including sufficient foraging habitat, through a conservation easement and funding for habitat management in-perpetuity, unless otherwise approved in writing by CDFW. Permeant habitat protection and habitat management funding shall be completed prior to the Project activities, unless otherwise approved in writing by CDWF. Any additional avoidance and minimization measures required by CDFW if burrowing owl is found shall be implemented.

Mitigation Monitoring BIO-11- Burrowing Owl

Permit Sonoma shall include this mitigation measure in the conditions of approval for any planning, and grading permits. Permit Sonoma staff shall ensure authorization or clearance from CDFW has

been obtained prior to starting project activities.

Mitigation Measure BIO-12 – Ridgway's and Black Rail Avoidance and Surveys

Project activities at or within 700 feet of tidal marsh or suitable California Ridgway's rail (CRR) or California black rail (CBR) habitat shall be avoided during rail breeding season (January 15 – August 31 for CRR, February 1 -August 31 for CBR) each year unless appropriately timed, yearly protocol level surveys are conducted and survey and methodology and results are submitted to and accepted by CDFW and USFWS, as required by the CDFW Streambed Alteration Agreement for CRR and CBR and USFWS Biological Opinion for CRR, or otherwise approved in writing by these agencies..

If breeding rails are determined to be present, no activities, visual disturbance (direct line of sight) and/or an increase in the ambient noise level shall occur within 700 feet of areas where CRR and/or CBR have been detected during the breeding season. If protocol surveys have not been conducted, or submitted to and accepted by CDFW and USFWS, all work shall be conducted a minimum of 700 feet from CRR and/or CBR habitat during the nesting season.

Mitigation Monitoring BIO-12

Permit Sonoma shall include this mitigation measure in the conditions of approval for any planning, and grading permits. Permit Sonoma staff shall ensure authorization or clearance from USFWS and CDFW has been obtained prior to starting project activities.

Mitigation Measure 13- Ridgway's and Black Rail- High Tide Restriction

No project activities shall occur within 50 feet of suitable California Ridgway's rail or California black rail habitat during extreme high tide events or when project area or adjacent tidal marsh is flooded. Extreme high tide events are defined as a tide forecast of 6.5 feet or higher measured at the Golden Gate Bridge and adjust to the time of local high tides.

Mitigation Monitoring 13

Permit Sonoma shall include this mitigation measure in the conditions of approval for any planning, and grading permits. Permit Sonoma staff shall ensure authorization or clearance from USFWS and CDFW has been obtained prior to starting project activities.

Mitigation Measures 14 – Salt Marsh Harvest Mouse and Suisun Shrew Pre-construction Survey and Vegetation Removal

Prior to impacting salt or tidal marsh habitat, an approved USFWS and CDFW biologist familiar with salt marsh harvest mouse (SMHM) and Suisun shrew shall conduct pre-construction surveys, including walking thorough and inspecting suitable habitat (including existing seasonal wetlands, perennial wetland, brackish marsh, and tidally influenced areas) and searching for signs of SMHM, shrews or other sensitive wildlife and plants.

Following preconstruction surveys and inspection, personnel under the supervision of an approved biologist, will disturb (e.g. flush) vegetation to force movement of SMHM and shrew, if present, into adjacent marsh areas. Flushing of vegetation will first occur in the center of the site or work area, then progress toward the two sides away from the open water areas, or in this case, away from impacted habitat to allow SMHM, shrew and any other wildlife to move out of the area to be impacted to adjacent areas. Immediately following vegetation flushing, personal under the supervision of the approved biologist list will remove vegetation with hand tools (e.g., weed-eater, hoe, trowel, rake or shovel) so that vegetation is no taller than 2 inches.

Vegetation will not be removed during a flooding event that inundates the Bank, as these are conditions in which salt marsh harvest mouse are most likely to be present.

All vegetation that is removed shall be hauled offsite the day it is removed or stockpiled in upland areas and will not be left within the impact areas to provide potential cover for small mammal species.

Mitigation Monitoring 14

Permit Sonoma shall include this mitigation measure in the conditions of approval for any planning, and grading permits. Permit Sonoma staff shall ensure authorization or clearance from USFWS and CDFW has been obtained prior to starting project activities.

Mitigation Measure 15- Salt Marsh Harvest Mouse-High Tide Restriction

No project activities shall occur within 50 feet of suitable salt marsh harvest mouse \ within two (2) hours before and after an extreme high tide event (6.5 feet or higher measured at the Golden Gate Bridge and adjusted to the time of local high tides) or when salt marsh is flooded unless salt marsh harvest mouse exclusion fencing has been installed around the work area.

Mitigation Monitoring 15

Permit Sonoma shall include this mitigation measure in the conditions of approval for any planning, and grading permits. Permit Sonoma staff shall ensure authorization or clearance from USFWS and CDFW has been obtained prior to starting project activities.

Mitigation Measure 16 Fully Protected Species – Salt Marsh Harvest Mouse and Rails

An approved CDFW biologist or monitor shall be present on-site to survey and monitor CDFW Fully Protected Species, including salt marsh harvest mouse, California Ridgway's rail, and California black Rail during a) all vegetation removal; b) the construction of exclusion fencing; and c) all work within 300 feet of tidal or pickleweed habitats. The approved biologist or monitor shall have the authority to stop work if deemed necessary for any reason to protect these species or any other special status species. Take or possession of any CDFW Fully Protected species is generally prohibited, and typically no CDFW permits may be issued for such (with limited exceptions for specific projects under SB 147 [*Fully protected species: California Endangered Species Act: authorized take*] and issuance of an Incidental Take Permit. Take of CDFW Fully Protected Species for the proposed project is prohibited.

Mitigation Monitoring 16 Fully Protected Species

Permit Sonoma shall include this mitigation measure in the conditions of approval for any planning, and grading permits. Permit Sonoma staff shall ensure authorization or clearance from USFWS and CDFW has been obtained prior to starting project activities.

Mitigation Measure 17 Salt Marsh Harvest Mouse and Suisun Shrew Exclusion Fencing

After vegetation removal, a small mammal proof barrier shall be placed along the edge of the area removed of vegetation to further reduce the likelihood of salt marsh harvest mouse, and shrews from returning to the area prior to construction. The fence shall be made of a heavy plastic sheeting material that does not allow passage of small mammals to go through or climb, and the bottom shall be buried to a depth of 4 inches so that salt marsh harvest mouse and shrews cannot crawl under the fence. Fence height shall be at least 12 inches higher than the highest adjacent vegetation with a maximum height of 4 feet. All supports for the exclusion fencing shall be placed on the inside of the work area. An approximately 2-foot wide devegetated buffer shall be created along the habitat side of the exclusion fence.

Mitigation Monitoring 17

Permit Sonoma shall include this mitigation measure in the conditions of approval for any planning, and grading permits. Permit Sonoma staff shall ensure authorization or clearance from USFWS and CDFW has been obtained prior to starting project activities.

Mitigation Measure 18 Salt Marsh Harvest Mouse and Suisun Shrew Inspections

The salt marsh harvest mouse and shrew exclusion fencing shall remain in operating condition through the duration of all project activities in salt and tidal marsh habitat. The approved biologist or approved biological monitor shall inspect the integrity of the exclusion fencing dally to ensure there are no gaps, tears, or damage. Maintenance of the fencing shall be conducted as needed. Any necessary repairs to the fencing shall be completed within 24 hours of the initial observance of the damage. Any mice or shrews found along or outside ethe fence shall be closely monitoring until they

move away from the project area.

Mitigation Monitoring 18

Permit Sonoma shall include this mitigation measure in the conditions of approval for any planning, and grading permits. Permit Sonoma staff shall ensure authorization or clearance from USFWS and CDFW has been obtained prior to starting project activities.

Mitigation Measure 19 American Badger Surveys

An approved CDFW biologist shall conduct a pre-construction survey for the American badger and suitable dens within 48-hours of the start of project activities. The survey area shall include the project area and a 50-foot buffer zone within suitable habitat of all project areas. Habitat assessments and surveys should be timed to coincide with project activities, and may need to be repeated, as badgers can move around quickly. For example, surveys for areas of north of Lakeville Highway shall be conducted prior to commencing collection of willows and temporary irrigation activities. If badgers are found on or adjacent to the project site, a 50-foot construction avoidance buffer shall be established and CDFW shall be immediately notified. If the occupied den must be disturbed to accomplish project activities, a relocation plan shall be submitted to CDFW for review and approval in writing prior to proceeding with project activities and implementation of the plan.

Mitigation Monitoring 19
Permit Sonoma shall include this mitigation measure in the conditions of approval for any planning, and grading permits. Permit Sonoma staff shall ensure authorization or clearance from CDFW has been obtained prior to starting project activities.

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

Comment:
Blueline streams shown on the USGS maps are designated for protection in the Sonoma County General Plan. Wheat Creek and the drainage along the northwest side of the Mitigation Bank site, (adjacent to the City of Petaluma's Ellis Creek Water Recycling Facility) that flows south along the southern berm to the Petaluma River are designated as Sonoma County Riparian Corridor's with setbacks of 50-feet each (Figure 2). Encroachment into the 50-foot Riparian Corridor must comply with General Plan policies and the County's Riparian Corridor Ordinance that govern riparian corridors for a distance of 50 ft. from the top of the highest bank along each drainage. See also 4c for further discussion of sensitive natural communities, e.g. wetlands.

The proposed project includes restoration and enhancement of the approximately 122-acre Mitigation Bank site, restoring wetland and riparian habitat, including Wheat Creek and tributary drainages to the Petaluma River, and their designated 50-foot Riparian Corridors. The Mitigation Bank's BEI includes a streamside conservation plan as required by Sonoma County Code Section 26-65-040(Q) for encroachment into Riparian Corridors. An additional conservation plan for the Eucalyptus Zone and Tidal Marsh Transition Area along the drainage in the northwest corner of the Mitigation Bank site includes restoration of areas that are not included in the sale of Mitigation Bank credits. Planting plans are shown in Figure 7.

Willow cuttings will be obtained from areas north of Lakeville Highway to use in plantings for riparian areas at the Mitigation Bank site. Cuttings will be limited to 25% of individual trees and branches, following American National Standard for Arboricultural Operations.

Post-construction, the project would provide a benefit to Riparian Corridors, and tidal and seasonal wetlands in both the near- and long-term, through ecological restoration to conditions more closely resembling historical hydrology and habitat, as well as improved ecosystem function and protection through a conservation easement, in-perpetuity.

To reduce potential impacts to stream and wetland habitat to less-than-significant, mitigation

measure BIO-20 and BIO-21 have been incorporated into the project.

Significance Level:
Less than Significant with Mitigation Incorporated

Mitigation Measure BIO-20- Restoration Plans:

Riparian Corridor sensitive natural communities and tidal and seasonal wetlands, and all exposed areas shall be replanted with native herbaceous, shrub and tree riparian vegetation, in accordance with the Preliminary Planting Plans (RES 2023) for the Halo Ranch Mitigation Bank and restoration plans for the Eucalyptus Zone and Tidal Marsh Transition Area (RES 2023). Final planting plans shall be provided for review and approval by Permit Sonoma staff 30 days prior to construction.

