COUNTY OF SAN MATEO
PLANNING AND BUILDING DEPARTMENT

DATE: June 5, 2025

TO: Zoning Hearing Officer

FROM: Planning Staff

SUBJECT: Consideration of a Coastal Development Permit and Grading Permit, pursuant to Section 6328.4 of the County Zoning Regulations and Section 9283 of the County Ordinance Code, to permit restoration and revegetation of the banks of Butano Creek at 301 Redwood Avenue, in the unincorporated Butano Falls area of San Mateo County. This project is appealable to the California Coastal Commission.

County File Number: PLN2025-00026

PROPOSAL

The residence at 301 Redwood Avenue was originally constructed in the early 1900s. The current owner's family purchased the property in 1962. Since that time, ongoing channel incision (vertical deepening of the channel) has been a concern within the Butano Creek watershed in general. Within the reach inside Butano Canyon, incision and bank erosion appear to have been accelerating in recent years, both upstream of and adjacent to the foundation of the residence at 301 Redwood Avenue. The project proposes to shift the active channel alignment back to its approximate pre-erosion location by placing fill on the southern bank (adjacent to the residence) and excavating/re-shaping the northern creek bank to create an expanded flood plain through this reach of the creek.

To complete the proposed in-channel work, a 230-linear foot diversion and dewatering system will be implemented in accordance with a Dewatering Plan required in coordination with the San Francisco Regional Water Quality Control Board (RWQCB), Army Corps of Engineers, California Department of Fish and Wildlife, and County of San Mateo.

The applicant is proposing to stabilize the southern bank of the creek (adjacent to the residence) by cutting back the near vertical bank to create a keyway for placement of filter fabric and rock slope protection (RSP). The bottom of the RSP will consist of Class X boulders (average diameter of 24 inches) that will be keyed in at a depth approximately 6 feet below the existing stream channel grade. The upper reaches of the reconstructed slope will be filled with Class V boulders (average diameter of 18

inches). Riparian tree species will be planted within the RSP, and three log/rootwad structures will be incorporated into the toe of the slope.

On the northern (opposite) streambank, a portion of the vegetated sediment deposit will be excavated and re-shaped to a gentler and more stable 2:1 slope. This will serve to increase the width of the stream channel that carries flow, expanding the area of floodplain on that side of the creek and increasing the frequency with which this land is inundated by stream flows. One 12-inch diameter alder will be removed from the floodplain on the north streambank. This tree will be salvaged for re-planting back within the Project Site, if possible.

Revegetation efforts throughout the Project Site have been tailored to withstand the anticipated flows on each stream bank, provide stabilization and structural strength, and resist erosion. To the greatest extent possible, native plants from elsewhere on the property will be collected and used in replanting, including willow cuttings, horsetail, sword fern, Douglas iris, nutsedge, and thimbleberry. Willow, dogwood, and big leaf maple will be planted. Additional plants, native to the Butano or Pescadero watersheds, will be used depending on availability, including California bay, California blackberry, wild rose, hairy honeysuckle, red flowering currant black huckleberry, hazelnut, creek monkey flower, snowberry, and California bee plant.

The purposes of the Proposed Project are to:

- Improve the complexity of in-stream habitat for native fish and other wildlife through the addition of large woody debris;

- Improve the long-term environmental health of Butano Creek;

- Reduce or prevent additional bank erosion within the treatment reach to limit the downstream impacts of erosion to spawning habitat, public infrastructure, and water quality; and

- Protect the existing residence and remaining large redwood trees adjacent to the creek.

While Butano Creek within the Project Site currently provides suitable migratory, spawning, and rearing habitat for Central California Coast (CCC) steelhead, CCC coho salmon, and other wildlife species, the continued input of fine sediment from the eroding left bank and as well as a reach-wide lack of seasonally activated floodplain habitat limits habitat suitability and species recovery of salmonid species by:

- Reducing subsequent sediment/turbidity input to Butano Creek and the Pescadero-Butano Marsh Complex from current levels resulting from active bank erosion;

- Adding log structures intended to improve velocity refuge for juvenile salmonids during high flow events and promote gravel sorting and rearing habitat formation;

- Enhancing floodplain connectivity, as called for in the two NMFS recovery plans as well as the RWQCB (2018) habitat enhancement plan;

- Expanding spawning, rearing, and holding habitat availability; and

- Improving water quality (sediment/turbidity).

RECOMMENDATION

That the Zoning Hearing Officer approve the Coastal Development Permit and Grading Permit, County File Number, PLN2025-00026, by making the required findings and subject to the Conditions of Approval listed in Attachment A.

BACKGROUND

Report Prepared By: Michael Schaller, Senior Planner

Applicant: Kelli Camara (Camara Environmental Consulting)

Owner: John Maloney Trust

Public Notification: Ten-day advanced notification for the hearing was mailed to property owners within 300 feet of the project parcel and a notice for the hearing posted in a newspaper (San Mateo County Times) of general public circulation.

Location: 301 Redwood Avenue, Butano Falls

APN(s): 089-042-060

Size: 21,372 sq. ft.

Existing Zoning: R-1/S-10/CD (Single Family Residential/20,000 sq. ft. minimum parcel size/Coastal Development)

General Plan Designation: Low Density Residential (0.3 – 2.3 dwellings/net acre)

Local Coastal Plan Designation: Low Density Residential (0.3 – 2.0 dwellings/net acre)

Existing Land Use: Single Family Residence

Water Supply: Butano Canyon Mutual Water Company

Sewage Disposal: On-site Septic System

Flood Zone: Zone A (Area within 100-year flood hazard, no base elevations determined), Community Panel 06081C0455E; effective October 16, 2012.

Environmental Evaluation: The project is exempt from environmental review pursuant to the California Environmental Quality Act (CEQA) Guidelines, Section 15333 (Small Habitat Restoration Projects), which exempts small (five acres or less) projects designed to maintain, restore, enhance or protect habitat for fish, plants, or wildlife provided that: 1) there is no significant adverse impact on endangered, rare or threatened species or their habitat, 2) no hazardous materials at or around the project site will be disturbed or removed, and 3) the project will not result in impacts that are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

Setting: The project site is located on the south side of Butano Creek, at 301 Redwood Avenue in the Butano Falls community. The existing residence is located on an outer bend of the creek with the support posts for the house's deck sitting right at the edge of the eroding creek bank. The top of the creek bank sits on average about 11 feet above the creek bed.

The downstream end of a cut-off channel cuts through the subject parcel, with the northwest side of the cut-off channel cutting through the northern section of the residence. A portion of the downstream end of the cut-off channel has been filled, with its elevation a few feet lower than the residential building pad.

The Project parcel and surrounding area is heavily wooded, with a redwood-Douglas fir forest overstory. In the flat areas surrounding the residence, the understory has a high density of redwood sorrel. Closer to the riparian corridor, the understory has a higher density of ornamental plants including hydrangea, iris, Persian walnut, and Pittosporum. The riparian corridor within this stream reach also supports, in low density, red alder, California bay, tan oak, and willow.

The biological assessment report prepared for this project did not identify any special status plant species during field surveys. However, the report identified a high to moderate potential for the following species to occur within the project area:

CCC Steelhead	CCC Coho salmon
Marbled Murrelet	Pacific lamprey
California giant salamander	California Red-legged frog
Santa Cruz black salamander	Western pond turtle
Nesting and other protected avian species	

As such, the attached Assessment report has included a number of measures intended to reduce or eliminate potential impacts to these species. These measures have been included as conditions of approval in Attachment A of this report.

DISCUSSION

A. KEY ISSUES

1. Conformance with the County General Plan

The project complies with the provisions of the General Plan, including the following specific policies:

Chapter 1 - Vegetative, Water, Fish and Wildlife Resources.

The project complies with Policy 1.23 (*Regulate location, density, and design of development*) which regulates development to minimize significant adverse impacts to vegetative, water, fish and wildlife resources, and Policy 1.26 (*Protect Fish and Wildlife Resources*). The proposed project is intended to repair a failing creek bank which, if not addressed, will continue to deposit significant amounts of sediment into Butano Creek. Continuing deposition of sediment into the creek will exacerbate the burying of important breeding habitat for the threatened steelhead trout. Additionally, significant failure of the creek bank will result in portions of the project residence falling into the creek resulting in potentially hazardous waste being introduced into this aquatic habitat. The scope of work has been minimized to just that which is necessary to stabilize the creek bank within the project reach. The project includes an extensive revegetation plan which is intended to both ensure long term bank stability as well as provide habitat for riparian species.

2. Compliance with the Local Coastal Program

The project complies with the provisions of the Local Coastal Program, including the following specific policies:

a. Locating and Planning New Development Component

Policy 1.25 (*Protection of Archaeological/Paleontological Resources*). This policy requires the County to determine whether sites proposed for new development are located within areas containing potential archaeological/paleontological resources, and to take appropriate actions if so. A cultural resources inventory was conducted for this project which included a records search through the Northwest Information Center (NWIC) of the California Historical Resources Information System at Sonoma State University as well as a field survey of the site. No previously identified cultural resources have been identified within 1/4 mile of the project site, nor did the field survey identify any evidence of historic or prehistoric resources on the site. However, the assessment did recognize that there is the potential

for subsurface cultural resources to be encountered during construction of this project. Therefore, condition of approval No. 2 has been placed on the project, which requires immediate work stoppage if human remains, or any associated funerary artifacts are discovered during construction.

b. Sensitive Habitats Component

Policy 7.1 – *Definition of Sensitive Habitats*. This policy defines sensitive habitats as any area in which plant or animal life or their habitats are either rare or especially valuable. This includes all perennial and intermittent streams and their tributaries. Sensitive habitat areas include riparian corridors, wetlands, and habitats supporting rare, endangered, and unique species. Butano Creek is a perennial stream and at this location is surrounded by riparian vegetation/habitat. As such, it qualifies as a sensitive habitat under this definition. Allowed uses in riparian corridors are discussed below, under Policy 7.9.

Policy 7.3 (*Protection of Sensitive Habitats*) prohibits development that would have a significant adverse impact upon sensitive habitats which includes riparian corridors such as Butano Creek. The project will have a negative short-term impact upon the biotic resources within the immediate work area. However, if the project is not carried out, the Creek will continue to degrade and undercut its banks, causing the house to fall into the creek. Successful implementation of the project will result in long-term stability and protection of biotic resources in this riparian corridor. The applicant has proposed, as part of the project description, measures to prevent possible impacts to listed species before and during the project construction. These measures have been included as conditions of approval in Attachment A.

Policy 7.5 – *Permit Conditions*. This policy requires, as part of the development review process, that the applicant demonstrate that there will be no significant impact on sensitive habitats. This is achieved by having the applicant submit a biological report outlining what resources exist at the project location and how the project may impact those resources. The applicant has submitted a biological report (included as Attachment C of this report) for the project and site, which identifies potential impacts to anadromous (Coho Salmon & Steelhead) fish species, California Giant Salamander, Santa Cruz Black Salamander, California red-legged frog, San Francisco garter snake, Western pond turtle, Marbled Murrelet, and Other Nesting Migratory Birds. Mitigation measures to address these potential impacts were outlined in the biological report and have been included as Conditions of Approval Nos. 4 - 12 in Attachment A of this report.

Policy 7.9 *(Permitted Uses in a Riparian Corridor*) lists fish and wildlife management activities and flood control projects as allowed uses within a riparian corridor. The proposed project will protect downstream riparian habitat by reducing the risk that the subject house will fall into the creek. Collapse of the house into the creek would result in the deposition of man-made materials (some potentially toxic) into the active creek channel with subsequent degradation of water quality. Additionally, such a large amount of material suddenly dropping into the creek would cause the active creek channel to shift potentially creating additional erosion problems elsewhere within the immediate creek system. The continued erosion of the subject creek bank also adds additional sediment into Butano Creek which is a spawning ground for Coho and Steelhead. Protecting the subject creek bank and re-configuring the active creek channel will help reduce the amount of sediment entering Butano Creek.

Policy 7.10 (*Performance Standards in Riparian Corridors*) outlines certain standards that are required for projects in Riparian Corridors. The applicant proposes to remove only that vegetation necessary to carry out the project, and only critical areas will be worked on. Stringent erosion and sediment controls are proposed as part of the project, and only native plant species will be used for revegetation. To reduce impacts to water quality, the applicant is proposing to create a water diversion system that will allow them to de-water this segment of the creek during construction. The applicant's proposed measures are included as conditions of approval.

Policy 7.33 (*Permitted Uses in Habitats of Rare and Endangered Species*). As discussed above, several listed species have been identified within the Butano Creek corridor. Very few activities are allowed within areas designated as habitat for rare or endangered species. One of these is restoration of damaged habitat. The applicant, in compliance with U.S. Fish and Wildlife Service requirements, has proposed implementing a number of measures that are consistent with the Service's Programmatic Biological Opinion. These measures include placing exclusionary fencing around work areas, pre-construction surveys within each fenced area, worker training, and construction monitoring. These measures have been included in Attachment A as Conditions Nos. 6 – 12.

c. Visual Resources Component

Policy 8.6 (*Streams, Wetlands, and Estuaries*) requires development to be set back from the edge of streams and other natural waterways a sufficient distance to preserve the visual character of the waterway. The project, by its nature, will have a significant, temporary impact upon the creek's visual resources. However, failure to implement the project will inevitably result in a similar impact, as the creek devours its banks in an attempt to re-establish equilibrium. As the over-steepened banks fail, the subject house, trees, and other vegetation on the bank will fall into the creek, creating additional hazards and accelerating erosive forces within the creek channel. The visual impacts of the project will be temporary in nature. As trees and other vegetation, planted to stabilize the reformed banks, become established, the visual impact of the project will diminish to a less than significant level.

d. Hazards Component

Policy 9.9 (*Regulation of Development in Floodplains*) requires projects that alter streams to incorporate the best mitigation measures feasible and limits this type of work to necessary water supply projects, flood control projects and developments to enhance fish and wildlife habitat. As discussed above, the project is necessary to prevent the subject house from falling into the creek. The project will also benefit downstream fish habitat in Butano Creek by reducing the likelihood of catastrophic bank failures, which would result in large amounts of sediment entering into the watershed.

3. Conformance with the Grading Ordinance

The applicant proposes grading involving over 1,000 cubic yards of cut and fill to stabilize the subject creek bank and re-establish an adequate floodplain for Butano Creek at this location. As the project involves grading within a natural drainage channel and has a quantity of over 1,000 cubic yards, the grading permit must be reviewed and approved by the Zoning Hearing Officer, per Section 9287.3 of the San Mateo County Ordinance Code.

In order to approve this project, the Zoning Hearing Officer must make the required findings contained in the grading regulations. The findings and supporting evidence are outlined below:

a. **That the project will not have a significant adverse effect on the environment.**

The proposed grading is necessary to implement the project. Erosion control measures will be implemented during construction to reduce potential offsite sedimentation and water quality impacts. The bank reconstruction has been designed to minimize long-term impacts to drainage and adjacent areas. Measures to protect potential biotic resources within the footprint of the project have also been included as conditions of approval. Therefore, staff has determined that the project, as proposed and conditioned, will not have a significant adverse impact on the environment.

b. **That the project conforms to the criteria of Building Regulations, Chapter 5 San Mateo County Ordinance Code, including the standards referenced in Section 9296.**

The project, as proposed and conditioned, conforms to standards in the Grading regulations, including those relative to erosion and sediment control, and the timing of grading activity. Conditions of approval have been included in Attachment A to ensure compliance with the County's Grading regulations.

c. **That the project is consistent with the General Plan.**

The General Plan land use designation for the property is Low Density Residential. As proposed and conditioned, the project complies with applicable General Plan and Local Coastal Plan policies, as discussed in Section A.1 of this report.

Based on the foregoing, staff has determined that the project, as proposed and conditioned, conforms to the criteria for review contained in the Grading Regulations.

B. ENVIRONMENTAL REVIEW

The project is exempt from environmental review pursuant to the California Environmental Quality Act (CEQA) Guidelines, Section 15333 (*Small Habitat Restoration Projects*), which exempts small (five acres or less) projects designed to maintain, restore, enhance or protect habitat for fish, plants, or wildlife provided that: 1) there is no significant adverse impact on endangered, rare, or threatened species or their habitat, 2) no hazardous materials at or around the project site will be disturbed or removed, and 3) the project will not result in impacts that are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

Prior to project submittal, the applicant engaged the California Department of Fish and Wildlife, the Regional Water Quality Control Board, and the County regarding CEQA review of the proposed project. All three agencies concurred that this project qualifies for the above cited Categorical Exemption.

C. REVIEWING AGENCIES

California Coastal Commission
Building Inspection Section
Geotechnical Section
Regional Water Quality Control Board
California Dept. of Fish and Wildlife
U.S. Fish & Wildlife Service

ATTACHMENTS

A. Recommended Findings and Conditions of Approval
B. Project Plans
C. Biological Resources Assessment

Attachment A

County of San Mateo
Planning and Building Department

RECOMMENDED FINDINGS AND CONDITIONS OF APPROVAL

Permit or Project File Number: PLN2025-00026 Hearing Date: June 5, 2025

Prepared By: Michael Schaller, Senior Planner For Adoption By: Zoning Hearing Officer

RECOMMENDED FINDINGS

Regarding the Environmental Review, Find:

1. That this project is categorically exempt pursuant to Section 15333 of the California Environmental Quality Act Guidelines, relating to small (five acres or less) projects designed to maintain, restore, enhance, or protect habitat for fish, plants, or wildlife.

Regarding the Coastal Development Permit, Find:

2. That the project, as described in the application and accompanying materials required by Zoning Regulations Section 6328.7 and as conditioned in accordance with Section 6328.14, conforms with the plans, policies, requirements, and standards of the San Mateo County Local Coastal Program with regards to the protection of biotic and visual resources.

3. That the project conforms to the specific findings required by policies of the San Mateo County Local Coastal Program as discussed in Section A(2) of this Staff Report. Protection measures will be implemented to prevent any impact to biological resources, including Steelhead and Coho Salmon, San Francisco garter snake, California red-legged frog, and Giant Salamander.

4. That where the project is located between the nearest public road and the sea, or the shoreline of Pescadero Marsh, the project is in conformity with the public access and public recreation policies of Chapter 3 of the Coastal Act of 1976 (commencing with Section 30200 of the Public Resources Code). The project site is located east of Highway 1 and approximately four miles southeast of Pescadero Marsh. The public access and recreation policies of the Coastal Act are not applicable to this project.

Regarding Grading Permit, Find:

5. That the granting of the permit will not have a significant adverse effect on the environment. The proposed grading is necessary to prevent the subject house from falling into the creek. Erosion control measures will be implemented during construction to reduce potential off site sedimentation and water quality impacts. The bank reconstruction has been designed to minimize long-term impacts to drainage and adjacent areas. Measures to protect potential biotic resources within the footprint of the project have also been included as conditions of approval. As proposed and conditioned, the project will not have a significant adverse impact on the environment.

6. That the project conforms to the criteria of Building Regulations, Chapter 5, San Mateo County Ordinance Code, including the standards referenced in Section 9296. The project, as proposed and conditioned, conforms to standards in the Grading Regulations, including those relative to erosion and sediment control, and the timing of grading activity. Conditions of approval have been included in Attachment A to ensure compliance with the County's Grading regulations.

7. That the project is consistent with the General Plan. The General Plan land use designation for the property is Low Density Residential. As proposed and conditioned, the project complies with applicable General Plan and Local Coastal Plan policies, as discussed in Section A.1 of this report.

RECOMMENDED CONDITIONS OF APPROVAL

Current Planning Section

1. The approval applies only to the proposal as described in this report and materials submitted for review and approval by the Planning Commission on June 5, 2025. The Director of Planning and Building may approve minor revisions or modifications to the project if they are found to be consistent with the intent of and in substantial conformance with this approval.

2. These permits shall be valid for two years from the date of approval in which time a building permit shall be issued. Any extension of the permits shall require submittal of an application for permit extension and payment of applicable extension fees 60 days prior to the expiration date.

3. If human remains or any associated funerary artifacts are discovered during construction, all work must cease within the immediate vicinity of the discovery. In accordance with the California Health and Safety Code (Section 7050.5), the San Mateo County Sheriff/Coroner shall be contacted immediately. If the Coroner determines the remains to be Native American, the Coroner will notify the Native American Heritage Commission, which will in turn appoint a Most Likely Descendent (MLD) to act as a tribal representative. The MLD will work with the

Applicant and a qualified archaeologist to determine the proper treatment of the human remains and any associated funerary objects. Construction activities will not resume until either the human remains are exhumed, or the remains are avoided via Project construction design change.

Measures recommended by the Project Biologist

4. Measures for Special-Status Plants

   a. A qualified biologist/botanist will conduct additional floristic surveys between January and March and in late spring/early summer in the year when construction is to take place, to determine if special-status plant species occur on-site.

   b. If special special-status plant species are identified during the floristic survey, a qualified biologist/botanist will ensure that plants are marked with fencing or flagging prior to the initialization of construction, and a minimum of a 20-foot buffer zone established around the plants to avoid direct mortality. Any identified plants will be monitored by a qualified biologist during construction.

   c. If impacts to listed plant species cannot be avoided and the 20-foot buffer maintained, the Landowner will consult with the Service and/ or CDFW to discuss options to offset potential effects of project activities. The Landowner will ensure that all additional mitigation measures agreed upon during this consultation are implemented.

5. General Wildlife Measures

   a. All construction personnel will participate in environmental awareness training conducted by an agency-approved Qualified Biologist prior to participating in any construction activities. Construction personnel will be informed regarding the identification, potential presence, habitat requirements, legal protections, avoidance and minimization measures, and applicable protection measures for all special status species with the potential to occur in or immediately adjacent to the Project Site. Construction personnel will be informed of the procedures to follow should a special status species be encountered during construction activities.

   b. An agency-approved Qualified Biologist will conduct a pre-project survey within and adjacent to the proposed work area, within 48 hours prior to the start of vegetation removal and ground disturbing activities. The Qualified Biologist will survey the Project area at the appropriate time of day for the presence of special status species and non-special status species. The survey will include a) general survey for wildlife resources; b) visual survey of work areas with flowing or standing water for any aquatic species that

may be impacted by Project activities; c) survey of vegetation or other structures to determine if these features or structures are being used for nesting, roosting, or habitat refugia. The Qualified Biologist will record all wildlife species encountered during survey(s) and submit the record of results within seven days of survey completion.

c. A Qualified Biologist shall be present during initial vegetation removal and during new grading activities to monitor the site. Once the vegetation removal and initial grading activities have been completed, if no species are detected, no further monitoring shall be needed unless there is a rain event.

d. If there is a rain event, before construction activities resume, a Qualified Biologist should inspect the project area and all equipment/materials.

e. Construction activities should be restricted to periods of low rainfall (less than 0.5 inch per 24-hour period) and periods of dry weather (with less than a 50 percent chance of rain). During these restricted periods, no construction activities should occur between 30 minutes prior to sunset and 30 minutes after sunrise (no night work during rain events). If rain exceeds 0.5 inch during a 24-hour period, work should cease until no further rain is forecast. Construction activities halted due to precipitation may resume when precipitation ceases, and the National Weather Service 72-hour weather forecast indicates less than a 50% chance of 0.5 inch of rain or less during a 24-hour period.

6. Measures for CCC Steelhead, CCC Coho Salmon, and Pacific Lamprey

a. Fish relocation will be performed by a qualified (NMFS and CDFW-approved) fisheries biologist. Captured fish will be moved to the nearest appropriate site outside of the work area. A record of relocation activities will be maintained and include the date of capture and relocation, the method of capture, the location of the relocation site in relation to the Project Site, and the number and species of fish captured and relocated.

b. All fish relocation activities will occur during the summer low-flow period (September 1 – October 15) outside the adult migration and spawning season and salmonid smolt outmigration period. Therefore, juvenile rearing salmonids and lamprey are expected to be captured within the construction site during relocation activities.

c. Electrofishing will be conducted by properly trained personnel following the NMFS Guidelines for Electrofishing Waters Containing Salmonids Listed under the Endangered Species Act, June 2000.

d. Prior to capturing fish, the most appropriate release location(s) will be determined.

e. The most efficient method for capturing fish will be determined by the biologist. Complex stream habitat generally requires the use of electrofishing equipment, whereas in deep pools, fish may be concentrated by pumping-down the pool and then seining or dip-netting fish.

f. Handling of fish will be minimized. However, when handling is necessary, hands or nets will be wetted prior to touching fish.

g. Captured fish will be held in cool, shaded, aerated water in a container with a lid. Aeration will be provided with a battery-powered external bubbler. Fish will be protected from jostling and noise and will not be removed from this container until time of release.

h. Air and water temperatures will be measured periodically. A thermometer will be placed in holding containers and, if necessary, partial water changes to maintain a stable water temperature will be conducted periodically. If water temperature reaches or exceeds 18 degrees Celsius (°C), fish will be released and rescue operations ceased, if feasible.

i. Overcrowding in containers will be avoided by having at least two containers and segregating young-of-year fish from larger age-classes to avoid predation. If fish are abundant, the capturing of fish and amphibians will cease periodically and will be released at the predetermined locations.

j. Species and year-class of fish will be visually estimated at time of release. The number of fish captured will be counted and recorded. Anesthetization or measuring fish will be avoided unless specifically requested by appropriate resource agencies (i.e., NMFS, CDFW).

7. Measures for California Giant Salamander and Santa Cruz Black Salamander

a. A CDFW-approved biologist should be present during initial vegetation removal and new grading activities to monitor the site for SCBS. The biologist will look under rocks and logs to the greatest extent possible. Once the vegetation removal and initial grading activities have been completed, if no SCBS are detected, no further monitoring should be needed unless there is a rain event.

b. If there is a rain event, a CDFW approved biologist should inspect the project area and all equipment/materials for the SCBS before construction activities resume.

c. All relocations will be performed by a qualified CDFW-approved biologist. Captured species will be moved to the nearest appropriate site outside of the work area. A record of relocation activities will be maintained and will include the date of capture and relocation, the method of capture, the location of the relocation site in relation to the Project Site, and the number and species captured and relocated.

d. Prior to construction, the most appropriate release location(s) will be determined.

e. Handling of salamanders will be minimized. However, when handling is necessary, hands or nets will be wetted prior to touching species.

f. Captured salamanders will be held in cool, shaded, aerated water in a container with a lid. Aeration will be provided with a battery-powered external bubbler. Salamanders will be protected from jostling and noise and will not be removed from this container until time of release.

g. Air and water temperatures will be measured periodically. A thermometer will be placed in holding containers and, if necessary, partial water changes to maintain a stable water temperature will be conducted periodically. If water temperature reaches or exceeds 18 degrees Celsius (°C), salamanders will be released and rescue operations ceased, if feasible.

h. Overcrowding in containers will be avoided by having at least two containers. If fish are abundant, the capturing of fish and amphibians will cease periodically and will be released at predetermined locations.

i. The number of salamanders captured will be counted and recorded prior to release.

8. Measures for California Red-legged Frog

a. A Service-approved biologist with experience in the identification of all life stages and its critical habitat will survey the Project Site no more than 48 hours before the onset of work. If any life stage of CRLF is detected, CDFW and the Service will be notified prior to the onset of construction to determine if additional avoidance and minimization measures are required.

b. During electrofishing activities, a USFWS-Approved Biologist will precede the electrofishing crew and survey for CRLF. If any CRLF are detected, they will be captured and held outside the waterbody until the electrofishing activities at that location have been completed. All individuals will be immediately released to a release point approved by the Service. If California red-legged frogs are detected but escape capture, the USFWS-Approved Biologist will determine measures for avoiding or minimizing

impacts to individuals (i.e., leave the area or limit the duration of shocking pulses).

c. If at any time CRLF are detected in or adjacent to the project area, work activities within 50 feet of the individual that may potentially be harmed, injured, or killed should cease immediately, and the Service-approved biologist notified immediately. Based on the professional judgment of the Service-approved biologist, if project activities can be conducted without harming or injuring the species, it may be left at the location of discovery and monitored by the Service-approved biologist. All project personnel should be notified of the finding, and at no time should work occur within 50 feet of a species without a Service-approved biologist present.

9. Measures for Northwestern Pond Turtle

a. On any day that dewatering, electrofishing, vegetation clearing, and/or new grading activities occur, a CDFW- approved biologist will be onsite to observe and relocate turtles, if necessary, until the site is clear. Once the vegetation removal and initial grading activities have been completed, no further monitoring is required unless there is a rain event or a lapse in construction activity of 5 days or more.

b. Before construction activities resume after a lapse of 5 days or more, a CDFW-approved biologist will inspect the project area and all equipment/materials for the northwestern pond turtle. Activities may resume when the project area is clear.

10. Measures for Marbled Murrelet

a. All work will begin after September 1, to avoid the majority of nesting season.

11. Measures for Nesting Migratory Birds

a. Conduct all activities after September 1 to avoid impacts to nesting and migratory birds. If work occurs prior to September 1, perform pre-construction nesting bird surveys one week before the scheduled start of the project. The nesting survey should be performed by a qualified biologist and cover the length of the unnamed channel that is accessible and within dispersal distance of the species.

b. In the event active nests are observed, the nest sites shall be flagged and buffers established in an effort to prevent nest failure. The buffer widths shall be determined by a qualified biologist, based on species, site conditions and anticipated construction activities.

c. Active nests should be monitored at a frequency determined by the monitoring biologist, but at a minimum of once per week, until the nestlings have fledged.

d. In the event that construction activities appear to be interfering with nest maintenance (e.g., feedings and incubation), then the buffers should be increased, or construction activities postponed, until the young have fledged, as determined by the qualified biologist.

12. Measures for Sensitive Habitat

a. Work will not begin until all necessary permits and authorizations have been issued (e.g., USACE, USFWS, NMFS, State and/or Regional Boards, or CDFW). The Project Proponent will ensure that readily available copies of the applicable agency permits and authorizations (e.g., USFWS PBO, NMFS PBO, or Section 404 permit) are maintained by the construction foreperson/manager on the Project Site for the duration of project activities.

b. All work within Butano Creek will occur when the site is dry. Coffer dams and stream diversion systems will be constructed from clean materials, will be the minimal size necessary to complete activities, and installed in a manner that minimizes siltation and turbidity. Dewatering systems will remain in place and fully functional throughout the construction period. All dewatering/diversion facilities will be installed so that natural flow of sufficient quality (i.e. temperature and turbidity) is maintained upstream and downstream of the project areas and the period of dewatering will be for the minimum amount of time necessary to complete construction activities. All dewatering will be consistent with the diversion and dewatering plan, approved by the Army Corps of Engineers, National Marine Fisheries Service, US Fish and Wildlife Service, Regional Water Quality Control Board, California Department of Fish and Wildlife and County of San Mateo.

c. Dewatering/diversion will occur via gravity-driven systems, where feasible. Dewatering/diversion will be designed to avoid direct and preventable indirect mortality of fish and other aquatic species. Bypass pipes will be sized to accommodate a minimum of twice the expected construction-period flow, will not increase stream velocity, and will be placed at stream grade. Conveyance pipe outlet energy dissipaters will be installed to prevent scour and turbidity at the discharge location.

d. When gravity-fed dewatering is not feasible and pumping is necessary to dewater a work site, a temporary siltation basin and/or silt bags may be required to prevent sediment from reentering the wetted channel. Silt fences or mechanisms to avoid sediment input to the flowing channel will be installed adjacent to flowing water. Water pumping or removal from dewatered areas will be conducted in a manner that does not contribute

turbidity to nearby receiving waters. All work will comply with the CDFW Fish Screening Criteria (CDFW 2001) or NMFS Fish Screening Criteria for Anadromous Salmonids (NOAA 2022). Pump intakes will be covered with mesh, in accordance with the requirements of current fish screening criteria, to prevent potential entrainment of fish or other aquatic species that could not be removed from the area to be dewatered. The pump intake will be checked periodically for impingement of fish or other aquatic species.

e. Material used for bank stabilization or in-water restoration will minimize discharge sediment or other forms of waste to waters of the United States or aquatic habitat.

f. All temporarily disturbed areas with permeable surfaces, will be roughened and seeded/planted with an assemblage of native riparian, wetland, and/or upland plant species suitable for the area to restore the site to pre-construction condition or better. Rock above the 100-year WSE elevation will be "jetted" with soil and covered with a "green" erosion control fabric. Container and salvaged plants will be planted into the fabric and rock. Only certified weed-free straw will be used to avoid the introduction of non-native, invasive species.

g. Pathogen contamination, as described on the website of the Working Group for Phytophthoras in Native Habitats (www.calphytos.org), should be prevented using the techniques described on the website, as applicable.

h. To ensure that the revegetation effort is successful all revegetated areas will be maintained and monitored for a minimum of 5 years after replanting is complete, or until success criteria, as defined in the Revegetation Plan, are met.

Geotechnical Section

13. The applicant shall comply with all requirements of the Geotechnical Section prior to the issuance of a grading permit and/or building permit.

14. The provision of the San Mateo County Grading Ordinance shall govern all grading on and adjacent to this site. Per San Mateo County Ordinance Section 8605.5, all equipment used in grading operations shall meet spark arrester and fire-fighting tool requirements, as specified in the California Public Resources Code.

15. No grading activities shall commence until the applicant has been issued a grading permit (issued as the "hard card" with all necessary information filled out and signatures obtained) by the Current Planning Section.

16. The engineer who prepared the approved grading plan shall be responsible for the inspection and certification of the grading as required by Section 8606.2 of the Grading Ordinance. The engineer's responsibilities shall include those relating to non-compliance detailed in Section 8606.5 of the Grading Ordinance.

17. For the final approval of the grading permit, the applicant shall ensure the performance of the following activities within thirty (30) days of the completion of grading:

    a. The engineer shall submit written certification to the Department of Public Works and the Geotechnical Section that all grading has been completed in conformance with the approved plans, conditions of approval, and the Grading Ordinance.

    b. All applicable work during construction shall be subject to observation and approval by the geotechnical consultant. Section II of the Geotechnical Consultant Approval form must be submitted to the County's Geotechnical Engineer and Current Planning Section.

18. The applicant shall implement erosion control measures prior to the beginning of grading or construction operations. Revegetation of denuded areas shall begin immediately upon completion of grading/construction operations.

19. The grading permit "hard card" and the building permit shall be issued at the same time. No grading shall occur until the "hard card" has been issued.

20. Unless approved, in writing, by the Director of Planning and Building, no grading shall be allowed during the winter season (October 1 to April 30) to avoid potential soil erosion.

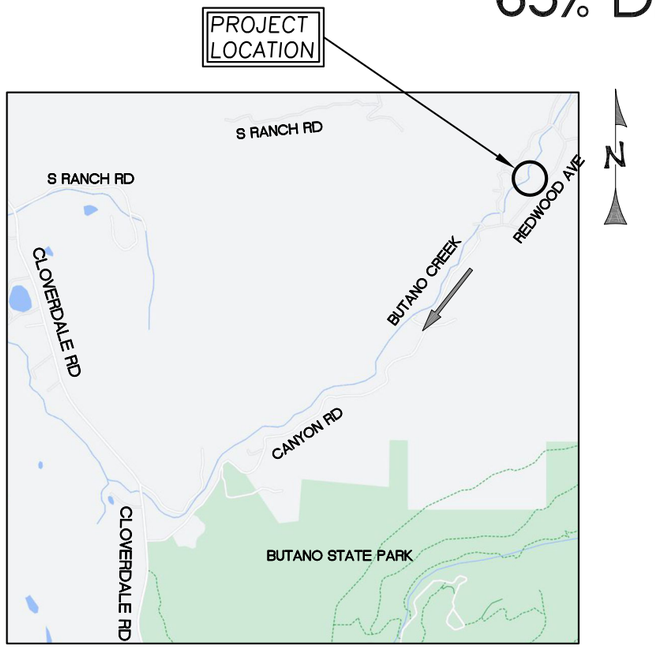
21. The applicant shall submit a letter to the Current Planning Section, a minimum of two weeks prior to commencement of grading, stating the date when grading will begin.

County of San Mateo - Planning and Building Department

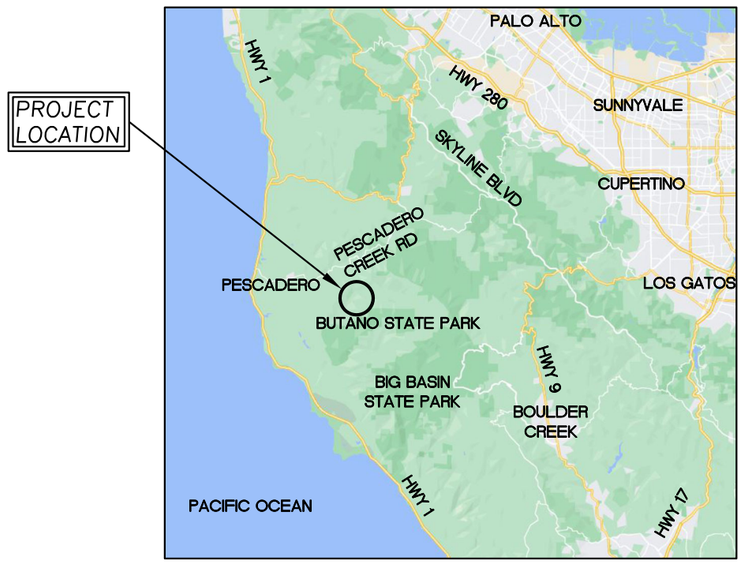
ATTACHMENT B

BUTANO CANYON HABITAT AND STREAMBANK RESTORATION PROJECT

65% DESIGN SUBMITTAL



VICINITY MAP
N.T.S. (GOOGLE)



REGIONAL MAP
N.T.S. (GOOGLE)

GENERAL NOTES

1. TOPOGRAPHIC MAPPING WAS PERFORMED BY:
   WATERWAYS CONSULTING, INC.
   509A SWIFT STREET
   SANTA CRUZ, CA 95060
   SURVEY DATES; SEPTEMBER 12, 2019, MARCH 14 2024, & MAY 14, 2024.
2. ELEVATION DATUM: AN ASSUMED ELEVATION OF 1000.00' WAS ESTABLISHED AT SURVEY CONTROL POINT #1 (MAG NAIL) SHOWN ON SHT. C2.
3. BASIS OF BEARINGS: AN ASSUMED PROJECT AZIMUTH BETWEEN POINTS #1 AND #2, AS SHOWN ON SHT. C2.
4. CONTOUR INTERVAL IS ONE FOOT. ELEVATIONS AND DISTANCES SHOWN ARE IN DECIMAL FEET.
5. THIS IS NOT A BOUNDARY SURVEY. PROPERTY LINES WERE COMPILED FROM RECORD INFORMATION. THE LOCATION OF THESE LINES IS SUBJECT TO CHANGE, PENDING THE RESULTS OF A COMPLETE BOUNDARY SURVEY.
6. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE 2023 EDITION OF THE STATE OF CALIFORNIA STANDARD SPECIFICATIONS, ISSUED BY THE DEPARTMENT OF TRANSPORTATION (HEREAFTER REFERRED TO AS "STANDARD SPECIFICATIONS").
7. THESE DESIGNS ARE INCOMPLETE WITHOUT THE FINAL STAMPED TECHNICAL SPECIFICATIONS PREPARED BY WATERWAYS CONSULTING, INC. REFER TO TECHNICAL SPECIFICATIONS FOR DETAILS NOT SHOWN HEREON.

*** CALL BEFORE YOU DIG ***
CONTACT UNDERGROUND SERVICE ALERT (USA)
PRIOR TO ANY CONSTRUCTION WORK 1-800-642-2444

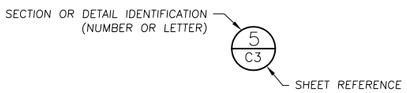
ABBREVIATIONS

AVG.	AVERAGE
CC	CONCRETE
CY	CUBIC YARDS
DIA.	DIAMETER
E	EXISTING
EG	EXISTING GROUND
ELEV.	ELEVATION
DI	DRAINAGE INLET
FG	FINISHED GRADE
FT	FEET
INV	INVERT
MIN	MINIMUM
N	NEW
NIC	NOT IN CONTRACT
N.T.S.	NOT TO SCALE
O.C.	ON CENTER
RC	RELATIVE COMPACTION
RSP	ROCK SLOPE PROTECTION
SPK	SPIKE
SQ.FT.	SQUARE FOOT
T	TREE
T.B.D.	TO BE DETERMINED
TYP	TYPICAL
UNK	UNKNOWN
WSE	WATER SURFACE ELEVATION
YR	YEAR

TREE SPECIES

A	ALDER
M	MAPLE
O	OAK
R	REDWOOD
T	TREE (SPECIES UNKNOWN)

SECTION AND DETAIL CONVENTION



PROJECT DESCRIPTION

THESE DRAWINGS PROVIDE DESIGN DETAILS FOR THE STABILIZATION OF A AN ERODING BANK THAT HAS BEGUN TO THREATEN AN EXISTING RESIDENCE ALONG BUTANO CREEK IN SAN MATEO COUNTY, CALIFORNIA.

WORK SHALL CONSIST OF GRADING BACK THE BANK, PLACEMENT OF VEGETATED ROCK SLOPE PROTECTION, GRADING OF A FLOODPLAIN BENCH, AND LARGE WOODY DEBRIS HABITAT ENHANCEMENT.

SHEET INDEX

WATERWAYS CONSULTING INC.
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WWW.WATWAYS.COM

DRAFT
NOT FOR CONSTRUCTION

PREPARED AT THE REQUEST OF:
KATHY MALONEY

COVER

BUTANO CANYON HABITAT AND STREAMBANK RESTORATION PROJECT
65% DESIGN SUBMITTAL

DESIGNED BY: M.W.
DRAWN BY: K.B./B.Z.
CHECKED BY: M.W.
DATE: 12/17/24
JOB NO.: 19-052

BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

C1

LEGEND

- EXISTING CONTOURS (85 / 86)
- EXISTING FLOW LINE
- EXISTING THALWEG
- PARCEL BOUNDARY (APPROX.)
- SURVEY CONTROL POINT (2)
- EXISTING POWERPOLE
- EXISTING TREE (26"R)
- EXISTING STUMP (28"R (STUMP))
- EXISTING TREE TO BE REMOVED (12"A)
- TREE PROTECTION (26"R)
- PROPOSED CLASS X VEGETATED RSP
- PROPOSED CLASS V VEGETATED RSP WITH SOIL CAP
- ACCESS ROUTE
- BOUNDARY FENCE
- LIMITS OF DISTURBANCE
- SLOPE PROTECTION FABRIC

CONTROL POINTS

POINT #	DESCRIPTION	ELEV	NORTHING	EASTING
1	PN	1000.00	5000.00	5000.00
2	RBR	1005.05	5148.88	5000.00
3	RBR	1002.15	5173.88	4932.43
4	SPK	976.68	5004.27	4895.06
5	SPK	976.28	4995.02	4956.70
6	SPK	976.18	4957.77	4985.59
7	SPK	976.91	4866.42	5000.15
8	SPK	999.17	4975.17	5073.92
9	SPK	998.84	4935.46	5026.37
10	SPK	991.59	5040.67	4837.17
20	SPIKE	999.00	4956.04	5022.04
21	REBAR	996.21	4895.37	5057.58
22	REBAR	1008.47	5118.26	5069.93
401	SPK	975.29	4862.25	5156.11
1000	SPK	975.31	4862.25	5156.08
1001	SPK	976.91	4866.42	5000.15
2001	SPIKE	1004.33	5140.67	5000.06

REDWOOD AVE

TREE PROTECTION (2 / C7)

BOUNDARY FENCE (4 / C7)

ACCESS ROUTE

STAGING AREA

SILT FENCE
ESA FENCE

FLOODPLAIN BENCH

SLOPE PROTECTION FABRIC (1 / C7)

LIMITS OF DISTURBANCE

PARCEL BOUNDARY FROM RECORD INFORMATION (APPROX.)

089042050 089052050 089052060 089042999 089042060 089042070 089052070 089042040 089042030

BUTANO CK

(E) WATER METER BOXES
(E) GRAVEL DRIVEWAY
(E) FLOWLINE ACROSS DRIVEWAY
(E) PROPANE TANK
(E) ACCUMULATION OF WOOD, BRANCHES, AND DEBRIS
(E) RESIDENCE
(E) DECK
(E) CONCRETE PATIO
(E) SHOP
(E) SHED
(E) FALLEN 60" DIA. REDWOOD
(E) NEIGHBORING DECK
(E) FALLEN 16" DIA. ALDER

PROJECT AZIMUTH

ACCESS, STAGING, AND EROSION CONTROL PLAN
SCALE: 1" = 20'

WATERWAYS CONSULTING INC.
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DRAFT
NOT FOR CONSTRUCTION

PREPARED AT THE REQUEST OF:
KATHY MALONEY

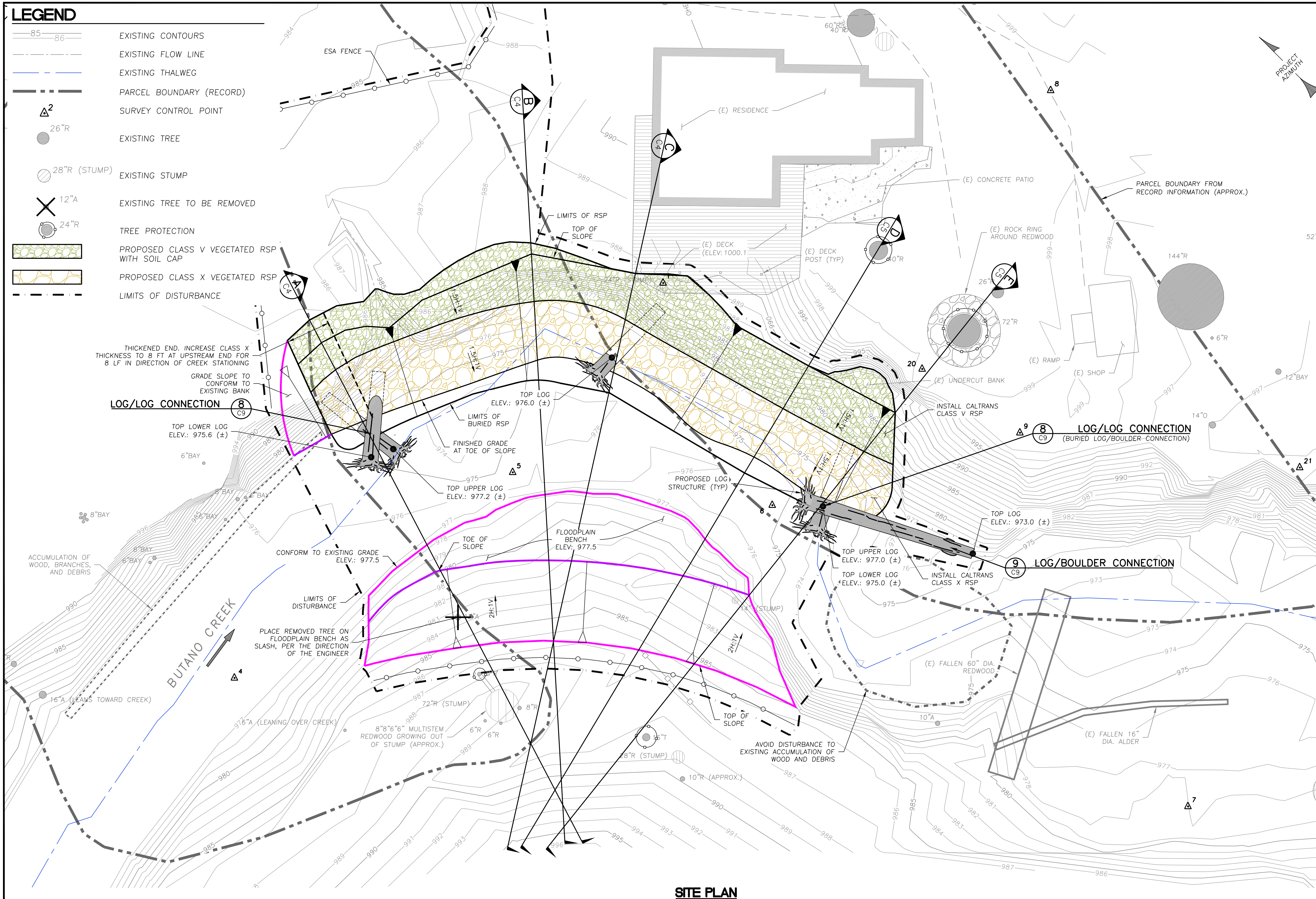
ACCESS, STAGING, AND EROSION CONTROL PLAN

BUTANO CANYON HABITAT AND STREAMBANK RESTORATION PROJECT

65% DESIGN SUBMITTAL

DESIGNED BY:	M.W.
DRAWN BY:	K.B./B.Z.
CHECKED BY:	M.W.
DATE:	12/17/24
JOB NO.:	19-052

BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"


LEGEND
EXISTING CONTOURS
EXISTING FLOW LINE
EXISTING THALWEG
PARCEL BOUNDARY (RECORD)
SURVEY CONTROL POINT
EXISTING TREE
EXISTING STUMP
EXISTING TREE TO BE REMOVED
TREE PROTECTION
PROPOSED CLASS V VEGETATED RSP WITH SOIL CAP
PROPOSED CLASS X VEGETATED RSP
LIMITS OF DISTURBANCE
ESA FENCE
(E) RESIDENCE
(E) CONCRETE PATIO
PARCEL BOUNDARY FROM RECORD INFORMATION (APPROX.)
LIMITS OF RSP
TOP OF SLOPE
(E) DECK (ELEV: 1000.1)
(E) DECK POST (TYP)
(E) ROCK RING AROUND REDWOOD
(E) RAMP
(E) SHOP
(E) UNDERCUT BANK
PROJECT AZIMUTH
THICKENED END. INCREASE CLASS X THICKNESS TO 8 FT AT UPSTREAM END FOR 8 LF IN DIRECTION OF CREEK STATIONING
GRADE SLOPE TO CONFORM TO EXISTING BANK
LOG/LOG CONNECTION 8 C9
TOP LOWER LOG ELEV.: 975.6 (±)
TOP LOG ELEV.: 976.0 (±)
LIMITS OF BURIED RSP
FINISHED GRADE AT TOE OF SLOPE
TOP UPPER LOG ELEV.: 977.2 (±)
PROPOSED LOG STRUCTURE (TYP)
INSTALL CALTRANS CLASS V RSP
LOG/LOG CONNECTION 8 C9 (BURIED LOG/BOULDER CONNECTION)
TOP LOG ELEV.: 973.0 (±)
TOP UPPER LOG ELEV.: 977.0 (±)
TOP LOWER LOG ELEV.: 975.0 (±)
INSTALL CALTRANS CLASS X RSP
LOG/BOULDER CONNECTION 9 C9
ACCUMULATION OF WOOD, BRANCHES, AND DEBRIS
CONFORM TO EXISTING GRADE ELEV.: 977.5
TOE OF SLOPE
FLOODPLAIN BENCH ELEV.: 977.5
LIMITS OF DISTURBANCE
PLACE REMOVED TREE ON FLOODPLAIN BENCH AS SLASH, PER THE DIRECTION OF THE ENGINEER
BUTANO CREEK
16"A (LEANS TOWARD CREEK)
6"A (LEANING OVER CREEK)
72"R (STUMP)
8"8"6"6" MULTISTEM REDWOOD GROWING OUT OF STUMP (APPROX.)
TOP OF SLOPE
AVOID DISTURBANCE TO EXISTING ACCUMULATION OF WOOD AND DEBRIS
(E) FALLEN 60" DIA. REDWOOD
(E) FALLEN 16" DIA. ALDER
28"R (STUMP)
10"R (APPROX.)
144"R
1.5H:1V
2H:1V

SITE PLAN
SCALE: 1" = 8'

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WWW.WATWAYS.COM

DRAFT
NOT FOR CONSTRUCTION

PREPARED AT THE REQUEST OF:
KATHY MALONEY

SITE PLAN

BUTANO CANYON HABITAT AND STREAMBANK RESTORATION PROJECT

65% DESIGN SUBMITTAL

DESIGNED BY: M.W.
DRAWN BY: K.B./B.Z.
CHECKED BY: M.W.
DATE: 12/17/24
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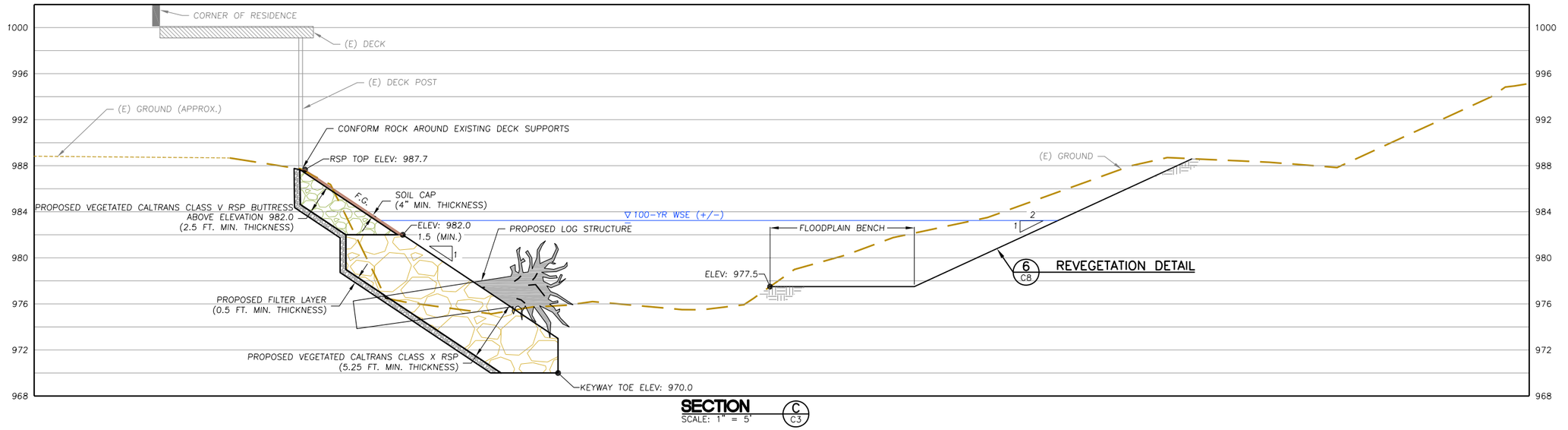
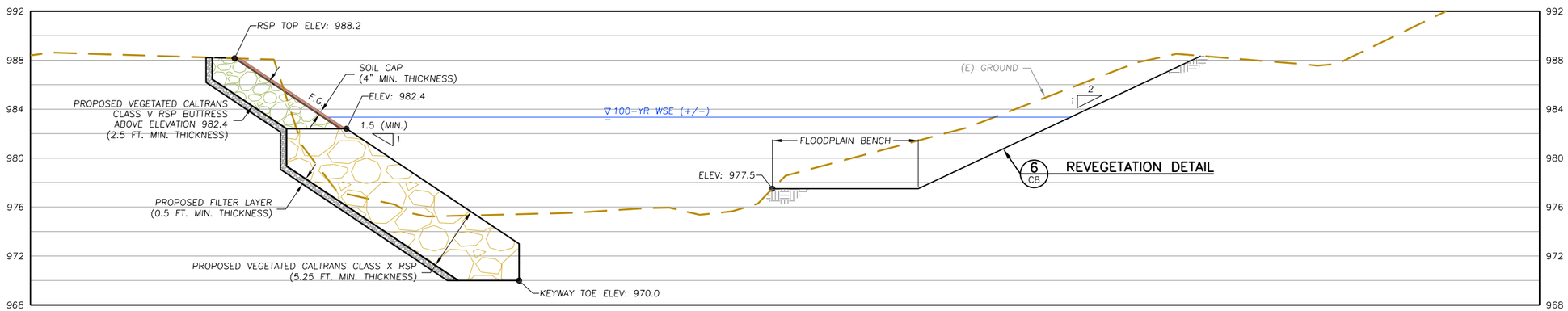
BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

C3



SECTION C (C3)
SCALE: 1" = 5'



SECTION B (C3)
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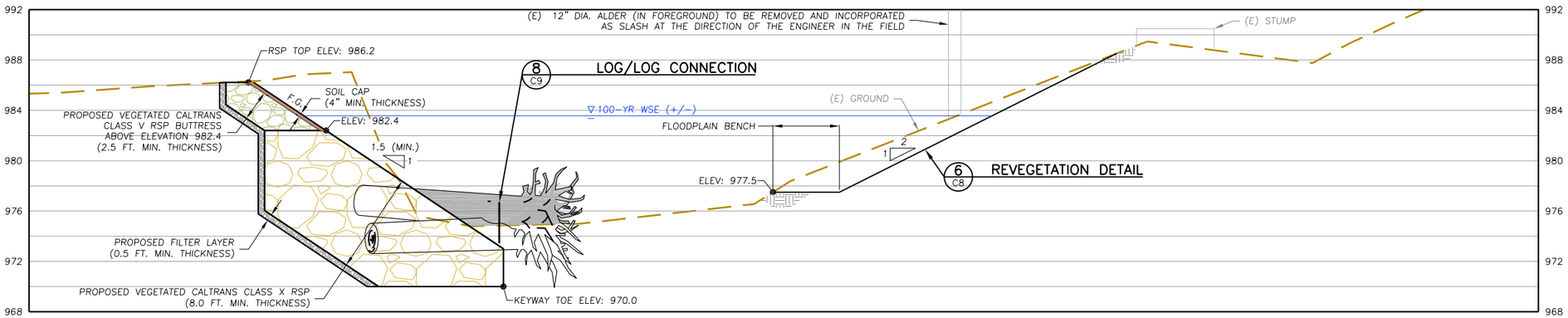

SECTION A (C3)
SCALE: 1" = 5'

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PREPARED AT THE REQUEST OF:
KATHY MALONEY

SECTIONS
(1 OF 2)

BUTANO CANYON HABITAT AND STREAMBANK RESTORATION PROJECT

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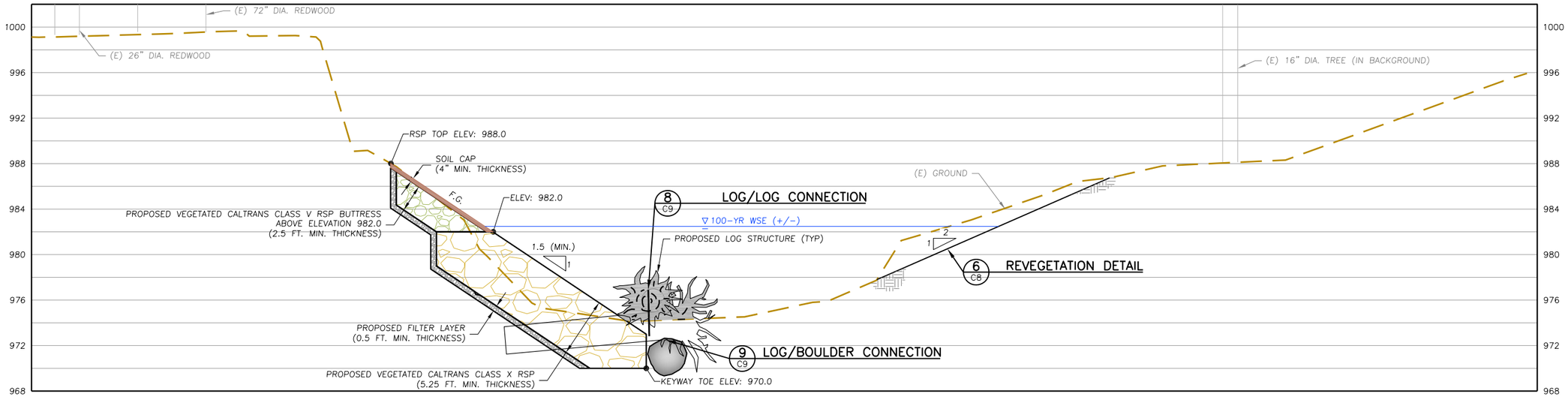
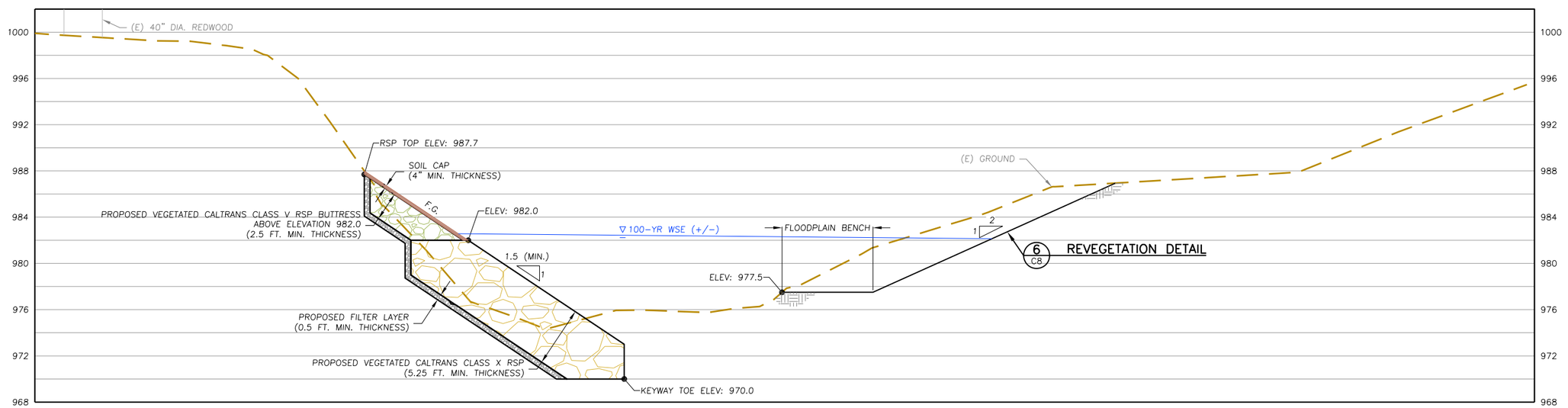
DESIGNED BY:	M.W.
DRAWN BY:	K.B./B.Z.
CHECKED BY:	M.W.
DATE:	12/17/24
JOB NO.:	19-052

BAR IS ONE INCH ON ORIGINAL DRAWING. ADJUST SCALES FOR REDUCED PLOTS
0 1"



SECTION E C3
SCALE: 1" = 5'



SECTION D C3
SCALE: 1" = 5'

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PREPARED AT THE REQUEST OF:
KATHY MALONEY

SECTIONS
(2 OF 2)

BUTANO CANYON HABITAT
AND STREAMBANK
RESTORATION PROJECT

65% DESIGN SUBMITTAL

DESIGNED BY:	M.W.
DRAWN BY:	K.B./B.Z.
CHECKED BY:	M.W.
DATE:	12/17/24
JOB NO.:	19-052

BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

LEGEND

- EXISTING CONTOURS
- EXISTING FLOW LINE
- EXISTING THALWEG
- PARCEL BOUNDARY (RECORD)
- SURVEY CONTROL POINT
- EXISTING TREE
- EXISTING STUMP
- EXISTING TREE TO BE REMOVED
- TREE PROTECTION
- PROPOSED CLASS V VEGETATED RSP WITH SOIL CAP
- PROPOSED CLASS X VEGETATED RSP

SETTLING TANK
DEWATERING DISCHARGE HOSE
PARCEL BOUNDARY FROM RECORD INFORMATION (APPROX.)
DEWATERING PUMP
DIVERSION PIPE
BUTANO CREEK
DIVERSION DAM
FISH BLOCK NETS TO BE INSTALLED ACROSS CHANNEL
(E) RESIDENCE
(E) CONCRETE PATIO
(E) DECK (ELEV: 1000.1
(E) DECK POST (TYP)
(E) ROCK RING AROUND REDWOOD
(E) SHED
(E) RAMP
(E) SHOP
(E) UNDERCUT BANK
(E) FALLEN 60" DIA. REDWOOD
(E) FALLEN 16" DIA. ALDER
DIVERSION DAM TO PREVENT BACKWATERING AND CAPTURE SILT FROM WORK AREA
ACCUMULATION OF WOOD, BRANCHES, AND DEBRIS
PROJECT AZIMUTH

DIVERSION AND DEWATERING PLAN
SCALE: 1" = 10'

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DIVERSION AND DEWATERING PLAN

BUTANO CANYON HABITAT AND STREAMBANK RESTORATION PROJECT
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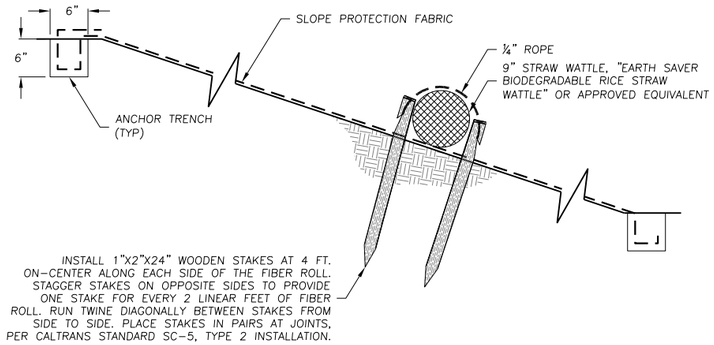
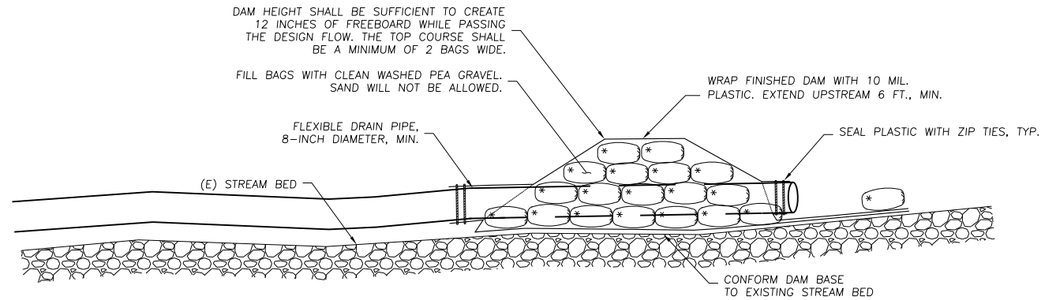
BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

C6 | 6 OF 10

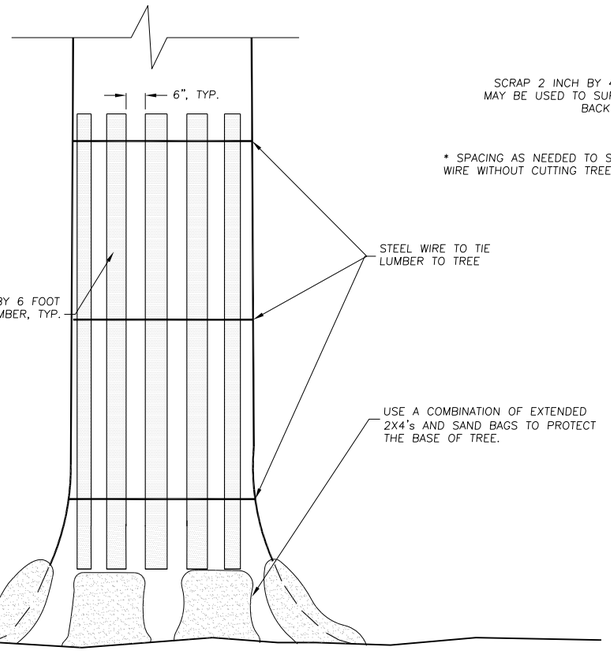


SLOPE PROTECTION (1 / C2)
SCALE: 1" = 1'

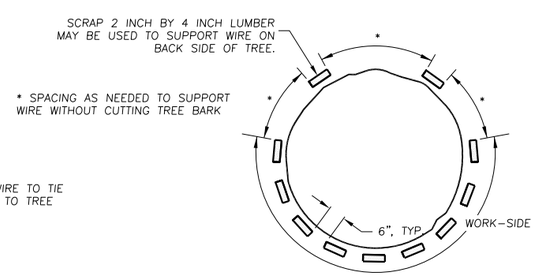


NOTE: CONTRACTOR MAY USE ALTERNATE DAM DETAIL, SUBJECT TO APPROVAL OF THE ENGINEER AND THE PERMITTING AGENCIES.

DIVERSION DAM PROFILE (7 / C6)
SCALE: 1" = 5'



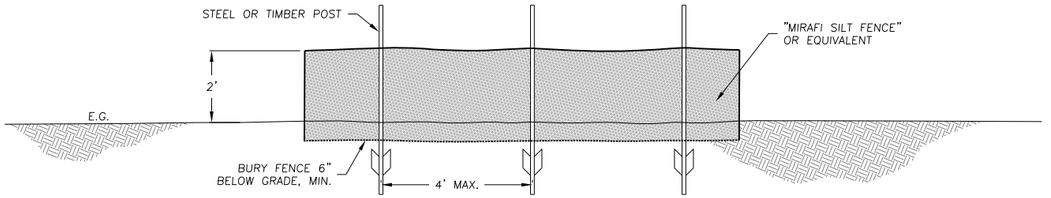
ELEVATION VIEW



PLAN VIEW

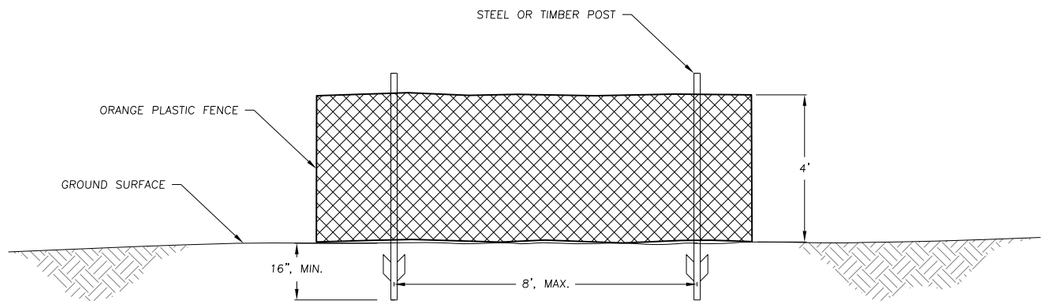
TREE PROTECTION NOTES:
1. THE INTENT OF THIS DETAIL IS TO PROTECT EXISTING TREES FROM DAMAGE DURING CONSTRUCTION.
2. THIS TREE BUMPER DETAIL SHALL BE USED WHEN WORKING WITHIN 10' OF AN EXISTING TREE TO REMAIN, AS DIRECTED BY THE ENGINEER.
3. ALL TREES SHALL BE SAVED UNLESS NOTED OTHERWISE ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
4. LUMBER, WIRE, AND SANDBAGS MAY BE REUSED AT OTHER TREES, AS WORK PROGRESSES.

TREE PROTECTION DETAIL (2 / C2)
SCALE: 1" = 1'



SILT FENCE NOTES
1. DIG TRENCH FIRST, THEN ERECT FENCE IN TRENCH. BACKFILL AND COMPACT SOIL TO SECURE FABRIC.
2. PROVIDE 1' MINIMUM OVERLAP AT FENCE SPLICES.
3. PLACE SILT FENCE PARALLEL WITH SLOPE CONTOURS.
4. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE ACCUMULATED SEDIMENT, TO AN APPROVED AREA.
5. TURN ALL FENCE TERMINATIONS UPSLOPE TO PREVENT FLANKING.

SILT FENCE (3 / C2)
SCALE: 1"=2'



BOUNDARY FENCE (4 / C2)
SCALE: 1"=2'

WATERWAYS CONSULTING INC.
509A SWIFT ST.
SANTA CRUZ, CA 95060
PH:(831)421-9351 // FAX:(888)819-6847
WWW.WATWAYS.COM

DRAFT
NOT FOR CONSTRUCTION

PREPARED AT THE REQUEST OF:
KATHY MALONEY

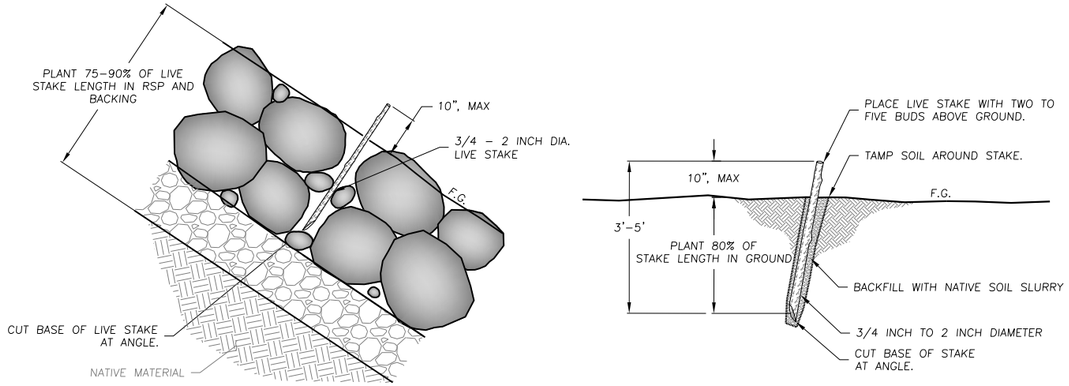
DETAILS (1 OF 3)

BUTANO CANYON HABITAT AND STREAMBANK RESTORATION PROJECT
65% DESIGN SUBMITTAL

DESIGNED BY:	M.W.
DRAWN BY:	K.B./B.Z.
CHECKED BY:	M.W.
DATE:	12/17/24
JOB NO.:	19-052

BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 — 1"

C7 | 7 OF 10



LIVE STAKE (5/C8)
SCALE: N.T.S.

LIVE STAKE NOTES

LIVE STAKES SHALL CONSIST OF LOCALLY–OBTAINED, NATIVE WILLOW SPECIES.

PREPARATION

1. CUT LIVE STAKE CUTTINGS WITH SHARP PRUNING SHEARS OR WITH A SHARP SAW BLADE, WITHOUT CAUSING INJURY TO THE BARK OR SPLITTING OF THE ENDS. ANGLE THE BUTT END OF THE CUTTING AND KEEP THE TOP END SQUARE. REMOVE ALL SIDE BRANCHES WITH SHARP PRUNING SHEARS. CUT FLUSH WITH STAKE, WITHOUT CAUSING INJURY.