Removal of vegetation and vegetation disturbance shall be limited to the extent outlined in the project plans. Any tree pruning that is done, including for willow cutting collection, will conform to the American National Standard for Tree Care Operation Tree, Shrub, and Other Woody Plant Maintenance Standard Practices, Pruning (ANSI A300 Part 1-Pruning), and the companion publication Best Management Practices.

Mitigation Monitoring BIO-20:
Permit Sonoma shall include this measure in the conditions of approval for any planning and grading permits. Replanting of disturbed areas shall be a condition of approval and the grading permit not finalized until Permit Sonoma staff have confirmed restoration plantings have been installed and as-builts plans have been submitted. Permit Sonoma staff shall ensure authorization or clearance from USACE, RWQCB and CDFW has been obtained prior to finalizing the grading permit.

Mitigation Measure BIO-21-Obtain State and Federal Permits and Approvals:
The applicant shall obtain RWQCB and USACE Section 401 certification and 404 permit as well as final CDFW Lake and Streambed Alteration Agreement (Fish and Game Code Section 1600) for any indirect or direct impact to creeks and drainages, and associated wetlands, including riparian areas. In addition, applicant shall obtain approval of final restoration plans from regulatory agencies with oversight over the project, including but not limited to, USACE, USFWS, NMFS, RWQCB, CDFW, and BCDC.

Mitigation Monitoring BIO-21:
Permit Sonoma shall include this mitigation measure in the conditions of approval for any planning and grading permits. Permit Sonoma staff shall ensure authorization or clearance from regulatory agencies with oversight over the project, including but not limited to, USACE, USFWS, NMFS, RWQCB, CDFW, and BCDC prior to issuance of grading permits.

Mitigation Measure BIO-22 As-built Design Plans and Report
After construction is completed, as-built drawings and report shall be submitted to Permit Sonoma (and applicable regulatory agencies including but not limited to USACE, RWQCB, CDFW and BCDC) for review and approval prior within 30 days of project completion of planting activities. The as-built drawings will identify any revisions from the project grading and restoration plans. The as-built drawings and the post-construction report will include, at a minimum:

- pre- and post-construction photographs of the Bank from pre-determined locations;
- a discussion of compliance with the terms and conditions of the construction permits;
- written documentation of all personnel that received WEAP training; and
- any construction observations and any issues that arose during construction.

Mitigation Monitoring BIO-22
Permit Sonoma shall include this measure in the conditions of approval for any planning and grading permits. Permit Sonoma approval of the post-construction as-built drawings and report shall be a condition of approval and the grading permit not finalized until Permit Sonoma staff have approved.

Mitigation Measure BIO-23- Maintenance and Monitoring
The Halo Ranch Mitigation Bank shall be maintained and monitored in-perpetuity following the requirements of the BEI and other regulatory agencies providing project permits and/or approvals, including but not limited to USACE, USFWS, NMFS, RWQCB, CDFW, and BCDC.

Mitigation Monitoring BIO-23
Permit Sonoma shall include this measure in the conditions of approval for any planning and grading permits. Maintenance and monitoring reports shall be submitted to regulatory agencies as required by state and federal permits and/or approvals for the Mitigation Bank, including but not limited to USACE, USFWS, NMFS, RWQCB, CDFW, and BCDC. Maintenance and monitoring reports shall be available to Permit Sonoma, upon request.

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?

Comment:
Regulatory Framework

The Army Corps of Engineers (USACE) regulates "Waters of the United States", including adjacent wetlands, under Section 404 of the federal Clean Water Act. Waters of the United States include navigable waters, interstate waters, territorial seas and other waters that may be used in interstate or foreign commerce. Potential wetland areas are identified by the presence of (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology. All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the Clean Water Act. Areas that are inundated for sufficient duration and depth to exclude growth of hydrophytic vegetation are subject to Section 404 jurisdiction as "other waters" and are often characterized by an ordinary high water mark (OHWM). The discharge of dredged or fill material into a Waters of the U.S. (including wetlands) generally requires a permit from the USACE under Section 404 of the Clean Water Act.

"Waters of the State" are regulated by the Regional Water Quality Control Board (Water Board) under the State Porter-Cologne Water Quality Control Act. Waters of the State are defined by the Porter-Cologne Act as any surface water or groundwater, including saline waters, within the boundaries of the State. RWQCB jurisdiction includes "isolated" wetlands and waters that may not be regulated by the ACOE under Section 404 (such as roadside ditches). Section 401 of the Clean Water Act specifies that any activity subject to a permit issued by a federal agency must also obtain State Water Quality Certification (401 Certification) that the proposed activity will comply with state water quality standards. If a proposed project does not require a federal permit but does involve dredge or fill activities that may result in a discharge to Waters of the State, the Water Board has the option to regulate the dredge and fill activities under its state authority through its Waste Discharge Requirements (WDR) program.

WRA conducted waters and wetland delineations at the Mitigation Bank Site in 2018 (WRA 2018a). The USACE provided an approved jurisdictional determination map on September 20, 2018 (USACE, 2018).

The project is a habitat restoration project to restore and enhance tidal and seasonal wetlands, Wheat Creek, drainages, riparian habitats at the Mitigation Bank site. Temporary and permanent impacts to federal and state protected wetlands and waters would occur as a result of restoration, including grading, filling, and excavation activities. However, these impacts would be offset by a substantial net gain in wetland area and overall function of wetlands and waters after project implementation. Overall, restoration activities will result in 59.85 acres of tidal wetlands, 42.75 acres of seasonal wetlands, 0.70 acres of non-perennial stream (Wheat Creek) and 4.42 acres of non-wetland riparian. Figure 9, above, shows wetland and water areas post restoration.

Net change to wetlands and waters and habitats due to restoration activities are provided in Table 5.

Figure 10 shows location of impacts to aquatic resources.

Table 5. Pre- and Post-Project Conditions in Acres

Natural Community Type	Habitat Type	Pre-construction (Baseline) Condition	Post-project Condition
Wetlands	Seasonal Wetlands (farmed)	53.67	--
	Perennial Wetlands	0.23	--
	Brackish Marsh	1.14	--
	Seasonal Wetlands (including seasonal wetland depressions)	--	42.75
	Tidal Wetlands	--	59.85
Wetlands Subtotal		**55.04**	**102.60**
Non-wetlands	Ephemeral Ditch	0.20	--
	Non-perennial Stream (Wheat Creek)	0.30	0.70
	Tidally-influenced Ditch	0.13	--
	Tidally-influenced Stream	0.07	--
	Non-wetland Riparian	--	4.42
Herbaceous/Disturbed	Agricultural Fields	55.86	--
	Ruderal Areas	10.66	--
	Annual Grassland	--	14.54
Non-Wetlands Subtotal		**67.22**	**19.66**
Grand Total		**122.26**	**122.26**

However, the project will provide an overall increase in aquatic resources and improved habitat conditions for riparian, seasonal and tidal wetlands. The impacts would be offset by the substantial long-term net increase in area and overall function of the wetlands and waters, after restoration activities are complete.

Overall, the project would improve riparian and wetlands habitats in the both the near- and long-term.

Wetlands, waters and riparian areas at the Mitigation Bank site would benefit from improved ecosystem function and protection through a conservation easement, in-perpetuity.

Significance Level:
Less than Significant with Mitigation Incorporated

See Mitigation Measures BIO 20, BIO-21, BIO-22 and BIO-23

See Mitigation Monitoring BIO 20, BIO-21, BIO-22 and BIO-23

Figure 10 Impacts to Aquatic Resources

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

Comment:
At the landscape linkage scale, the Mitigation Bank site is located within the Petaluma River Watershed, and Wheat Creek discharges into the river. In the immediate vicinity, the Mitigation Bank site is situated between large tracts of preserved and private lands used for wildlife habitat, irrigated agriculture, or livestock grazing. The Mitigation Bank site abuts the Petaluma Marsh Wildlife Area and Petaluma River to the south, which is host to many wetland and aquatic wildlife species. To the north lies large amounts of undeveloped Coast Range Hills containing woodland, grassland, and wetland communities. The Mitigation Bank site would serve as a transition zone from tidal to upland areas and would serve as a corridor for species that may inhabit a range of biological communities. Although movement between the Mitigation Bank site and adjacent properties is somewhat limited by Lakeville Highway to the north, an existing concrete culvert for Wheat Creek likely provides for some wildlife passage under the highway.

Construction activities including vegetation removal, grading and associated noise could temporarily affect wildlife movement at the project site, however, these impacts would be limited and temporary. Mitigation Measures BIO-1, BIO-2, BIO-5 BIO-6, BIO-7, BIO-8 and BIO-9 BIO-11, BIO-12, BIO-13 BIO-14, BIO-15, BIO-16, BIO-17, BIO-18, BIO-19, BIO-20, BIO-21, BIO22, and BIO-23 will reduce impacts to a level that would be less than significant. Habitat restoration at the Mitigation Bank site would be and overall benefit, improving wildlife habitat conditions for breeding and foraging at the site, as well as for wildlife movement.

Significance Level:
Less than Significant with Mitigation Incorporated

Mitigation
See Mitigation Measures BIO-1, BIO-2, BIO-5 BIO-6, BIO-7, BIO-8 and BIO-9 BIO-11, BIO-12, BIO-13 BIO-14, BIO-15, BIO-16, BIO-17, BIO-18, BIO-19, BIO-20, BIO-21, BIO22, and BIO-23.

Mitigation Monitoring
See Mitigation Monitoring BIO-1, BIO-2, BIO-5 BIO-6, BIO-7, BIO-8 and BIO-9 BIO-11, BIO-12, BIO-13 BIO-14, BIO-15, BIO-16, BIO-17, BIO-18, BIO-19, BIO-20, BIO-21, BIO22, and BIO-23.

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

Comment:

Tree Protection Ordinance

Chapter 26, Article 88. Sec. 26-08-010 (m) of the Sonoma County Code contains a tree protection ordinance (Sonoma County 2013). The ordinance designates 'protected' trees as well as provides mitigation standards for impacts to protected trees.

Sonoma County General Plan

The *Sonoma County General Plan 2020* (Sonoma County 2008) Land Use Element and Open Space & Resource Conservation Element both contain policies to protect natural resource lands including, but not limited to watershed, fish and wildlife habitat, biotic areas, and habitat connectivity corridors. Policy OSRC-8b establishes streamside conservation areas along designated riparian corridors.

Riparian Corridor Ordinance

The RC combining zone is established to protect biotic resource communities, including critical habitat areas within and along riparian corridors, for their habitat and environmental value, and to implement the provisions of the General Plan Open Space and Resource Conservation and Water Resources Elements. These provisions are intended to protect and enhance riparian corridors and functions along designated streams, balancing the need for agricultural production, urban

development, timber and mining operations, and other land uses with the preservation of riparian vegetation, protection of water resources, floodplain management, wildlife habitat and movement, stream shade, fisheries, water quality, channel stability, groundwater recharge, opportunities for recreation, education and aesthetic appreciation and other riparian functions and values.