2. CUT LIVE STAKES IN LENGTHS FROM 3 TO 5 FEET AND 0.75 TO 2.0 INCHES IN DIAMETER.

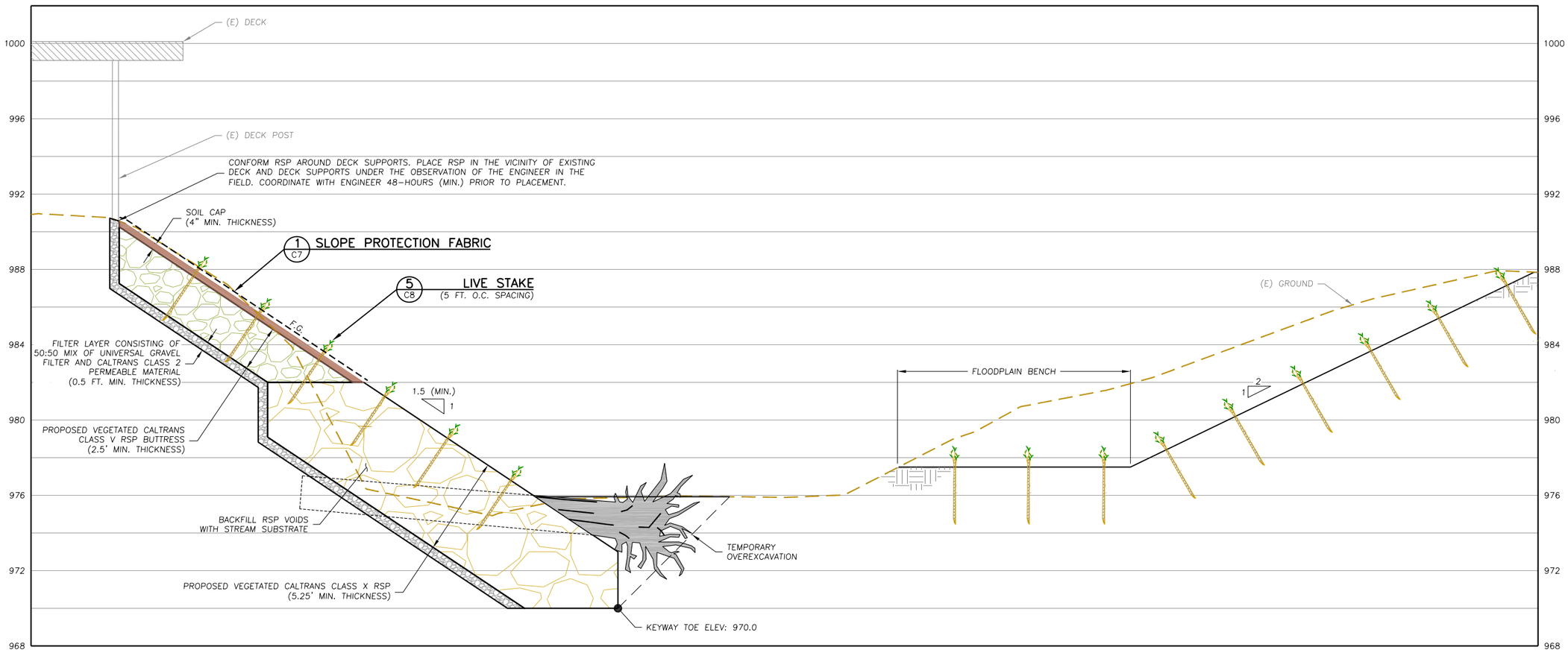
INSTALLATION

1. INSTALL LIVE STAKES WITHIN 6 HOURS OF BEING CUT OR SUBMERGE THEM IN CLEAN FRESH WATER FOR 24 HOURS, MIN. PRIOR TO INSTALLATION. DO NOT SOAK LIVE STAKES FOR MORE THAN 5 DAYS PRIOR TO INSTALLATION.

2. INSTALL LIVE STAKES WITH AT LEAST 2 BUDS AND/OR BUD SCARS ABOVE THE GROUND AFTER PLANTING.

3. INSTALL LIVE STAKES AS DEEP AS POSSIBLE INTO THE SOIL, PREFERABLY WITH 80% OF ITS LENGTH IN CONTACT WITH NATIVE SOIL. USE OF A POWER AUGER OR PILOT BAR MAY HELP WITH INSTALLATION.

4. DO NOT DAMAGE THE BUDS, SPLIT STAKE ENDS, OR STRIP THE BARK DURING INSTALLATION.



TYPICAL REVEGETATION DETAIL (6/C4:C5)
SCALE: 1" = 3'

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DRAFT

NOT FOR CONSTRUCTION

PREPARED AT THE REQUEST OF:
KATHY MALONEY

DETAILS
(2 OF 3)

BUTANO CANYON HABITAT AND STREAMBANK RESTORATION PROJECT

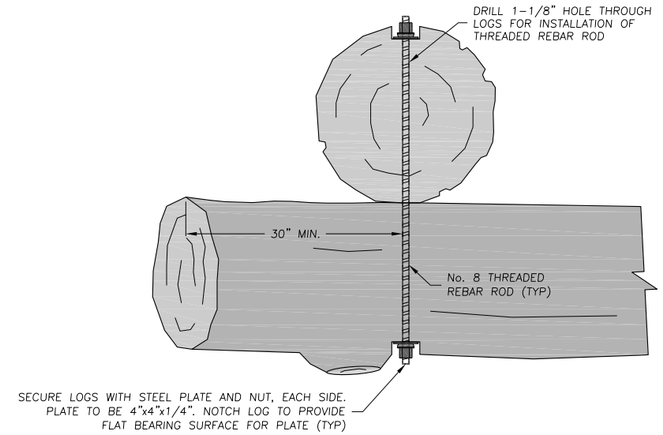
65% DESIGN SUBMITTAL

DESIGNED BY:	M.W.
DRAWN BY:	K.B./B.Z.
CHECKED BY:	M.W.
DATE:	12/17/24
JOB NO.:	19–052

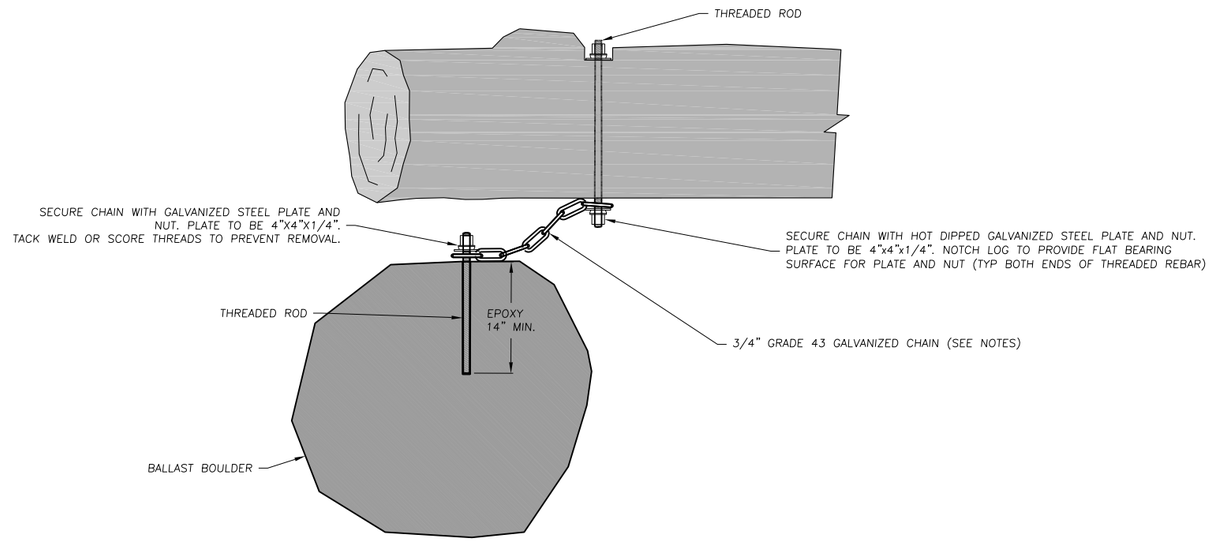
BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

C8

8 OF 10



LOG/LOG CONNECTION 8
SCALE: 1" = 1' C5.C4.25



LOG/BOULDER CONNECTION 9
SCALE: 1" = 1' C5.C4.25

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DRAFT
NOT FOR CONSTRUCTION

PREPARED AT THE REQUEST OF:
KATHY MALONEY

DETAILS
(3 OF 3)

BUTANO CANYON HABITAT AND STREAMBANK RESTORATION PROJECT
65% DESIGN SUBMITTAL

DESIGNED BY:	M.W.
DRAWN BY:	K.B./B.Z.
CHECKED BY:	M.W.
DATE:	12/17/24
JOB NO.:	19-052

BAR IS ONE INCH ON ORIGINAL DRAWING. ADJUST SCALES FOR REDUCED PLOTS
0 1"

GENERAL NOTES

1. PREPARED AT THE REQUEST OF:
   JOHN AND KATHY MALONEY
   301 REDWOOD AVE
   PESCADERO, CA 94060

2. AFFECTED APN: 089-042-060

3. NOTIFY THE ENGINEER AT LEAST 48 HOURS PRIOR TO CONSTRUCTION. THE ENGINEER OR A DESIGNATED REPRESENTATIVE SHALL OBSERVE THE CONSTRUCTION PROCESS, AS NECESSARY TO ENSURE PROPER INSTALLATION PROCEDURES.

4. EXISTING UNDERGROUND UTILITY LOCATIONS:

   A. CALL UNDERGROUND SERVICE ALERT (1-800-642-2444) TO LOCATE ALL UNDERGROUND UTILITY LINES PRIOR TO COMMENCING CONSTRUCTION.

   B. PRIOR TO BEGINNING WORK, CONTACT ALL UTILITIES COMPANIES WITH REGARD TO WORKING OVER, UNDER, OR AROUND EXISTING FACILITIES AND TO OBTAIN INFORMATION REGARDING RESTRICTIONS THAT ARE REQUIRED TO PREVENT DAMAGE TO THE FACILITIES.

   C. EXISTING UTILITY LOCATIONS SHOWN ARE COMPILED FROM INFORMATION SUPPLIED BY THE APPROPRIATE UTILITY AGENCIES AND FROM FIELD MEASUREMENTS TO ABOVE GROUND FEATURES READILY VISIBLE AT THE TIME OF SURVEY. LOCATIONS SHOWN ARE APPROXIMATE. THE CONTRACTOR IS CAUTIONED THAT ONLY ACTUAL EXCAVATION WILL REVEAL THE DIMENSIONS, SIZES, MATERIALS, LOCATIONS, AND DEPTH OF UNDERGROUND UTILITIES.

   D. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE LOCATION AND/OR PROTECTION OF ALL EXISTING AND PROPOSED PIPING, UTILITIES, TRAFFIC SIGNAL EQUIPMENT (BOTH ABOVE GROUND AND BELOW GROUND), STRUCTURES, AND ALL OTHER EXISTING IMPROVEMENTS THROUGHOUT CONSTRUCTION.

   E. PRIOR TO COMMENCING FABRICATION OR CONSTRUCTION, DISCOVER OR VERIFY THE ACTUAL DIMENSIONS, SIZES, MATERIALS, LOCATIONS, AND ELEVATIONS OF ALL EXISTING UTILITIES AND POTHOLE THOSE AREAS WHERE POTENTIAL CONFLICTS ARE LIKELY OR DATA IS OTHERWISE INCOMPLETE.

   F. TAKE APPROPRIATE MEASURES TO PROTECT EXISTING UTILITIES DURING CONSTRUCTION OPERATIONS. CONTRACTOR IS SOLELY RESPONSIBLE FOR THE COST OF REPAIR/REPLACEMENT OF ANY EXISTING UTILITIES DAMAGED DURING CONSTRUCTION.

   G. UPON LEARNING OF THE EXISTENCE AND/OR LOCATIONS OF ANY UNDERGROUND FACILITIES NOT SHOWN OR SHOWN INACCURATELY ON THE PLANS OR NOT PROPERLY MARKED BY THE UTILITY OWNER, IMMEDIATELY NOTIFY THE UTILITY OWNER AND THE COUNTY BY TELEPHONE AND IN WRITING.

   H. UTILITY RELOCATIONS REQUIRED FOR THE CONSTRUCTION OF THE PROJECT FACILITIES WILL BE PERFORMED BY THE UTILITY COMPANY, UNLESS OTHERWISE NOTED.

5. IF DISCREPANCIES ARE DISCOVERED BETWEEN THE CONDITIONS EXISTING IN THE FIELD AND THE INFORMATION SHOWN ON THESE DRAWINGS, NOTIFY THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.

6. ALL TESTS, INSPECTIONS, SPECIAL OR OTHERWISE, THAT ARE REQUIRED BY THE BUILDING CODES, LOCAL BUILDING DEPARTMENTS, OR THESE PLANS, SHALL BE DONE BY AN INDEPENDENT INSPECTION COMPANY. JOB SITE VISITS BY THE ENGINEER DO NOT CONSTITUTE AN OFFICIAL INSPECTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE REQUIRED TESTS AND INSPECTIONS ARE PERFORMED.

7. PROJECT SCHEDULE: PRIOR TO COMMENCEMENT OF WORK, SUBMIT TO THE ENGINEER FOR REVIEW AND APPROVAL A DETAILED CONSTRUCTION SCHEDULE. DO NOT BEGIN ANY CONSTRUCTION WORK UNTIL THE PROJECT SCHEDULE AND WORK PLAN IS APPROVED BY THE ENGINEER. ALL CONSTRUCTION SHALL BE CLOSELY COORDINATED WITH THE ENGINEER SO THAT THE QUALITY OF WORK CAN BE CHECKED FOR APPROVAL. PURSUE WORK IN A CONTINUOUS AND DILIGENT MANNER TO ENSURE A TIMELY COMPLETION OF THE PROJECT.

8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGN, PERMITTING, INSTALLATION, AND MAINTENANCE OF ANY AND ALL TRAFFIC CONTROL MEASURES DEEMED NECESSARY.

9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR GENERAL SAFETY DURING CONSTRUCTION. ALL WORK SHALL CONFORM TO PERTINENT SAFETY REGULATIONS AND CODES. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR FURNISHING, INSTALLING, AND MAINTAINING ALL WARNING SIGNS AND DEVICES NECESSARY TO SAFEGUARD THE GENERAL PUBLIC AND THE WORK, AND PROVIDE FOR THE PROPER AND SAFE ROUTING OF VEHICULAR AND PEDESTRIAN TRAFFIC DURING THE PERFORMANCE OF THE WORK. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR COMPLIANCE WITH ALL APPLICABLE PROVISIONS OF OSHA IN THE CONSTRUCTION PRACTICES FOR ALL EMPLOYEES DIRECTLY ENGAGED IN THE CONSTRUCTION OF THIS PROJECT.

10. CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTION LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF DESIGN PROFESSIONAL. NEITHER THE PROFESSIONAL ACTIVITIES OF CONSULTANT NOR THE PRESENCE OF CONSULTANT OR THEIR OR HER EMPLOYEES OR SUB-CONSULTANTS AT A CONSTRUCTION SITE SHALL RELIEVE THE CONTRACTOR AND ITS SUBCONTRACTORS OF THEIR RESPONSIBILITIES INCLUDING, BUT NOT LIMITED TO, CONSTRUCTION MEANS, METHODS, SEQUENCE, TECHNIQUES OR PROCEDURES NECESSARY FOR PERFORMING, SUPERINTENDING OR COORDINATING ALL PORTIONS OF THE WORK OF CONSTRUCTION IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND APPLICABLE HEALTH OR SAFETY REQUIREMENTS OF ANY REGULATORY AGENCY OR OF STATE LAW.

11. MAINTAIN A CURRENT, COMPLETE, AND ACCURATE RECORD OF ALL AS-BUILT DEVIATIONS FROM THE CONSTRUCTION AS SHOWN ON THESE DRAWINGS AND SPECIFICATIONS, FOR THE PURPOSE OF PROVIDING THE ENGINEER OF RECORD WITH A BASIS FOR THE PREPARATION OF RECORD DRAWINGS.

12. MAINTAIN THE SITE IN A NEAT AND ORDERLY MANNER THROUGHOUT THE CONSTRUCTION PROCESS. STORE ALL MATERIALS WITHIN APPROVED STAGING AREAS.

13. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO BE FULLY INFORMED OF AND TO COMPLY WITH ALL PERMIT CONDITIONS, LAWS, ORDINANCES, CODES, REQUIREMENTS AND STANDARDS, WHICH IN ANY MANNER AFFECT THE COURSE OF CONSTRUCTION OF THIS PROJECT, THOSE ENGAGED OR EMPLOYED IN THE CONSTRUCTION AND THE MATERIALS USED IN THE CONSTRUCTION.

14. PROVIDE, AT CONTRACTOR'S SOLE EXPENSE, ALL MATERIALS, LABOR AND EQUIPMENT REQUIRED TO COMPLY WITH ALL APPLICABLE PERMIT CONDITIONS AND REQUIREMENTS.

15. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION STAKING AND LAYOUT, UNLESS OTHERWISE SPECIFIED.

16. FIELD INSPECTIONS AND OR THE PROVISION OF CONSTRUCTION STAKES DO NOT RELIEVE THE CONTRACTOR OF THEIR SOLE RESPONSIBILITY FOR ESTABLISHING ACCURATE CONSTRUCTED LINES AND GRADES, AS SPECIFIED.

17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND PRESERVATION OF ALL SURVEY MONUMENTS OR PROPERTY CORNERS. DISTURBED MONUMENTS SHALL BE RESTORED BACK TO THEIR ORIGINAL LOCATION AND SHALL BE CERTIFIED BY A REGISTERED CIVIL ENGINEER OR LAND SURVEYOR AT THE SOLE EXPENSE OF THE CONTRACTOR.

18. THE OWNER SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL PROPERTY LINES AND EASEMENTS AND CONFIRMING THAT PROPOSED PROJECT ELEMENTS ARE LOCATED ON OWNED LANDS OR ARE COORDINATED WITH OWNERS AND APPROPRIATE PERMISSIONS ARE GRANTED FOR THE WORK.

19. TREE DIMENSIONS: TRUNK DIAMETERS SHOWN REPRESENT DIAMETER AT BREAST HEIGHT (DBH), MEASURED IN INCHES. DBH IS MEASURED 4.5 FT ABOVE GROUND FOR SINGLE TRUNKS AND TRUNKS THAT SPLIT INTO SEVERAL STEMS CLOSE TO THE GROUND. THE DBH FOR TREES THAT SPLIT INTO SEVERAL STEMS CLOSE TO THE GROUND MAY BE CONSOLIDATED INTO A SINGLE DBH BY TAKING THE SQUARE ROOT OF THE SUM OF ALL SQUARED STEM DBH'S, UNLESS OTHERWISE NOTED. WHERE TREES FORK NEAR BREAST HEIGHT, TRUNK DIAMETER IS MEASURED AT THE NARROWEST PART OF THE MAIN STEM BELOW THE FORK. FOR TREES ON A SLOPE, BREAST HEIGHT IS REFERENCED FROM THE UPPER SIDE OF THE SLOPE. FOR LEANING TREES, BREAST HEIGHT IS MEASURED ON THE SIDE THAT THE TREE LEANS TOWARD. TREES WITH DBH LESS THAN 8" ARE TYPICALLY NOT SHOWN.

    12"P = 12" DBH PINE

20. TREE SPECIES ARE IDENTIFIED WHEN KNOWN. HOWEVER, FINAL DETERMINATION SHOULD BE MADE BY A QUALIFIED BOTANIST. REFER TO THE LEGEND FOR TREE SPECIES SYMBOLS.

21. TREE TRUNK DIMENSIONS MAY BE SHOWN OUT-OF-SCALE FOR PLOTTING CLARITY. CAUTION SHOULD BE USED IN DESIGNING NEAR TREE TRUNKS. THERE ARE LIMITATIONS ON FIELD ACCURACY, DRAFTING ACCURACY, MEDIUM STRETCH AS WELL AS THE "SPREAD" OR "LEANING" OF TREES. REQUEST ADDITIONAL TOPOGRAPHIC DETAIL WHERE CLOSE TOLERANCES ARE ANTICIPATED. INDIVIDUAL TREES ARE NOT TYPICALLY LOCATED WITHIN DRIPLINE CANOPY AREAS SHOWN.

22. APPROXIMATE CENSUS OF TREES TO BE REMOVED:

COMMON NAME	NUMBER
ALDER:	1
TOTAL:	1

23. WILLOWS TO BE REMOVED SHALL BE TRIMMED, TRANSPLANTED, AND UTILIZED IN THE REVEGETATION PLAN.

24. ALL STANDARD STREET MONUMENTS, LOT CORNER PIPES, AND OTHER PERMANENT MONUMENTS DISTURBED DURING THE PROCESS OF CONSTRUCTION SHALL BE REPLACED AND A RECORD OF SURVEY OR CORNER RECORD PER SECTION 8771 OF THE PROFESSIONAL LAND SURVEYORS ACT FILED BEFORE ACCEPTANCE OF THE IMPROVEMENTS BY THE COUNTY OF SAN MATEO. COPIES OF ANY RECORD OF SURVEY OR CORNER RECORDS SHALL BE SUBMITTED TO THE COUNTY.

25. CONTRACTOR IS REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.

26. THE CONTRACTOR SHALL CONFORM TO THE RULES AND REGULATIONS OF THE CONSTRUCTION SAFETY ORDERS OF THE CALIFORNIA DIVISION OF OCCUPATIONAL SAFETY AND HEALTH PERTAINING TO EXCAVATION AND TRENCHES THE CALIFORNIA CODE OF REGULATIONS TITLE 8, SUBCHAPTER 4 CONSTRUCTION SAFETY ORDERS, ARTICLE 6 EXCAVATION.

27. CULTURAL RESOURCES: IN THE EVENT THAT HUMAN REMAINS AND/OR CULTURAL MATERIALS ARE FOUND, ALL PROJECT-RELATED CONSTRUCTION SHALL CEASE WITHIN A 100-FOOT RADIUS. THE CONTRACTOR SHALL, PURSUANT TO SECTION 7050.5 OF THE HEALTH AND SAFETY CODE, AND SECTION 5097.94 OF THE PUBLIC RESOURCES CODE OF THE STATE OF CALIFORNIA, NOTIFY THE SAN MATEO COUNTY CORONER IMMEDIATELY.

EROSION CONTROL NOTES

1. THE EROSION CONTROL PLAN SHOWN IS INTENDED FOR THE SUMMER CONSTRUCTION SEASON (APRIL 15TH TO OCTOBER 15TH). IF THE DRAINAGE FEATURES SHOWN ON THESE DRAWINGS ARE NOT COMPLETED AND DISTURBED AREAS STABILIZED BY OCTOBER 1ST, CONSULT THE ENGINEER FOR ADDITIONAL RAINY SEASON EROSION CONTROL MEASURES.

2. PRIOR TO COMMENCING WORK, PROTECT AREAS TO REMAIN UNDISTURBED WITH ESA FENCING, AS SHOWN ON THE DRAWINGS. ADDITIONAL FENCING MAY BE REQUIRED AT THE DIRECTION OF THE ENGINEER.

3. UTILIZE ONLY THE APPROVED HAUL ROADS AND ACCESS POINTS (AS SHOWN ON THE DRAWINGS) FOR TRANSPORT OF MATERIALS AND EQUIPMENT.

4. BETWEEN OCTOBER 15 AND APRIL 15, PROTECT EXPOSED SOIL FROM EROSION AT ALL TIMES. DURING CONSTRUCTION, SUCH PROTECTION MAY CONSIST OF MULCHING AND/OR PLANTING OF NATIVE VEGETATION OF ADEQUATE DENSITY. BEFORE COMPLETION OF THE PROJECT, STABILIZE ALL EXPOSED SOIL ON DISTURBED SLOPES AGAINST EROSION.

5. MAINTAIN A STANDBY CREW FOR EMERGENCY WORK AT ALL TIMES DURING THE RAINY SEASON (OCTOBER 15 THROUGH APRIL 15). STOCKPILE NECESSARY MATERIALS AT CONVENIENT LOCATIONS TO FACILITATE RAPID CONSTRUCTION OF TEMPORARY DEVICES.

6. CONSTRUCT TEMPORARY EROSION CONTROL MEASURES AS SHOWN ON THIS PLAN AND/OR AS DIRECTED BY THE ENGINEER TO CONTROL DRAINAGE WHICH HAS BEEN AFFECTED BY GRADING AND/OR TRENCHING OPERATIONS.

7. INCORPORATE ADEQUATE DRAINAGE PROCEDURES DURING THE CONSTRUCTION PROCESS TO ELIMINATE EXCESSIVE PONDING AND EROSION.

8. CONSTRUCT AND MAINTAIN EROSION CONTROL MEASURES TO PREVENT THE DISCHARGE OF EARTHEN MATERIALS TO THE CREEK FROM DISTURBED AREAS UNDER CONSTRUCTION AND FROM COMPLETED CONSTRUCTION AREAS.

9. INSTALL ALL PROTECTIVE DEVICES AT THE END OF EACH WORK DAY WHEN THE FIVE-DAY RAIN PROBABILITY EQUALS OR EXCEEDS 50 PERCENT AS DETERMINED FROM THE NATIONAL WEATHER SERVICE FORECAST OFFICE: WWW.SRH.NOAA.GOV.

10. THE EROSION CONTROL DEVICES ON THIS PLAN ARE A SCHEMATIC REPRESENTATION OF WHAT MAY BE REQUIRED. EROSION CONTROL DEVICES MAY BE RELOCATED, DELETED, OR ADDITIONAL ITEMS MAY BE REQUIRED DEPENDING ON THE ACTUAL SOIL CONDITIONS ENCOUNTERED, AT THE DISCRETION OF THE ENGINEER.

11. MAINTAIN ALL EROSION CONTROL DEVICES AND MODIFY THEM AS SITE PROGRESS DICTATES.

12. MONITOR THE EROSION CONTROL DEVICES DURING STORMS AND MODIFY THEM IN ORDER TO PREVENT PROGRESS OF ANY ONGOING EROSION.

13. CLEAN DAILY ANY EROSION OR DEBRIS SPILLING ONTO A PUBLIC STREET.

14. CONTACT THE ENGINEER IN THE EVENT THAT THE EROSION CONTROL PLAN AS DESIGNED REQUIRES ANY SUBSTANTIAL REVISIONS.

15. IMPLEMENT ALL REQUIRED BMP'S PRIOR TO COMMENCING SITE DISTURBING ACTIVITIES.

DUST CONTROL NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTINUOUS DUST CONTROL, THROUGHOUT THE CONSTRUCTION, IN ACCORDANCE WITH THE PERMIT CONDITIONS OF APPROVAL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REGULAR CLEANING OF ALL MUD, DIRT, DEBRIS, ETC., FROM ANY AND ALL ADJACENT ROADS AND SIDEWALKS, AT LEAST ONCE EVERY 24 HOURS WHEN OPERATIONS ARE OCCURRING.

2. ALL DISTURBED AREAS, INCLUDING UNPAVED ACCESS ROADS OR STORAGE PILES, NOT BEING ACTIVELY UTILIZED FOR CONSTRUCTION PURPOSES, SHALL BE EFFECTIVELY STABILIZED OF DUST EMISSIONS USING WATER, CHEMICAL STABILIZER/SUPPRESSANT, OR VEGETATIVE GROUND COVER.

3. ALL GROUND-DISTURBING ACTIVITIES (E.G., CLEARING, GRUBBING, SCRAPING, AND EXCAVATION) SHALL BE EFFECTIVELY CONTROLLED OF FUGITIVE DUST EMISSIONS UTILIZING APPLICATION OF WATER OR BY PRE-SOAKING.

4. ALL MATERIALS TRANSPORTED OFFSITE SHALL BE COVERED OR EFFECTIVELY WETTED TO LIMIT DUST EMISSIONS.

5. FOLLOWING THE ADDITION OF MATERIALS TO, OR THE REMOVAL OF MATERIALS FROM, THE SURFACES OF OUTDOOR STORAGE PILES, SAID PILES SHALL BE EFFECTIVELY STABILIZED OF FUGITIVE DUST EMISSIONS UTILIZING SUFFICIENT WATER OR CHEMICAL STABILIZER/SUPPRESANT.

6. DISTURBED AREAS SHALL BE SEEDED PRIOR TO OCTOBER 15TH OR EARLIER AS REQUIRED BY THE APPLICABLE PERMIT CONDITIONS.

EARTHWORK NOTES

1. ALL GRADING SHALL COMPLY WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL INVESTIGATION, AND WITH THE APPLICABLE REQUIREMENTS OF THE SAN MATEO COUNTY GRADING ORDINANCE. REFER TO GEOTECHNICAL INVESTIGATION REPORT BY:

   CMAG ENGINEERING, INC.
   P.O. BOX 640
   APTOS, CA 95001
   (831) 475-1411
   JOB No. 19-140-SM

   PRIOR TO PERFORMING ANY WORK, THE CONTRACTOR SHALL BE FAMILIAR WITH THE GEOTECHNICAL INVESTIGATION. IN THE EVENT OF DISCREPANCY BETWEEN THE REPORT AND THE NOTES HEREIN, THE REPORT SHALL PREVAIL. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VISIT THE SITE AND MAKE THEIR OWN INTERPRETATIONS WITH REGARD TO MATERIALS, METHODS AND EQUIPMENT NECESSARY TO PERFORM THE WORK REQUIRED FOR THIS PROJECT.

2. GRADING SUMMARY:
   TOTAL CUT VOLUME = 150 CY
   TOTAL FILL VOLUME = 25 CY
   NET (CUT/FILL) = 125 CY

   THE ABOVE QUANTITIES ARE APPROXIMATE IN-PLACE VOLUMES CALCULATED AS THE DIFFERENCE BETWEEN EXISTING GROUND AND THE PROPOSED FINISH GRADE, PREPARED FOR PERMITTING PURPOSES ONLY. EXISTING GROUND IS DEFINED BY THE TOPOGRAPHIC CONTOURS AND/OR SPOT ELEVATIONS ON THE PLAN. PROPOSED FINISH GRADE IS DEFINED AS THE DESIGN SURFACE ELEVATION OF WORK TO BE CONSTRUCTED. THE QUANTITIES HAVE NOT BEEN FACTORED TO INCLUDE ALLOWANCES FOR BULKING, CLEARING AND GRUBBING, SUBSIDENCE, SHRINKAGE, OVER EXCAVATION, AND RECOMPACTION, UNDERGROUND UTILITY AND SUBSTRUCTURE SPOILS AND CONSTRUCTION METHODS.

   THE CONTRACTOR SHALL PERFORM AN INDEPENDENT EARTHWORK ESTIMATE FOR THE PURPOSE OF PREPARING BID PRICES FOR EARTHWORK. THE BID PRICE SHALL INCLUDE COSTS FOR ANY NECESSARY IMPORT AND PLACEMENT OF EARTH MATERIALS OR THE EXPORT AND PROPER DISPOSAL OF EXCESS OR UNSUITABLE EARTH MATERIALS.

3. PRIOR TO COMMENCING WORK, PROTECT ALL SENSITIVE AREAS TO REMAIN UNDISTURBED WITH TEMPORARY FENCING, AS SHOWN ON THE DRAWINGS, AS SPECIFIED, OR AS DIRECTED BY THE ENGINEER.

4. DO NOT DISTURB AREAS OUTSIDE OF THE DESIGNATED LIMITS OF DISTURBANCE, UNLESS AUTHORIZED IN WRITING BY THE ENGINEER. THE COST OF ALL ADDITIONAL WORK ASSOCIATED WITH RESTORATION AND REVEGETATION OF DISTURBED AREAS OUTSIDE THE DESIGNATED LIMITS OF DISTURBANCE, AS SHOWN ON THE DRAWINGS, SHALL BE BORNE SOLELY BY THE CONTRACTOR.

5. REMOVE ALL EXCESS SOILS TO AN APPROVED DUMP SITE OR DISPOSE OF ON SITE AT A LOCATION TO BE APPROVED BY THE ENGINEER, IN A MANNER THAT WILL NOT CAUSE EROSION.

6. CLEARING AND GRUBBING, SUBGRADE PREPARATION AND EARTHWORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 17 & 19 OF THE STANDARD SPECIFICATIONS, THESE DRAWINGS, AND THE TECHNICAL SPECIFICATIONS.

7. PRIOR TO STARTING WORK ON THE PROJECT, SUBMIT FOR ACCEPTANCE BY THE ENGINEER A HAZARDOUS MATERIALS CONTROLS AND SPILL PREVENTION PLAN. INCLUDE PROVISIONS FOR PREVENTING HAZARDOUS MATERIALS FROM CONTAMINATING SOIL OR ENTERING WATER COURSES, AND ESTABLISH A SPILL PREVENTION AND COUNTERMEASURE PLAN.

8. UNLESS AUTHORIZED BY THE GEOTECHNICAL ENGINEER, THE FOLLOWING MATERIALS SHALL NOT BE INCORPORATED INTO THE WORK:

   A. ORGANIC MATERIALS SUCH AS PEAT, MULCH, ORGANIC SILT OR SOD.
   B. SOILS CONTAINING EXPANSIVE CLAYS.
   C. MATERIAL CONTAINING EXCESSIVE MOISTURE.
   D. POORLY GRADED COURSE MATERIAL
   E. PARTICLE SIZES IN EXCESS OF 6 INCHES.
   F. MATERIAL WHICH WILL NOT ACHIEVE SPECIFIED DENSITY OR BEARING.

9. FINE GRADING ELEVATIONS, CONFORMS, AND SLOPES NOT CLEARLY SHOWN ON THE DRAWINGS SHALL BE DETERMINED BY THE CONTRACTOR IN THE FIELD TO DIRECT DRAINAGE TO PROTECTED DRAINAGE CONTROL STRUCTURES OR NATURAL WATERWAYS IN A MANNER THAT SUPPORTS THE INTENT OF THE DESIGN. ALL FINAL GRADING SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER.

10. THE TOP 6" OF SUBGRADE UNDER ALL PAVED SURFACES SUBJECT TO VEHICULAR USE SHALL BE COMPACTED TO A MINIMUM OF 95% RELATIVE COMPACTION, IN ACCORDANCE WITH ASTM-D1557. ALL OTHER FILL TO BE COMPACTED TO A MINIMUM OF 90% MAXIMUM DENSITY AS DETERMINED BY ASTM-D1557 AND SO CERTIFIED BY TESTS AND REPORTS FROM THE CIVIL ENGINEER IN CHARGE OF THE GRADING CERTIFICATION.

11. SPREAD FILL MATERIAL IN LIFTS OF APPROXIMATELY 8 INCHES, MOISTENED OR DRIED TO NEAR OPTIMUM MOISTURE CONTENT AND RECOMPACTED. THE MATERIALS FOR ENGINEERED FILL SHALL BE APPROVED BY A REGISTERED CIVIL ENGINEER. ANY IMPORTED MATERIALS MUST BE APPROVED BEFORE BEING BROUGHT TO THE SITE. THE MATERIALS USED SHALL BE FREE OF ORGANIC MATTER AND OTHER DELETERIOUS MATERIALS.

12. ALL CONTACT SURFACES BETWEEN ORIGINAL GROUND AND RECOMPACTED FILL SHALL BE EITHER HORIZONTAL OR VERTICAL. ALL ORGANIC MATERIAL SHALL BE REMOVED AND THE REMAINING SURFACE SCARIFIED TO A DEPTH OF AT LEAST 12 INCHES, UNLESS DEEPER EXCAVATION IS REQUIRED BY THE ENGINEER.

ACCESS AND STAGING AREA NOTES

1. USE ONLY THE APPROVED ACCESS POINTS, AS SHOWN ON THE DRAWINGS. STOCKPILE MATERIALS WITHIN AN EXISTING FLAT AND PREVIOUSLY DISTURBED AREA.

2. THE ACCESS PLAN SHOWN ON THE DRAWINGS IS SCHEMATIC. SUBMIT A SITE ACCESS PLAN FOR APPROVAL BY THE ENGINEER, PRIOR TO MOBILIZATION.

3. CONTAIN THE DOWNSLOPE PERIMETER OF STAGING OR STOCKPILE AREAS WITH SILT FENCE.

4. STORE, MAINTAIN AND REFUEL ALL EQUIPMENT AND MATERIALS IN A DESIGNATED PORTION OF THE STAGING AREA.

AIR QUALITY BEST MANAGEMENT PRACTICES

1. ALL EXPOSED SURFACES (E.G., PARKING AREAS, STAGING AREAS, SOIL PILES, GRADED AREAS, AND UNPAVED ACCESS ROADS) SHALL BE WATERED TWO TIMES PER DAY.

2. ALL HAUL TRUCKS TRANSPORTING SOIL, SAND, OR OTHER LOOSE MATERIAL OFF-SITE SHALL BE COVERED.

3. ALL VISIBLE MUD OR DIRT TRACKOUT ONTO ADJACENT PUBLIC ROADS SHALL BE REMOVED USING WET POWER VACUUM STREET SWEEPERS AT LEAST ONCE PER DAY. THE USE OF DRY POWER SWEEPING IS PROHIBITED.

4. ALL VEHICLE SPEEDS ON UNPAVED ROADS SHALL BE LIMITED TO 15 MPH.

5. ALL ROADWAYS, DRIVEWAYS, AND SIDEWALKS TO BE PAVED SHALL BE COMPLETED AS SOON AS POSSIBLE. BUILDING PADS SHALL BE LAID AS SOON AS POSSIBLE AFTER GRADING UNLESS SEEDING OR SOIL BINDERS ARE USED.

6. ALL EXCAVATION, GRADING, AND/OR DEMOLITION ACTIVITIES SHALL BE SUSPENDED WHEN AVERAGE WIND SPEEDS EXCEED 20 MPH.

7. ALL TRUCKS AND EQUIPMENT, INCLUDING THEIR TIRES, SHALL BE WASHED OFF PRIOR TO LEAVING THE SITE.

8. UNPAVED ROADS PROVIDING ACCESS TO SITES LOCATED 100 FEET OR FURTHER FROM A PAVED ROAD SHALL BE TREATED WITH A 6- TO 12-INCH LAYER OF COMPACTED LAYER OF WOOD CHIPS, MULCH, OR GRAVEL.

9. PUBLICLY VISIBLE SIGNS SHALL BE POSTED WITH THE TELEPHONE NUMBER AND NAME OF THE PERSON TO CONTACT AT THE LEAD AGENCY REGARDING DUST COMPLAINTS. THIS PERSON SHALL RESPOND AND TAKE CORRECTIVE ACTION WITHIN 48 HOURS. THE AIR DISTRICT'S GENERAL AIR POLLUTION COMPLAINTS NUMBER SHALL ALSO BE VISIBLE TO ENSURE COMPLIANCE WITH APPLICABLE REGULATIONS.

WATERWAYS CONSULTING INC.
509A SWIFT ST.
SANTA CRUZ, CA 95060
PH:(831)421-9351 // FAX:(888)819-6847
WWW.WATWAYS.COM

DRAFT
NOT FOR CONSTRUCTION

PREPARED AT THE REQUEST OF:
KATHY MALONEY

NOTES

BUTANO CANYON HABITAT AND STREAMBANK RESTORATION PROJECT
65% DESIGN SUBMITTAL

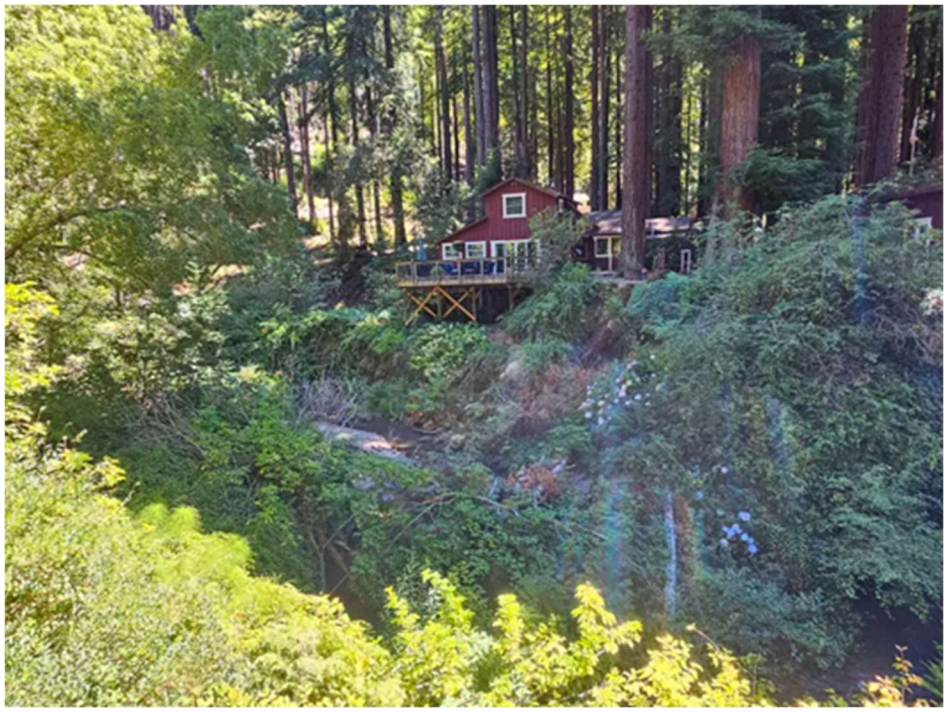
DESIGNED BY:	M.W.
DRAWN BY:	K.B./B.Z.
CHECKED BY:	M.W.
DATE:	1/28/25
JOB NO.:	19-052

BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

County of San Mateo - Planning and Building Department

ATTACHMENT C

Biological Resources Assessment for the Butano Canyon Habitat and Streambank Restoration Project



Prepared for:
John Maloney
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Alamo, CA 94507

Report Prepared by:
Camara Environmental Consulting
Kelli Camara
PO Box 427
Capitola, CA 95010

February 11, 2025

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Section 1 | Introduction

1.1 PURPOSE OF ASSESSMENT

Camara Environmental Consulting (CEC) has prepared this biological resources assessment to describe and map the existing conditions for the 0.17-ac Butano Canyon Habitat and Streambank Restoration Project (Proposed Project) in Butano Canyon, Pescadero, California. This assessment documents and maps existing biological resources, known occurrences of special status species and/or their habitat, and sensitive natural communities present at or adjacent to the 0.17-acre Project Site. It evaluates the potential effects of project activities on sensitive biological resources and identifies mitigation measures that could be employed during project construction to ensure compliance with the California Environmental Quality Act (CEQA).

1.2 PROJECT LOCATION

The Butano Canyon Habitat and Streambank Restoration Project would occur on a property adjacent to Butano Creek that contains a private residence and is located at 301 Redwood Avenue, within the rural community of Butano Canyon (**Figures 1** and **2**). Butano Canyon is located approximately 3.5 miles southeast of the Town of Pescadero in San Mateo County, California. The residence is located on the left (east) streambank of Butano Creek, a tributary to Pescadero Creek, thence the Pacific Ocean.

1.3 PROJECT BACKGROUND AND NEED

The home at 301 Redwood Avenue was originally constructed in the early 1900's. The current owner's family purchased the property in 1962. Since that time, ongoing channel incision (vertical deepening of the channel) has been a concern within the Butano Creek watershed in general. Within the reach inside Butano Canyon, incision and bank erosion appear to have been accelerating in recent years, both upstream of and adjacent to the foundation of the residence at 301 Redwood Avenue.

The purposes of the Proposed Project are to:

- Improve the complexity of in-stream habitat for native fish and other wildlife through the addition of large wood;
- Improve the long-term environmental health of Butano Creek;
- Reduce or prevent additional bank erosion within the treatment reach to limit the downstream impacts of erosion to spawning habitat, public infrastructure and water quality; and
- Protect the existing residence and remaining large redwood trees adjacent to the creek.

While Butano Creek within the Project Site currently provides suitable migratory, spawning, and rearing habitat for Central California Coast (CCC) steelhead, CCC coho salmon, and other wildlife species, the continued input of fine sediment from the eroding left bank and as well as a reach-wide lack of seasonally activated floodplain habitat limits habitat suitability and species recovery of salmonid species by:

- Reducing subsequent sediment/turbidity input to Butano Creek and the Pescadero-Butano Marsh Complex from current levels resulting from active bank erosion;

- Adding log structures intended to improve velocity refuge for juvenile salmonids during high flow events and promote gravel sorting and rearing habitat formation;
- Enhancing floodplain connectivity, as called for in the two NMFS recovery plans as well as the RWQCB (2018) habitat enhancement plan;
- Expanding spawning, rearing, and holding habitat availability; and
- Improving water quality (sediment/turbidity).

Figure 1. Property Location Map
Butano Canyon Habitat and Streambank Restoration Project

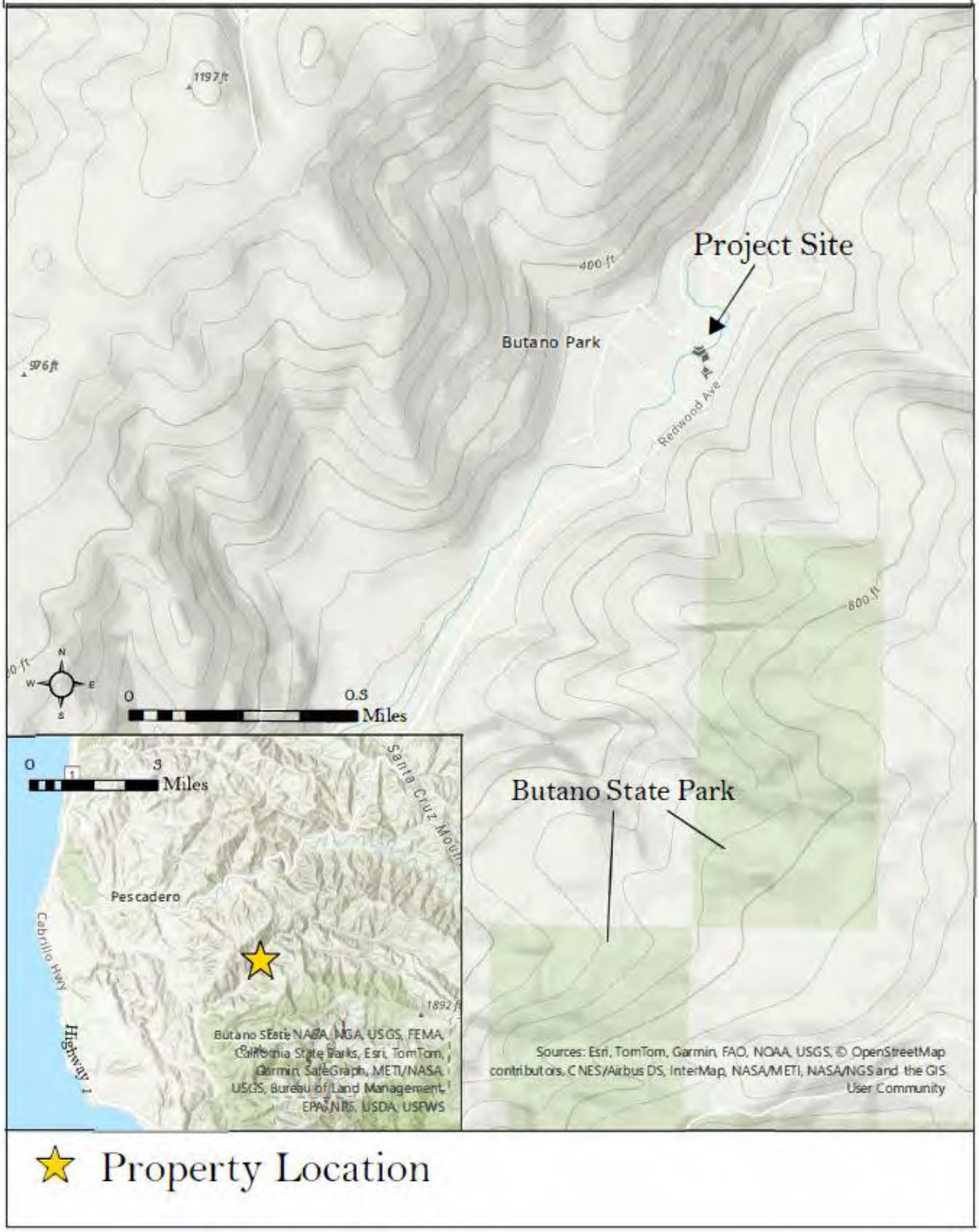


Figure 2. Project Location Map
Butano Canyon Habitat and Streambank Restoration Project

1.4 DESCRIPTION OF PROPOSED PROJECT

1.4.1 Project Construction

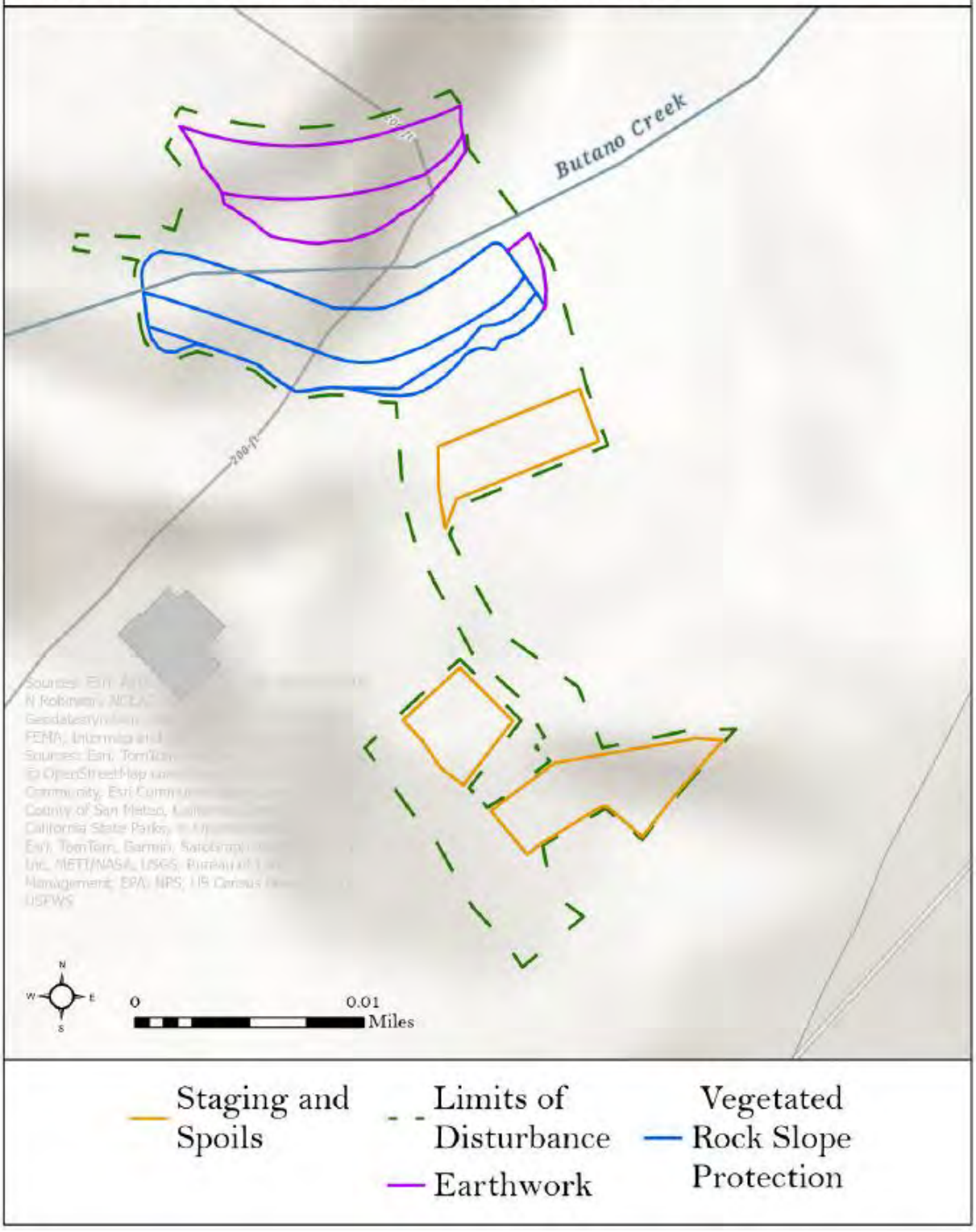
The Proposed Project includes bank stabilization fill on the east bank and excavation/re-shaping of the west bank of Butano Creek to shift the active channel alignment back to an approximate pre-erosion configuration. Existing in-stream woody debris features and pool morphology will be protected during project construction. Work activities include in-stream work and are proposed within a 0.17-acre Project Site shown on **Figure 3**.

Bank stabilization of approximately 100 ft of the left (east) streambank will be achieved through a combination of rock armoring and bioengineering, including incorporation of riparian planting within the rock slope protection (RSP) and three log/rootwad structures at the toe of the slope. On the west (right) streambank, a portion of the vegetated sediment deposit would be excavated and re-shaped to a gentler and more stable 2:1 slope. This will serve to increase the width of the stream channel that carries flow, expand the area of floodplain on the west streambank, and increase the frequency with which this land is inundated by stream flows.

One 12-inch diameter at breast height (dbh) alder will be removed from the floodplain on the west streambank. This tree would be salvaged for re-planting back within the Project Site, if possible. Revegetation efforts throughout the Project Site have been tailored to withstand the anticipated flows on each stream bank, provide stabilization and structural strength, and resist erosion. To the greatest extent possible, native plants from elsewhere on the property will be collected and used in replanting, including willow cuttings, horsetail, sword fern, Douglas iris, nutsedge, and thimbleberry. Willow, dogwood, and big leaf maple will be planted. Additional plants, native to the Butano or Pescadero watersheds, will be used depending on availability, including California bay, California blackberry, wild rose, hairy honeysuckle, Douglas iris, red flowering currant black huckleberry, hazelnut, creek monkey flower, snowberrry, and California bee plant.

To complete the proposed in-channel work, a 230-linear foot (lf) diversion and dewatering system will be implemented in accordance with a Dewatering Plan required in coordination with the San Francisco Regional Water Quality Control Board (RWQCB), Army Corps of Engineers, California Department of Fish and Wildlife, and County of San Mateo

Figure 3. Treatment Areas Map
Butano Canyon Habitat and Streambank Restoration Project



1.4.2 Project Operation

Following completion of the construction of the Proposed Project, flows in Butano Creek will return to pre-erosion conditions. There are no operational activities associated with the Proposed Project.

1.4.3 Project Environmental Best Management Practices

To avoid or minimize potential impacts to environmental resources associated with project construction activities, the project proponent or its designated contractor shall implement the following measures, considered part of the design of the Proposed Project:

- In-channel construction activities will be restricted to the dry season (September 1 to October 15) to minimize potential impacts on water quality resulting from erosion and sediment mobilization into the live stream channel.
- A Dewatering Plan will be implemented that includes, at a minimum, the following procedures:
    - All work performed will be completed in a manner that meets the water quality objectives to ensure the protection of beneficial uses as specified in the Basin Plan applicable to a Project Site.
    - All dewatering and diversion methods will be installed such that natural flow is maintained upstream and downstream of the Project Site.
    - Any temporary dams or diversion will be installed such that the diversion does not cause sedimentation, siltation, or erosion upstream or downstream of the Project Site.
    - Screened pumps shall be used in accordance with CDFW's fish screening criteria, which defers to the NMFS Fish Screening Criteria for Anadromous Salmonids and the Addendum for Juvenile Fish Screen Criteria for Pump Intakes.
    - Prior to dewatering and construction, temporary fish exclusion screens will be installed upstream and downstream of the Project Site.
    - Following construction of the temporary cofferdam, water will be bypassed downstream at an appropriate rate to maintain downstream flows during construction.
    - Sandbags will be placed where necessary to minimize turbidity in the stream.
- The minimum area of disturbance necessary to complete the work shall be used. The area of disturbance shall be clearly identified on the construction drawings and marked with fencing, stakes, and/or flags before ground-disturbing activities begin.
- Removal of vegetation shall be minimized. Soil disturbance activities shall cease if adverse weather conditions substantially increase the likelihood of transporting soil off site.
- Staging for maintenance, fueling and parking will occur 100 feet or more from waterbodies, and secondary containment features will be used. Fuel transfer vehicles will have absorbent pads, pillows, socks, booms or other spill containment materials placed under the fueling operation. Movement of heavy equipment to and from the Project Site shall be restricted to established roadways and equipment shall be stored in established staging areas.
- Petroleum products shall be stored in non-leaking containers.
- All inactive areas (defined as a five-day period) will have all necessary soil stabilization practices in place two days after identification of inactivity and/or before a rain event, whichever comes first.
- Construction shall only occur during daylight hours, no earlier than 8 AM and no later than 8 PM.
- Wildlife observed within the Project Site shall be allowed to leave on their own unharmed.

- Use of straw wattles, silt fences, or other erosion control measures would be used to ensure that constructed-related materials do not reach Butano Creek. All areas of temporary impacts shall be restored to pre-project conditions following construction.
- All construction equipment would have sound-control devices no less effective than those provided on the original equipment; no equipment shall have an unmuffled exhaust system.
- No pets shall be allowed at the Project Site.
- All trash that may attract predators shall be properly contained in covered containers and removed from the work site on a regular basis.
- To prevent disease conveyance among work sites during project implementation, the USFWS-Approved Biologist will ensure that the decontamination protocols described in CDFW, Aquatic Invasive Species Disinfection/ Decontamination Protocols (CDFW 2016 or latest version) will be implemented prior to gear and equipment arriving at or moving between work sites and will be followed at all times. A copy of the code of practice must be available at the Project Site.
- Prior to dewatering and construction, block nets will be installed upstream and downstream of the Project Site and special-status and other native species will be captured and relocated to suitable habitat outside the construction area.
- Prior to initiating construction or grading activities, brightly colored fencing or flagging or other practical means will be erected to demarcate the limits of the project activities, including the boundaries of designated staging areas; ingress and egress corridors; stockpile areas for spoils disposal, soil, and materials; and equipment exclusion zones. Flagging or fencing will be maintained in good repair for the duration of project activities.
- Vehicle traffic will be confined to existing roads and the proposed access route(s). All equipment should be in good condition, with no signs of fuel or oil leaks. Oil, grease, or other fluids should be washed off at designated wash stations prior to entering the construction site. Inspection and evaluation for the potential for fluid leakage should be performed daily during construction.
- To reduce dust, construction vehicles should be speed restricted, as described above, when traveling on nonpaved surfaces. Stockpiled materials susceptible to wind-blown dispersal should be covered with plastic sheeting or other suitable material to prevent movement of the material. During construction, water (e.g., trucks, and portable pumps with hoses) or other approved methods should be used to control fugitive dust. Dust suppression activities should not result in a discharge to waterbodies.

Section 2 | Regulatory Setting

2.1.1 U.S. Fish and Wildlife Service

The U.S. Fish and Wildlife Service (Service) is responsible for the protection of federally listed species under the Endangered Species Act. Critical habitat is defined in Section 3(5)A of the ESA as the specific portions of the geographic area occupied by the species in which physical or biological features essential to the conservation of the species are found and that may require special management considerations or protection. Specific areas outside of the geographic area occupied by the species may also be included in critical habitat designations upon a determination that such areas are essential for the conservation of the species.

2.1.2 National Marine Fisheries Service

The National Marine Fisheries Service (NMFS) is responsible for the protection of certain fish species listed under the federal Endangered Species Act, including anadromous fish species that spend a portion of their life cycle in the ocean. Critical habitat for species regulated by NMFS is defined the same as described above under **Section 2.1.1 '**U.S. Fish and Wildlife Service'.

The Magnuson-Stevens Fishery Conservation and Management Act provides for conservation and management of fishery resources in the U.S., administered by NMFS. This Act establishes a national program intended to prevent overfishing, rebuild overfished stocks, ensure conservation, and facilitate long-term protection through the establishment of Essential Fish Habitat (EFH). EFH consists of aquatic areas that contain habitat essential to the long-term survival and health of fisheries, which may include the water column, certain bottom types, vegetation (e.g., eelgrass (*Zostera* spp.)), or complex structures such as oyster beds. Any federal agency that authorizes, funds, or undertakes action that may adversely affect EFH is required to consult with NMFS.

2.1.3 U.S. Army Corps of Engineers

The U.S. Army Corps of Engineers (USACE) regulates activities within waters of the United States pursuant to Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act (1977, as amended). Section 10 of the Rivers and Harbors Act requires a permit for any work in, over, or under navigable waters of the United States. Navigable waters are defined as those waters subject to the ebb and flow of the tide to the Mean High Water mark (tidal areas) or below the Ordinary High Water mark (freshwater areas). Under Section 404, USACE regulates the placement of fill within waters of the United States.

2.1.4 California Coastal Commission

The California Coastal Commission (CCC), in partnership with coastal cities and counties, regulates development activities, broadly defined as the construction of buildings, divisions of land, and activities that change the intensity of use of land or public access to coastal waters, and/or use of land and water in the coastal zone. California's coastal zone generally extends 1,000 yards inland from the mean high tide line. In significant coastal estuarine habitat and recreational areas, it extends inland to the first major ridgeline or five miles from the mean high tide line, whichever is less. Development activities generally require a Coastal Development Permit (CDP) from either the CCC or the local government if a Local Coastal Program (LCP) has been certified. The CCC or a local government agency may designate areas of rare or

unique biological value, such as wetland and riparian habitat and habitats for special-status species as an "environmentally sensitive habitat area" (ESHA). ESHA's include areas in which plant or animal life or their habitat are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments. Development is restricted within the coastal zone and prohibited within designated ESHA unless the development does not have a significant effect on the resources. Section 30240 of the California Coastal Act (CCA) states that "environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas." The Project Site is located within the coastal zone and thus within the jurisdiction of the Coastal Commission.

2.1.5 California Department of Fish and Wildlife

The California Department of Fish and Wildlife (CDFW) is a trustee agency that has jurisdiction over the fish and wildlife resources within the bed and banks of stream channels under Section 1600 et seq. of the California Fish and Game Code. Under Sections 1600-1603 of the California Fish and Game Code, CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel or bank of any river, stream or lake which supports fish or wildlife. CDFW jurisdictional limits typically extend to the top of bank or to the edge of riparian habitat if such habitat extends beyond top of bank (outer drip line), whichever is greater.

CDFW also regulates the take of special status species listed under the California Endangered Species Act (CESA; CFGC 2050 et seq.). CESA regulations include take protection for threatened and endangered plants on private lands, as well as extending this protection to candidate species that are proposed for listing as threatened or endangered under CESA. The definition of a "take" under CESA ("hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill") only applies to direct impact to individuals, and does not extend to habitat impacts or harassment. CDFW may issue an Incidental Take Permit under CESA to authorize take if it is incidental to otherwise lawful activity and if specific criteria are met. Take of these species is also authorized if the geographic area is covered by a Natural Community Conservation Plan (NCCP), as long as the NCCP covers that activity.

Raptors (e.g., eagles, hawks, and owls) and their nests are protected in California under Fish and Game Code Section 3503.5. Section 3503.5 states that it is "unlawful to take, possess, or destroy the nest or eggs of any such bird except otherwise provided by this code or any regulation adopted pursuant thereto."

CDFW also identifies sensitive natural communities, which include habitats that fulfill special functions or have special values. Natural communities considered sensitive are those identified in local or regional plans, policies, regulations, or by CDFW. CDFW ranks sensitive communities as "threatened" or "very threatened" and keeps records of their occurrences in its California Natural Diversity Database (CNDDB). Natural communities are ranked 1 through 5 in the CNDDB, with those communities ranked globally (G) or statewide (S) as 1 through 3 considered sensitive.

2.1.6 Regional Water Quality Control Board

Water quality in California is governed by the Porter-Cologne Water Quality Control Act and certification authority under Section 401 of the Clean Water Act, as administered by the Regional Water Quality Control Board (RWQCB). The Section 401 water quality certification program allows the State to ensure that activities requiring a Federal permit or license comply with State water quality standards. Water quality certification must be based on a finding that the proposed discharge will comply with the water quality standards contained in the relevant basin plan prepared by a regional water quality control board.

The Porter-Cologne Act requires any person discharging waste or proposing to discharge waste in any region that could affect the quality of the waters of the state to file a report of waste discharge. The RWQCB issues a permit or waiver that includes implementing water quality control plans that take into account the beneficial uses identified in the basin plan. Waters of the State subject to RWQCB regulation extend to the top of bank, as well as isolated water/ wetland features. Should there be no Section 404 nexus (i.e., isolated feature not subject to USACE jurisdiction), a report of waste discharge (ROWD) is filed with the RWQCB. The RWQCB interprets waste to include fill placed into water bodies.

2.1.7 Bay Area Open Space Council

Butano Creek is listed as a Priority 1 Stream (Bay Area Open Space Council, 2019), which include streams and watersheds with existing steelhead populations, available rearing habitat, and current or historic coho populations that must be conserved and/or restored as soon as possible for fish conservation to be successful. The property is included as an *Area Essential to Conservation Goals,* defined as priority lands that promote connectivity and climate resilience and within a *Large Landscape Block,* defined as an important area for providing potential for refugia and migration across the landscape. The property is not a critical habitat linkage (Bay Area Open Space Council, 2019). The project will enhance in-stream habitat for wildlife movement.

2.1.8 Nesting Bird Protections

Section 3503 of the Fish and Game Code states that it is "unlawful 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." Section 3503.5 prohibits the killing, possession, or destruction of any birds in the orders Falconiformes or Strigiformes (birds-of-prey). Section 3511 prohibits take or possession of fully protected birds. Section 3513 prohibits the take or possession of any migratory nongame birds designated under the federal Migratory Bird Treaty Act (MBTA). Section 3800 prohibits take of nongame birds.

Section 3 | Environmental Setting

3.1 SOILS

The NRCS Web Soil Survey (USDA, 2024) was consulted to determine the soil types occurring within or adjacent to the Project Site. Mapped soils within the study area are Butano loam and Hugo and Josephine loams, as described below.

- BuF – Butano loam, 45 to 75 percent slopes, well drained, moderately permeable soils developed from weathered siliceous shales of the Monterey formation. They occur on sloping to steep topography under coniferous forests.
- HvC- Hugo and Josephine loams, 6 to 15 percent slopes, deep, well drained soils that formed in colluvium and residuum weathered from altered sedimentary and extrusive igneous rocks. They occur on broad ridge tops, toe slopes, footslopes, and side slopes of mountains.

3.2 WATERSHED AND GEOGRAPHY

The Project Site is within the Pescadero Creek watershed. The Pescadero Creek Watershed is the largest watershed of San Mateo County and consists of two major subwatersheds, Pescadero Creek and Butano Creek. Butano Creek is a 15-mile-long stream draining runoff from the Santa Cruz Mountains to the Pescadero Marsh and then into the Pacific Ocean. The watershed's two principal streams, Pescadero Creek and Butano Creek, which have their confluence in Pescadero Marsh, drain 81 square miles of the Santa Cruz Mountains (ESA, 2004). The watershed contains steep forested slopes, deep canyons with steep inner gorges, a coastal valley, and rolling hills and grasslands near the coast. Geology and current and historical land uses within the watershed influence Butano Creek and its adjacent vegetation. As noted in ESA (2004), the watershed is comprised of a variety of rock types, including marine sandstones, shale, and mudstones, basalt and other volcanics that have different physical properties that result in a range of susceptibility to erosion.

Section 4 | Methods

4.1 PRELIMINARY DATA GATHERING AND RESEARCH

To generate a list of special status species with the potential to occur within or adjacent to the Project Site, a review of relevant literature was consulted, including California Amphibian and Reptile Species of Special Concern (Thomson *et al*., 2016); California Bird Species of Special Concern (Shuford and Gardali, 2008); *Draft* Mammalian Species of Special Concern in California (Bolster, 1998); and the eBird database (https://ebird.org). Outreach to partners and consultants in the regions, including the San Mateo Resource Conservation District, Sempervirens Fund, CBEC Eco Engineering, and *Alnus* Ecological, working near the Project Site was conducted to identify special-status species occurrences in the surrounding project vicinity.

In addition, a review of relevant databases was conducted, including the CDFW California Natural Diversity Data Base (CNDDB) and Biogeographic Information and Observation System (CNDDB, 2024c); the USFWS Critical Habitat Portal (USFWS, 2024a), National Wetlands Inventory Wetlands Mapper (USFWS, 2024b), USFWS Critical Habitat Mapper (USFWS, 2024a), and Information for Planning and Consultation (IPaC) System (USFWS, 2024c); the United States Department of Agriculture, Natural Resources Conservation Service (USDA, NRCS) Web Soil Survey (USDA, 2024); and the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California (CNPS, 2024). Other sources of information reviewed about the site included aerial photographs, topographic maps, and project plans.

4.2 FIELD SURVEYS

Site observations were made on April 24, August 14, and December 3, 2024, by Kelli Camara; on April 24 and August 14, 2024, by fisheries biologist Mike Podlech; and on September 26, 2024 by bird specialist Gary Kittleson. The purpose of the field surveys was to document existing conditions within the Project Site in terms of sensitive habitat, habitat for or presence of special status plants and wildlife species, and the potential to support jurisdictional wetlands, riparian habitats, and/or waters of the U.S./State. Plant and wildlife species observed in the field were recorded and included in **Attachments C and D**.

The major plant communities within the Project Site were identified during the field surveys, based on the classification system developed by *California Terrestrial Natural Communities* (CDFW, 2024a) and *A Manual of California Vegetation* (Sawyer and Keeler-Wolf, 1995). Modifications to the classification system's nomenclature were made, as necessary, to reflect site conditions and to accurately describe the site's resources. The plant communities were mapped onto the 65% engineering designs, as the Google Earth aerial images do not accurately reveal the vegetative communities, due to the dense canopy cover.

The April, August, and December 2024 field surveys were conducted within the blooming/identification period for most special status plant species with potential to occur in the region; in addition, the suitability of the site to support special status species was determined based on a review of soil conditions, compaction, condition of existing vegetation, and the plant ecologist's knowledge of the field conditions required for the species. All plant species observed were recorded and identified to a level sufficient to determine their rarity. Plant nomenclature follows The *Jepson Manual Vascular Plants of California* (Baldwin *et al*., 2012). The *Annotated Checklist of the Vascular Plants of Santa Cruz County, California* (Neubauer, 2013) also served as a reference.

Section 5 | Results

An inventory of plant and animal species observed during the field survey is included as **Attachments C and D**. Site photos showing conditions observed on the Project Site during the field survey are included in **Attachment B**.

5.1 TERRESTRIAL VEGETATION COMMUNITIES

Most of the Pescadero-Butano watershed, including the Project Site, is heavily wooded, with a redwood-Douglas fir forest overstory. Redwood and Douglas-fir forests (particularly redwood) constitute the riparian vegetation along most of the streams within the Santa Cruz Mountains. The forests are often dominated by coast redwood (*Sequoia sempervirens*) and feature scattered Douglas-fir, which dominate some stands; common hardwoods including Pacific madrone (*Arbutus menziesii*), California bay (*Umbellularia californica*), and tan oak (*Notholithocarpus densiflorus*). The understory features shade-tolerant plants including herbs like redwood sorrel (*Oxalis oregana*), ferns such as sword fern (*Polystichum munitum*) and bracken fern (*Pteridium aquilinum* var. *pubescens*) and some shrubs including shrubs like evergreen huckleberry (*Vaccinium ovatum*).

Based on field observations, the Project Site supports one primary vegetation type: redwood forest and woodland. In the flat areas surrounding the residence, the understory has a high density of redwood sorrel (*Oxalis oregana*). Closer to the riparian corridor, the understory has a higher density of ornamental plants including hydrangea (*Hydrangea* sp.), iris (*Iris* sp.), Persian walnut (*Juglands regia*), and Pittosporum (*Piitosporum* sp.). The riparian corridor within this stream reach also supports, in low density, red alder (*Alnus rubra*), California bay (*Umbellularia californica),* tan oak (*Notholithocarpus densiflorus*), and willow (*Salix* sp.). A habitat map is provided as **Figure 4**, and vegetative alliances are described in detail below.

Vegetation within the Project Site was classified using the communities presented and mapped in the San Mateo Fine Scale Vegetation Map released in 2022 (Golden Gate National Parks Conservancy, 2022). The map adheres to the National Vegetation Classification System (NVC). The Project Site is located in *Sequoia sempervirens* alliance with one (1) sub-alliance, *Sequoia sempervirens/Oxalis oregana* (**Figure 4**). **Attachment C** provides a list of all plants observed in the project area as documented in the wetland delineation completed for compliance with Section 404 of the Clean Water Act, including their wetland indicator status per the US Army Corps of Engineers National Wetland Plant List v3.5 (NWPL, 2020). The Project Site does not support habitat with imperiled status (**Table 1**).

Table 1. Vegetation Types at Project Site

Vegetation Type	Plant Alliance	Plant Sub-Alliance	Sensitive?[1]	State Ranking	California Code
Redwood Forest and Woodland	*Sequoia sempervirens / Oxalis oregana*	*Sequoia sempervirens/Oxalis oregana*	Yes	S5	86.100.13
Redwood Forest and Woodland	*Sequoia sempervirens*	N/A	Yes	S5	86.100.04

[1] As noted in CDFW VegCAMP, natural communities ranked as S1-S3 are considered Sensitive Natural Communities to be addressed in the CEQA environmental review process. In addition, all alliances associated with alliances with State ranks of S1-S3 are also considered Sensitive.