The proposed Mitigation Bank does not require removal of any trees. Although there would be temporary impacts to Riparian Corridor vegetation associated with Wheat Creek and other on-site drainages during construction, these areas would be restored with native vegetation, improving riparian habitat onsite, and conserved in-perpetuity, an overall beneficial impact to Riparian Corridors and ecosystem functions at the site. See also 4(a).

Significance Level:
Less than Significant with Mitigation Incorporated

Mitigation
See Mitigation Measures BIO-20, BIO-21, BIO-22, and BIO-23

Mitigation Monitoring
See Mitigation Monitoring BIO-20, BIO-21, BIO-22, and BIO-23

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?

Comment:
Habitat Conservation Plans and natural community conservation plans are site-specific plans to address effects on sensitive species of plants and animals. The project site is not located in an area that is currently subject to a habitat conservation plan or natural community conservation plan.

Significance Level:
No Impact

5. CULTURAL RESOURCES:

Would the project:

a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

Comments:
A Historical Resource Study was prepared by Juliana Bartel, B.A. and Tom Origer, M.A./RPA of Tom Origer and Associates dated September 21, 2017 to identify prehistoric and historical archeological sites at the project site. No historical resources were observed, and no resource specific recommendations were made in the report. An Archeological Survey was conducted by Alta Archaeological Consulting to identify any archeological historical or cultural resources at the project site (Alta 2021). An updated survey was conducted and revised report prepared by Alta in 2024 (Alta Archaeological Study, 2024).

One previously recorded site is included within the Mitigation Bank site; P-49-02834 (CA-SON-2322H) consists of the Northwestern Pacific Railroad (NWPRR). Alta field surveys found that the original wooden ties, plates, and steel rail are no longer present. There is no evidence of rock ballast to support the grade. The alignment of the grade crosses over Wheat Creek. There is no evidence of a former trestle. A modern vehicle bridge is present at this location (Alta 2021 and 2024).

The segment of rail present within the Mitigation Bank site is part of a larger historical district that included over 570 miles of track, 47 tunnels, 62 bridges, 57 trestles (JRP 2004:19). It was constructed in 1869 and subsequently became part of the Northwestern Pacific Railroad. JRP Historical Consulting Services previously evaluated the historic district for its eligibility for the National Register of Historic Places (NRHP) and California Register of Historic Places (CRHR) and concluded that the NWPRR does not appear eligible for listing on the NRHP or CRHR as a historic district (JRP 2004, as referenced in Alta, 2024). Consequently, the resource does not constitute a historic property. As such, the proposed project will not have an adverse effect on this historic-era resource.

Based on the Bartel and Origer study (2017) and Alta studies (2021 and 2024), no historical resources are present at the Halo Ranch Mitigation Bank project site.

See Section 5b below and Section 18 (Tribal Cultural Resources for further discussion on cultural resources.

Significance Level:
Less than Significant Impact

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

Comment:

In accordance with Public Resources Code Section 21080.3.1 (Assembly Bill 52) a formal notification of the opportunity to consult on this use permit was sent to Native American Tribes within Sonoma County on March 15, 2024 . Permit Sonoma staff met with the Federated Indians of Graton Rancheria's Tribal representatives for consultation over a series of meetings. Both parties determined there is a possibility for tribal cultural resources to be found on-site during construction of the proposed project.

Therefore, mitigation measure **TCR-1, TCR-2, TCR-3 and TCR-4** will be implemented to reduce the potential impact to less than significant. These mitigation measures are also found in the project's conditions of approval.

Significance Level:
Less than Significant with Mitigation Incorporated

Mitigation
See Mitigation Measures **TCR-1, TCR-2, TCR-3 and TCR-4**

Mitigation Monitoring
See Mitigation Monitoring **TCR-1, TCR-2, TCR-3 and TCR-4**

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

Comment:

The project site is located within an area of potential paleontological resources or site or unique geologic. As described in section 5. b) above, mitigation measures are in place to protect any paleontological resources, or prehistoric, historic or tribal cultural resources that may be encountered during ground-disturbing work.

Significance Level:
Less than Significant with Mitigation Incorporated

Mitigation
See Mitigation Measures **TCR-1, TCR-2, TCR-3 and TCR-4**

Mitigation Monitoring
See Mitigation Monitoring **TCR-1, TCR-2, TCR-3 and TCR-4**

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?

Comment:
There are no structures or improvements that require operational energy use The project will not result in significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation. Standard construction practices will be used.

Temporary energy use in connection with project construction would include consumption of diesel fuel and gasoline by construction equipment and transport of materials, supplies, and construction personnel to and from the project site. Most energy consumption would result from operation of off-road construction equipment and on-road vehicle trips associated with commutes by construction workers. All soils will remain on-site and no off-hauling of soils is required. The energy needs for project construction would be temporary and are not anticipated to require additional capacity or substantially increase peak or base period demands for electricity and other forms of energy. Although the one-time energy expenditure required to construct the project or the limited expenditures for maintenance and monitoring post-construction would be nonrecoverable, it would not be consumed in a wasteful, inefficient, or unnecessary manner.

Significance Level:
Less than Significant Impact

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

Comment:
The project would not conflict with or obstruct implementation of a state plan for energy efficiency, such as the State Energy Action Plan or the State Alternative Fuels Plan that have been adopted by the California Energy Commission and the California Public Utilities Commission. Project construction activities would not require a large amount of fuel or energy usage because of the limited extent and nature of the proposed improvements. No conflict with strategies for renewable energy or energy efficiency would result. No impact would result.

Significance Level:
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? Refer to Division of Mines and Geology Special Publication 42.

Comment:
The proposed project is not located in an Alquist-Priolo fault zone or on a known fault based on the Safety Maps in the Sonoma County General Plan. The closest active fault is the Rogers Creek Fault, approximately 3 miles away. There are no structures or building proposed as part of the project and no existing buildings or structures onsite. The project would not expose people or structures to potential substantial adverse effects, including risk of loss, injury, or death, involving rupture of a known earthquake fault. No impact would result.

Significance Level:
No Impact

ii. Strong seismic ground shaking?

Comment:
All of Sonoma County is subject to seismic shaking that would result from earthquakes along the San Andreas, Healdsburg-Rodgers Creek, and other faults. No building or structures are proposed by the project. Project conditions of approval require that the project meet all standard seismic and soil test/compaction requirements. The project would therefore not expose people to substantial risk of injury from seismic shaking.

Significance Level:
No Impact

iii. Seismic-related ground failure, including liquefaction?

Comment:
Strong ground shaking can result in liquefaction, the sudden loss of shear strength in saturated sandy material, resulting ground failure. Areas of Sonoma County most at risk of liquefaction are along San Pablo Bay and in alluvial valleys. The subject site is not identified on the map in Safety Element (PS-1c) as Very High, High or Medium Liquefaction Hazard Areas. No building or structures are proposed by the project. The project would therefore not expose people to substantial risk of injury from seismic-related ground failure, including liquefaction.

Significance Level:
No Impact

iv. Landslides?

Comment:
The proposed project is not located on steep slopes which characterize much of Sonoma County, particularly the northern and eastern portion of the County. The Mitigation Bank site is mapped as “surficial deposits.” The areas located north of Lakeville Highway proposed for short term use to collect willow plant materials and for use of the stock pond for temporary irrigation if necessary are mapped as “mostly landslide” however, the project is a restoration project, and no building or structures are proposed. The project would therefore not expose people to substantial risk of injury from landslides.

Significance Level:
No Impact

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

Comment:
The project includes grading, cuts and fills which require the issuance of a grading permit. Unregulated grading has the potential to increase the volume of runoff from a site which could have adverse downstream flooding and further erosion impacts and increase soil erosion on and off site which could adversely impact downstream water quality.

County grading ordinance design requirements, adopted County grading standards and best management practices (such as silt fencing, straw wattles, construction entrances to control soil discharges, primary and secondary containment areas for petroleum products, paints, lime and other materials of concern, etc.), mandated limitations on work in wet weather, and standard grading inspection requirements, will be applied to the project, and are specifically designed to prevent soil erosion and loss of topsoil. These include the County Construction Grading and Drainage Ordinance (Zoning Code Chapter 11) and Storm Water Quality Ordinance (Zoning Code Chapter 11A) which require implementation of best management practices to reduce runoff and erosion.

In addition, because the project would disturb more than one acre, a Storm Water Pollution Prevention Plan (SWPPP) would be developed in accordance with the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities. The SWPPP would identify best management practices to be implemented to prevent soil erosion during construction and to stabilize the site at the end of construction. Additionally, general pollution prevention BMPs referenced in Mitigation Measure BIO-1 General Construction Measures would be implemented to reduce erosion to areas adjacent to construction activities. These requirements would ensure that potential project impacts on soil erosion would be less than significant.

The County adopted grading ordinances and standards and related conditions of approval which enforce them are specific, and also require compliance with all standards and regulations adopted by the State and Regional Water Quality Control Board. Therefore, no significant adverse soil erosion or related soil erosion water quality impacts are expected given the mandated conditions and standards that need to be met.

Significance Level:
Less than Significant Impact

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?

Comment:
The project site is subject to seismic shaking and other geologic hazards as described in item 6.a.ii, iii, and iv, above. However, the proposed project includes ecological restoration of the tidal marsh, wetland, riparian and upland areas, no structures are proposed. All soils will remain on site and there will be no importation of soils.

The design and construction of the project would be subject to Sonoma County engineering and grading standards and practices, and potential impacts from unstable soils would be diminished. The impact would be less than significant

Significance Level:
Less than Significant

a) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

Comment:
Soils in the project area have a low to moderate potential to shrink and swell; however, the project would not include the construction of any new property development or structures or result in substantial direct or indirect risks to life or property. The impact would be less than significant.

Significance Level:
Less than Significant Impact

b) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

Comment:
The proposed project does not involve any structures or buildings. There is no proposed installation or use of septic tanks or alternative wastewater disposal systems. No impact would result

Significance Level:
No Impact

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

Comment:
The alluvial and wetland soil surface geology of the site make it very unlikely that unique paleontological or geologic resources are located on the project site. The applicant contracted with archeological consulting firms to conduct several cultural resources studies, in 2017, 2021 and 2024. No unique paleontological resources or site or unique geologic were identified.

Significance Level:
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?

Comment:
Climate change is not caused by any individual emission source but by a large number of sources around the world emitting greenhouse gases (GHGs) that collectively create a significant cumulative impact. The principal GHGs contributing to global climate change are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and fluorinated compounds. These gases allow visible and ultraviolet light from the sun to pass through the atmosphere, but they prevent heat from escaping back into space.