Figure 4. Sensitive Habitat Map
Butano Canyon Habitat and Streambank Restoration Project

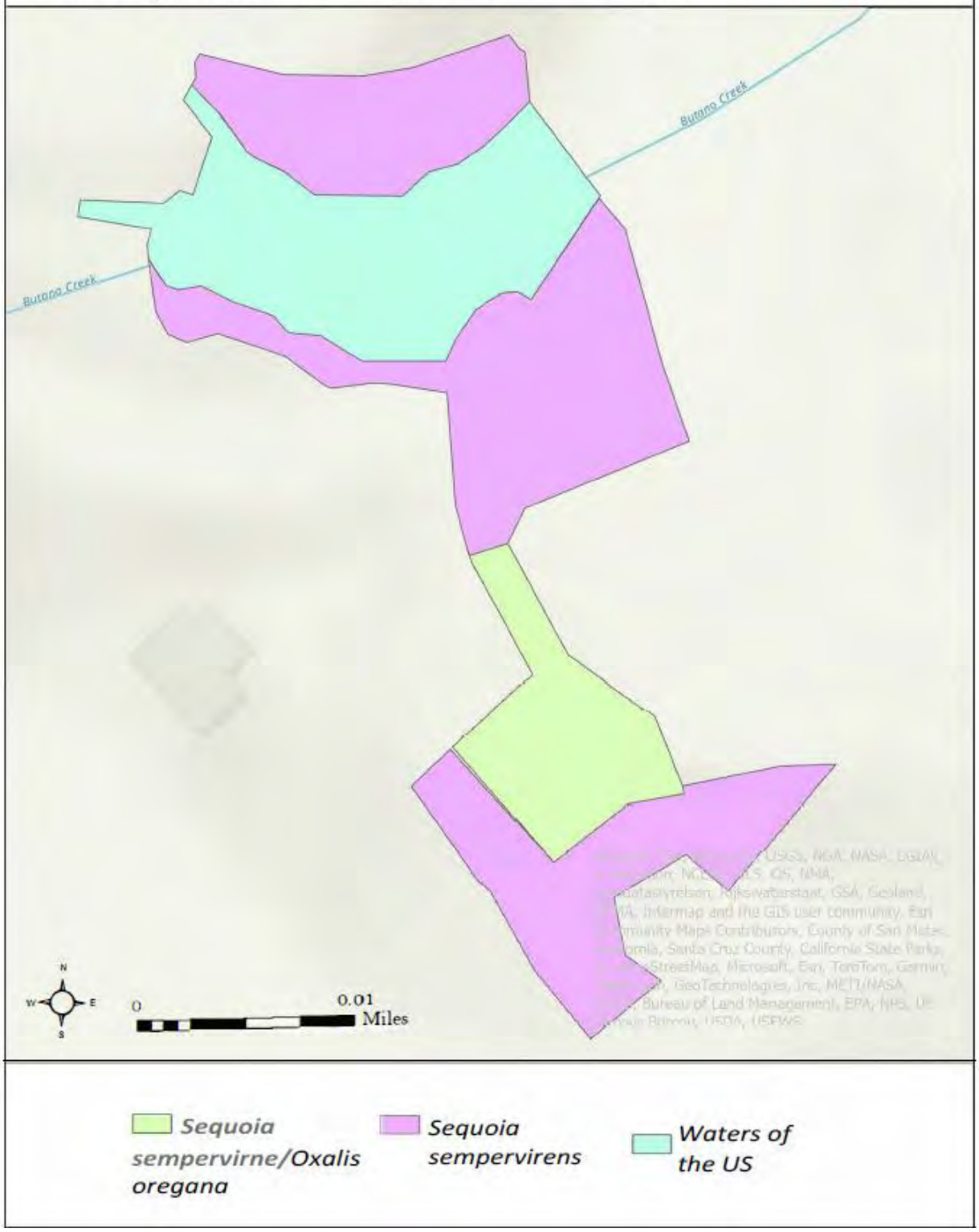
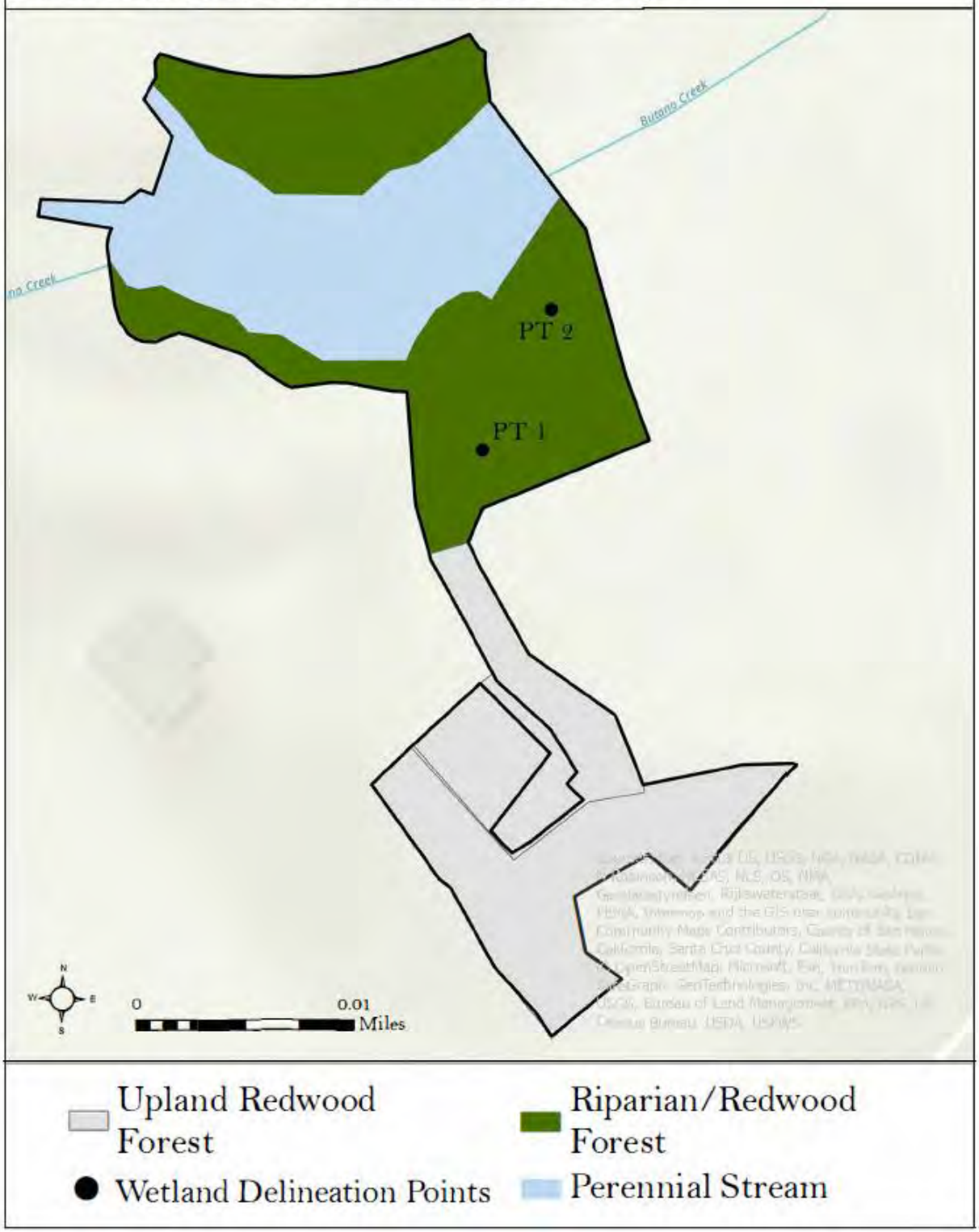


Figure 5. Extent of Riparian Corridor Map
Butano Canyon Habitat and Streambank Restoration Project



5.1.1 Redwood Forest and Woodland (*Sequoia sempervirens / Oxalis oregana*)

The Project Site includes 0.04 acres of redwood forest and woodland habitat with a redwood sorrel dominated understory. This area includes Staging Area 2 and the upper portion of the temporary access route shown on **Figure 3**. Other native understory plants include California hedgenettle (*Stachys bullata*), false Soloman's seal (*Maianthemum racemosum*), sword fern (*Polystichum munitum*), hairy honeysuckle (*Lonicera hispidula*), black huckleberry (*Vaccinium ovatum*), California rose (*Rosa californica*), and trillium (*Trilium* sp.). The character of the redwood forest and woodland community with a redwood sorrel understory is depicted in Photo 2B of **Attachment E**.

5.1.2 Redwood Forest and Woodland (*Sequoia sempervirens*)

The Project Site includes 0.18 acres of redwood forest and woodland habitat. This evergreen forest is dominated by a redwood overstory. The staging area closest to Redwood Ave. (Staging Area 1) is an existing parking and 'pull through' area within the residential footprint. Given the on-going disturbance and dense redwood canopy, this area has approximately 0% vegetated understory and is 100% redwood duff. Likewise, the driveway (to the right of Staging Area 1 and 2) is gravel and thus does not support any vegetation. The lower portion of the temporary access road and Staging Area 3 and the rest of the disconnected floodplain bench adjacent to the home has a native understory of sword fern (*Polystichum munitum*) and California blackberry (*Rubus ursinus*). It has a non-native understory of English ivy (*Hedera helix*).

The east streambank has a native understory of sword fern (*Polystichum munitum*), false Soloman's seal (*Maianthemum racemosum*), California blackberry (*Rubus ursinus*), horsetail (*Equisetum arvense*), nutsedge (*Cyperus rotundus*), and bracken fern (*Pteridium* sp.*).* It also has a non-native understory of English ivy, veldtgrass (*Ehrharta erecta*), iris (*Iris sp*.), garden montbretia (*Crocosmia x crocosmiiflora*), forget me not (*Myosotis sylvatica*), and hydrangea (*Hydrangea* sp.). A few small native trees, including redwood, bay laurel (*Umbellularia californica*) and maple (*Acer* sp.) are dispersed in the area.

The floodplain bench has a native understory of horsetail, nutsedge, and bracken fern, and a non-native understory of English ivy and iris. Two non-native trees, Persian walnut (*Juglands regia*) and pittosporum (*pittosporum* sp.), are also located on the floodplain bench. The character of the redwood forest and woodland is depicted in Photo 7 of **Attachment E**.

5.2 POTENTIALLY-JURISDICTIONAL WATER RESOURCES

Butano Creek is a waterway within USACE jurisdiction to elevations between elevations 978.6 and 979.2 feet above mean sea level, as shown in the project designs (Attachment F) Butano Creek is not subject to Corps regulation under Section 10, but is subject under Section 404. . Butano Creek and the adjoining riparian habitat is a waterway within RWQCB jurisdiction. Butano Creek within the Project Site is also a stream channel subject to CDFW jurisdiction under Section 1600, and thus a Streambed Alteration Agreement must be obtained for the work to be undertaken within the bed, banks, and adjacent riparian corridor of Butano Creek.

5.3 SPECIAL-STATUS SPECIES

For purposes of this assessment, special-status species are defined as follows:

- Special-status plant species include (1) species designated as either rare, threatened, or endangered by CDFW or USFWS and are protected under either CESA (CFGC 2050 et seq.) or ESA (16 USC 1531 et seq.); (2) species that are candidate species being considered or proposed for listing under CESA or ESA; or (3) species that are included on the CDFW Special Vascular Plants, Bryophytes, and Lichens List (CNDDB, 2024b) or species with a CRPR of 1 or 2 in the CNPS Inventory of Rare and Endangered Plants of California (CNPS, 2024).
- Special-status wildlife species include (1) species designated as either rare, threatened, or endangered by the CDFW or USFWS and are protected under either CESA (CFGC, Section 2050 et seq.) or ESA (16 USC 1531 et seq.); (2) species that are candidate species being considered or proposed for listing under CESA or FESA; or (3) species that are included on the CDFW Special Animals List (CNDDB, 2024a).
- All raptor nests are protected by Fish and Game Code (CFGC, Sections 3503.5 and 3515), and all migratory bird nests are protected by the Federal Migratory Bird Treaty Act.
- Special-status or sensitive vegetation communities include (1) those designated as sensitive by CDFW and assigned state ranks of S1-S3 based on their rarity and threats, or (2) those that provide habitat for special-status species (CDFW, 2024a).

Assessments for the potential occurrence of special status species are based upon known ranges, habitat preferences for the species, critical habitat maps, and species occurrence records from the CNDDB and IPAC. The potential for each special status species to occur in the Project Site was evaluated according to the following criteria:

- **Not Expected**. Habitat on and adjacent to the Project Site is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime).
- **Low Potential**. Suitable or marginal habitat may occur in the Project Site, but no CNDDB records of the species have been recorded within twenty years, and records of the species within 5 miles of the Project Site are suspected to be extirpated or potentially misidentified with other species. Species was not identified during surveys (appropriately timed floristic survey for plants). This category may be used for species that are documented, but likely to be only transient through the area during foraging or migratory movements, and no suitable nesting or roosting habitat is present.
- **Moderate Potential**. CNDDB or other documented occurrences have been recorded within 5 miles of the Project Site and suitable habitat is present (suitable nesting or roosting habitat or high-quality foraging areas for bird and bat species).
- **High Potential**. All of the habitat components meeting the species' requirements are present and/or most of the habitat on or adjacent to the Project Site is highly suitable. The species has a high probability of being found in the Project Site.
- **Presumed Present**. CNDDB, IPaC, or other documented occurrences have been recorded within the Project Site and suitable habitat is present (suitable nesting or roosting habitat for bird and bat species). The species was documented from the Project Site during surveys and is presumed extant.

A table assessing the potential for occurrence of those special-status species identified in the research and field visits described in **Section 4** is included as **Attachment A**.

Special-Status Plants

Based on the literature review and search of the CNPS, CNDDB, and IPAC inventories, 52 special-status plant species were evaluated for their likelihood to occur within or immediately adjacent to the Project Site (**Attachment A**). Those included in CNDDB are shown on **Figure 6**. Of the 52 special status species evaluated, none are known to occur or are presumed present and none have been determined to have a moderate or high potential to occur within or immediately adjacent the project site. Those that are assumed unlikely to occur or have a low potential to occur based on the species-specific reasons presented in Table 1; **Attachment A**, are therefore unlikely to be impacted by the project and not discussed further.

While the CNDDB list is exhaustive, most of the species that have been observed on the coast, require specific soil types, such as serpentine or other rock outcrops, or specific habitat characteristics such as sunny openings and seasonal wetlands and/ or require recent disturbance and a limited duff layer, conditions that don't occur on or adjacent to the site.

Special-Status Wildlife

Based on the literature review and search of the CNPS, CNDDB, and IPAC inventories, 49 special-status wildlife species were evaluated for their likelihood to occur within or immediately adjacent to the Project Site (**Attachment A**, Table 2). Those included in CNDDB are shown on **Figure 7**. The quality of in-stream habitat and the adjacent riparian habitat has been impacted by historical land uses in the watershed, current management actions of residents upstream and downstream of the Project Site, and erosion due to downcutting by the stream and unstable banks. The vegetative understory has been modified by the introduction of non-native and ornamental plant species. Despite these anthropogenic impacts, of the 49 special status species evaluated, 8 are known (presumed present) or have been determined to have a moderate or high potential to occur within or immediately adjacent to the Project Site. These are identified in **Table 1** and are discussed below. All other wildlife species are assumed unlikely to occur or to have a low potential to occur based on the species-specific reasons presented in Table 2 of **Attachment A** and are therefore unlikely to be impacted by the project and not discussed further.

Table 1. **Potential for Special-Status Wildlife Species Presence within the Project Site**

Species Common Name	Species Scientific Name	Potential to Occur
CCC Steelhead	*Oncorhynchus mykiss*	Presumed present
CCC Coho salmon	*Oncorhynchus kisutch*	Presumed present
Marbled Murrelet	*Brachyramphus marmoratus*	Presumed present
Pacific lamprey	*Entosphenus tridentatus*	High potential
California giant salamander	*Dicamptodon ensatus*	High potential
California Red-legged frog	*Rana draytonii*	Moderate potential
Santa Cruz black salamander	*Aneides niger*	Moderate potential
Western pond turtle	*Actinemys marmorata*	Moderate potential
Nesting and other protected avian species	*N/A*	Moderate potential

Figure 6. Special Status Plant Species Map
Butano Canyon Habitat and Streambank Restoration Project

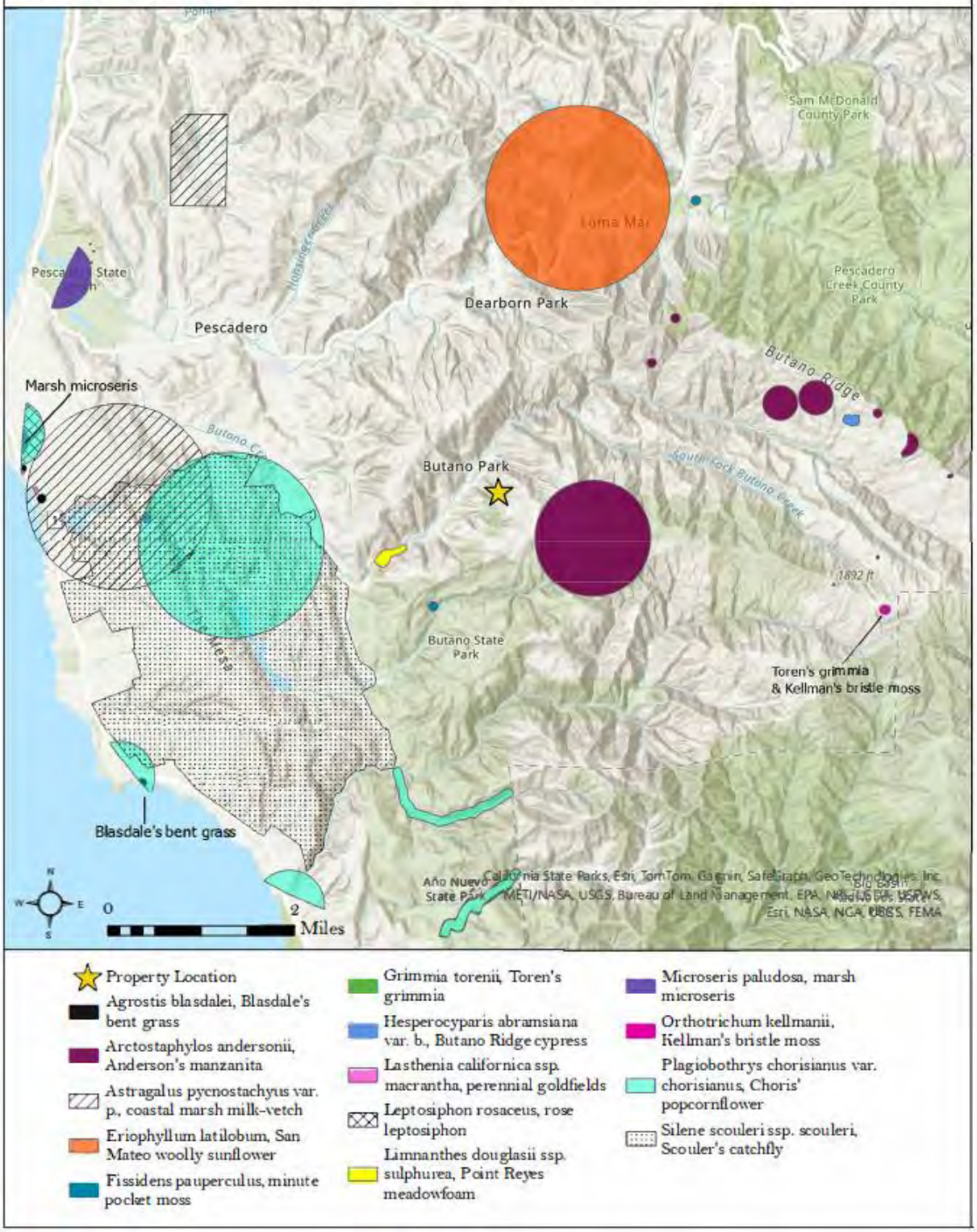
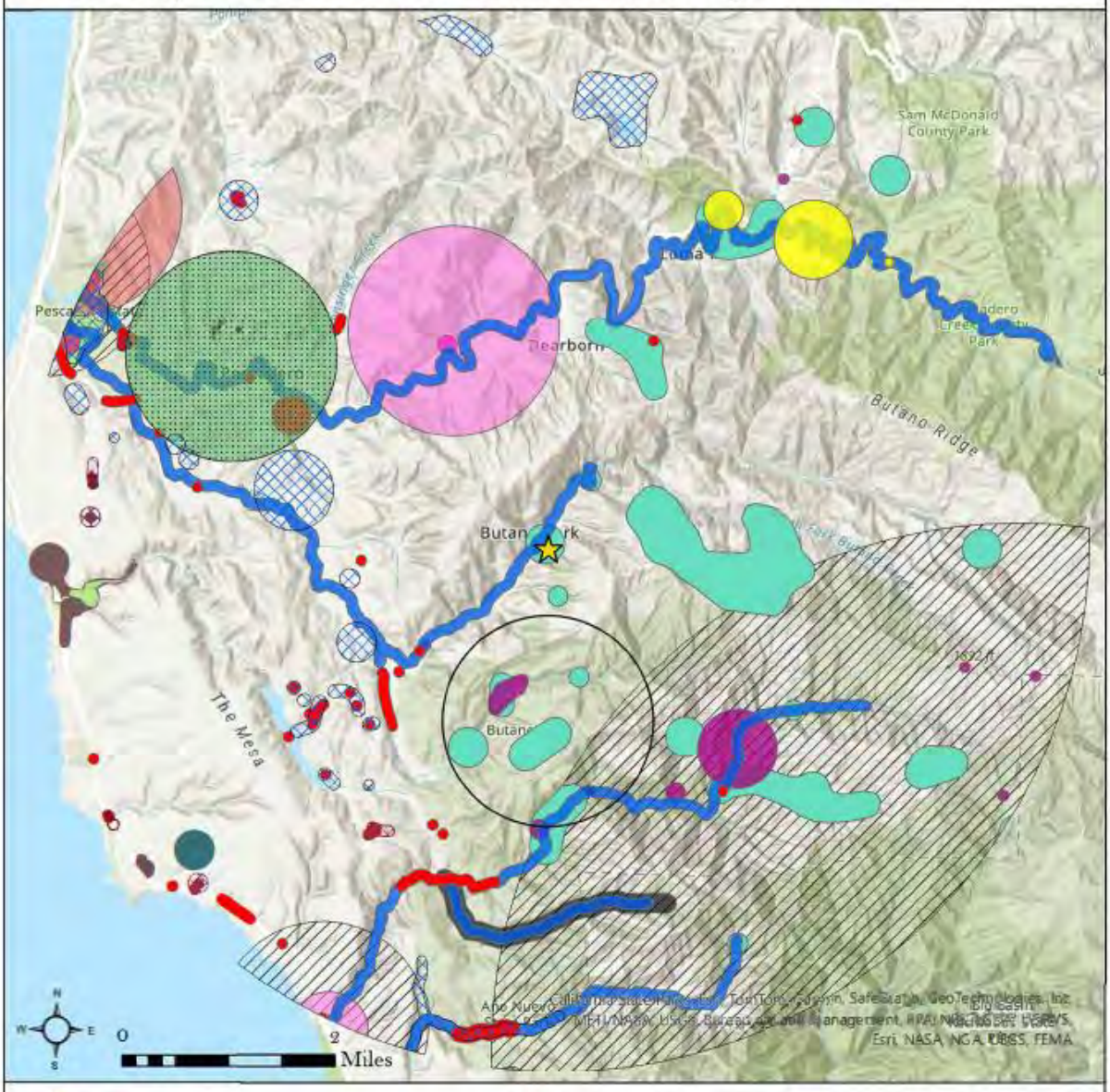


Figure 7. Special Status Wildlife Species Map
Butano Canyon Habitat and Streambank Restoration Project



While the San Francisco garter snake is known to occur in marshes and constructed impoundments in the coastal areas of Pescadero, it would likely only be transient through the project site during foraging or migratory movements, as no suitable breeding or basking habitat is present. As such, its presence in the project area is expected to be rare and infrequent. If a San Francisco garter snake were to be observed during pre-construction surveys or dewatering activities, all work would cease and consultation with the Service would occur.

CCC Steelhead

The CCC steelhead Distinct Population Segment (DPS) is a federal threatened species and includes steelhead in coastal California streams from the Russian River to Aptos Creek, as well as the drainages of Suisun Bay, San Pablo Bay, and San Francisco Bay. Steelhead have consistently been documented throughout the Butano Creek watershed since the 1930s (Titus et al. 2010).

As cited in Podlech (2024), general reviews for steelhead in California document much variation in life history (Shapovalov and Taft 1954; Busby et al. 1996). Although variation occurs in coastal California, steelhead usually live in freshwater for 1 to 2 years in central California, then spend 2 or 3 years in the ocean before returning to their natal stream to spawn. Adult steelhead in watersheds of the central coast of California typically immigrate from the ocean to freshwater between December and April, peaking in January and February. Spawning typically occurs between January and May. Hatching time varies from about three weeks to two months depending on water temperature. The young fish emerge from the redd about two to six weeks after hatching. Juveniles migrate as smolts to the ocean from January through June, with peak emigration occurring in April and May (Shapovalov and Taft 1954).

Several juvenile steelhead were also observed within the Project Site during a habitat assessment conducted on August 14, 2024 (Podlech, 2024). As such, CCC steelhead are known to occur within the project area, including within the Project Site.

CCC Coho Salmon

The CCC coho salmon Evolutionarily Significant Unit (ESU) is federally and State-listed as an endangered species and includes coho salmon populations in streams from Punta Gorda in southern coastal Humboldt County, California, south to Aptos Creek in Santa Cruz County, California, as well as drainages of San Francisco Bay (Podlech, 2024). Coho salmon were largely absent from the overall Pescadero Creek watershed for several decades, with only three hatchery-origin adult coho salmon carcasses observed in Pescadero Creek during a 2014/2015 spawner survey (Jankovitz pers. comm., as cited in Podlech, 2024). No young-of-the-year coho salmon were observed during several subsequent surveys (e.g., Jankovitz 2015; 2016), suggesting that reproduction may have been unsuccessful and that the coho salmon population continued to be functionally extirpated from the Pescadero Creek watershed (Williams et al. 2016). However, in the fall of 2020, the NMFS Southwest Fisheries Science Center (SWFSC) and State and local partners began reintroducing juvenile and adult coho salmon to the watershed under the Southern Coho Salmon Captive Broodstock Program. Since then, coho salmon redds and juveniles have been observed on a number of occasions within Pescadero Creek as well as Butano Creek (Cochran, pers. comm., as cited in Podlech, 2024). Most recently, SMRCD staff observed four juvenile coho salmon in Butano Creek at the Cloverdale Road bridge crossing (located approximately 2.0 miles downstream of the Project Site) during snorkel surveys conducted in late August 2024 (Javier, pers. comm., as cited in Podlech, 2024).

As cited in Podlech (2024), adult coho salmon typically begin the freshwater migration from the ocean to their natal streams after heavy late-fall or winter rains breach the sand bars at the mouths of coastal

streams (Sandercock 1991). Adult migration continues into March, generally peaking in December and January, with spawning occurring shortly after the fish return to the spawning grounds (Shapovalov and Taft 1954). Coho salmon eggs generally incubate for four to eight weeks, depending on water temperature. The newly- hatched fry remain in the gravel from two to seven weeks before emergence (Shapovalov and Taft 1954). Upon emergence from the gravel, coho salmon fry seek out shallow water, usually along stream margins. As they grow, they often occupy habitat at the heads of pools, which generally provide an optimum mix of high food availability and good cover with low swimming cost. As the fish continue to grow, they move into deeper water and expand their territories until, by July and August, they are in the deep pools. By early summer, juvenile coho salmon prefer well shaded pools at least one meter deep with dense overhead cover and abundant submerged cover composed of undercut banks, logs, roots, and other woody debris. Coho salmon emigrate to the ocean as smolts from April through June (Shapavalov and Taft 1954). Coho salmon are semelparous (spawn only once and then die).

As such, CCC coho salmon are known to occur within the lowermost extent of the Project Site and the species is therefore conservatively assumed to potentially be present within the Project Site.

Marbled Murrelet

The Marbled murrelet is a federally threatened and state endangered species, with a range from the Aleutian Islands and southern Alaska to southern California. This bird species typically inhabits marine subtidal and pelagic habitats close to stands of mature redwood and Douglas-fir. In summer, the species forages close to shore (within 500 m 1640 ft) in shallow water, usually less than 30 m (95 ft) deep, but forages farther from shore outside of breeding season (CDFW, 2024b). The Marbled murrelet requires dense, mature forests of redwood and Douglas-fir for breeding and nesting, requiring trees that have large branches or deformities to lay a single egg on a mat of moss, lichen or debris accumulations on these branches or deformities. During the breeding season, which occurs from about March 24 through September 15 in California, the species leaves its nest at dawn to feed in daylight, before returning in the evening. In summer, individuals or pairs are commonly seen 1-2 km off the coast and 6-8 km inland in coniferous forests (CDFW, 2024b). Individuals tend to be more dispersed in winter.

Data from murrelet populations throughout North America show that approximately 84 percent of murrelet young fledge from their nests by August 18 (Hamer and Nelson, 1995). Murrelets have a naturally low reproductive rate, laying just one egg per year. Chicks fledge 27 to 40 days after hatching (Nelson, 1997).

The CNDDB reports 8 occurrences of Marbled murrelet within the nine quadrangles reviewed, including one occurrence that overlaps with the Project Site. Additionally, this species has been observed within and adjacent to Butano State Park (approximately 2.5 miles southwest), Big Basin Redwoods State Park (8.2 miles southeast), Memorial County Park (3.5 miles northeast), and Dearborn Park (1.8 miles north) (CNDDB, 2024a). However, the amount of suitable nesting habitat has declined due to an increase in wildfire, particularly the 2020 CZU Lightning Complex fire that reduced habitat within Big Basin by an estimated 50% (Sempervirens Fund, 2024).

Suitable habitat is present nearby, where old growth redwood trees still exist and Marbled murrelet are known to use the canyon as a flight route to the old growth stands on the north slope of Butano Canyon (Kittleson, pers. comm., 2024). There is a 144-inch redwood tree on the property that has limbs large enough to support nesting. Nests have not been observed in this location, possibly due to dense vegetative cover that limits visibility. However, it assumed that murrelets could use this tree to nest, and as such, Marbled murrelet presence is assumed on-site.

Pacific Lamprey

Pacific lamprey, a California species of special concern, is an anadromous species that, like steelhead, migrate into freshwater to spawn and juveniles return to the ocean to mature. Pacific lampreys also share many habitat requirements with Pacific salmonids, particularly cold, clear water for spawning and incubation. They also require a wide range of habitats across life stages. Adult migration times for lamprey tend to occur somewhat later (March-May) than the peak of the steelhead adult migration (January-March). Adult lampreys are able to negotiate relatively shallow riffles as well as some dams. Pacific lamprey spawn between March and July, constructing nests, also known as redds, and then typically die within 3-36 days. Larval lamprey, known as ammocoetes, hatch and drift downstream to areas with slow water velocity and sediment deposits that allow them to burrow into. Juvenile lampreys, which rear in freshwater for up to 7 years, migrate to the ocean with peak winter flows and rarely suffer migration blockage. The Pescadero-Butano watershed is considered the only central California coast drainage currently supporting a substantial population of Pacific lamprey (Boyce et al., 2022).

CNDDB reports two occurrences of Pacific lamprey within the nine quadrangles reviewed, the nearest of which is located in Big Basin approximately 4 to 5 miles southeast of the Project Site. However, several juvenile Pacific lamprey were observed during a July 2021 pre-construction fish relocation effort conducted on Butano Creek at the Cloverdale Road bridge crossing, located approximately 2.0 miles downstream of the Project Site (Podlech, 2021). Gravel substrates present within the project reach provide suitable adult spawning habitat while sandy substrates also present within the Project Site provide suitable juvenile burrowing habitat. Therefore, the species is presumed present within the Project Site.

California Giant Salamander

The California giant salamander is a CDFW species of special concern. This amphibian species typically inhabits humid coastal forests, including mixed conifer, Douglas-fir, redwood, red fir, and montane and valley-foothill riparian habitats, with only limited distribution in California. They live in or near streams in damp forests and tend to be common where they occur. Aquatic adults and larvae are found in cool, rocky streams and occasionally in lakes and ponds, hiding within spaces between rocks in streambeds. Terrestrial adults are found under surface litter and in tunnels underground. Eggs are laid during spring in concealed locations several feet below the surface in cold, slowly flowing water in springs, channels, under streambanks, and beneath rocks and coarse woody debris in stream bottoms. Water, preferably cold and flowing, is necessary for these egg-laying sites and for the aquatic larval and adult forms. Larvae hatch in water and transform to a terrestrial form in approximately 18 - 24 months after hatching, depending on environmental conditions and the size and permanence of the stream. Young larvae are found in still water near the shoreline, often under small rocks and leaf litter, and move out of streams to the surrounding habitat during wet periods.

The CNDDB reports 9 occurrences of California giant salamander within the nine quadrangles reviewed, the nearest of which is located 1.3 miles south of the Project Site. Additionally, this species has been observed within and adjacent to Butano State Park, Ben Ries Campground, and Big Basin Redwoods State Park (CNDDB, 2024a). Given suitable habitat on-site and known occurrences nearby, there is a high potential for the California giant salamander to occur within the Project Site.

California Red-legged Frog

The California red-legged frog is a federally threatened and a CDFW species of special concern, known to occur along the Coast Ranges from Mendocino County south and in portions of the Sierra Nevada and Cascades ranges, usually below 1200 m (3936 ft) (CDFW, 2024b). This amphibian species typically inhabits

quiet pools of streams, marshes, and occasionally ponds. Suitable habitat includes spaces under rocks and organic debris, agricultural features, small mammal burrows, incised stream channels, and moist leaf litter (USFWS, 2002).

Eggs are deposited in permanent or ephemeral bodies of water, attached to emergent vegetation. Larval development takes 11 to 20 weeks. Tadpoles typically metamorphose in four to seven months, but in cold, shady sites, may overwinter and metamorphose the following summer. Frogs move into upland habitats to feed and shelter when stream flows are high. During the wet season, some individuals may disperse (up to two miles) through upland habitats to return to breeding sites (USFWS, 2002). California red-legged frogs do not have a distinct breeding migration (Fellers, 2005), rather they may move seasonally from non-breeding pools or refugia to breeding pools. Some individuals remain at breeding sites year-round while others disperse to neighboring water features or moist upland sites when breeding is complete and/or when breeding pools dry (USFWS, 2002; Bulger et al. 2003; Fellers and Kleeman, 2007; Tatarian and Tatarian, 2008; Tatarian, 2008). Studies in the several San Francisco Bay counties showed movements are typically along riparian corridors (Fellers and Kleeman, 2007; Tatarian, 2008). Individuals have been found a considerable distance from breeding sites on rainy nights.

Aquatic breeding habitat does not need to be available every year, but it must be available at least once within the frog's lifespan for breeding to occur (USFWS, 2010). Non-breeding aquatic habitat consists of shallow (non-lacustrine) freshwater features not suitable as breeding habitat, such as seasonal streams, small seeps, springs, and ponds that dry too quickly to support breeding. Non-breeding aquatic and riparian habitat is essential for providing the space, food, and cover necessary to sustain the California red-legged frog. Riparian habitat consists of vegetation growing nearby, but not typically in, a body of water on which it depends, and usually extends from the bank of a pond or stream to the margins of the associated floodplain (USFWS, 2010).

The CNDDB reports 37 occurrences of California red-legged frog within the nine quadrangles reviewed, the nearest of which occurred 0.5 miles upstream from the confluence of Little Butano Creek and Butano Creek and 1.5 miles downstream of the Project Site. The species is also known to occur in Pescadero Marsh, both tributaries to Pescadero Marsh, and surrounding stock water ponds and reservoirs that support amphibian breeding. Butano Creek provides suitable dispersal habitat and is within dispersal distance of known occurrences, but breeding and rearing habitat is limited. As such, there is a moderate potential for the California red-legged frog to occur within the Project Site.

Northwestern Pond Turtle

The northwestern pond turtle is a CDFW species of special concern that ranges from northern California to British Columbia. Ranges from uncommon to common in suitable aquatic habitat throughout California, including permanent ponds, lakes, streams, irrigation ditches or permanent pools along intermittent streams, with elevation range extending from near sea level to 1430 m (4690 ft) (CDFW, 2024b). Associated with permanent or nearly permanent water in a wide variety of habitat types. Pond turtles require basking sites such as partially submerged logs, rocks, mats of floating vegetation, or open mud banks, throughout the year. Hibernation in colder areas is passed underwater in bottom mud. Nests have been observed in many soil types from sandy to very hard. Overwintering can occur for up to 7 months out of the year in some colder portions of the range. Soil must usually be at least 10 cm (4 in) deep for nesting, and nests must have a relatively high internal humidity for eggs to develop and hatch properly. Nests are constructed in the summer, most likely to be observed from April to August. Activity peaks in June and July between late afternoon and early morning in low light. Eggs are typically laid in nests dug in soft soil in open areas within 100 meters of water. Eggs in nests incubate by the heat of the sun (via the

soil) and hatch in approximately 75 days (up to 125 days). Hatchlings may emerge from the nest September to October and head to water, but most overwinter in the nest until the following spring. Northwestern pond turtles may also move overland considerable distances (up to 5 miles), which allows them to potentially move across permeable landscapes and through migration corridors to re-colonize nearby unoccupied habitat (Holland 1994).

The CNDDB reports 7 occurrences of northwestern pond turtle within the nine quadrangles reviewed, the nearest of which is located in Pescadero Marsh, which is at the edge of their dispersal range. Two (2) northwestern pond turtles and four (4) red-eared sliders were observed during project activities in Pescadero Marsh in 2019 and there is a fair amount of suitable habitat in the drainages above the marsh (Robins, pers. comm., 2024). The species has also been noted at Memorial County Park (Robins, pers. comm., 2024). There is limited basking habitat in Butano Canyon given the dense redwood canopy, but the species could use Butano Creek as a dispersal corridor and the redwood forest to overwinter. Therefore, there is a moderate potential for the northwestern pond turtle to occur within the Project Site.

Santa Cruz Black Salamander

The Santa Cruz black salamander is a CDFW species of special concern that is restricted to San Mateo, Santa Cruz, and western Santa Clara counties. This amphibian species typically inhabits mixed deciduous woodland, coniferous forests, and coastal grasslands. It can be found under rocks near streams, in talus, under damp logs, and other objects and rarely encountered very far from water. Adults forage for small invertebrates on the ground at night during wet weather. This lungless salamander may be active along streams all year at the southern part of its range, but most stay underground during dry periods. Diet consists of a variety of small invertebrates, including millipedes, ants and termites. As salamanders grow larger, they eat fewer, but larger prey items (California Herps, 2024).

Reproduction is terrestrial. Females lay approximately 8-25 eggs in moist cavities below the ground in July and August. The young develop completely in the egg and hatch fully formed.

The CNDDB reports 5 occurrences of Santa Cruz black salamander within the nine quadrangles reviewed, the nearest of which is located 2.4 miles south of the Project Site in Butano State Park. Additionally, this species has been observed in and near Ano Nuevo and Big Basin State Parks (CNDDB, 2024a). While there is suitable habitat on-site, this elusive species is rarely seen. Therefore, there is a moderate potential for the Santa Cruz black salamander to occur within the Project Site.

Nesting Birds and Other Protected Avian Species

Birds and active nests of all native species are protected under the Migratory Bird Treaty Act (MBTA), regardless of their lack of regulatory status as state or federally threatened/ endangered, or California species of special concern. The MBTA does exclude protection for migratory birds that have been introduced to North America, such as rock pigeon (*Columba livia*), Eurasian collared dove (*Streptopelia decaocto*), house sparrow (*Passer domesticus*) and European starling (*Sturnus vulgaris*).

As work will not begin until September, given the assumed presence of marbled murrelet, a focused bird survey was not completed for this project. However, a literature review was completed to document known bird species in Butano Canyon and the surrounding area (**Attachment D**) and a site visit was conducted at the end of September to evaluate bird species with the potential to occur on the Project Site (Kittleson, 2024).

The CNDDB and IPAC list numerous species that: are not likely to occur at this small site (ie. shorebirds like plovers and terns); would be unaffected by project activities (ie. peregrine falcons and golden eagles that may occur in the area and might even nest in the upper watershed), or are migratory birds that would be protected by avoidance of the nesting season. Typically, the local nesting season generally spans 1 February – 1 September. The project area is expected to support a variety of nesting birds within the Butano Creek riparian zone. As the redwood forest and associated riparian habitat along Butano Creek could support avian species, there is a moderate potential for nesting birds and other avian species to occur within the project area.

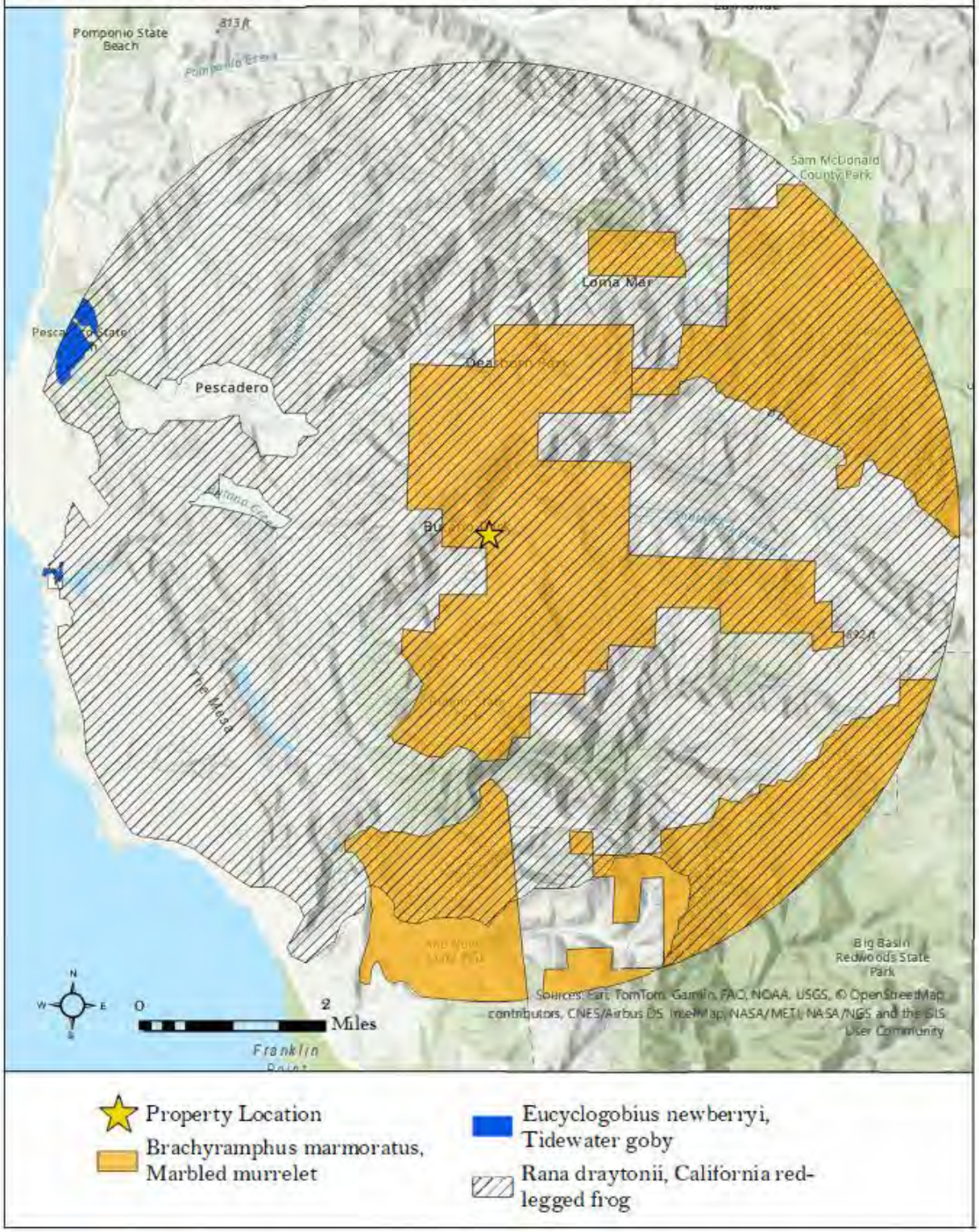
5.4 CRITICAL HABITAT AND ESSENTIAL FISH HABITAT

Critical Habitat designations occur within the Project Site for California red-legged frog (*Rana draytonii*) and Marbled murrelet (*Brachyramphus marmoratus*) (**Figure 8)**. The Project Site also occurs within critical habitat for central California coast (CCC) steelhead (*Oncorhynchus mykiss*) and CCC coho salmon (*Oncorhynchus kisutch*)[2]. Critical habitat for tidewater goby (*Eucyclogobius newberryi*) is located outside of the Project Site, in Pescadero Marsh.

The Project site is located in a freshwater area that supports spawning and thermal refugia Habitat Areas of Particular Concern (HAPCs) for coho salmon managed within the Pacific Coast Salmon FMP (PFMC 2014). Similar to the effects on critical habitat described above, construction activities are expected to temporarily alter water quality in designated Pacific salmon EFH. However, these effects will be minimized through implementation of the avoidance and minimization measures discussed above and are expected to be insignificant. After project completion, spawning, rearing, and holding habitat availability is expected to expand and water quality (sediment/turbidity) is expected to improve. As such, the proposed action is expected to result in benefits to EFH for Pacific salmon.

[2] Not shown on Figure 8.

Figure 8. Critical Habitat Map
Butano Canyon Habitat and Streambank Restoration Project



5.5 WILDLIFE USE AND MOVEMENT

The fauna of the forest is diverse and includes many invertebrates, including Pacific banana slug (*Ariolimax columbianus*), as well as vertebrates, such as the rare Santa Cruz black salamander (*Aneides flavipunctatus niger*). Redwood forest and woodland communities provide cover and food for a number of wildlife species, including marbled murrelet, (*Brachyramphus marmoratus*), steelhead trout (*Oncorhynchus mykiss*), and coho salmon (*Oncorhynchus kisutch*). The forest also supports a long list of bird species, including the yellow-rumped warbler (*Setophaga coronata*), Cooper's hawk (*Astur cooperii*), and great blue heron (*Ardea herodias*). Refer to **Attachment D** for a full list of riparian bird species known to occur in Butano Canyon (Kittleson, pers. comm., 2024).

Wildlife movement corridors, or habitat linkages, are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations. Such linkages may address local movements, such as providing a linkage between foraging and denning areas, or serve as migration corridors, wherein animals periodically move away from an area and then subsequently return. Others may be important as dispersal corridors.

Depending upon the species using a corridor, specific physical resources (such as rock outcroppings and oak trees) may need to be located within the habitat link at certain intervals to allow a specific species to traverse the link. For highly mobile or aerial species, habitat linkages may be discontinuous patches of suitable resources spaced sufficiently close together to permit travel along a route in a short period of time. Wildlife movement corridors can be both large and small scale. Riparian habitat and streams provide key linkages, providing crucial connections within an ecosystem, linking areas together for water flow, sediment transport, and wildlife movement.

Section 6 | Impact Analyses and Mitigation Measures

This section establishes the impact criteria, then analyzes potential Project-related impacts upon the known biological resources within the Project Site, and then suggests mitigation measures to reduce these impacts to a less-than-significant level.

The significance of impacts to biological resources depends upon the proximity and quality of vegetation communities and wildlife habitats, the presence or absence of special-status species, and the effectiveness of measures implemented to protect these resources from Project-related impacts. As defined by CEQA, the Proposed Project would be considered to have a significant adverse impact on biological resources if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a special-status species in local or regional plans, policies, or regulations, or by USFWS or CDFW
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by USFWS or CDFW
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites
- Conflict with any county or municipal policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved governmental habitat conservation plan.

6.1 IMPACTS TO SPECIAL-STATUS SPECIES

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

Special Status Plant Species

Construction-Related Impacts to Special-Status Plants: Less than Significant with Mitigation

No special status plant species have been recorded for the project area and none were observed during surveys on April 24, August 14, and December 3, 2024. However, plants that flowered early in the year (January – March) or in late spring/early summer (May – July) could have been missed due to the timing of the surveys. Given this, this impact is considered significant. To reduce this impact to less than

significant, implement Mitigation Measure BIO-1 requiring preconstruction surveys within the appropriate bloom window.

Special Status Wildlife Species

A discussion of impacts to special-status wildlife is presented below for each of those species identified in **Section 5.3**. This discussion considers inclusion of project BMPs identified in **Section 1.4.3** as components of the Proposed Project.

Construction activities would introduce noise and human activity to the area, and the short-term removal of riparian vegetation and upland understory may reduce prey availability because of reduced cover. A decrease in cover may temporarily affect the use of the riparian habitat as a migration corridor and increase species predation. In addition, the temporary dewatering of the Butano Creek may have temporary impacts on aquatic species. These impacts are described in more detail below.

Construction Impacts to Special-Status Fish Species: Less than Significant with Mitigation

CCC steelhead (*Oncorhynchus mykiss*) / CCC coho salmon (*Oncorhynchus kisutch*) / Pacific lamprey (*Entosphenus tridentatus*)

Degradation of Butano Creek

Construction activities could degrade the quality of Butano Creek, which could result in a potentially significant impact to special-status fish species. With the use of heavy equipment in the proximity of sensitive aquatic, riparian, and upland habitats, the potential exists that these sensitive areas may be temporarily impacted or degraded to the detriment of species, such as amphibians, fish and reptiles. Construction activities can also increase rates of erosion and dust, elevate downstream turbidity levels and stream temperature, and decrease available oxygen in the stream. Sediment and associated chemicals may be washed into surface waters prior to plant establishment during grading, seedbed preparation, seeding, and mulching activities, thus causing adverse effects to aquatic species that could occur downstream.

Adverse effects may result if a portion of the Project Site requires dewatering. While most activities will occur during the summer months, when areas are dry, dewatering may be required for activities within the channel of Butano Creek. Dewatering a portion of a stream during construction would involve isolating the work area using temporary structures such as cofferdams and the pumping of water around the worksite to maintain flows downstream. Stream diversions can cause temporary increases in turbidity during installation and removal.

The Proposed Project will require the temporary removal of vegetation for temporary access, staging equipment and earthwork activities during construction. Removal of vegetation in riparian corridors may remove refugia and result in an incremental increase in water temperature, which can cause stress to fish and other aquatic species.

Risk of Injury or Mortality

Construction vehicles or equipment associated with installation of the Proposed Project could kill or injure animal species by crushing or striking them. Foot traffic by workers associated with construction activities, biological surveys, and restoration activities could also damage sensitive habitats and kill or injure animal species. The potential for any special-status species to be killed or injured during these activities would

be greatest when projects are occurring within habitat characteristic of these species and when workers are concentrated in those areas.

Dewatering of the stream can require the physical removal of aquatic species from the Project Site, such as steelhead, coho salmon, pacific lamprey, and California giant salamander, resulting in stress to the animals and potential mortality. Fish relocation activities pose a risk to juvenile salmonids and lamprey, including stress, disease transmission, increased competition for resources, injury, or death. The dewatering of up to 230 feet of channel is expected to cause a temporary reduction in the quantity and quality of aquatic habitat. Juvenile salmonids that avoid capture in the project work area during relocation efforts may die due to desiccation, thermal stress, or by being crushed by equipment or foot traffic while water levels within the reach recede, if not found and appropriately relocated by biologists.

Impacts on Essential Fish Habitat and Critical Habitat

The Project Site is designated as critical habitat for CCC steelhead, CCC coho salmon, marbled murrelet, and California red-legged frog. The Project Site is also located in a freshwater area that supports spawning and thermal refugia Habitat Areas of Particular Concern (HAPCs) for coho salmon managed within the Pacific Coast Salmon FMP (PFMC 2014, as cited in Podlech, 2024).

As described above, construction activities associated with the Proposed Project are anticipated to temporarily alter water quality and remove understory vegetation in designated critical habitat. However, these effects will be minimized through implementation of the avoidance and minimization measures discussed and are expected to be temporary and diminish to background levels during the initial phase of the first rainy season following construction.

These potential impacts on steelhead, coho, and lamprey are considered potentially significant. To reduce these impacts to a less-than-significant impact, implement Mitigation Measures BIO-2 and BIO-3.

Construction Impacts to Special-Status Amphibians: Less than Significant with Mitigation

California Giant Salamander (*Dicamptodon ensatus*) / Santa Cruz black salamander (*Aneides niger*)

Risk of Injury or Mortality

Similar to the discussion of special-status fish species above, construction vehicles or equipment associated with installation of the Proposed Project could kill or injure amphibian species by crushing or striking them. Foot traffic by workers associated with construction activities, biological surveys, and restoration activities could also damage sensitive habitats and kill or injure animal species. For California giant salamander and Santa Cruz black salamander, this can occur during vegetation clearing, earth moving, and other construction-related activities. Species that seek cover underground and in burrows or leaf litter, and under rocks and logs could also be killed or injured by increased vehicle use of new or existing roads, temporary staging areas, and other areas. Vehicles could drive over burrow sites, crush animals, or cause burrows to collapse and entrap animals. Additional traffic associated with construction activities could increase the likelihood for animals to be struck.

Project activities include dewatering the stream to conduct in-stream activities have the potential to impact individual salamanders. As such, salamanders could be affected during electrofishing to relocate salmonids and through dewatering activities.

Temporary Degradation of Upland Habitat

Construction activities, particularly the associated noise and vibration, could potentially disrupt special-status species in the area, such that their behaviors such as breeding, foraging or burrowing could be

altered (e.g., animals could delay breeding, or burrowing activity, abandon nests, animals hunting patterns would change, etc.). Avoiding work when these species are active minimizes many of these potential impacts. In addition, BMPs built into the project plans avoid much of the potential for temporary degradation of upland habitat. Specifically, BMPs listed in **Section 1.4.3** include disturbing the minimum amount of area possible to conduct the work and fencing the work limits, minimizing vegetation removal, establishing staging zones no closer than 100 feet to the sensitive riparian corridor, minimizing construction activities to daylight hours, and requiring sound control devices on equipment. These BMPs along with the proposed revegetation included within the project design (described in **Section 1.4.1**) ensure no significant impacts would occur to upland habitats.

Potential construction impacts on California giant salamander and Santa Cruz black salamander are considered potentially significant. To reduce this impact to less than significant, implement Mitigation Measures BIO-2 and BIO-4.

California red-legged frog (*Rana draytonii*)

Dewatering of the stream could also temporarily affect the species through direct relocation, short term loss of habitat and food, or direct mortality. In addition, CRLF encountered and relocated during fish relocation activities could experience stress, disease transmission, increased competition for resources, injury, or death. The dewatering of up to 230 feet of channel is expected to cause a temporary reduction in the quantity and quality of aquatic habitat. CRLF that avoid capture in the project work area during relocation efforts may die due to desiccation, thermal stress, or by being crushed by equipment or foot traffic if not found by biologists while water levels within the reach recede.

Project activities will not permanently impact any aquatic features that could limit Butano Creek as a migratory corridor for California red-legged frog, but the species could be impacted by noise and water quality impairments during construction activities. The same potential for degradation of Butano Creek and riparian or upland habitat to impact other species would also result in potentially significant impacts to CRLF. These potential impacts on California red-legged frog are considered potentially significant. To reduce this impact to less than significant, implement Mitigation Measures BIO-2 and BIO-5.

Construction Impacts to Special-Status Reptiles: Less than Significant with Mitigation

Northwestern pond turtle (*Actinemys marmorata*)

Project activities will occur in Butano Creek, the disconnected floodplain, and the accumulated gravel bench on the west side of the stream. There is a tall canopy cover that shades the majority of the stream, but there are small pockets of sunny areas and in-stream wood that could provide basking and/or refuge for the northwestern pond turtle. In addition, the species could move across the Project Site in search of food and/or better habitat and be impacted by noise and/or water quality impairments during construction activities. The same potential for degradation of Butano Creek and riparian or upland habitat to impact other species would also result in potentially significant impacts to northwestern pond turtle.

These potential impacts on northwestern pond turtle are considered potentially significant. To reduce this impact to less than significant, implement Mitigation Measures BIO-2 and BIO-6.

Construction Impacts to Special-Status Birds: Less than Significant with Mitigation

Marbled murrelet (*Brachyramphus marmoratus*)

Construction activities, particularly the associated noise and vibration, could potentially disrupt special-status species in the area, such that their behaviors such as breeding, foraging or burrowing could be

altered (e.g., animals could delay breeding, or burrowing activity, abandon nests, animals hunting patterns would change, etc.). Avoiding work when these species are active minimizes many of these potential impacts. Project activities do not include the removal of any mature redwood trees or other coniferous trees with platforms (defined as relatively flat branches of at least 4-inches in diameter and at least 33 ft above the base of the live crown). Further, project activities would not result in modifications to designated critical habitat. However, noise from equipment could affect birds and fledglings during the nesting season.

These potential impacts on the marbled murrelet are considered potentially significant. To reduce this impact to less than significant, implement Mitigation Measure BIO-7.

Nesting and Migratory Birds

Based on visual observations, a list of potential avian species was developed for the project area from literature review and personal records, utilizing Camp Butano Creek and Butano State Park as survey sites. This list is provided in Attachment D, Table 1. Nesting birds (protected by the MBTA) may occur within the riparian corridor and adjacent terrestrial habitat. Removal of vegetation has the potential to injure or kill roosting or nesting birds. The project would only result in the removal of one (1) 12-inch alder from the gravel bench on the west side of the stream. This alder would provide only limited habitat for bird species. However, noise and vibrations from construction equipment could affect nesting or breeding, foraging, predator evasion and dispersal and migratory behavior in the surrounding redwood forest. Noise and vibration from project activities could also result in nest abandonment, fleeing, and temporary cessation of feeding or courtship behaviors, or cause physical harm when noise levels are substantially higher than existing background noise levels.

These potential impacts on birds protected under the Migratory Bird Treaty Act are considered potentially significant. To reduce this impact to less than significant, implement Mitigation Measure BIO-8.

6.1.2 Recommended Measures

BIO-1: Measures for Special-Status Plants

- A qualified biologist/botanist will conduct additional floristic surveys between January and March and in late spring/early summer in the year when construction is to take place, to determine if special-status plant species occur on-site.
- If special special-status plant species are identified during the floristic survey, a qualified biologist/botanist will ensure that plants are marked with fencing or flagging prior to the initialization of construction, and a minimum of a 20-ft buffer zone established around the plants to avoid direct mortality. Any identified plants will be monitored by a qualified biologist during construction.
- If impacts to listed plant species cannot be avoided and the 20-foot buffer maintained, the Landowner will consult with the Service and/ or CDFW to discuss options to offset potential effects of project activities. The Landowner will ensure that all additional mitigation measures agreed upon during this consultation are implemented.

BIO-2 General Wildlife Measures

- All construction personnel will participate in environmental awareness training conducted by an agency-approved Qualified Biologist prior to participating in any construction activities.

Construction personnel will be informed regarding the identification, potential presence, habitat requirements, legal protections, avoidance and minimization measures, and applicable protection measures for all special status species with the potential to occur in or immediately adjacent to the Project Site. Construction personnel will be informed of the procedures to follow should a special status species be encountered during construction activities.

- An agency-approved Qualified Biologist will conduct a pre-project survey within and adjacent to the proposed work area, within 48 hours prior to the start of vegetation removal and ground disturbing activities. The Qualified Biologist will survey the Project area at the appropriate time of day for the presence of special status species and non-special status species. The survey will include: a) general survey for wildlife resources; b) visual survey of work areas with flowing or standing water for any aquatic species that may be impacted by Project activities; c) survey of vegetation or other structures to determine if these features or structures are being used for nesting, roosting, or habitat refugia. The Qualified Biologist will record all wildlife species encountered during survey(s) and submit the record of results within seven (7) days of survey completion.
- A Qualified Biologist should be present during initial vegetation removal and during new grading activities to monitor the site. Once the vegetation removal and initial grading activities have been completed, if no species are detected, no further monitoring should be needed unless there is a rain event.
- If there is a rain event, before construction activities resume, a Qualified Biologist should inspect the project area and all equipment/materials..
- Construction activities should be restricted to periods of low rainfall (less than 0.5 inch per 24-hour period) and periods of dry weather (with less than a 50% chance of rain). During these restricted periods, no construction activities should occur between 30 minutes prior to sunset and 30 minutes after sunrise (no night work during rain events). If rain exceeds 0.5 inch during a 24-hour period, work should cease until no further rain is forecast. Construction activities halted due to precipitation may resume when precipitation ceases, and the National Weather Service 72-hour weather forecast indicates less than a 50% chance of 0.5 inch of rain or less during a 24-hour period.

BIO-3: Measures for CCC Steelhead, CCC Coho Salmon, and Pacific Lamprey

- Fish relocation will be performed by a qualified (NMFS and CDFW-approved) fisheries biologist. Captured fish will be moved to the nearest appropriate site outside of the work area. A record of relocation activities will be maintained and include the date of capture and relocation, the method of capture, the location of the relocation site in relation to the Project Site, and the number and species of fish captured and relocated.
- All fish relocation activities will occur during the summer low-flow period (September 1 – October 15) outside the adult migration and spawning season and salmonid smolt outmigration period. Therefore, juvenile rearing salmonids and lamprey are expected to be captured within the construction site during relocation activities.
- Electrofishing will be conducted by properly trained personnel following the NMFS Guidelines for Electrofishing Waters Containing Salmonids Listed under the Endangered Species Act, June 2000.
- Prior to capturing fish, the most appropriate release location(s) will be determined.
- The most efficient method for capturing fish will be determined by the biologist. Complex stream habitat generally requires the use of electrofishing equipment, whereas in deep pools, fish may be concentrated by pumping-down the pool and then seining or dip-netting fish.

- Handling of fish will be minimized. However, when handling is necessary, hands or nets will be wetted prior to touching fish.
- Captured fish will be held in cool, shaded, aerated water in a container with a lid. Aeration will be provided with a battery-powered external bubbler. Fish will be protected from jostling and noise and will not be removed from this container until time of release.
- Air and water temperatures will be measured periodically. A thermometer will be placed in holding containers and, if necessary, partial water changes to maintain a stable water temperature will be conducted periodically. If water temperature reaches or exceeds 18 degrees Celsius (°C), fish will be released and rescue operations ceased, if feasible.
- Overcrowding in containers will be avoided by having at least two containers and segregating young-of-year fish from larger age-classes to avoid predation. If fish are abundant, the capturing of fish and amphibians will cease periodically and will be released at the predetermined locations.
- Species and year-class of fish will be visually estimated at time of release. The number of fish captured will be counted and recorded. Anesthetization or measuring fish will be avoided unless specifically requested by appropriate resource agencies (i.e., NMFS, CDFW).

BIO-4: Measures for California Giant Salamander and Santa Cruz Black Salamander

- A CDFW-approved biologist should be present during initial vegetation removal and new grading activities to monitor the site for SCBS. The biologist will look under rocks and logs to the greatest extent possible. Once the vegetation removal and initial grading activities have been completed, if no SCBS are detected, no further monitoring should be needed unless there is a rain event.
- If there is a rain event, a CDFW approved biologist should inspect the project area and all equipment/materials for the SCBS before construction activities resume.
- All relocations will be performed by a qualified CDFW-approved biologist. Captured species will be moved to the nearest appropriate site outside of the work area. A record of relocation activities will be maintained and will include the date of capture and relocation, the method of capture, the location of the relocation site in relation to the Project Site, and the number and species captured and relocated.
- Prior to construction, the most appropriate release location(s) will be determined.
- Handling of salamanders will be minimized. However, when handling is necessary, hands or nets will be wetted prior to touching species.
- Captured salamanders will be held in cool, shaded, aerated water in a container with a lid. Aeration will be provided with a battery-powered external bubbler. Salamanders will be protected from jostling and noise and will not be removed from this container until time of release.
- Air and water temperatures will be measured periodically. A thermometer will be placed in holding containers and, if necessary, partial water changes to maintain a stable water temperature will be conducted periodically. If water temperature reaches or exceeds 18 degrees Celsius (°C), salamanders will be released and rescue operations ceased, if feasible.
- Overcrowding in containers will be avoided by having at least two containers. If fish are abundant, the capturing of fish and amphibians will cease periodically and will be released at predetermined locations.
- The number of salamanders captured will be counted and recorded prior to release.

BIO-5: Measures for California Red-legged Frog

- A Service-approved biologist with experience in the identification of all life stages and its critical habitat will survey the Project Site no more than 48 hours before the onset of work. If any life

stage of CRLF is detected, CDFW and the Service will be notified prior to the onset of construction to determine if additional avoidance and minimization measures are required.

- During electrofishing activities, a USFWS-Approved Biologist will precede the electrofishing crew and survey for CRLF. If any CRLF are detected, they will be captured and held outside the waterbody until the electrofishing activities at that location have been completed. All individuals will be immediately released to a release point approved by the Service. If California red-legged frogs are detected but escape capture, the USFWS-Approved Biologist will determine measures for avoiding or minimizing impacts to individuals (i.e., leave the area or limit the duration of shocking pulses).
- If at any time CRLF are detected in or adjacent to the project area, work activities within 50 feet of the individual that may potentially be harmed, injured, or killed should cease immediately, and the Service-approved biologist notified immediately. Based on the professional judgment of the Service-approved biologist, if project activities can be conducted without harming or injuring the species, it may be left at the location of discovery and monitored by the Service-approved biologist. All project personnel should be notified of the finding, and at no time should work occur within 50 feet of a species without a Service-approved biologist present.

BIO-6: Measures for Northwestern Pond Turtle

- On any day that dewatering, electrofishing, vegetation clearing, and/or new grading activities occur, a CDFW- approved biologist will be onsite to observe and relocate turtles, if necessary, until the site is clear. Once the vegetation removal and initial grading activities have been completed, no further monitoring is required unless there is a rain event or a lapse in construction activity of 5 days or more.
- Before construction activities resume after a lapse of 5 days or more, a CDFW-approved biologist will inspect the project area and all equipment/materials for the northwestern pond turtle. Activities may resume when the project area is clear.

BIO-7: Measures for Marbled Murrelet

- All work will begin after September 1, to avoid the majority of nesting season.

BIO-8: Measures for Nesting Migratory Birds

- Conduct all activities after September 1 to avoid impacts to nesting and migratory birds. If work occurs prior to September 1, perform pre-construction nesting bird surveys one week before the scheduled start of the project. The nesting survey should be performed by a qualified biologist and cover the length of the unnamed channel that is accessible and within dispersal distance of the species.
- In the event active nests are observed, the nest sites shall be flagged and buffers established in an effort to prevent nest failure. The buffer widths shall be determined by a qualified biologist, based on species, site conditions and anticipated construction activities.
- Active nests should be monitored at a frequency determined by the monitoring biologist, but at a minimum of once per week, until the nestlings have fledged.
- In the event that construction activities appear to be interfering with nest maintenance (e.g., feedings and incubation), then the buffers should be increased, or construction activities postponed, until the young have fledged, as determined by the qualified biologist.

6.2 IMPACTS TO RIPARIAN HABITAT OR OTHER SENSITIVE HABITAT

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

Sensitive habitats include riparian corridors, wetlands, habitats for legally protected species, areas that support rare or special-status wildlife habitat or of high biological diversity, and unusual or regionally restricted vegetation types. Habitats are described as communities, vegetation types, associations, or sub-associations. Although most sensitive natural communities are not afforded legal protection unless they support special status species, potential impacts on them may increase concerns and trigger mitigation suggestions by resource/regulatory agencies. The Project Site is a perennial waterway (Butano Creek), which is considered a sensitive community.

Construction Impacts to Butano Creek: Less than Significant with Mitigation

The project will directly impact 125 LF of existing channel, including 0.087 acres of Waters of the U.S. and 0.067 acres of Waters of the State. As the disturbed areas will be revegetated with native seed, salvaged vegetation, container plants and passive revegetation, rehabilitation of the habitat is expected over time, and the impact is considered temporary. In total, 526 cyd will be cut as a result of bank stabilization and floodplain project activities (above and below the OHWM). Approximately 516 cyd of this excavated material will be off-hauled to a local landfill. Approximately 10.2 cyd of fill taken from the floodplain (8.7 cyd above the OHWM) will be used to reshape the excavated eastern streambank along with the following materials: 71 cyd of Class V RSP, 35 cyd of rock filter layer, 107 cyd of Class X RSP, and 1 cyd of wood. All rock will be replanted to a diverse palette of native vegetation.

The dewatering system consists of a cofferdam, diversion pipe, settling tank, and dewatering pipe, which will result in a temporary fill total of 73 cyd, with 17 cyd occurring above the OHWM. The diversion pipe will be approximately 242 lf in length. One (1) 12-inch alder will be removed from the floodplain on the west streambank and re-incorporated into the floodplain with brush and slash, when grading is finished.

All of these impacted areas are subject to permitting by USACE, CDFW and RWQCB. The permanent and temporary disturbance to the sensitive habitat is presented in Table 3. **Figure 4** depicts the impacted areas and plant community types.

Table 3. Project Impacts to Sensitive Habitats

Habitat	Temporary Impacts	Permanent Impacts	Total Impact
Butano Creek (below OHWM)			
Construction dewatering	0.024 acre (1034 sq. ft) 242 linear feet 56.5 CY fill	0	0.024 acre (1034 sq. ft) 242 linear feet 56.5CY fill
Streambank Stabilization and wood features	0.038 acre 97 linear feet 402 CY fill	0	0.038 acre 97 linear feet 402 CY fill
Floodplain Bench	0.005 acre 112 linear feet 4 CY (excavation)	0	0.005 acre 112 linear feet 4 CY (excavation)
TOTAL			**0.067 acre** **242 linear feet** **459 CY (fill)** **4 CY (excavation)**
Butano Creek (above OHWM)			
Construction dewatering	0.003 acre (118 sq. ft) 125 linear feet 17 CY fill	0	0.003 acre (118 sq. ft) 125 linear feet 17 CY fill
Streambank Stabilization and wood features	0.027 acre 97 linear feet 437 CY fill	0	0.027 acre 97 linear feet 437 CY fill
Floodplain Bench	0.033 acre 125 linear feet 133 CY (excavation)	0	0.033 acre 125 linear feet 133 CY (excavation)
Staging area 3 and lower temporary access road	0.024 acre 48 linear feet 0 CY (excavation)	0	0.024 acre 48 linear feet 0 CY (excavation)
TOTAL			**0.087 acre** **125 linear feet** **454 CY (fill)** **133 CY (excavation)**

Impacts to Butano Creek would be potentially significant, and Mitigation Measure BIO-10 would reduce this impact.

Construction Impacts to Sensitive Riparian Habitat: Less than Significant with Mitigation

Bare soils are susceptible to colonization by aggressive, non-native species such as jubata grass (*Cortaderia jubata*) and French broom (*Genista monspessulana*) that can be introduced to a site through wind dispersal, construction equipment, automobiles and people. Other non-native species, occurring on-site or within the watershed, such as English ivy (*Hedera helix*), panic veldtgrass (*Ehrharta erecta*), and forget me not (*Myosotis sylvatica*) can increase in cover, reducing the abundance of native vegetation and thereby degrade the overall quality of the habitat upon which many species depend.

Impacts to sensitive habitats are (potentially significant?). Mitigation Measure BIO-10 would reduce this impact because/due to XXX.

6.2.2 Recommended Mitigation Measures

BIO-9: Measures for Sensitive Habitat

- Work will not begin until all necessary permits and authorizations have been issued (e.g., USACE, USFWS, NMFS, State and/or Regional Boards, or CDFW). The Project Proponent will ensure that readily available copies of the applicable agency permits and authorizations (e.g., USFWS PBO, NMFS PBO, or Section 404 permit) are maintained by the construction foreperson/manager on the Project Site for the duration of project activities.
- All work within Butano Creek will occur when the site is dry. Coffer dams and stream diversion systems will be constructed from clean materials, will be the minimal size necessary to complete activities, and installed in a manner that minimizes siltation and turbidity. Dewatering systems will remain in place and fully functional throughout the construction period. All dewatering/diversion facilities will be installed so that natural flow of sufficient quality (i.e. temperature and turbidity) is maintained upstream and downstream of the project areas and the period of dewatering will be for the minimum amount of time necessary to complete construction activities. All dewatering will be consistent with the diversion and dewatering plan, approved by the Army Corps of Engineers, National Marine Fisheries Service, US Fish and Wildlife Service, Regional Water Quality Control Board, California Department of Fish and Wildlife and County of San Mateo.
- Dewatering/diversion will occur via gravity-driven systems, where feasible. Dewatering/diversion will be designed to avoid direct and preventable indirect mortality of fish and other aquatic species. Bypass pipes will be sized to accommodate a minimum of twice the expected construction-period flow, will not increase stream velocity, and will be placed at stream grade. Conveyance pipe outlet energy dissipaters will be installed to prevent scour and turbidity at the discharge location.
- When gravity-fed dewatering is not feasible and pumping is necessary to dewater a work site, a temporary siltation basin and/or silt bags may be required to prevent sediment from reentering the wetted channel. Silt fences or mechanisms to avoid sediment input to the flowing channel will be installed adjacent to flowing water. Water pumping or removal from dewatered areas will be conducted in a manner that does not contribute turbidity to nearby receiving waters. All work will comply with the CDFW Fish Screening Criteria (CDFW 2001) or NMFS Fish Screening Criteria for Anadromous Salmonids (NOAA 2022). Pump intakes will be covered with mesh, in accordance with the requirements of current fish screening criteria, to prevent potential entrainment of fish or other aquatic species that could not be removed from the area to be dewatered. The pump intake will be checked periodically for impingement of fish or other aquatic species
- Material used for bank stabilization or in-water restoration will minimize discharge sediment or other forms of waste to waters of the United States or aquatic habitat.
- All temporarily disturbed areas with permeable surfaces, will be roughened and seeded/planted with an assemblage of native riparian, wetland, and/or upland plant species suitable for the area to restore the site to pre-construction condition or better. Rock above the 100-year WSE elevation will be “jetted” with soil and covered with a “green” erosion control fabric. Container and salvaged plants will be planted into the fabric and rock. Only certified weed-free straw will be used to avoid the introduction of non-native, invasive species.
- Pathogen contamination, as described on the website of the Working Group for Phytophthoras in Native Habitats (www.calphytos.org), should be prevented using the techniques described on the website, as applicable.

- To ensure that the revegetation effort is successful all revegetated areas will be maintained and monitored for a minimum of 5 years after replanting is complete, or until success criteria, as defined in the Revegetation Plan, are met.

6.3 IMPACTS TO JURISDICTIONAL WATER RESOURCES

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

The Proposed Project would impact 0.067 acres of Waters of the U.S. and 0.087 acres of Waters of the State as detailed in **Table 3** and discussed in **Section 6.2**. Impacts to waters would be reduced through implementation of Measure BIO-10.