Section 15064.4 of the State CEQA Guidelines assists lead agencies in determining the significance of the impacts of GHG emissions. Section 15064.4 gives lead agencies the discretion to assess emissions quantitatively or qualitatively. The CEQA Guidelines do not establish a threshold of significance. Lead agencies are granted discretion to establish significance thresholds for their respective jurisdictions, including looking to thresholds developed by other public agencies or other experts, so long as any threshold chosen is supported by substantial evidence.

The Bay Area Air Quality Management District's (BAAQMD) 2022 Justification Report: CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects acknowledges that evaluating climate impacts under CEQA can be challenging because global climate change is inherently a cumulative problem, rather than the result of a single source of greenhouse gas (GHG) emissions. With that in mind, the BAAQMD has recommended thresholds of significance as to whether a proposed project would have a "cumulatively considerable" contribution to the significant cumulative impact on climate change.

For land use development projects, the BAAQMD recommends using an approach which evaluates a project based on its effect on California's efforts to meet the State's long-term climate goals. Using this approach, a project that is consistent with and would contribute its "fair share" towards achieving those long-term climate goals can be found to have a less-than-significant impact on climate change under CEQA because the project would, in effect, help to solve the problem of global climate change. Applying this approach, the Air District has analyzed what will be required of new land use development projects to achieve California's long-term climate goal of carbon neutrality by 2045.

Because GHG emissions from the land use sector come primarily from building energy use and from transportation, these are the areas that the BAAQMD evaluated to ensure that a project can and will do its fair share to achieve carbon neutrality. With respect to building energy use, the BAAQMD recommends replacing natural gas with electric power and eliminating inefficient or wasteful energy Proposed Mitigated Negative Declaration Page 37 File# PLP22-0003 usage. This will support California's transition away from fossil fuel-based energy sources and will bring a project's GHG emissions associated with building energy use down to zero as the state's electric supply becomes 100 percent carbon free. With respect to transportation, the BAAQMD recommends that projects be designed to reduce project-generated Vehicle Miles Travelled (VMT) and to provide sufficient electric vehicle (EV) charging infrastructure to support a shift to EVs over time.

The proposed project is a wetland restoration project and there are no proposed buildings or long-term operational project generated VMTs. Moreover, wetlands are well known for their ability to sequester carbon and benefit long-term GHG strategies. As noted in the Air Quality section, BAQQMD does not propose or have an adopted threshold of significance for construction-related GHG emissions, stating that land use project thresholds are better focused on addressing operational GHG emissions, which represent the vast majority of project GHG emissions. Therefore, construction related GHG would not be considered to exceed established thresholds.

However, the BAAQMD does recommend that construction-period GHG emissions be quantified and disclosed. Project construction would result in direct GHG emissions from the construction equipment used during restoration activities and the transport of materials and construction workers to and from the project site. Project construction is expected to occur over an approximate five month period. The construction-period GHG emissions associated with the proposed project were estimated using the Road Construction Emissions Model (RCEM) version 9.0.0,prepared by the applicant (RES, 2025). and were determined to amount to 156.32 Metric Tons of carbon dioxide equivalent emissions. Although the construction phase of the proposed project is not subject to GHG thresholds of significance, the same measures specified in Mitigation Measure AIR-1, i.e., minimizing idling times, maintaining equipment, etc., will also serve to reduce GHG emissions.

The temporary impact from construction-related GHG emissions would be less than significant. In addition, the restored wetlands are expected to increase storage of carbon (carbon sequestration) as compared to existing conditions, which would be a beneficial impact.

Significance Level:
Less than Significant Impact

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

Comment:
The County does not have an adopted Climate Action Plan but has adopted a Climate Change Action Resolution (May 2018) with the goal of reducing GHG emissions to 40% below 1990 levels by 2030, and to 80% below 1990 levels by 2050. The Climate Change Action Resolution includes twenty strategies for reducing GHG emissions, including increasing carbon sequestration, increasing renewable energy use, and reducing emissions from the consumption of goods and services. Most of the strategies for reducing GHG emissions are relevant to development projects, not restoration projects. However, one strategy, Increase Carbon Sequestration, does apply and the proposed restoration project does incorporate this strategy by restoring wetlands which is expected to increase carbon sequestration, a beneficial impact.

As discussed in Impact (a) above, no long-term contribution of GHG emissions is expected with implementation of the proposed project. The project would be consistent with the Climate Change Action Resolution and the County General Plan. The 2022 Scoping Plan measures are statewide and programmatic in nature and largely advisory, as CARB does not directly regulate many of the sectors identified by the measures. The measures would be implemented at the State level and do not relate to the construction and operation of individual projects such as the proposed project. The proposed project would not conflict with a plan, policy or regulation adopted for the purpose of reducing the

emissions of greenhouse gases. No impact would result.

Significance Level:
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?

Comment:
A Phase I Environmental Site Assessment (ESA) for the Halo Ranch Mitigation Bank (ACC Environmental Consultants, 2024) was prepared to assess the Mitigation Bank property for recognized environmental conditions (RECs), which are defined by the ASTM E1527-21 Standard as (1) the presence of hazardous substances or petroleum products in, on, or at the site due to a release to the environment; (2) the likely presence of hazardous substances or petroleum products in, on, or at the site due to a release or likely release to the environment; (3) the presence of hazardous substances or petroleum products in, on, or at the site under conditions that pose a material threat of a future release to the environment. The Phase I Assessment concluded that the former railroad right-of-way constructed at the property from approximately 1870 to 1944 is a considered *de minimis* based on its development and use at a time preceding arsenic-treated and organochlorine pesticides, which are characteristic environmental concerns associated with right-of-ways. The assessment did not reveal evidence of any recognized environmental conditions of concern.

During Project construction, small amounts of potentially hazardous materials will be used, such as fuel, lubricants, and cleaning materials. Proper use of materials in accordance with local, state, and federal requirements, and as required in the construction documents, will minimize the potential for accidental releases or emissions from hazardous materials. This will assure that the risks of the project uses impacting the human or biological environment will be reduced to a less than significant level. There will be no increase in traffic as a result of this project, thus an increase in exposure due to the risks of transporting hazardous materials will not change as a result of the project.

Significance Level:
Less than Significant Impact

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?

Comment:
The project includes enhancement and restoration of wetland and riparian areas and creation of a wetland mitigation bank. The project would not generate or produce substantial quantities of hazardous material or unsafe conditions. During restoration activities there could be spills of hazardous materials with use of construction equipment. To address this possibility, the project is required to comply with all applicable hazardous materials handling and storage requirements and would use qualified contractors for construction. See also 9a above

Significance Level:
Less than Significant Impact

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

Comment:
The project does not involve hazardous emissions or handle hazardous materials. There is not an

existing or proposed school within 0.25 miles of the site.

Significance Level:
No Impact

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

Comment:
The provisions in Government Code Section 65962.5 are commonly referred to as the "Cortese List." A search of the Cortese List was completed to determine if any known hazardous waste sites have been recorded on or adjacent to the project corridor. These include:

- Department of Toxic Substances Control EnviroStore database;
- List of Leaking Underground Storage Tank Sites from the Water Board GeoTracker database;
- List of solid waste disposal sites identified by the Water Board with waste constituents above hazardous waste levels;
- List of "active" Cease and Desist Orders and Cleanup and Abatement Orders from the Water Board; and
- List of hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code.

The review of these databases indicates that there are no active sites within or adjacent to the project area. Therefore, the project would not create a significant hazard to the public or the environment related to hazardous materials.

Significance Level:
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?

Comment:
The project site is not within the Airport Referral Area as designated by the Sonoma County Comprehensive Airport Land Use Plan (ALUC) or within two miles of a public airport or public use airport.

Significance Level:
No Impact

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

Comment:
The project would not impair implementation of, or physically interfere with the County's adopted emergency operations plan. There is no separate emergency evacuation plan for the County. In any case, the project is a wetland mitigation bank that is closed to the public and would not change existing circulation patterns significantly and would have no effect on emergency response routes.

Significance Level:
No Impact

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

Comment:
The proposed Mitigation Bank site is located in a Local Responsibility Area and is outside of the wildland very high fire hazard zone and is predominately mapped as "non-wildland," including most of the southern portion of the parcel. Small strips of land parallel to Lakeville Highway are mapped as "high" and "moderate;" these small strips are approximately 350 and 250 feet wide, respectively. The project is located in a relatively flat area and surrounded by developed agricultural activities, riparian corridors, rural residential uses and the City of Petaluma's Ellis Creek Water Recycling Facility to the west. Limited, short term restoration activities (collection of willow plants and use of stock pond for temporary irrigation post construction) occur on parcels northeast of Lakeville Highway in the State Responsibility Area. These areas are located in a high fire hazard zone.

The Project site is approximately 3.0 miles from the City of Petaluma Fire Station No. 3 ensuring rapid response times in the event of an emergency. There are no proposed structures or structures and no fire apparatus access roads are required. To facilitate locating an emergency and to avoid delays in emergency response, the project has been conditioned to be consistent with the requirements of the 2013 California Fire Code and Sonoma County Code.

Construction activity is proposed during dry season periods, when it is possible that accidental fire ignition could occur related to use of heavy machinery or vehicles. Because vegetation along the project corridor could be dry during construction, and because of the close proximity of rural residences and other land uses, the construction-related impact is considered significant. Implementation of **Mitigation Measure WILDFIRE-1** would require the use of construction techniques that would reduce the likelihood of wildland fires during construction to less than significant.

Significance Level:
Potentially Significant Unless Mitigated

See Mitigation Measure WILDFIRE-1

See Mitigation Monitoring WILDFIRE-1

10. HYDROLOGY AND WATER QUALITY:

Would the project:

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

Comments:
Comments are based on the BEI and studies and reports provided by the applicant and listed below:

- Halo Ranch Mitigation Bank Hydrology and Hydraulic Analyses, Basis of Design Report (Waterways Consulting, Inc. 2022)
- Halo Ranch Mitigation Bank, Drainage Report (Waterways Consulting, Inc, 2024)
- Halo Ranch Mitigation Bank Fill Placement Assessment Technical Memorandum (Waterways Consulting Inc, 2024).

The project includes restoration of the local hydrology and drainage patterns to restore and rehabilitate tidal marsh, seasonal wetland and riparian habitats that historically occurred at the Mitigation Bank site. The restoration activities would restore the geomorphic and hydrologic functions at the site. Drainage modifications would only occur at the Mitigation Bank site on the south side of Lakeville Highway. There are no modifications proposed to existing drainage structures or drainage patterns on the north side of

Lakeville Highway, with the exception of the temporary use of the existing agricultural pond for irrigation of the wetland restoration areas, following construction if needed. There are no changes to the existing drainage infrastructure along Lakeville Highway that convey runoff below the highway and onto the proposed Mitigation Bank property.

The project will require construction activities within the banks of Wheat Creek, drainages, seasonal wetlands and tidal marsh wetlands including grading (cut and fill), removal of flap (tide) gates, lowering of berms/levees, reconfiguration of Wheat creek and tidal channels and other soil moving that may result in dust, and debris that have the potential to result in temporary impacts on water quality if they were to enter the adjacent waterways and if surface water were to be present. A 404 Clean Water Act permit from the USACE, 401 Clean Water Act certification from the RWQCB, a 1602 Lake and Streambed Alteration Agreement from CDFW, a development permit from BCDC, and Biological Opinion or Concurrence Letter from USFWS and NMFS will all be obtained prior to project implementation. Typical conditions contained in these permits and approvals to regulate discharges to Waters of the State, Waters of the U.S., and discharges that may impact water quality and special-species habitat include installation of Best Management Practices (BMPs), limiting construction work to dry conditions, biological monitoring, and other measures.

In addition, because the overall footprint of construction activities would exceed 1.0 acre, the Project would be subject to the *NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities* (Construction General Permit). The Construction General Permit regulates discharges of sediment and pollutants in stormwater associated with construction activity to waters of the U.S. from construction sites that disturb 1.0 acre or more of land surface, or that are part of a common plan of development or sale that disturbs more than 1.0 acre of land surface. The permit regulates stormwater discharges associated with construction or demolition activities.

Permit Sonoma also requires a Grading Permit and associated Erosion Prevention and Sediment Control Plan for the proposed improvements and other movement of soils, to which all applicable standards and provisions of the Sonoma County Grading and Drainage Ordinance (Chapter 11) and Stormwater Quality Ordinance (Chapter 11a) would apply. Required County inspection ensures that all work is constructed according to the approved grading and development plans. These ordinance requirements and adopted best management practices are specifically designed to maintain potential project water quantity impacts at a less than significant level during and post construction.

After completion, the project would provide an overall beneficial impact to water quality by restoring the Mitigation Bank site to its historical hydrological and habitat conditions, improving tidal connectivity, restoring Wheat Creek, tidal and seasonal wetlands, ephemeral drainages resulting in improved conditions for water quality. The subsequent re-establishment of historic fringe wetland habitat is expected to enhance tidal wetlands in the at the Mitigation Bank site and contribute to improved ecosystem function, including hydrologic and water quality improvements, sediment accretion and nutrient update. The reconnection of the upland transitional zone to the estuarine/riverine habitat by the project will also expected to facilitate marsh migration with sea-level rise, as described in the Goals Report (2015). The Bank Sponsor will implement the BEI's Interim and Long-term Management Plans (Appendices A and B), including monitoring of the site to ensure hydrologic, biotic, and geomorphic functions are maintained. The project would provide a long-term benefit for water quality.

Compliance with the conditions set forth in these permits would ensure that water quality standards are not violated. See also Items 10(c) through 10(e) for additional discussion.
:

Significance Level:
Less than Significant

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

Comment:

See Comment 10a. The project does not include the construction of impervious surfaces that would prevent groundwater recharge. The Project is a restoration project for a Mitigation Bank that would not prevent precipitation from infiltrating into the groundwater. Instead, the proposed restoration of Wheat Creek and on site drainages, including raising of channel beds and overbank flows directed to the wet meadow and seasonal wetland areas would increase groundwater recharge as compared to existing conditions. Therefore, relative to groundwater supplies and sustainable management of the basin, there would be no negative impact to groundwater supplies.

Significance Level:
No impact

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?

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

Comment:
See Comment 10a. The purpose of the project is to improve the local hydrology and drainage patterns at the Mitigation Bank Site by restoring the historically occurring tidal and seasonal wetlands and create a Mitigation Bank. The project involves habitat restoration, including Wheat Creek and associated riparian habitat, as well as tidal and seasonal wetlands for the creation of Mitigation Bank. Although construction activities will temporarily disturb the project site, the BMPs included as a part of the grading permit and NPDES General Construction Permit will be implemented during grading and other ground disturbing activities to reduce impacts to less than significant.

Following restoration, the hydrology improvements would have a beneficial impact on erosion and siltation by restoring Wheat Creek and the site's ephemeral drainages, promoting water to fan out via overflow points to seasonal wetland and wet meadow areas.

Significance Level:
Less than Significant

ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;

Comment:
The purpose of the project is to restore the local historical hydrology and drainage patterns at the Mitigation Bank site, and restore drainages and wetland areas.

Excavation will occur strategically throughout the project site to remove levee and berms and portions of the levee network to encourage flow onto the meadow surface to the west of Wheat Creek and restore a tidal connection at the lower portion of the project area. Wetland depressions will be excavated into the meadow surface to provide areas for water storage and habitat diversity. Portions of the proposed network of tidal channels will also be excavated to meet design elevations.

Fill will be placed within portions of Wheat Creek to raise the bed elevation and promote overbank flow. An earthen berm will be constructed along the upstream portion of Wheat Creek, offset from the eastern bank to ensure that all overbank flow is directed toward the west. Fill will also be placed within the lower portion of the site adjacent to the existing levee system to restore grades where the ground has subsided 2-3 feet.

Wetland depression excavation and a majority of the fill placement within Wheat Creek will occur above the FEMA mapped Special Flood Hazard Area (SFHA). The SFHA has a base flood elevation (BFE) of 11.0 ft. (NAVD 88) at the project area. Fill placement for construction of the containment berm along the eastern side of Wheat Creek will also occur above the SFHA.

A minor amount of fill (150 CY) will be placed within the lower portion of Wheat Creek within the SFHA to eliminate an existing headcut and provide a smooth transition from the freshwater reach to the tidal portion. Levee removal, tidal channel excavation and fill placement to restore tidal marsh at the lower portion of the project area will occur below elevation 11.0 within the SFHA. Levee removal will occur along the perimeter of the project area, extending to the west from the mouth of Wheat Creek and continuing along the northwestern portion of the site. Grades will be lowered to match the adjacent marsh elevation where levees are removed. Material generated from levee removal, along with material generated from other grading activities at the site will be placed in the southwestern portion of the project area to help restore ground elevations where subsidence has occurred.

Approximately 17,800 CY of fill be placed within the SFHA. The majority of the fill (17,650 CY) will be placed within the subsided portion of the project area to raise grades 1-2 feet to elevation 5.0 to help restore the marsh plane. Once tidal inundation is restored at the site, it is expected that over time sediment accretion will occur and continue to raise grades of the marsh plane within the restored area to match the adjacent existing marsh at elevation 5.5-6.5 feet.

The flood storage capacity of the parcel was evaluated for pre- and post-project conditions between the BFE and existing/finished grades. The pre-project condition has approximately 576 acre-feet of storage available. The post-project condition has approximately 565 acre-feet of storage available. Nearly the entire reduction in storage capacity will occur within the subsided portion of the site (below elevation 5.0) that was historically tidal marsh. Fill is being placed at this location to help initiate restoration of the marsh plane and restore this area back to natural habitat.

The existing levees are not flood control features that carry a FEMA accreditation. This means that the site is fully subject to the adjacent SFHA base flood elevation (BFE) of 11 feet NAVD. The proposed grading within the SFHA area will include lowering of the levees to the elevation of the adjacent, undisturbed tidal marsh to the southwest (elevation 5.5-6.5) removing these obstructions from the floodplain. Tidal channels will be excavated into the SFHA to restore tidal activity at the site and the lowest lying areas behind the levees that have subsided will be filled to elevation 5.0 to restore tidal marsh habitat.

The hydrology and drainage improvements would be engineered to the specification of the Sonoma County Flood Management Design Manual (SCWA 2019) and would undergo a comprehensive review by Permit Sonoma Engineering before grading permit approval. This review would ensure that the hydrologic analysis for the project considers the prescribed design storm, local precipitation rates, rainfall intensity, and runoff coefficients, and that the applicant has used an appropriate hydrologic baseline. The proposed drainage improvements must also demonstrate that the projects would not cause adverse flooding or drainage effects to existing or proposed structures or to adjacent properties. Because the Sonoma County permitting process includes protections through the drainage system design and review, the potential for the project to result in on or offsite flooding would be less than significant.

Significance Level:
Less than Significant Impact

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; or

Comment:
See (a) and (c)(ii) above. The project would restore the local hydrology and drainage patterns at the Mitigation Bank site to support historically occurring tidal and seasonal wetlands. The proposed project would not exceed the capacity of existing or planned stormwater drainage systems or result in substantial additional sources of untreated polluted runoff.

Significance Level:
Less than Significant Impact

iv. impede or redirect flood flows?

Comment:
See (a) and (c)(ii) above.

Significance Level:
Less than Significant Impact

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

Comment:
Existing flood hazards that could affect new development would be considered in this analysis; however, there is no new development, structures or impermeable surfaces. Impacts of the environment on the proposed project are analyzed as a matter of County policy, not because such analysis is required by CEQA.

See a and (c)(ii) above addressing the special flood hazard area or SFHA . Portions of the Mitigation Bank, including the tidal portions of the drainage along the western boundary of the parcel and tidal portions of Wheat Creek are mapped as Tsunami Hazard Areas on the State of California Geological Survey Tsunami Hazard Area Map. The project would restore the local hydrology and drainage patterns at the Mitigation Bank site to support historically occurring tidal and seasonal wetlands. No structures or public use is proposed. Therefore, the project would not create a significant hazard to the public or environment related to tsunamis.

Significance Level:
Less than Significant Impact

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

Comment:
As discussed in (a) and (b) above the project is a wetland restoration project with no new impervious surfaces, structures or public uses. The proposed project would not conflict with or obstruct the implementation of a water quality control plan or sustainable groundwater management plan. Adherence to construction provisions and precautions described in required the grading permit and state and federal permits would be upheld, and best management practices would be required to be implemented to prevent violation of water quality standards or waste discharge requirements or degradation of water quality .

Significance Level:
Less than Significant Impact

11. LAND USE AND PLANNING:

Would the project:

a) Physically divide an established community?

Comment:
The project would not physically divide a community. The project is a habitat restoration project and does not involve construction of a physical structure (such as a major transportation facility) or removal of a primary access route (such as a road or bridge) that would impair mobility within an established community or between a community and outlying areas.

Significance Level:
No Impact

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

Comment:
The General Plan Land Use Designation of the Mitigation Bank site (APN 068-010-004) is Land Extensive Agriculture and Diverse Agriculture. The Mitigation Bank site is within the Sonoma Mountain Area Specific Plan area, which identifies the land use as Land Extensive Agriculture. The primary use of any parcel within any of the County's agricultural land use categories shall be agricultural production and related processing, support services, and visitor serving uses (General Plan Policy AR-4a).

The Land Extensive Agricultural area land use designation is intended to enhance and protect lands capable of and generally used for animal husbandry and the production of food, fiber, and plant materials. Soil and climate conditions typically result in relatively low production per acre of land. The objective in land extensive agricultural areas is to establish and maintain densities and parcel sizes that are conducive to continued agricultural production.

The Diverse Agriculture land use designation is intended to enhance and protect those land areas where soil, climate, and water conditions support farming but where small acreage intensive farming and part time farming activities are predominant. In these areas, farming may not be the principal occupation of the farmer. The primary purpose of this category is to protect a full range of agricultural uses and to limit further residential intrusion consistent with the policies of the Agricultural Resources Element of the General Plan.