6.4 IMPACTS TO WILDLIFE MOVEMENT OR NURSERY SITES

Will the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

The temporary cofferdams and water diversion structures in the creek at the construction site are not expected to impact juvenile salmonid movements in Butano Creek beyond typical summer low-flow conditions. Steelhead and coho salmon experience intermittent conditions in many streams of the central California coast during summer, and the limited duration of this project's water bypass is unlikely to adversely affect individual salmonid rearing upstream or downstream of the dewatered reach.

Potential sediment or turbidity generated by the project, including during cofferdam construction and removal, and the subsequent rewetting of the construction site, is not expected to rise to the levels that would impair fish passage and would be unlikely to extend more than 100 feet downstream of the work site based on the site conditions (low flows) and methods used to control sediment and turbidity. Harm, injury, or behavioral impacts to CCC steelhead and CCC coho salmon associated with exposure to the minor elevated suspended sediment levels that would be generated by this project are not anticipated.

Post-construction effects are expected to be beneficial and contribute toward CCC steelhead and CCC coho salmon recovery within the Butano Creek watershed by improving upstream access to habitat by:

- Reducing chronic sediment associated with the bank erosion
- Adding log structures intended to improve velocity refuge for juvenile salmonids (and other wildlife) during high flow events and promote gravel sorting and rearing habitat formation;
- Enhancing floodplain connectivity, and
- Expanding spawning, rearing, and holding habitat availability.

As such, potential impacts to wildlife movement during construction are less than significant and long-term there will be beneficial impacts to wildlife movement.

6.5 CONFLICTS WITH ORDINANCES, HABITAT CONSERVATION PLANS, ETC.

Will the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Will the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

One (1) 12-inch alder (Alnus rubra) will be removed as a result of project activities. As discussed in Section 5.1 Summary of Regulated Habitats, the various jurisdictions have ordinances that apply to tree removal and require mitigation for loss of ecosystem function.

Mitigation for the single tree removal will occur on-site at a ratio agreed upon with the regulatory agencies to replace the function of the mature alder tree. Three species (big leaf maple, willows and dogwood) will be planted to specifically mitigate for the removal of the one 12-inch alder. The trees will be monitored for a minimum of 5 years.

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Attachments

Attachment A

Table 1. Special Status Plant Species and Their Predicted Occurrence Within the Project Area, August 2024.

Scientific Name	Common Name	Status	Elevation (ft)	Bloom time	General Habitat	Rationale/ **Habitat Suitability/Observations**
Agrostis blasdalei	Blasdale's bent grass	CNPS List 1B.2	0 - 490	May-Jul	Coastal dunes, coastal bluff scrub, coastal prairie. Sandy or gravelly soil close to rocks; often in nutrient-poor soil with sparse vegetation.	**Not expected.** Documented in surrounding quads, but habitat is not present on site.
Amsinckia lunaris	bent-flowered fiddleneck	CNPS List 1B.2	10 - 1640	Mar-Jun	Coastal bluff scrub, Cismontane woodland, Valley and foothill grassland.	**Not expected.** Documented in surrounding quads, but habitat is not present on site.
Aphyllon robbinsii	Robbins broomrape	CNPS List 1B.1	0 - 330	Apr-Jul	Coastal bluff scrub, Rocky or sandy soil on bluffs, cliffs, landslides, or shell mounds; possibly on sand dunes.	**Not expected.** Documented in a surrounding quad, but habitat is not present on site.
Arctostaphylos andersonii	Anderson's manzanita	CNPS List 1B.2	195 - 2495	Nov-May	Broad-leafed upland forest, chaparral, north coast coniferous forest.	**Low potential.** Recorded within a 1-mile radius and habitat is present on site. However, species not observed on site during floristic surveys.
Arctostaphylos glutinosa	Schreiber's manzanita	CNPS List 1B.2	560 - 2245	Mar-Apr (Nov)	Closed-cone coniferous forest, Chaparral; diatomaceous shale	**Low potential.** Documented in surrounding quads, and habitat is present on site. Species not observed on site during floristic surveys.
Arctostaphylos ohloneana	Ohlone manzanita	CNPS List 1B.1	1475 - 1740	Feb-Mar	Closed-cone coniferous forest, Coastal scrub; siliceous shale	**Low potential**. Documented in surrounding quads, and habitat is present on site. Species not observed on site during floristic surveys.
Arctostaphylos regismontana	King's Mountain manzanita	CNPS List 1B.2	1000 - 2395	Dec-Apr	Broadleafed upland forest, Chaparral, North Coast coniferous forest; Granitic, Sandstone	**Low potential.** Documented in surrounding quads, and habitat is present on site. However, species not observed on site during floristic surveys.
Arctostaphylos silvicola	Bonny Doon manzanita	CNPS List 1B.2	395 - 1970	Jan-Mar	Closed-cone coniferous forest, Chaparral, Lower montane coniferous forest; inland marine sands	**Low potential.** Documented in surrounding quads, and habitat is present on site. However, species not observed on site during floristic surveys.
Astragalus agnicidus	Humboldt County milk-vetch	SE CNPS List 1B.1	395 - 2625	(Mar) Apr - Sep	Broadleafed upland forest, North Coast coniferous forest; Disturbed areas, Openings, Roadsides (sometimes)	**Not expected.** Documented in a surrounding quad, but disturbed/open habitat is not present on site.
Astragalus pycnostachyus var. pycnostachyus	coastal marsh milk-vetch	CNPS List 1B.2	0 - 180	(Apr-May) Jun-Oct	Freshwater alkaline wet meadows, seashore meadows, salt marshes.	**Not expected.** Recorded within a 5-mile radius, but habitat is not present on site.
Calyptridium parryi var. hesseae	Santa Cruz Mountains pussypaws	CNPS List 1B.1	1000 - 5020	May-Aug	Chaparral Cismontane woodland; Gravelly (sometimes), Openings, Sandy (sometimes)	**Not expected.** Documented in surrounding quads, but sandy/open habitat is not present on site.
Carex comosa	bristly sedge	CNPS List 2B.1	0 - 2050	May-Sep	Coastal prairie, Marshes and swamps (lake margins), Valley and foothill grassland	**Not expected.** Documented in a surrounding quad, but habitat is not present on site.
Chorizanthe pungens var. hartwegiana	Ben Lomond spineflower	FE CNPS List 1B.	295 - 2000	Apr-Jul	Lower montane coniferous forest intolerance to shade, restricted to open, sandy, often disturbed areas such as trail edges and gopher mounds	**Not expected.** Documented in surrounding quads, but sunny/ disturbed/sandy habitat is not present on site.

Cirsium andrewsii	Franciscan thistle	CNPS List 1B.2	0 - 490	Mar-Jul	Coastal bluff scrub, Coastal prairie, Coastal scrub; serpentine soils (sometimes)	**Not expected.** Documented in the Franklin Point quad and a surrounding quad, but habitat is not present on site.
Collinsia multicolor	San Francisco collinsia	CNPS List 1B.2	100 - 900	(Feb) Mar-May	Closed-cone coniferous forest, Coastal scrub; Serpentine (sometimes); On decomposed shale (mudstone) mixed with humus; distubance-dependent and favors open areas at the toe of steep slopes where soil movement has recently occurred	**Not expected.** Documented in surrounding quads, but sunny/ disturbed habitat is not present on site.
Dirca occidentalis	western leatherwood	CNPS List 1B.2	80 - 1395	Jan-Mar (Apr)	Broadleafed upland forest, Closed-cone coniferous forest, Chaparral, Cismontane woodland, North Coast coniferous forest, Riparian forest, Riparian woodland; On brushy slopes, mesic sites; mostly in mixed evergreen and foothill woodland communities	**Not expected.** Documented in surrounding quads, but habitat is not present on site.
Eriogonum nudum var. decurrens	Ben Lomond buckwheat	CNPS List 1B.1	165 - 2625	Jun-Oct	Chaparral, Cismontane woodland, Lower montane coniferous forest (maritime ponderosa pine sandhills)	**Not expected.** Documented in a surrounding quad, but habitat is not present on site.
Eriophyllum latilobum	San Mateo woolly sunflower	FE SE CNPS List 1B.1	150 - 1085	May-Jun	Cismontane woodland (often serpentinite, roadcuts), coastal scrub, lower montane coniferous forest; often on road cuts; moist shady locations on sparsely wooded or steep grassy slopes.	**Not expected.** Recorded within a 3- mile radius, but habitat is not present on site.
Erysimum ammophilum	sand-loving wallflower	CNPS List 1B.2	0 - 195	Feb-Jun (Jul-Aug)	Chaparral (maritime), Coastal dunes, Coastal scrub; Openings, Sandy	**Not expected.** Documented in the Franklin Point quad and surrounding quads, but habitat is not present on site.
Erysimum teretifolium	Santa Cruz wallflower	FE SE CNPS List 1B.1	395 - 2000	Mar-Jul	Chaparral, Lower montane coniferous forest; inland marine sands	**Not expected.** Documented in a surrounding quad, but habitat is not present on site.
Fissidens pauperculus	minute pocket moss	CNPS List 1B.2	35 - 3360	N/A	North Coast coniferous forest (damp coastal soil). In dry streambeds and on stream banks; Damp soils.	**Low potential**. Recorded within a 2-mile radius and habitat is present on-site. Species not observed during appropriately-timed floristic surveys.
Fritillaria liliacea	fragrant fritillary	CNPS List 1B.2	10 - 1345	Feb-Apr	Cismontane woodland, Coastal prairie, Coastal scrub, Valley and foothill grassland; Serpentine (often); various soils reported though usually on clay, in grassland	**Not expected.** Documented in the Franklin Point quad, but habitat is not present on site.
Grimmia torenii	Toren's grimmia	CNPS List 1B.3	1065 - 3805	N/A	Chaparral, cismontane woodland, lower montane coniferous forest. Openings, rocky, boulder and rock walls, serpentine, volcanic.	**Not expected.** Recorded within a 5-mile radius, but habitat is not present on site.
Grimmia vaginulata	vaginulate grimmia	CNPS List 1B.1	2247 - 3724	N/A	Chaparral (openings); boulder and rock walls, Carbonate, Rocky	**Not expected.** Documented in a surrounding quad, but habitat is not present on site.
Hesperevax sparsiflora var. brevifolia	short-leaved evax	CNPS List 1B.2	0 - 705	Mar-Jun	Coastal bluff scrub (sandy), Coastal dunes, Coastal prairie	**Not expected.** Documented in a surrounding quad, but habitat is not present on site.
Hesperocyparis abramsiana var. abramsiana	Santa Cruz cypress	FT SE CNPS List 1B.2	920 - 2625	N/A	Chaparral, closed-cone coniferous forest, lower montane coniferous forest	**Low potential.** Noted in IPAC (2024) and habitat is present on site. However, species not observed on site during appropriately-timed floristic surveys.

Hesperocyparis abramsiana var. butanoensis	Butano Ridge cypress	FT SE CNPS List 1B.2	1310 - 1610	Oct	Closed-cone coniferous forest, chaparral, lower montane coniferous forest	**Low potential.** Recorded within a 5-mile radius and habitat is present on site. However, species not observed on site during floristic surveys.
Horkelia cuneata var. sericea	Kellogg's horkelia	CNPS List 1B.1	35 - 655	Apr-Sep	Closed-cone coniferous forest, Chaparral (maritime), Coastal dunes, Coastal scrub; Gravelly (sometimes), Openings, Sandy (sometimes)	**Not expected.** Documented in surrounding quads, but habitat is not present on site.
Horkelia marinensis	Point Reyes horkelia	CNPS List 1B.2	15 - 2475	May-Sep	Coastal dunes, Coastal prairie, Coastal scrub; sandy	**Not expected.** Documented in surrounding quads, but habitat is not present on site.
Lasthenia californica ssp. macrantha	perennial goldfields	CNPS List 1B.2	15 - 1705	Jan-Nov	Coastal bluff scrub, coastal dunes, coastal scrub	**Not expected.** Recorded within a 5-mile radius but habitat is not present on-site.
Legenere limosa	legenere	CNPS List 1B.1	5 - 2885	Apr-Jun	Vernal pools	**Not expected.** Documented in a surrounding quad, but habitat is not present on site.
Leptosiphon rosaceus,	rose leptosiphon	CNPS List 1B.1	0 - 330	Apr-Jul	Coastal bluff scrub	**Not expected.** Recorded within a 5-mile radius but habitat is not present on-site.
Limnanthes douglasii ssp. sulphurea	Point Reyes meadowfoam	SE CNPS List 1B.2	0 - 460	Mar-May	Coastal prairie, meadows and seeps (mesic), marshes and swamps (freshwater), vernal pools	**Not expected.** Recorded within a 2-mile radius but habitat is not present on-site.
Malacothamnus arcuatus var. arcuatus	arcuate bushmallow	CNPS List 1B.2	50 - 1165	Apr-Sep	Chaparral, Cismontane woodland; gravelly alluvium; Openings	**Not expected.** Documented in surrounding quads, but habitat is not present on site.
Microseris paludosa	marsh microseris	CNPS List 1B.2	15 - 1165	Apr-Jun (Jul)	Cismontane woodland, closed-cone coniferous forest, coastal scrub, valley and foothill grassland; vernally moist to saturated sites.	**Not expected**. Recorded within a 5 mile radius but habitat is not present on-site.
Monolopia gracilens	woodland woollythreads	CNPS List 1B.2	330 - 3935	(Feb) Mar-Jul	Broadleafed upland forest (openings), Chaparral (openings), Cismontane woodland, North Coast coniferous forest (openings), Valley and foothill grassland; Openings; Sandy to rocky soils; serpentine	**Not expected.** Documented in surrounding quads, but habitat is not present on site.
Orthotrichum kellmanii	Kellman's bristle moss	CNPS List 1B.2	1125 - 2245	Jan-Feb	Chaparral, cismontane woodland. Sandstone outcrops with high calcium concentrations from eroded boulders out of non-calcareous sandstone bedrock. Rock outcrops in small openings within dense chaparral with overstory of scattered *Pinus attenuate*.	**Not expected.** Recorded within a 5-mile radius but habitat is not present on-site.
Pedicularis dudleyi	Dudleys lousewort	SR CNPS List 1B.2	195 - 2955	Apr-Jun	Chaparral (maritime), Cismontane woodland, North Coast coniferous forest, Valley and foothill grassland; partly shaded banks and terraces, often in rocky soils; coastal forests dominated by coast redwood; only in areas with both a low density of understory plants and a very thin layer of leaf litter.	**Not expected.** Documented in surrounding quads but habitat is not present on-site.
Penstemon rattanii var. kleei	Santa Cruz Mountains beardtongue	CNPS List 1B.2	1310 - 3610	(Mar) May-Jun	Chaparral, Lower montane coniferous forest, North Coast coniferous forest; Sandy shale slopes; sometimes in the transition between forest and chaparral.	**Not expected.** Documented in a surrounding quads, but habitat is not present on-site.

Pentachaeta bellidiflora	white-rayed pentachaeta	FE SE CNPS List 1B.1	115 - 2035	Mar-May	Cismontane woodland, Valley and foothill grassland (often serpentinite); sparsely vegetated sites.	**Not expected.** Documented in a surrounding quad, but habitat is not present on-site.
Pinus radiata	Monterey pine	CNPS List 1B.1	80 - 605	N/A	Closed-cone coniferous forest, Cismontane woodland; Dry bluffs and slopes within the maritime summer-fog zone.	**Not expected.** Documented in Franklin Pt and surrounding quads but not observed on-site.
Piperia candida	white-flowered rein orchid	CNPS List 1B.2	100 - 4300	(Mar-Apr)May-Sep	Broadleafed upland forest, Lower montane coniferous forest, North Coast coniferous forest; Sometimes on serpentine. Forest duff, mossy banks, rock outcrops	**Low potential.** Documented in a surrounding quads and habitat is present on-site. Species was not observed during appropriately-timed floristic surveys.
Plagiobothrys chorisianus var. chorisianus	Choris' popcornflower	CNPS List 1B.2	10 - 525	Mar-Jun	Chaparral, coastal prairie, coastal scrub; ephemeral sites such as vernally wet swales, vernal pools, and marsh edges.	**Not expected.** Recorded within a 2-mile radius but habitat is not present on-site.
Plagiobothrys diffusus	San Francisco popcornflower	SE CNPS List 1B.1	195 - 1180	Mar-Jun	Coastal prairie, Valley and foothill grassland	**Not expected.** Recorded within a 2-mile radius but habitat is not present on-site.
Rosa pinetorum	pine rose	CNPS List 1B.2	5 - 3100	May-Jul	Closed-cone coniferous forest, Cismontane woodland; seasonally moist areas in openings in pine forest or woodland; chaparral (sometimes)	**Not expected.** Documented in a surrounding quad, but habitat is not present on-site.
Senecio aphanactis	chaparral ragwort	CNPS List 2B.2	50 - 2625	Jan-Apr (May)	Chaparral, Cismontane woodland, Coastal scrub; Alkaline (sometimes); Drying alkaline flats	**Not expected.** Documented in surrounding quads, but habitat is not present on-site.
Silene scouleri ssp. scouleri	Scouler's catchfly	CNPS List 2B.2	0 - 1970	(Mar, May) Jun-Aug (Sep)	Coastal bluff scrub, coastal prairie, valley and foothill grassland; Grassy rocky slopes.	**Not expected.** Recorded within a 2-mile radius but habitat is not present on-site.
Silene verecunda ssp. verecunda	San Francisco campion	CNPS List 1B.2	100 - 2115	Feb) Mar-Jul (Aug)	Coastal bluff scrub, Chaparral, Coastal prairie, Coastal scrub, Valley and foothill grassland; Often mudstone or shale; Serpentine (sometimes)	**Not expected.** Documented in a surrounding quad, but habitat is not present on-site.
Stebbinsoseris decipiens	Santa Cruz microseris	CNPS List 1B.2	35 - 1640	Apr-May	Broadleafed upland forest, Closed-cone coniferous forest, Chaparral, Coastal prairie, Coastal scrub, Valley and foothill grassland; Openings, Loose disturbed soils; Serpentine (sometimes)	**Not expected.** Documented in surrounding quads, but habitat is not present on-site.
Stuckenia filiformis ssp. alpina	northern slender pondweed	CNPS List 2B.2	985 - 7055	May-Jul	Marshes and swamps (shallow freshwater)	**Not expected.** Documented in Franklin Pt and a surrounding quad, but habitat is not present on-site.
Trifolium buckwestiorum	Santa Cruz clover	CNPS List 1B.1	115 - 2000	Apr-Oct	Broadleafed upland forest, Cismontane woodland, Coastal prairie; Moist grasslands, gravelly margins	**Not expected.** Documented in surrounding quads, but habitat is not present on-site.
Trifolium polyodon	Pacific Grove clover	SR CNPS List 1B.1	15 - 1395	Apr-Jun (Jul)	Closed-cone coniferous forest, Coastal prairie, Meadows and seeps, Valley and foothill grassland; granitic (sometimes), Along small springs and seeps in grassy openings	**Not expected.** Documented in a surrounding quads, but habitat is not present on-site.

[1] Status includes Federal Threatened or Endangered/ State Threatened or Endangered

[2] FP = State Fully Protected

[3] SSC = State Species of Special Concern

[4] WL= State Watch List

Table 2. Special Status Wildlife Species and Their Predicted Occurrence Within the Project Area, August 5, 2024.

Scientific Name	Common Name	Federal Status	State Status	Habitat	Habitat Preference and Potential for Occurrence in Project Impact Areas
Actinemys marmorata	northwestern pond turtle	Proposed Threatened	SSC	Inhabits rivers, streams, ponds, sloughs and lakes. Nests in open upland habitats with sun exposure, including grasslands, and other open forest types with flowing and/or still water habitats.	**Moderate Potential.** Known to occur within a 5-mile radius (CNDDB, 2024) including Pescadero Marsh and Memorial Park. and noted in IPAC (IPAC 2024). Not known to occur on site and marginal habitat is present.
Agelaius tricolor	tricolored blackbird	None	ST SSC	Highly colonial species, most numerous in Central Valley & vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few km of the colony.	**Not expected.** Documented in surrounding quads, but habitat is not present on site.
Ammodramus savannarum	grasshopper sparrow	None	SSC	Grasslands with clumped vegetation interspersed with patches of bare ground. Moderately deep litter and sparse coverage of woody vegetation. Occasionally inhabit cropland, such as corn and oats.	**Not expected.** Documented in the Franklin Point quad and surrounding quads, but habitat is not present on site.
Aneides niger	Santa Cruz black salamander	None	SSC	Mixed deciduous woodland, coniferous forests, coastal grasslands. Adults frequently found near streams and under damp logs; areas of high moisture, particularly heavily shaded, wet streamside habitat. Juveniles may be found in a variety of upland habitats in small mammal burrows or under woodland debris. Aquatic habitat not required for breeding.	**High Potential**. One (1) documented occurrence in Big Basin Redwoods State Park. Suitable habitat is present on-site and in the surrounding redwood forest.
Antrozous pallidus	pallid bat	None	SSC	Found in arid regions with rocky outcroppings and open, sparsely vegetated grasslands with water available close by. Roosts in buildings, large tree hollows, rock outcrops and under bridges.	**Low Potential.** Recorded within a 5-mile radius but all occurrences are more than 50 years old. Not known to occur on site, but large trees with hollow cavities in surrounding habitat could provide roosting.
Aquila chrysaetos	golden eagle	None	FP/WL	Rolling foothills, mountain areas, sage-juniper flats and desert. Cliff-walled canyons provide nesting habitat in most parts of range; also large trees in open areas.	**Low Potential.** Documented in surrounding quads. May occur in the project area but would only nest in the upper watershed.
Asio otus	Long-eared owl	None	SSC	Riparian bottomlands grown to tall willows & cottonwoods; also, belts of live oak parallelling stream courses. Requires adjacent open land productive of mice and the presence of old nests of crows, hawks, or magpies for breeding.	**Not expected.** Documented in a surrounding quad, but habitat is not present on site.
Athene cunicularia	burrowing owl	None	SSC	Open grasslands, rangelands and agricultural areas, characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals	**Not expected.** Documented in a surrounding quad, but habitat is not present on site.

Bombus occidentalis	western bumble bee	None	Candidate Endangered	Live in a diverse range of habitats including mixed woodlands, farmlands, montane meadows, urban areas, and western grasslands Use above and below-ground micro-sites for overwintering and nesting, including logs, stumps, and abandoned rodent and ground-nesting bird nests. Generalist foragers that gather nectar and pollen from a wide variety of flowering plants.	**Low Potential.** Recorded within a 5-mile radius, including Pescadero State Beach, near the mouth of Gazos Creek, and Big Basin State Park, but all occurrences are more than 50 years old. Not known to occur on site, but flowering plants could provide nectar and pollen.
Brachyramphus marmoratus	marbled murrelet	FT	SE	Feeds near-shore and nests inland along coast in old growth redwood-dominated forests, up to six miles inland, often in Douglas firs. Needs large redwood tree branches for nesting.	**Presumed Present.** Recorded near project location just south of Butano Falls. Large redwood tree on property could support nesting. Nesting has not been observed.
Chaetura vauxi	Vaux's swift	None	SSC	Old-growth forests consisting of coniferous and deciduous vegetation. Nest in large, hollow trees (dead or alive). Forage for food in naturally occurring openings in the forest and along streams as well as high above the tree-tops. Migrate south to Mexico, Central America and northern Venezuela in mid-August to late September.	**Low Potential.** Documented in the project quad, and habitat could be present in surrounding habitat.
Charadrius nivosus nivosus	western snowy plover	FT	SSC	Coastal sandy beaches, salt pond levees & shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	**Not expected.** Recorded within a 5-mile radius and on IPAC, but habitat is not present on site.
Circus hudsonius	northern harrier	None	SSC	Breed in wide-open habitats ranging from Arctic tundra to prairie grasslands to fields and marshes. Nests are concealed on the ground in grasses or wetland vegetation. In migration and winter, harriers typically move south away from areas that receive heavy snow cover.	**Not expected.** Documented in surrounding quads, but habitat is not present on site.
Contopus cooperi	olive-sided flycatcher	None	SSC	Breed in various forest and woodland habitats: mixed coniferous-deciduous forest, burned-over forest, and along the forested edges of lakes, ponds, and streams. Nest in dead standing trees used as singing and feeding perches. Nests are placed most often in conifers, on horizontal limbs 2-15 meters from the ground	**Low Potential.** Documented in surrounding quads, and habitat could be present in surrounding habitat.
Corynorhinus townsendii	Townsend's big-eared bat	None	SSC	Found throughout California, feed in a wide variety of habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, and chaparral. Roots in crevices in cliff faces, high buildings, trees and tunnels. Typically, don't travel far from roost sites.	**Not expected.** Recorded within a 5-mile radius, including south of Gazos Creek and east of Pescadero, but occurrences are more than 20 years old. No known roosting habitat on-site.
Coturnicops noveboracensis	yellow rail	None	SSC	Require sedge marshes or meadows with moist soil or shallow standing water to breed. Inhabit densely vegetated sedge and coastal tidal marshes.	**Not expected.** Documented in a surrounding quad, but habitat is not present on site.

Cypseloides niger	black swift	None	SSC	Breeds in small colonies on cliffs behind or adjacent to waterfalls in deep canyons and sea-bluffs above the surf; forages widely.	**Not expected.** Documented in the Franklin Point quad and surrounding quads, but habitat is not present on site.
Danaus plexippus plexippus	Monarch butterfly	Candidate	None	Winter roost sites extend along the coast in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	**Low Potential.** Recorded within a 5-mile radius and noted in IPAC (IPAC 2024). coastal sites with eucalyptus, cypress, pines and doug fir for roosting and autumnal sites. Limited nectar plants on-site.
Dicamptodon ensatus	California giant salamander	None	SSC	Occur up to 6,500 ft in humid, cool, and moist coastal forests and valley-foothill riparian habitats. Live in or around streams in damp forests. Aquatic adults and larvae found in cool, rocky streams and occasionally lakes and ponds. Terrestrial adults found under surface litter and underground in tunnels. Eggs laid below surface in cold, slowly moving water environments beneath rocks and woody debris.	**High Potential.** Documented in redwood habitat in Big Basin State Park and upstream from Cloverdale Rd, in Butano State Park, and in Gazos Creek near Butano State park. Habitat is present on-site.
Elanus leucurus	white-tailed kite	None	FP	Savanna, open woodland, marshes, partially cleared lands and cultivated fields, mostly in lowland situations. Nests in trees, often near a marsh, usually 6-15 m above the ground in branches near the top of a tree, with new nests for each clutch.	**Not expected.** Documented in the Franklin Point quad and surrounding quads, but habitat is not present on site.
Empidonax traillii	willow flycatcher	None	SE	Nests primarily near slow streams, standing water or seeps, swampy thickets, especially of willow and buttonbush. Occurs in dense scrub, deciduous broadleaf forest, streamside gallery forest, and freshwater wetlands.	**Not expected.** Documented in a surrounding quad, but habitat is not present on site.
Entosphenus tridentatus	Pacific lamprey	None	SSC	Require cold, clear water for spawning and incubation. Sandy deposits, for juveniles, with vegetation cover and woody debris.	**Presumed present.** Present in San Mateo county (Quad search, 2024). Habitat present on site; known to occur 2 miles downstream of project site.
Eucyclogobius newberryi	tidewater goby	FE	SSC	Brackish water habitats along the California coast. Found in shallow lagoons and lower stream reaches in fairly still but not stagnant water and high oxygen levels.	**Not Expected.** Recorded within a 5 mile radius, but not on site (CNDDB 2024), and noted on IPAC (IPAC 2024). Habitat not present on site, no potential to occur.
Geothlypis trichas sinuosa	saltmarsh common yellowthroat	None	SSC	Found in freshwater and salt marshes with nearby willow thickets and dense understory. Nests in marshy areas that are usually higher off the ground, where they are safer from flooding	**Not expected.** Recorded within a 5-mile radius, but habitat is not present on-site.
Gymnogyps californianus	California condor	FE	SE	Usual habitat is mountainous country at low and moderate elevations, especially rocky and brushy areas with cliffs available for nest sites, with foraging habitat encompassing grasslands, oak savannas, mountain plateaus, ridges, and canyons. Often roost in snags or tall open-branched trees.	**Not expected.** Noted in IPAC (IPAC 2024), but habitat is not present on site.
Haliaeetus leucocephalus	bald eagle	Delisted	SE, FP	Breeds close to coastal areas, bays, rivers, lakes, reservoirs, or other bodies with abundant prey. Nests usually are in tall trees or on pinnacles or cliffs near water.	**Not expected.** Documented in the Franklin Point quad and surrounding quads, but habitat is not present on site.

				Preferentially roost in conifers or other sheltered sites in winter in some areas.	
Hesperoleucus venustus subditus	southern coastal roach	None	SSC	Generally found in small streams and isolated pools. Roach are most abundant in mid-elevation streams in the Sierra Nevada foothills and in lower reaches of some San Francisco Bay streams. Intolerant of saline waters. Most abundant when found by themselves. When alone, occupy open water in large pools; when found as part of complex fish assemblages will occupy shallow margins of pools.	**Low potential.** Present in San Mateo county (Quad search, 2024) and lowermost reaches of Butano Creek, but not observed 2 miles downstream of project site. Habitat on site marginal.
Lanius ludovicianus	loggerhead shrike	None	SSC	Common resident and winter visitor in open foothills and lowlands with scattered shrubs, trees, posts, or other viable perches. Found in open-canopied valley foothill hardwood, conifer, and riparian, as well as juniper, desert riparian, and Joshua tree habitats. Builds nests in densely foliaged shrub or tree 1.3 to 50 ft above ground.	**Not expected.** Documented in the Franklin Point quad and surrounding quads, but habitat is not present on site.
Lasiurus frantzii	western red bat	None	SSC	Typically roosts in the foliage of deciduous trees and shrubs in edge habitats near streams, open fields and orchards. Also, in mixed conifer-hardwood forests along the coast.	**Not expected.** Documented in the Franklin Point quad and surrounding quads, but habitat is not present on site.
Laterallus jamaicensis coturniculus	California black rail	None	ST, FP	Inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays. Needs water depths of about 1 inch that do not fluctuate during the year and dense vegetation for nesting habitat.	**Not expected.** Documented in a surrounding quad, but habitat is not present on site.
Neotoma fuscipes annectens	San Francisco dusky-footed woodrat	None	SSC	Found in a variety of wooded habitats with dense understory. Well- known for their large terrestrial stick houses. Less frequently found in dense communities. For the most part generalist herbivores. They consume a wide variety of nuts and fruits, fungi, foliage and some forbs.	**Low Potential.** Documented in the Franklin Point quad and surrounding quads. No nests observed on-site, but species could be present.
Oncorhynchus kisutch pop. 4	coho salmon - central California coast ESU	FE	SE	Spend 2 (range 1-3) growing seasons in the ocean before spawning. Spawning occurs in accessible coastal streams, generally in forested areas, usually at 6-12 C in loose coarse gravel at heads of riffles (or tails of pools). Hatchlings that have left the spawning site seek shallow water, usually along stream margins. Older juveniles prefer pools and runs with good cover, high oxygen levels, and abundant invertebrate populations.	**Presumed Present.** Not known to occur on site. However, project site currently provides suitable migratory, spawning, and rearing habitat. Four juveniles recently documented by SMRCD staff in Butano Creek at the Cloverdale Road bridge crossing (located approximately 2.0 miles downstream of the proposed project site) during snorkel surveys conducted in late August 2024 (as cited in Podlech, 2024).
Oncorhynchus mykiss irideus	steelhead	FT	FT	Hatch in gravel-bottomed, fast flowing, well oxygenated rivers and streams, and then migrate to ocean.	**Presumed Present.** Project site currently provides suitable migratory, spawning, and rearing habitat. Observed on site during habitat assessment on August 14, 2024 (Podlech, 2024).

Passerculus sandwichensis alaudinus	Bryants savannah sparrow	None	SSC	Prefers habitat with short to intermediate vegetation height, intermediate vegetation density, and a well developed litter layer. These preferred habitats cover a wide range of vegetation types, including alpine and arctic tundra, coastal salt marshes, sedge bogs, grassy meadows, and native prairie.	**Not expected.** Documented in surrounding quads, but habitat is not present on site.
Phrynosoma blainvillii	coast horned lizard	None	SSC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	**Not Expected.** Documented within a surrounding quad, but no habitat is present on-site.
Polyphylla barbata	Mount Hermon (=barbate) June beetle	None	SE	Sparsely vegetated parkland and other sandy areas within chaparral and ponderosa pine stands. Adult females are fossorial and larvae occur underground among roots. Narrow geographic range.	**Not Expected.** CNDDB occurrences are listed within a 5-mile radius, but no habitat is present on-site.
Progne subis	purple martin	None	SSC	Rare summer resident found in a variety of wooded, low elevation habitats throughout California, including valley foothill, montane hardwood, and riparian. Also occurs in coniferous habitats with pine, fir, and redwood. Often nests in tall, old-growth trees near water.	**Low Potential.** Documented in surrounding quads and habitat could be present on or adjacent to the site.
Rana boylii	foothill yellow-legged frog	FT	SE	Occur in partly-shaded, gently flowing shallow streams with a rocky substrate in a variety of habitats. Needs at least 15 weeks to attain metamorphosis.	**Not expected.** Noted in IPAC (2024). Species assumed to be extirpated from San Mateo County.
Rana draytonii	California red-legged frog	FT	SSC	Reside in or near streams, marshes, lakes and other bodies of water, but may also travel along riparian corridors and within damp forests and vegetation. Require 11-20 weeks of permanent water for larval development. Need access to upland habitat.	**Moderate Potential.** Documented occurrences downstream in Butano Creek and within dispersal distance of surrounding pond locations (CNDDB, 2024; IPAC (2024). Not know to occur on project site. Habitat is limited as a dispersal corridor as breeding and rearing habitat is not present.
Riparia riparia	bank swallow	None	ST	Colonial nester; nests primarily in riparian and other lowland habitats. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean.	**Not Expected.** CNDDB occurrences are listed within a 5-mile radius, but no habitat is present on-site.
Setophaga petechia	yellow warbler	None	SSC	Riparian plant associations; prefers willows, cottonwoods, aspens, sycamores, and alders for nesting and foraging, also nests in montane shrubbery in open conifer forests.	**Not Expected.** Documented within a surrounding quads, but no habitat is present on-site.
Speyeria zerene myrtleae	Myrtle's silverspot butterfly	FE	None	Found among wind-protected coastal dunes, coastal prairies and coastal scrub that have the caterpillar's host plant, Viola adunca	**Not expected.** Species assumed to be extirpated from San Mateo County.
Spirinchus thaleichthys	longfin smelt	Proposed endangered	ST	Resides along Pacific coast from California to Alaska in estuaries, lower portions of freshwater streams, and other nearshore waters.	**Not expected.** Recorded within a 5 mile radius but not on site (CNDDB 2024). Habitat not present on site.
Sternula antillarum browni	California least tern	FE	SE	Nest on beaches, mudflats, and sand dunes, usually near shallow estuaries and lagoons with access to	**Not expected.** Noted in IPAC (IPAC 2024), but habitat is not present on site.

				the near open ocean. They roost on the ground in unprotected areas of the coastal environment.	
Taricha rivularis	red-bellied newt	None	SSC	Lives in terrestrial habitats, juveniles generally underground, adults active at surface in moist environments. Usually breeds in flowing water. Lays eggs on undersides or rocks in foothill/mountain streams. Will migrate over 1 km to breed, typically in streams with moderate flow and clean, rocky substrate.	**Moderate potential.** Known to occur within a 5-mile radius, west of San Jose. Not known to occur on site but habitat is present.
Taxidea taxus	American badger	None	SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Digs burrows.	**Not expected.** Documented in the Franklin Point quad, but occurrence is more than 20 years old. Habitat is not present on site.
Thamnophis sirtalis tetrataenia	San Francisco gartersnake	FE	SE; FP	Preferred habitat is near densely vegetated freshwater marshes, ponds, and slow-moving streams with sunny upland to bask, feed, and for cover. Has been found up to 180 m away from water in rodent burrows on dry, grassy hillsides. Often basks on floating algae or rush mats or on grassy hillsides near drainages and ponds; seeks cover in bankside vegetation such as cattails, bulrushes, and spikerushes, and in rodent burrows. Can also be found in forests with dense canopies	**Low Potential**. Known to occur in Pescadero Marsh and in ponds downstream of the project areanear Butano Creek. Likely to be only transient through the area during foraging or migratory movements, as no suitable nesting habitat is present.
Trimerotropis infantilis	Zayante band-winged grasshopper	FE	None	Open sparsely vegetated sandy parklands among chaparral or ponderosa pine stands on the Zayante sand hills. Often co-occurs with the Endangered plant, Erysimum teretifolium and other endemics. Narrow geographic range.	**Not Expected.** CNDDB occurrences are listed within a 5-mile radius, but no habitat is present on-site.
Vireo bellii pusillus	least Bell's vireo	FE	SE	Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms, below 2000ft. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, baccharis, mesquite	**Not Expected.** One occurrence in a surrounding quad, but habitat not present on-site.