Within the Land Extensive Agriculture and the Diverse Agriculture zoning designations, agricultural crop production and cultivation is a principally permitted use, which is the current and proposed primary use of the parcel. The proposed use of portions of the parcel for a Mitigation Bank are considered accessory to the primary use because wet meadow areas of the Mitigation Bank will be supporting a grazing operation and because areas of the parcel outside the Mitigation Bank boundaries will continue to be used for agriculture. Land and Resource Management use, such as management of land for watershed, fish and wildlife habitat, is an allowed use within Diverse Agriculture and Land Extensive Agriculture land uses when incidental to the primary use.

The proposed project will allow the land restoration activities associated with the Mitigation Bank and therefore would not impede on existing or future agriculture operations on site because the secondary uses are in direct conjunction of the onsite agricultural activities. The proposed project will align the existing use with Policy AR-4a by restoring the site and creating a Mitigation Bank in conjunction with the primary agricultural activities. No conflicts with other general plan or specific plan policies related to scenic, cultural, or biotic resource protection, noise, or transportation have been identified.

The proposed Mitigation Bank project is aligned with the General Plan's Open Space and Resource Conservation Element and Water Resources Element applicable Goals, Objectives and Policies, including:

Open Space and Resource Conservation Element

- Goal OSRC-7 Protect and enhance the County's natural habitats and diverse plant and animal communities
    - Objective OSRC-7.1 Identify and protect native vegetation and wildlife, particularly occurrences of special status species, wetlands, sensitive natural communities, woodlands and areas of essential habitat connectivity
    - Objective OSRC-7.4 Where appropriate, support regulatory efforts by other agencies to protect biotic habitat
    - Objective OSRC 7.7 Support use of native plant species and removal of invasive exotic species

- Objective OSRC 7.9 Preserve and restore Laguna de Santa Rosa, San Pablo Bay, and Petaluma marshes

- Policy OSRC-7p: Support voluntary programs for habitat restoration and enhancement, hazardous fuel management, removal and control of invasive exotics, native plant revegetation, treatment of woodlands affected by Sudden Oak Death, use of fencerows and hedgerows, and management of biotic habitat.

- Goal OSRC-8: Protect and enhance Riparian Corridors and functions along streams, balancing the need for agricultural production, urban development, timber and mining operations, and other land uses with the preservation of riparian vegetation, protection of water resources, flood control, bank stabilization, and other riparian functions and values

- Policy OSRC-8d: Allow or consider allowing the activities within the streamside conservation area, including grazing and similar agricultural production activities not involving structures or cultivation

Water Resources Element

- GOAL WR-1: Protect, restore and enhance the quality of surface and groundwater resources to meet the needs of all reasonable beneficial uses.

    - Objective WR-2.3: Encourage new groundwater recharge opportunities and protect existing groundwater recharge areas.

No conflicts with Development Criteria have been identified and no exceptions or reductions to standards would be necessary to approve the project. Therefore, the project would not conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

Significance Level:
Less than Significant 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?

Comment:
The project site is not located within an area known to have a mineral resources deposit area. California Geologic Survey Special Report 175, MINERAL LAND CLASSIFICATION OF AGGREGATE MATERIALS IN SONOMA COUNTY, CALIFORNIA (California Geological Survey, 2005) identifies the project area as within an area where information indicates that no significant mineral resources are present.

Significance Level:
No Impact

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?

Comment:
The project site is not located within an area of locally-important mineral resource recovery site and the site is not zoned MR (Mineral Resources) and is not identified as an area of mineral resources by Sonoma County's Aggregate Resources Management Plan and EIR adopted in 1994. No locally-

important mineral resources are known to occur at the site.

Significance Level:
No Impact

13. NOISE:

Would the project:

a) 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?

Comment:

The project is a habitat restoration project; resulting in only temporary noise associated with construction. Project construction will take approximately five months.

The County's General Plan and municipal code do not establish construction-related noise standards. However, the County's *Guidelines for the Preparation of Noise Analysis* (February 2019) recommends that temporary construction noise be evaluated at a qualitative level, given its temporary and short-term nature. Construction activities would primarily require the use of construction equipment, such as tractors, scrapers, loaders, excavators, and backhoes to regrade the site. The project will not import any soils to the site and only proposes to regrade the existing soils on site.

The closest noise sensitive receptor to the Mitigation Bank site is a residence across from the Mitigation Bank site and Lakeville Highway (APN 068-010-020), approximately 0.25 miles from the edge of the Mitigation Bank site. This residence is owned by the applicant and Mitigation Bank Sponsor. The residence is also approximately 0.25 miles from the stock pond, which would be used for temporary irrigation of restoration plantings, if needed. Areas of willow plant collection are also located on the same parcel as the stock pond and residence.

Construction activities would be relatively minor (i.e. would not require pile driving, structure demolition, blasting or other such construction techniques) and would not produce excessive levels of noise. Based on the type and extent of work to be performed, nighttime construction is not proposed.

With the implementation of the reasonable and feasible standard Best Management controls outlined in NOI-1 below and considering that construction is temporary, any potential impacts would be reduced to a less-than-significant level.

Since these noise sources are temporary, limited in frequency and limited to daytime hours, they are not considered significant due to the implementation of standard Best Management Practices in NOI-1.

Significance Level: Less than Significant with Mitigation
Mitigation:

Mitigation Measure NOI-1: Reduce Construction Noise

All plans and specifications or construction plans shall include the following notes:

a. All internal combustion engines used during construction of this project will be operated with mufflers that meet the requirements of the State Resources Code, and, where applicable, the Vehicle Code. Equipment shall be properly maintained and turned off when not in use.

b. Except for actions taken to prevent an emergency, or to deal with an existing emergency, all construction activities shall be restricted to the hours of 7:00 a.m. and 7:00 p.m.on weekdays and

9:00 a.m. and 7:00 p.m. on weekends and holidays. If work outside the times specified above becomes necessary, the applicant shall notify the Permit Sonoma Natural Resources Division as soon as practical.

c. There will be no start up of machines nor equipment prior to 7:00 a.m, Monday through Friday or 9:00 am on weekends and holidays; no delivery of materials or equipment prior to 7:00 a.m nor past 7:00 p.m, Monday through Friday or prior to 9:00 a.m. nor past 7:00 p.m. on weekends and holidays and no servicing of equipment past 7:00 p.m., Monday through Friday, or weekends and holidays. A sign(s) shall be posted on the site regarding the allowable hours of construction, and including the developer- and contractors mobile phone number for public contact 24 hours a day or during the hours outside of the restricted hours.

d. Construction maintenance, storage and staging areas for construction equipment shall avoid proximity to residential areas to the maximum extent practicable. Stationary construction equipment, such as compressors, mixers, etc., shall be placed away from residential areas and/or provided with acoustical shielding. Quiet construction equipment shall be used when possible.

e. The permitee shall designate a Project Manager with authority to implement the mitigation prior to issuance of a building/grading permit. The Project Managers 24-hour mobile phone number shall be conspicuously posted at the construction site. The Project Manager shall determine the cause of noise complaints (e.g. starting too early, faulty muffler, etc.) and shall take prompt action to correct the problem.

f. Construction staging areas shall be established at locations that will create the greatest distance between the construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction.

Mitigation Monitoring NOI-1 Reduce Construction Noise

Permit Sonoma Project Review or Natural Resources Division staff shall ensure that the measures are listed on all site alteration, grading, building or improvement plans, prior to issuance of grading or building permits. Any noise complaints will be investigated by Permit Sonoma staff. If violations are found, Permit Sonoma shall seek voluntary compliance from the permit holder, or may require a noise consultant to evaluate the problem and recommend corrective actions, and thereafter may initiate an enforcement action and/or revocation or modification proceedings, as appropriate.

b) Result in generation of excessive groundborne vibration or noise levels?

Construction activities can cause vibration that varies in intensity depending on several factors. The construction of the project may generate perceptible vibration when heavy equipment is used close to sensitive receptors, such as excavators, backhoes, loaders, scrapers. Vibration levels vary depending on soil conditions, construction methods, and equipment used. Vibration levels are highest close to the source, and then attenuate with increasing distance. Construction would not require pile driving, structure demolition, blasting or other such construction techniques.

The primary concern with construction-induced vibration is the potential to damage an adjacent structure, either cosmetically (e.g., minor cracking of building elements), or threatening the integrity of the building. Given the distance from Mitigation Bank site construction activities to the closest receptor is approximately 0.25 miles away, on the Bank Sponsor's property, and that construction would occur during daylight hours, would be short-term and temporary, there would be no significant vibration impact from construction of the project.

Significance Level: 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 proposed project is not located within an airport land use plan or within two miles of a public airport or public use airport.

Significance Level: No Impact

14. POPULATION AND HOUSING:

Would the project:

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

Comment:
The project would not include construction of any homes, substantial number of businesses or infrastructure and therefore would not induce substantial population growth

Significance Level:
No Impact

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

Comment:
No housing will be displaced by the project and no replacement housing is proposed to be constructed.

Significance Level:
No Impact

15. PUBLIC SERVICES:

Would the project:

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

Comment:
Construction of the project would not involve substantial adverse physical impacts associated with provision of public facilities or services and the impact would be less than significant.

Significance Level:
Less than Significant Impact

i. Fire protection?

Comment:
There are no new structures or development features. Sonoma County Code requires that all new development meet Fire Safe Standards (Chapter 13). The County Fire Marshal reviewed the project description and required that the premises comply with California Fire Code as adopted and amended by Sonoma County Code, including fire protection methods such as vegetation management, hazardous materials management and management of flammable or combustible liquids and gases.

This is a standard condition of approval and required by county code and impacts would be less than significant. Fire protection services will continue to be provided by the Sonoma County Fire Department.

Significance Level:
Less than Significant Impact

ii. Police?

Comment:
The Sonoma County Sheriff will continue to serve this area. There will be no increased need for police protection resulting from this project

Significance Level:
Less than Significant Impact

iii. Schools?

Comment:
The project itself would not contribute to an increase in the need for expanded or additional schools.

Significance Level:
Less than Significant Impact

iv. Parks?

Comment:
The project itself would not contribute to an increase in the need for expanded or additional parks.

Significance Level:
Less than Significant Impact

v. Other public facilities?

Comment:
The project itself would not contribute to an increase in the need for expanded or additional public facilities.

Significance Level:
Less than Significant Impact

16. RECREATION:

Would the project:

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?

Comment:
The proposed project would not involve activities that would cause or accelerate substantial physical deterioration of parks or recreational facilities. The project will have no impact on the use of existing neighborhood and regional parks or other recreational facilities.

Significance Level:
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?

Comment:
The project does not include a recreational facility and is of a project-type that does not require the construction or expansion of a recreational facility.

Significance Level:
No Impact

17. TRANSPORTATION / TRAFFIC:

Would the project:

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

Comment:
Three transportation-related plans have been adopted in Sonoma County: the Sonoma County General Plan 2020 Circulation Element, the Sonoma County Transportation Authority Comprehensive Transportation Plan (2009), and the Sonoma County Bike and Pedestrian Plan. The project is a habitat restoration project with work occurring on-site only. Permit Sonoma reviewed the proposed Project and found it to be consistent and would not conflict with any of these plans. The project will not increase traffic at the site, because the project will not generate a permanent increase in traffic volumes or shift travel lanes. The Project will not result in any traffic impacts nor work on the roadway system, and the project will not conflict with any of the transportation-related plans.

Significance Level: No Impact

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

Comment:
Senate Bill (SB) 743 established the change in vehicle miles traveled (VMT) as the metric to be applied to determining transportation impacts associated with development projects. VMT impacts are assessed based on guidance published by the California Governor's Office of Planning and Research (OPR) in the publication Transportation Impacts (SB 743) CEQA Guidelines Update and Technical Advisory, 2018. The advisory does not require addressing VMT analysis or define thresholds for construction-related projects such as this. The project will have no impact on VMT.

Significance Level: No Impact.

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

Comment:

The project is a habitat restoration and enhancement project and does not increase hazards since it maintains existing roadway.

Significance Level: No Impact.

d) Result in inadequate emergency access?

Comment:
Although the project will not involve any work on a public road or need to block access to the site, given it is a grading project, development on the site must comply with all emergency access requirements of the Sonoma County Fire Safety Code (Sonoma County Code Chapter 13), including emergency vehicle access requirements.

Significance Level: No impact.

18. TRIBAL CULTURAL RESOURCES:

State Regulations

CEQA requires that a lead agency determine whether a project could have a significant effect on historical resources and tribal cultural resources (PRC Section 21074 [a][1][A]-[B]). A historical resource is one listed in or determined to be eligible for listing in the California Register of Historical Resources (CRHR, PRC Section 21084.1), a resource included in a local register of historical resources (PRC Section 15064.5[a][2]), or any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant (PRC Section 15064.5[a][3]).

If a project can be demonstrated to cause damage to a unique archaeological resource, the lead agency may require reasonable efforts to permit any or all these resources to be preserved in place or left in an undisturbed state. To the extent that resources cannot be left undisturbed, mitigation measures are required (PRC, Section 21083.2[a], [b], and [c]).

Impacts to significant cultural resources that affect the characteristics of any resource that qualify it for the NRHP or adversely alter the significance of a resource listed in or eligible for listing in the CRHR are considered a significant effect on the environment. These impacts could result from physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired (*CEQA Guidelines* Section 15064.5 [b][1]). Material impairment is defined as demolition or alteration in an adverse manner [of] those characteristics of an historical resource that convey its historical significance and that justify its inclusion or eligibility for inclusion in the CRHR (*CEQA Guidelines* Section 15064.5[b][2][A]).

California Public Resources Code

Section 5097.5 of the California PRC states:

No person shall knowingly and willfully excavate upon, or remove, destroy, injure or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor.

As used in this PRC section, “public lands” means lands owned by or under the jurisdiction of the State or any city, county, district, authority, or public corporation, or any agency thereof. Consequently, local agencies are required to comply with PRC 5097.5 for their own activities, including construction and maintenance, as well as for permit actions (e.g., encroachment permits) undertaken by others.

Codes Governing Human Remains

The disposition of human remains is governed by Health and Safety Code Section 7050.5 and PRC sections 5097.94 and 5097.98 and falls within the jurisdiction of the Native American Heritage Commission (NAHC). If human remains are discovered, the county coroner must be notified within 48 hours, and there should be no further disturbance to the site where the remains were found. If the coroner determines the remains are Native American, the coroner is responsible to contact the NAHC within 24 hours. Pursuant to PRC Section 5097.98, the NAHC will immediately notify those persons it believes to be most likely descended from the deceased Native Americans so they can inspect the burial site and make recommendations for treatment or disposal.

Would the project:

Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California native American tribe, and that is: i) listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5030.1(k); or ii) a resource determined by the lead agency. In its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code § 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Comment:
In accordance with Public Resources Code Section 21080.3.1 (Assembly Bill 52) a formal notification of the opportunity to consult on this Use Permit was sent to Native American Tribes within Sonoma County on March 15, 2024. The County of Sonoma has engaged in consultation on this project as a result of the AB 52 notification. Permit Sonoma staff met with the Federated Indians of Graton Rancheria Tribal Heritage Preservation Officer (THPO) in consultation over a series of meetings. Both parties determined there is a possibility for tribal cultural resources to be found on-site during construction. Therefore, mitigation measures **TCR-1, TCR-2, TCR-3 and TCR-4** will be implemented to reduce the potential impact to less than significant. These mitigation measures are also found in the project's conditions of approval.

Significance Level:
Less than Significant with Mitigation Incorporated

Mitigation Measure TCR-1: Tribal Monitor
A Tribal Monitor from the Federated Indians of Graton Rancheria or in the event a tribal monitor is not available an archaeological monitor approved by the Federated Indians of Graton Rancheria shall be retained to be on site to monitor all project-related ground disturbing construction activities (i.e., grading, excavation, potholing, etc.). The applicant shall contact Federated Indians of Graton Rancheria to establish a Tribal Monitoring Agreement to monitor ground disturbing activities. A copy of the agreement, signed by both the applicant and the THPO for the Federated Indians of Graton Rancheria shall be provided to Permit Sonoma prior to ground disturbing activities.

Mitigation Monitoring TCR-1
Building/grading permits shall not be approved for issuance by Permit Sonoma Planning or Natural Resources staff until the applicant provides a copy of a contract to monitor ground disturbing activities to Permit Sonoma signed by the applicant and the THPO for the Federated Indians of Graton Rancheria. Prior to final inspections and use permit certificate issuance, the applicant shall provide documentation demonstrating the mitigation was implemented.

Mitigation Measure TCR-2: Worker Awareness Training

An archeologist approved by the Federated Indians of Graton Rancheria shall be retained to provide construction personnel training about the kinds of cultural materials that could be present at the project site and protocols to be followed should any materials be uncovered during construction. The training shall include the stated of purposed of the training which is to increase awareness of the appropriate protocols in the event of an unanticipated discovery. Monitors shall provide appropriate tribal cultural resources training as determined by the THPO for the Federated Indians of Graton Rancheria. Training shall be repeated as necessary during different phases of construction to educate new construction personnel. The worker awareness training shall include a list of emergency contacts, including regulatory authorities and qualified professionals, and where the list will be readily available onsite during construction, together with the location of the Unanticipated Discovery Plan **(TCR-3).**

Mitigation Monitoring TCR-2

Building/grading permits shall not be approved for issuance by Permit Sonoma Planning or Natural Resources staff until the applicant provides a copy of the proposed Worker Awareness Training to Permit

Sonoma and the THPO for the Federated Indians of Graton Rancheria. No ground disturbing activities may be authorized until the proposed training plan is approved by Federated Indians of Graton Rancheria. Prior to final inspections and use permit certificate issuance, the applicant shall provide documentation demonstrating the mitigation was implemented.

Mitigation Measure TCR-3: Unanticipated Discovery Plan

In the event that potential tribal cultural resources are identified all construction in the immediate vicinity and within 100 feet of the discovery must halt. The FIGR Monitor in consultation with Permit Sonoma and the THPO for the Federal Indians of Graton Rancheria shall determine the extent of the tribal cultural resource under CEQA. Construction activities may continue in areas 100 feet away from the find or extent of the tribal cultural resource location. Construction shall not resume without approval from the Federated Indians of Graton Rancheria THPO and Permit Sonoma as described in the Unanticipated Discovery Plan, as agreed to by the Federated Indians of Graton Rancheria and the Applicant and provided to the Federated Indians of Graton Rancheria and Permit Sonoma prior to construction.

Any resources found shall be treated with appropriate dignity and respect. At the completion of monitoring activities, all artifacts of Native American origin shall be returned to the the Federated Indians of Graton Rancheria through the tribal monitor, reinterred on-site in accordance with the Treatment Plan for Accidental Discovery approved by the FIGR THPO (TCR-4), or managed as otherwise directed by the FIGR THPO.

The applicant shall contact the FIGR THPOto establish an agreed upon Unanticipated Discovery Plan. The Unanticipated Discovery Plan tasks shall include, but not be limited to, the following tasks:

- **Stop Work Immediately:** If potential resources are discovered, all work in the immediate area and a minimum of 100 feet of the discovery must stop.

- **Notification of Supervisor:** The person who made the discovery must notify their immediate supervisor and project manager, together with Tribal or approved archaeological monitor.

- **Contacting Authorities:** The applicant's project manager must notify the FIGR Tribal Monitor, Archeological Monitor, Federated Indians of Graton Rancheria THPO, and Permit Sonoma. See **TCR-3** for inadvertent discovery of human remains.

- **Securing the Area**: The area shall be secured to prevent any further disturbance, including fencing off the area and posting signage to inform workers of any potential discovery.

- **Documentation of the Discovery:** Detailed documentation of the discovery shall be conducted, at the guidance of the Federated Indians of Graton Rancheria THPO. Documentation may include but is not limited to, photographs, GPS coordinates, a written description of the resource. Documentation shall be provided to the Federal Indians of Graton Rancheria THPO and Permit Sonoma within a maximum of calendar 10 days.

- **Assessment by a Qualified Professional:** a qualified archeologist and Tribal cultural monitor from Federated Indians of Graton Rancheria shall assess the discovery to determine its significance and provide recommendations for further action.

- **Consultation with Authorities:** The findings of the assessment shall be shared with Permit Sonoma and relevant regulatory agencies for their input and guidance.

- **Determination of Significance** – If the discovery is deemed significant under CEQA, further steps shall be taken to protect and preserve the resource, in coordination with the Federated Indians of Graton Rancheria THPO, Permit Sonoma and applicable other agencies, and as described in the approved Treatment Plan (TCR-4). If the discovery is deemed non-significant under CEQA construction may resume following approval from the Federated Indicans of Graton Rancheria and Permit Sonoma.

All building and/or grading permits shall have the following note printed on grading or earthwork plan sheets:

NOTE ON MAP:
"A Monitor from the Federated Indians of Graton Rancheria is required to be present during all grading or other ground-disturbing work. The Tribal Monitor must be present on site before the start of any ground-disturbing work, including scraping. In the event that paleontological resources or prehistoric, historic or tribal cultural resources are encountered at any time during ground-disturbing work, such as grading, scraping or excavation within the property, all work should be halted within 100 feet of the vicinity of the find. The operator shall be responsible for the costs to have a qualified paleontologist, archeologist, or tribal cultural resource specialist under contract to evaluate the find and make recommendations to protect the resource. Paleontological resources include fossils of animals, plants, or other organisms. Prehistoric or tribal cultural resources associated with sites may include humanly modified stone, shell, bone or other cultural materials such as charcoal, ash and burned rock indicative of food procurement or processing activities. Prehistoric domestic resources include hearths, firepits, midden (culturally darkened soil containing heat-affected rock) stone milling equipment, such as mortars and pestles, certain site features, places, cultural landscapes, sacred places and objects with cultural value to a Federated Indians of Graton Rancheria, or house floor depressions whereas typical mortuary resources are represented by human skeletal remains. Historic resources include all by-products of human use greater than fifty (50) years of age including, backfilled privies, wells, and refuse pits, concrete stone, or wood structural elements or foundations; and concentrations of metal, glass and ceramic refuse. The Tribal Monitor, Archaeological Monitor, and Permit Sonoma - Project Review or Natural Resources Staff shall be notified. Permit Sonoma Staff should consult with the THPO of the Federated Indians of Graton Rancheria to determine if the resources qualify as Tribal Cultural Resources (as defined in Public Resource Code § 21074). If determined to be a tribal cultural resource, Permit Sonoma would further consult with the Federated Indians of Graton Rancheria and project proponents in order to develop and coordinate proper protection/mitigation measures required for the discovery. Permit Sonoma shall refer the mitigation/protection plan to the Federated Indians of Graton Rancheria for review and comment. No work shall commence until a protection/mitigation plan is reviewed and approved by Permit Sonoma - Project Review or Natural Resources Staff. Mitigations may include avoidance, removal, preservation and/or recordation in accordance with California law. Evaluation and mitigation shall be at the applicant's sole expense.

If human remains are encountered, work in the immediate vicinity shall be halted and the operator shall notify Permit Sonoma and the Sonoma County Coroner immediately. At the same time, the operator shall be responsible for the cost to have a qualified archaeologist under contract to evaluate the discovery. If the human remains are determined to be of Native American origin, the Coroner must notify the Native American Heritage Commission within 24 hours of this identification so that a Most Likely Descendant can be designated and the appropriate measures implemented in compliance with the California Government Code and Public Resources Code."

Mitigation Monitoring TCR-3 Unanticipated Discovery Plan

A copy of the Unanticipated Discovery Plan, signed by both the applicant and the THPO for the Federated Indians of Graton Rancheria, shall be provided to Permit Sonoma prior to ground disturbing activities and will be a condition of the Use Permit approval.

Building/grading permits shall not be approved for issuance by Permit Sonoma Planning or Natural Resources staff until the applicant provides the approved Unanticipated Discovery Plan to Permit Sonoma and the THPO for the Federated Indians of Graton Rancheria.

Mitigation Measure TCR-3 "Note on Map" shall be listed as a note on all grading and building plan sheets.

TCR-4: Treatment Plan for Accidental Discovery

In the event of unanticipated discovery during construction, further steps shall be taken to protect and preserve the resource, in coordination with the Federated Indians of Graton Rancheria and Permit Sonoma. The applicant shall contact Federated Indians of Graton Rancheria to establish an agreed upon Treatment Plan for Accidental Discovery, which may include, but not be limited to:

- Avoidance, including the adjustment of the project plans to avoid and protect the resource.
- Buffer zones, including establishment of a permanent buffer around the resource.
- Deeding a permanent conservation easement around the resource and its buffer as may be relocated.
- Data recovery and excavation, in the event avoidance is not feasible.
- Reinterment, or reburial upon guidance from the Federated Indicans of Graton Rancheria.

Mitigation Monitoring TCR-4 Treatment Plan for Accidental Discovery

A copy of the Treatment Plan for Unanticipated Discoveries, signed by both the applicant and the THPO for the Federated Indians of Graton Rancheria shall be provided to Permit Sonoma prior to ground disturbing activities and will be a condition of the Use Permit approval.

Building/grading permits shall not be approved for issuance by Permit Sonoma Planning or Natural Resources staff until the applicant provides the approved Treatment Plan for Accidental Discovery to Permit Sonoma and the THPO for the Federated Indians of Graton Rancheria.

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 telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Comment:
The project would not contribute to the need for construction of new permanent water or wastewater treatment or other utility and service facilities. There are no proposed structures or public use.

Significance Level:
No Impact

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

Comment:
The proposed Mitigation Bank project and its construction activities, including dust control and the establishment of trees and plants, would require a minimal amount of water use. The stock pond northeast of Lakeville highway is proposed as a source of temporary irrigation for restoration plantings, if needed. The proposed project would not result in a long-term increase in water demand. No new water supplies would be required. No impact would result.

Significance Level:
Less than Significant Impact

c) Result in a determination by the wastewater treatment provider which serves or may serve the

project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Comment:
The proposed project would not result in the generation or discharge of wastewater. No impact on wastewater capacity would result.

Significance Level:
No Impact

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?

Comment:

The proposed project is a restoration project with all cut and fill balanced on-site. There will be no off-haul of soil materials. During construction, the construction contractor would be responsible for controlling and disposing of solid waste in accordance with federal, state, and local statutes and regulations. Construction waste with no practical reuse or that cannot be salvaged or recycled would be disposed of at a local landfill. Solid waste generated during construction of the project, if any, would represent a small fraction of the daily permitted tonnage of local landfill facilities and would be sufficiently accommodated. Following construction, the proposed project would not generate solid waste. The overall impact would be less than significant.

Significance Level:
Less than Significant Impact

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

Comment:
See discussion above under item (d).

Significance Level:
Less than Significant Impact

20. WILDFIRE:

If located in or near state responsibility areas or lands classified as very high fire 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 of 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?

Comment

According to the Safety Element of the General Plan, the Mitigation Bank site is not located in a high wildland fire hazard area. The project is a habitat restoration project; no structures or associated infrastructure are proposed.

The proposed Mitigation Bank site is located in a Local Responsibility Area and is outside of the wildland high and very high fire hazard zones mapped by Wildland Fire Hazard Areas Figure PS 1-g of the Sonoma County General Plan 2020. The Mitigation Bank site is located in a relatively flat area and surrounded by developed agricultural activities, riparian corridors, rural residential uses and the City of Petaluma's Ellis Creek Water Recycling Facility. Limited, short term restoration activities (collection of willow plants and use of stock pond for temporary irrigation post construction) would occur on parcels northeast of Lakeville Highway in the State Responsibility Area. These areas are located in a high fire hazard zone.

The Project site is approximately 3.0 miles from the City of Petaluma Fire Station #3 ensuring rapid response times in the event of an emergency. There are no proposed structures or structures and no fire apparatus access roads are required. To facilitate locating an emergency and to avoid delays in emergency response, the project has been conditioned to be consistent with the requirements of the 2013 California Fire Code and Sonoma County Code.

There is no separate emergency evacuation plan for the County. Furthermore, the project is a restoration project and would not significantly increase traffic or cause an interference with emergency evacuations.

Construction activity would during dry season periods, when it is possible that accidental fire ignition could occur related to use of heavy machinery or vehicles. Because vegetation along the project corridor could be dry during construction, and because of the close proximity of rural residences and other land uses, the construction-related impact is considered significant. Implementation of **Mitigation Measure Wildfire-1** would require the use of construction techniques that would reduce the likelihood of wildland fires during construction to less than significant.

Significant Level
Less than significant with Mitigation

Mitigation Measure Wildlfire-1: Reduce Wildland Fire Hazards

At the start of construction, the contractor shall remove or clear away dry, combustible vegetation from within the area of direct impact. Shields, protective mats, or other fire prevention methods shall be used when welding, grinding, or conducting other activities that may cause a fire hazard. All vehicles and heavy equipment shall not be parked in areas where exhaust systems contact combustible materials. Vehicles will never be parked or idled so that the undercarriage is in direct contact with vegetation. The project site will have adequate sources of water, shovels, and fire extinguishers available for immediate use. Fire extinguishers shall be available on all vehicles and construction equipment used at the project site to assist in quickly extinguishing any small fires, and contractors shall have on site the direct phone number for the local fire departments. Grasses shall be mowed along access routes to and from willow plant collection areas, and only high clearance vehicles will be used to access these areas. There shall be no use of vehicles or construction equipment during any red flag warning periods when temperatures and/or winds are high and humidity is low.

Mitigation Monitoring Wildfire-1

Building/grading permits for ground disturbing activities shall not be approved for issuance by Project Review or Natural Resource staff until the above notes are printed on applicable building, grading and improvement plans. The applicant shall be responsible for notifying construction contractors about fire requirements.

21. MANDATORY FINDINGS OF SIGNIFICANCE:

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

Comment:
Potential project impacts on special status plant and fish/wildlife species and habitat are addressed in Section 4. Implementation of the required mitigation measures (Mitigation Measures BIO-1, BIO-2, BIO-3, BIO-4, BIO-5, BIO-6, BIO-7 BIO-8, BIO-9 BIO-10, BIO-11, BIO-12, BIO-13, BIO-14, BIO-14, BIO-15, BIO-16, BIO-17, BIO-18, BIO-19, BIO-20, BIO-21, BIO-22,and BIO-23.) would reduce these potential impacts to a less-than-significant level. Potential adverse project impacts to cultural resources and tribal cultural resources are addressed in Section 5 and 18. Implementation of the required mitigation measures (Mitigation Measures TCR-1, TCR -2, TCR -3, and TCR -4) provided in Section 18 would reduce these potential impacts to a less-than-significant level.

Significance Level:
Less than Significant Impact

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)?

Comment:
No project impacts have been identified in this Initial Study that are individually limited but cumulatively considerable. The project would contribute to impacts related to air quality, biological resources, cultural resources, hazards and hazardous materials, hydrology and water quality, noise, tribal resources, and wildfire which may be cumulative off-site, but mitigations would reduce project impacts to less-than-significant levels.

The project impacts summarized in this Initial Study would not add appreciably to a foreseeable future significant cumulative impact. The impacts of the proposed project would be mitigated to a less-than-significant level, and incremental impacts, if any, would be very small, and the cumulative impact would be less than significant.

Significance Level:
Less than Significant Impact

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

Comment:
Proposed project operations have the potential to cause substantial adverse impacts on human beings, both directly and indirectly. However, all potential impact and adverse effects on human beings (resulting from air quality, biological resources, cultural resources, hazards and hazardous materials, hydrology and water quality, noise, tribal resources, and wildfire) were analyzed, and would be less than significant with the mitigations identified in the Initial Study incorporated into the project.

With implementation of the recommended mitigation measures identified in this Initial Study, the potential for project-related activities to cause substantial adverse effects on human beings would be reduced to less-than-significant levels.

Significance Level:

Less than Significant Impact

Attachments

1. Development and Interim Management Plan (BEI Exhibit C-1)
2. Long Term Management Plan (BEI Exhibit D-3)

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15. Petaluma Watershed Enhancement Plan, Southern Sonoma County RCD, 1999

16. National Marine Fisheries Services (NMFS) Endangered Species Act Section 7(a)(2) Concurrence Letter and Magnuson-Stevens Fisheries Conservation and Management Act Essential Fish Habitat Response for the Halo Ranch Restoration Project, dated August 30, 2021.

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23. Resource Environmental Solutions, LLC [RES]. 2024 Halo Ranch Mitigation Bank, Bank Enabling Instrument. Prepared August 2024. Signed March 2025.

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