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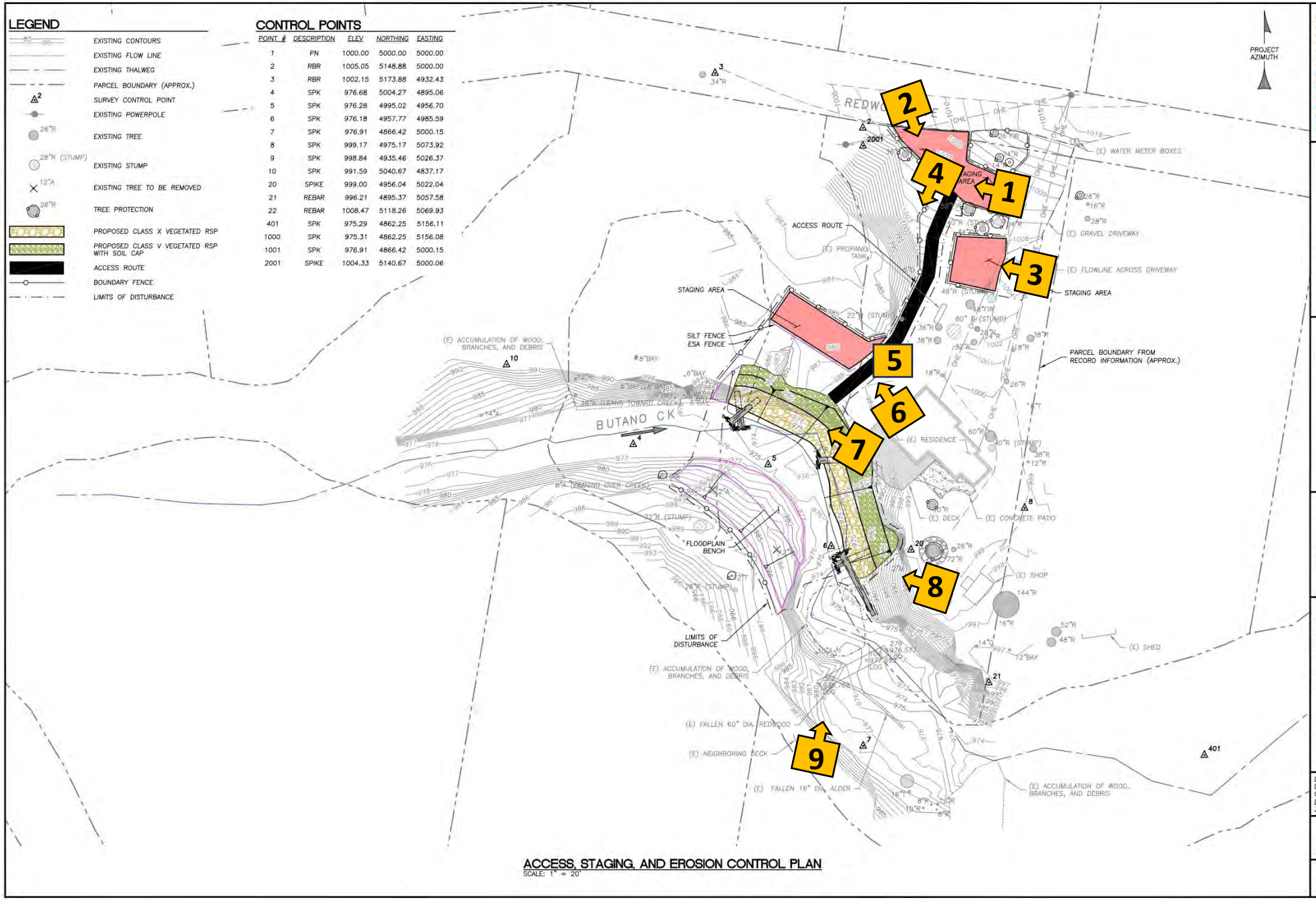
Attachment B

Photo Point: 1	Photo Point: 2
	
BEFORE (2024): Photo of Staging Area 1, located in existing gravel parking lot. Redwood avenue can be seen on right side of photo. Area is dominated by a redwood overstory.	BEFORE (2024): Staging Area 1. Vegetation, including wood sorrel, stachys, sword fern, California blackberry, strawberry, huckleberry, and English ivy grow on the outskirts of the parking area.
Photo Point: 3	Photo Point: 4
	
BEFORE (2024): Staging Area 2. Small drainage channel can be seen on left bottom side of photo. Approximately 10 sword ferns will be salvaged for replanting.	BEFORE (2024): Photo of upper extent of access road, looking down towards Butano Creek. Area is dominated by English Ivy, with instances of sword fern, thimbleberry, honeysuckle, and wood sorrel. Overstory is 100% redwood.
Photo Point: 5a	Photo Point: 5b
	
BEFORE (2024): Access road, looking towards upper extent. Approximately 8 sword ferns will be salvaged for replanting post construction.	BEFORE (2024): View of lower access road, facing towards Butano creek. Residence can be seen on left side of photo. Understory is composed of a mix of California blackberry and English ivy.

Photo Point: 5c	Photo Point: 6
	
BEFORE (2024): Staging Area 3. Understory is composed of a mix of California blackberry and English ivy. Swordfern, brackenfern, and wood sorrel are also present.	BEFORE (2024): View of lower extent of access road and Staging Area 3 from top of deck stairs. Butano Creek can be seen on lower left side of photo.
Photo Point: 7	Photo Point: 8
	
BEFORE (2024): View from deck looking downstream. Bank stabilization project will occur on left and floodplain modification will occur on the right of photo.	BEFORE (2024): Looking upstream from downstream extent of the project. Floodplain to be modified can be seen on the opposite side of Butano Creek.
Photo Point: 9	
	
BEFORE (2024): View of eroded bank beneath home. Taken from neighbor's property looking towards house.	



ACCESS, STAGING, AND EROSION CONTROL PLAN
SCALE: 1" = 20'

WATERWAYS CONSULTING INC.
509A SWIFT ST.
SANTA CRUZ, CA 95060
PH:(831)421-9291 // FAX:(888)819-6847
WWW.WATWAYS.COM

DRAFT
NOT FOR CONSTRUCTION

PREPARED AT THE REQUEST OF:
KATHY MALONEY

ACCESS, STAGING, AND EROSION CONTROL PLAN

301 REDWOOD AVENUE STREAMBANK STABILIZATION

65% DESIGN SUBMITTAL

DESIGNED BY: M.W.
DRAWN BY: K.B./B.Z.
CHECKED BY: M.W.
DATE: 8/19/24
JOB NO.: 19-052

BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

Attachment C

Table 1. Plants Identified within Project Areas with Wetland Indicator Status

			Staging Area			Temporary Access Road			
			1	2	3	Upper	Lower	Streambank Stabilization	Bench Excavation
Area (sq ft)			968.36	502	706	1120		3000	2080
Length (lf)			N/A	N/A	N/a	140		120	80
Disturbance Type			Temp	Temp	Temp	Temp	Temp	Temp	Temp
Total Vegetation Cover (%)			0	75	95	95	95	80	100
Success Criteria (% Native Cover)			N/A	50	70	15	70	15	50
Success Criteria (% Non-Native Cover)			N/A	25	25	80	25	65	50
Common Name	Botanical Name	Wetland Indicator Status	Presence in Project Areas						
Native Plants									
Herbaceous									
Redwood sorrel	*Oxalis oregana*	FACU	x	x	x	x	x		
Thimbleberry	*Rubus parviflorus*	FAC				x			
False solomon's seal	*Maianthemum racemosum*	FAC	x	x				x	
Sword fern	*Polystichum munitum*	FACU	x	x	x	x	x	x	
CA wild rose	*Rosa californica*	FAC	x	x		x			
CA blackberry	*Rubus ursinus*	FAC	x		x		x	x	
Wild strawberry	*Fragaria vesca*	UPL	x						
Hairy honeysuckle	*Lonicera hispidula*	FACU		x		x			
Trillium	*Trillium ovatum*	UPL		x					
CA hedgenettle	*Stachys bullata*	UPL	x	x					
Black huckleberry	*Vaccinium ovatum*	UPL	x			x			
Redwood violet	*Viola sempervirens*	UPL							
Horsetail	*Equisetum arvense*	FAC						x	x
Nut sedge	*Cyperus rotundus*	FAC						x	x
Brackenfern	*Pteridium aquilinum*	FACU						x	x
Trees									
Dogwood	*Cornus sericea*	UPL				x			
Willow	*Salix sp.*	FAC							x
Redwood	*Sequoia Sempervirens*	UPL	x	x	x	x	x	x	
Tan oak	*Notholithocarpus densiflorus*	UPL	x	x	x	x	x		x
Interior live oak	*Quercus wislizeni*	UPL	x						
California bay laurel	*Umbellularia californica*	FAC		x	x		x	x	
Alder	*Alnus rubra*	FACW							x

Hazelnut	*Corylus cornuta*	FACU	x						
Big leaf maple	*Acer macrophyllum*	FAC			x	x	x	x	
Non- Native/ Ornamental Plants									
English ivy	*Hedera helix*	FACU	x	x	x	x	x	x	x
Iris	*Iris sp.*			x	x		x	x	x
Garden montbretia	*Crocosmia x crocosmiiflora*	FACU						x	
Persian walnut*	*Juglans regia*	UPL							x
Pittosporum	*Pittosporum sp.*	UPL							x
Veldtgrass	*Ehrharta erecta*	UPL						x	
Hydrangea	*Hydrangea sp.*	UPL						x	
Common vetch	*Vicia angustifolia*	UPL			x		x		

Attachment D

Table 1. Birds Identified within Project and Surrounding Areas (September 26, 2024)

Acorn Woodpecker *Melanerpes formicivorus*	Lesser Goldfinch *Spinus psaltria*
American Barn Owl *Tyto furcata*	Marbled Murrelet *Brachyramphus marmoratus*
American Crow *Corvus brachyrhynchos*	Northern Flicker *Colaptes auratus*
American Goldfinch *Spinus tristis*	Northern Pygmy-Owl *Glaucidium gnoma*
American Kestrel *Falco sparverius*	Northern Saw-whet Owl *Aegolius acadicus*
American Robin *Turdus migratorius*	Orange-crowned Warbler *Leiothlypis celata*
Anna's Hummingbird *Calypte anna*	Pacific Wren *Troglodytes pacificus*
Band-tailed Pigeon *Patagioenas fasciata*	Pileated Woodpecker *Dryocopus pileatus*
Barn Swallow *Hirundo rustica*	Pine Siskin *Spinus pinus*
Belted Kingfisher *Megaceryle alcyon*	Purple Finch *Haemorhous purpureus*
Bewick's Wren *Thryomanes bewickii*	Pygmy Nuthatch *Sitta pygmaea*
Black Phoebe *Sayornis nigricans*	Red Crossbill *Loxia curvirostra*
Black-headed Grosbeak *Pheucticus melanocephalus*	Red-breasted Nuthatch *Sitta canadensis*
Black-throated Gray Warbler *Setophaga nigrescens*	Red-breasted Sapsucker *Sphyrapicus ruber*
Brown Creeper *Certhia americana*	Red-shouldered Hawk Buteo lineatus
Bushtit *Psaltriparus minimus*	Red-tailed Hawk *Buteo jamaicensis*
California Quail *Callipepla californica*	Ruby-crowned Kinglet *Corthylio calendula*
California Scrub-Jay *Aphelocoma californica*	Song Sparrow *Melospiza melodia*
California Towhee *Melozone crissalis*	Spotted Towhee *Pipilo maculatus*
Chestnut-backed Chickadee *Poecile rufescens*	Steller's Jay *Cyanocitta stelleri*
Common Raven *Corvus corax*	Swainson's Thrush *Catharus ustulatus*
Cooper's Hawk *Astur cooperii*	Townsend's Warbler *Setophaga townsendi*
Dark-eyed Junco *Junco hyemalis*	Turkey Vulture *Cathartes aura*
Downy Woodpecker *Dryobates pubescens*	Varied Thrush *Ixoreus naevius*
Fox Sparrow *Passerella iliaca*	Warbling Vireo *Vireo gilvus*
Golden-crowned Kinglet *Regulus satrapa*	Western Flycatcher *Empidonax difficilis*
Golden-crowned Sparrow *Zonotrichia atricapilla*	Western Screech-Owl Megascops kennicottii
Great Blue Heron *Ardea herodias*	Western Tanager *Piranga ludoviciana*
Great Horned Owl *Bubo virginianus*	White-crowned Sparrow *Zonotrichia leucophrys*
Hairy Woodpecker *Dryobates villosus*	Wild Turkey *Meleagris gallopavo*
Hermit Thrush *Catharus guttatus*	Wilson's Warbler *Cardellina pusilla*
Hermit Warbler *Setophaga occidentalis*	Wrentit *Chamaea fasciata*
House Finch *Haemorhous mexicanus*	Yellow-rumped Warbler *Setophaga coronata*
Hutton's Vireo *Vireo huttoni*	

Attachment E

Butano Canyon Habitat and Streambank Restoration Project

Revegetation Plan

January 25, 2025

Project Description
In order to 1) Improve the complexity of in-stream habitat for native fish and other wildlife through the addition of large wood, 2) Improve the long-term environmental health of Butano Creek, 3) Reduce or prevent additional bank erosion within the treatment reach to limit the downstream impacts of erosion to spawning habitat, public infrastructure and water quality, and 4) Protect the existing residence and remaining large redwood trees adjacent to the creek, the following activities will be completed:

East (Left) Streambank

Bank stabilization of approximately 100 ft of the left (east) streambank will be achieved through a combination of rock armoring and bioengineering, including incorporation of riparian planting within the rock slope protection (RSP) and three log/rootwad structures at the toe of the slope. Work on the left bank of Butano Creek will involve the reshaping of the bank slope and the placement of rock revetment to halt erosion. A total of 390 cubic yards (cy) of streambank will be excavated and off-hauled to the local landfill. Then, a 50 cy rock filter layer (in lieu of filter fabric) will be placed along the entire stretch of streambank, followed by the placement of 425 cy of Class X RSP and 74 cy of Class V RSP. The Class V and Class X RSP will be backfilled with smaller rock and vegetation will be planted within the fill. 10 cy of the soil that was excavated from the floodplain (for a total of approximately 560 cy) will be placed over the Class V RSP as a soil cap to assist with the establishment of the revegetation and biodegradable slope protection fabric will be installed over the soil cap to hold it in place. In addition, there will be 36 cy of wood and 28 cy of boulders placed along the streambank. Of the total of 560 cy of soil placed along the streambank, 220 cy of fill will occur below the ordinary high water mark (OHWM) and 340 cy be placed above OHWM.

Revegetation of the class V rock is limited to hardy species that can withstand high stream flows and will add to the structural strength and stability of the re-constructed stream bank. Plantings in this area will predominantly consist of willow cuttings harvested on site and planted 5' on center, along with dogwood and big leaf maple cuttings. In addition, two large giant chain fern, located at the toe of the slope and a few clumps of horsetail, will be salvaged and replanted after construction at the toe of slope. Above the 100-year water surface elevation, the class X rock will be planted with a diverse palette developed based on native species already present at the site or those that do well in the riparian corridors of redwood forests. They will be planted in a natural planting scheme to promote site aesthetics as well as functionality in a manner representative of upstream and downstream reference sites. To the greatest extent possible, native plants from the property will be collected on site for use in replanting, including sword fern, Douglas iris, bracken fern, nutsedge and thimbleberry. Additional plants, native to the Butano or Pescadero watersheds, will be used depending on availability, including California blackberry, wild rose, hairy honeysuckle, red flowering currant, huckleberry, creek monkey flower, snowberry, and California bee plant.

West (Right) Streambank

Approximately 130 cy of the vegetated sediment deposit on the west streambank will be excavated and re-shaped to a gentler and more stable 2:1 slope and will be covered by a biodegradable slope protection fabric. This will

serve to increase the width of the stream channel that carries flow, expand the area of floodplain on the west streambank, and increase the frequency with which this land is inundated by stream flows. A portion (~10 cy) of this material will be incorporated into the bank stabilization project on the left streambank. The remaining approximately 120 cy of excavated material will be hauled offsite to the local landfill. One 12-inch diameter at breast height (dbh) alder will be removed from the floodplain on the west streambank. This tree would be salvaged for re-planting back within the Project Site, if possible. Other woody debris salvaged from the clearing of the project area will be placed as slash on the floodplain bench and adjacent slope (Figures 1 and 2).

Goal of Mitigation

The goal of the proposed mitigation is to ensure that all temporary impacts to vegetation disturbed during project implementation are restored to pre-construction conditions or better and to ensure that no new invasive species are introduced to the project site.

IMPACTED AREAS

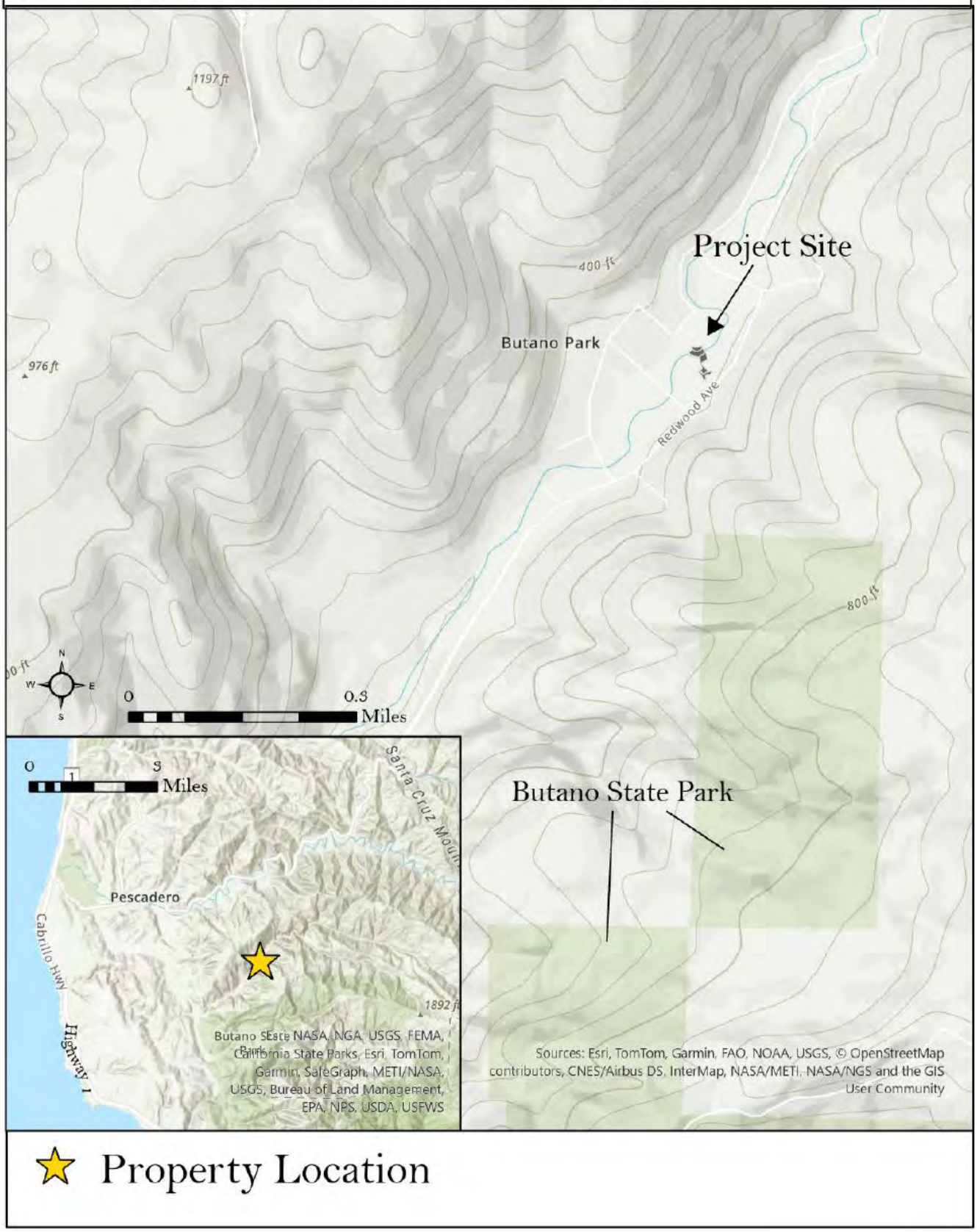
Impacts within Uplands Habitat

This area is a redwood forest and woodland community.

Temporary Staging Area 1: Staging area 1 is an existing parking and 'pull through' area within the residential footprint. It is located along Redwood Ave. and will result in ~970 sq ft of temporary impacts (Figure 3). Given the on-going disturbance and dense redwood canopy, this area has 0% vegetated cover and is 100% redwood duff (Photos 1A-1C; Table 4). The staging Area 1 is more than 100 ft from the creek. All impacts will be temporary. Given the on-going use of this area for residential access and the current lack of vegetation, mulching will occur in areas of bare soil, with the goal of erosion control.

PHOTOS 1A-1C. STAGING AREA 1 ADJACENT TO REDWOOD AVE.

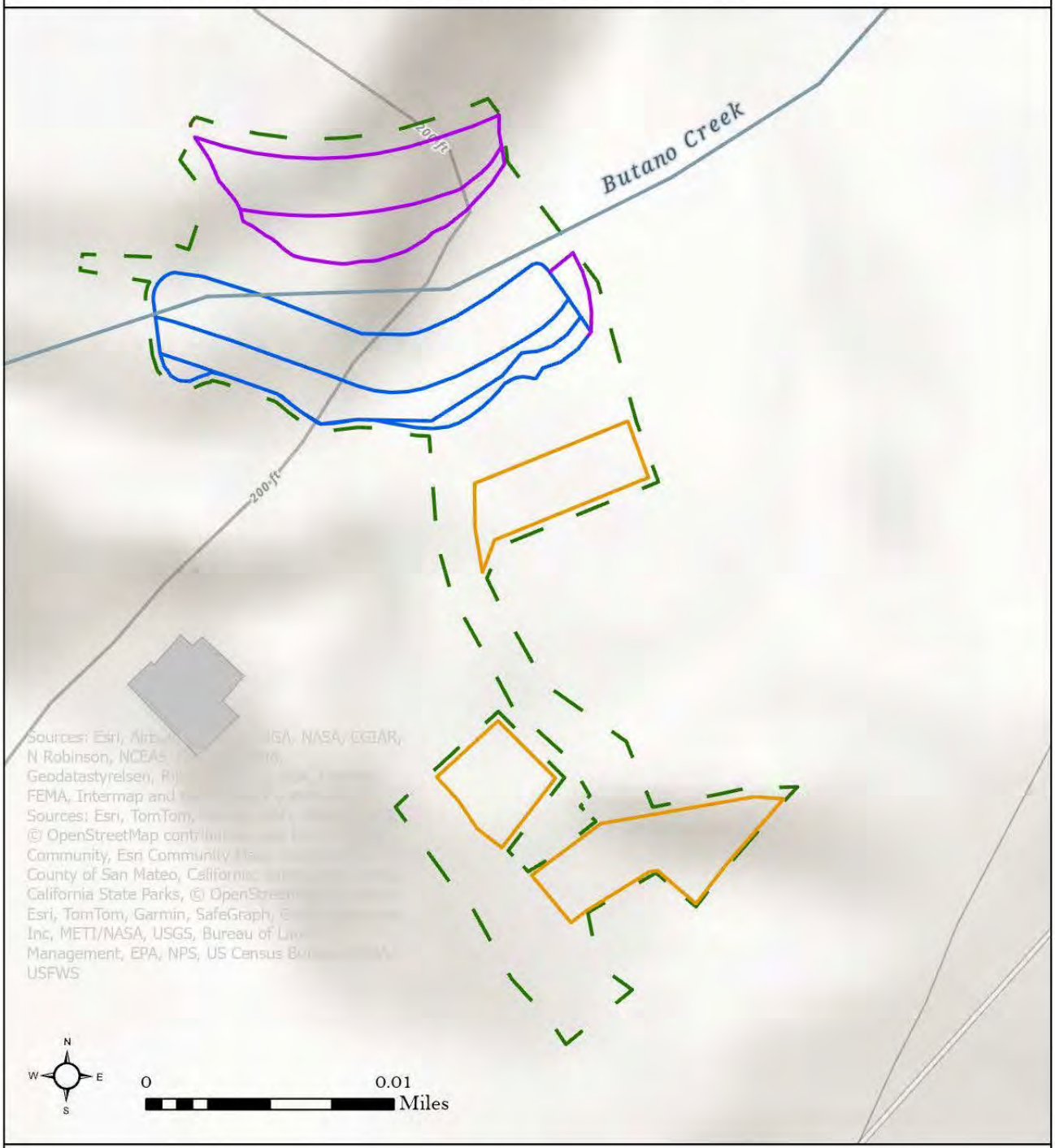
Figure 1. Property Location Map
Butano Canyon Habitat and Streambank Restoration Project



★ Property Location

Figure 2. Project Location Map
Butano Canyon Habitat and Streambank Restoration Project

Figure 3. Treatment Areas Map
Butano Canyon Habitat and Streambank Restoration Project



Temporary Staging Area 2: Staging area 2 will be located to the east of the driveway between the O'Connell Cabin sign (in the foreground) and the propane tank (in the background) (Figure 3). It will result in 502 sq ft of temporary impacts. This area has a 100% redwood overstory with an understory of 70% native, 10% non-native and 20% redwood duff (Photos 2A-2B; Table 4). This area is less than 100 feet from the creek and water quality protection measures will be implemented, per the permit requirements, to ensure that there are no impacts to the stream. All impacts will be temporary, and revegetation will occur with the goal of erosion control and to restore the area to pre-construction condition or better.

PHOTOS 2A - 2B. STAGING AREA 2 TO THE EAST OF THE DRIVEWAY, BETWEEN THE O'CONNELL CABIN SIGN AND THE PROPANE TANK.

Temporary Staging Area 3: Staging area 3 will be in a flat area, east of the home and will result in 706 sq ft of temporary impacts (Figure 3). There is currently 95% vegetation cover with a ratio of 70% natives and 25% non-natives (Photos 3A - 3B; Table 4). This area was historically connected to Butano Creek but has been disconnected for 30+ years due to channel incision. This area is less than 100 feet from the creek and water quality protection measures will be implemented, per the permit requirements, to ensure that there are no impacts to the stream. All impacts will be temporary, and revegetation will occur with the goal of erosion control and to restore the area to pre-construction condition or better.

PHOTOS 3A -3B. STAGING AREA 3, VIEW FROM THE DECK (PHOTO ON LEFT); FROM THE EDGE OF STREAMBANK (PHOTO ON RIGHT)

Temporary Access Road (8x140 ft): A temporary access road will be constructed to allow for equipment access to Butano Creek and Staging Area 3 (Figure 3). The temporary access road starts from Staging Area 1 and ends at Butano Creek. The upper portion of the road has 95% vegetated cover with a ratio of 15% natives and 80% non-natives (Photos 4A-4C; Table 4). The lower 40 lf of road is currently 95% vegetation cover with a ratio of 70% natives and 25% non-natives (Figures 5B -5C; Table 4). The lower road is less than 100 feet from the creek and water quality protection measures will be implemented, per the permit requirements, to ensure no impacts to the stream. All impacts will be temporary, and revegetation will occur with the goal of erosion control and to restore the area to pre-construction condition or better.

PHOTOS 4A-C. TEMPORARY ACCESS ROAD: UPPER EXTENT SHOWN ABOVE; LOWER EXTENT SHOWN ON BOTTOM LEFT IMAGE; BOTTOM RIGHT PHOTO TAKEN FROM FURTHER DOWN THE ACCESS ROAD, LOOKING UP TO UPPER EXTENT.

Impacts within Stream Channel

To address erosion on the east streambank, approximately 390 cubic yards (cyd) of soil will be excavated over a total area of 0.06 acres (97 LF) to create a 1.5:1 slope (Photo 4; Figures 3 and 4). Of this total, 176 cyd will occur below the ordinary high water mark (OHWM). Approximately 137 cyd will be excavated over a total area of 0.03 acres (125 LF) for the floodplain bench component on the west bank, with 4 cyd cut below the OHWM.

PHOTO 4 (LEFT). VIEW OF EAST STREAMBANK PHOTO TAKEN FROM MID-STREAM, ANGLED UPSTREAM. PROPERTY OWNER'S DECK CAN BE SEEN IN TOP RIGHT.

PHOTO 5 (RIGHT). VIEW OF DOWNSTREAM PORTION OF PROJECT. PHOTO TAKEN FROM PROPERTY OWNER'S DECK, ANGLED DOWNSTREAM.

In total, 526 cyd will be cut as a result of bank stabilization and floodplain project activities (above and below the OHWM). Approximately 516 cyd of this excavated material will be off-hauled to a local landfill. Approximately 10.2 cyd of fill taken from the floodplain (1.5 below OHWM) will be used to reshape the excavated eastern streambank along with the following materials: 2.7 cyd of a Class V RSP buttress (2.5 ft min thickness), 16 cyd of a rock filter layer (0.5 ft min thickness), 318 cyd of a Class X RSP (5.25 ft min thickness), 36 cyd of wood, and 28 cyd of boulders to anchor the logs. All rock will be planted with a diverse palette of native vegetation (to be described later in the document).

The dewatering system consists of a cofferdam, diversion pipe, settling tank, and dewatering pipe, which will result in a temporary fill total of 73.2 cyd, with 56.5 cyd occurring below the OHWM. The diversion pipe will be approximately 242 lf in length.

The floodplain bench (west bank) currently has 100% cover, with 50% native and 50% non-native (Photo 5; Table 4). The bank stabilization component (east bank) currently has 80% total cover with 15% native and 65% non-native/ornamental cover (Table 4).

Impacts within the Riparian Zone

To address erosion on the east streambank, approximately 390 cubic yards (cyd) of soil will be excavated over a total area of 0.10 acres (97 LF) to create a 1.5:1 slope (Photo 6; Figure 3 and 4). Of this total, 214 cyd of cut will occur above the ordinary high water mark (OHWM). For the floodplain component (west bank), 133 cyd of cut will occur above the OHWM.

PHOTO 6. VIEW OF EAST STREAMBANK; PHOTO TAKEN FROM NEIGHBOR'S PROPERTY, LOOKING ACROSS BUTANO CREEK.

PHOTO 7. VIEW OF FLOODPLAIN ON NEIGHBOR'S SIDE OF BUTANO CREEK, LOOKING UPSTREAM.

In total, 526 cyd will be cut as a result of bank stabilization and floodplain project activities (above and below the OHWM). Approximately 516 cyd of this excavated material will be off-hauled to a local landfill. Approximately 10.2 cyd of fill taken from the floodplain (8.7 cyd above the OHWM) will be used to reshape the excavated eastern streambank along with the following materials: 71 cyd of Class V RSP, 35 cyd of rock filter layer, 107 cyd of Class X RSP, and 1 cyd of wood. All rock will be replanted to a diverse palette of native vegetation.

The dewatering system consists of a cofferdam, diversion pipe, settling tank, and dewatering pipe, which will result in a temporary fill total of 73.2 cyd, with 16.7 cyd occurring above the OHWM. The diversion pipe will be approximately 242 lf in length. One (1) 12-inch alder will be removed from the floodplain on the west streambank and re-incorporated into the floodplain with brush and slash, when grading is finished.

The floodplain bench (west bank) currently has 100% cover, with 50% native and 50% non-native (Photo 7; Table 4). The bank stabilization component (east bank) currently has 80% total cover with 15% native and 65% non-native/ornamental cover (Table 4).

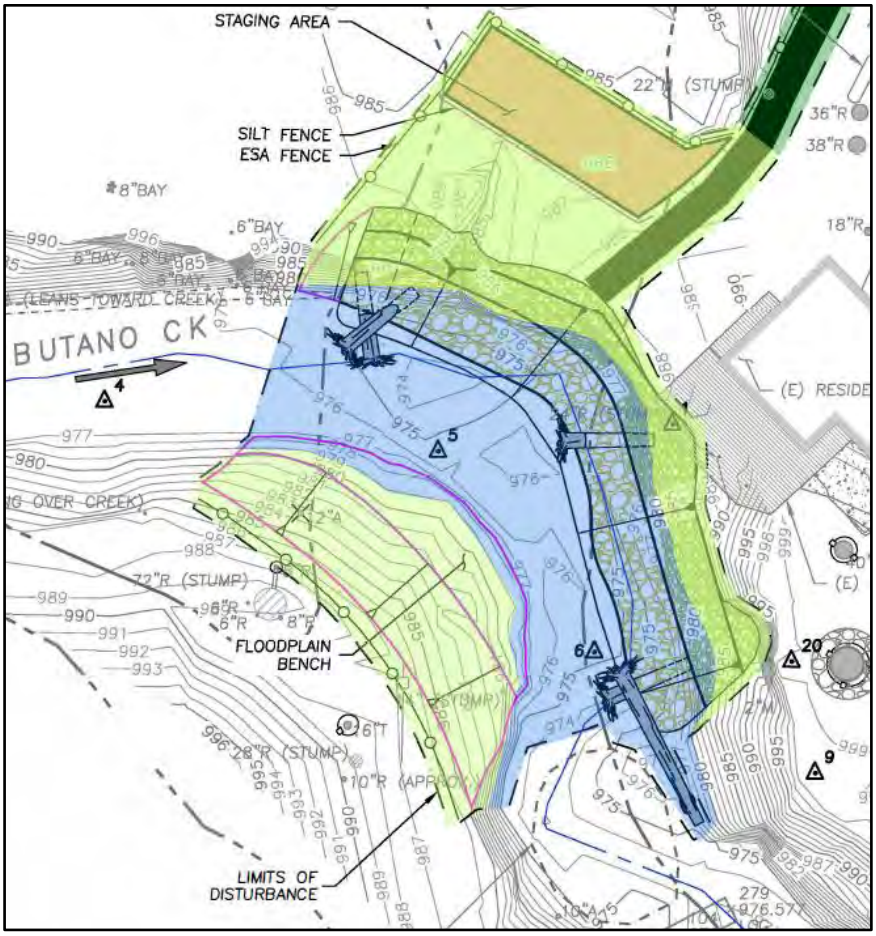


FIGURE 4. OVERVIEW OF PROJECT ACTIVITIES. THE AREA SHOWN IN BLUE REPRESENTS ACTIVITIES IN THE STREAM CHANNEL (BELOW OHWM); AREAS IN LIGHT GREEN ARE CONSIDERED RIPARIAN ZONE (ABOVE OHWM).

REVEGETATION PLAN, IMPLEMENTATION AND MAINTENANCE

Existing functions and values of mitigation area

The plant communities within the project area include redwood forest and woodland with some riparian trees along Butano Creek. There is a diversity of native understory vegetation but a high prevalence of non-native English ivy that can limit seedling establishment and reduce the quality of habitat for native wildlife species. Given the density and proximity of residences to the riparian corridor, a large portion of the vegetation understory along the stream channel includes ornamental plants, such as hydrangea and iris, which also provide limited food and value of native wildlife.

Butano Creek, within the project site, currently provides suitable migratory, spawning, and rearing habitat for CCC steelhead and CCC coho salmon. However, the continued input of fine sediment from the eroding left bank and as well as a reach-wide lack of seasonally activated floodplain habitat present factors limiting habitat suitability and recovery of salmonid species and other endemic wildlife. On-going erosion also results in the loss of property and streambank vegetation, as vertical banks provide less surface area for plant establishment.

The surrounding watershed was impacted by the 2020 CZU wildfire, which burned up to Redwood Ave. on the southeast side of the road. The project area was not directly impacted.

Target functions and values of habitat

Plantings of salvaged material, container plants, willow cuttings, native seed, and passive revegetation will serve to increase the available habitat area and diversity of native habitat for wildlife species and reduce soil erosion. The site will be restored to pre-construction condition or better to enhance wildlife habitat. Given the prevalence of English ivy in the watershed, efforts for eradication are infeasible. Instead, the non-native plant will be managed around salvaged and container plants, to allow successful establishment.

The placement of three (3) large wood structures on the east and the incorporation of the removed 12-inch alder on the west bank will improve in-stream cover, and may result in improved sorting of gravels and pool formation.

Jurisdictional delineation

The site did not meet any of the three criteria for determining a USACOE or Environmentally Sensitive Habitat Areas (ESHA) wetland, therefore it was determined to be designated as stream channel and riparian habitat.

General maintenance activities and weed management for all areas

Qualified restoration specialists, with experience in the identification, installation, and establishment of California native plant materials for revegetation, will manage the replanting, monitoring, and maintenance of the project.

The approach to the mitigation planting is to salvage native plants, utilize passive revegetation and hardy native plant species that are adapted to thriving under shady conditions and are quick to establish, particularly to outcompete the non-native English ivy, prevalent within the watershed. All areas will be closely monitored to ensure non-natives do not become established at ratios greater than pre-construction due to disturbance. During the maintenance period, replacement plants may be utilized to achieve this performance metric. Substitutions of native plants with other similar native plant species may be utilized where native plant species do not perform well enough to meet or exceed performance criteria.

Maintenance activities for invasive plant removal will rely primarily on hand tools to maintain a weed free zone around native container plantings, salvaged material and natural recruitment. The planting basin of all native plants will be maintained weed free for at least the first year of native plant establishment or until the plants are

of sufficient height to shade out non-natives. Container plants will be from material sourced locally on-site or within the watershed.

Weed-free woodchip mulch or collected redwood duff will be utilized outside of high-water flows for weed suppression and to reduce the need for irrigation. Weed-free straw can be used on the streambank and floodplain bench, as an erosion control blanket will hold it in place. Weeding will be utilized to achieve the project's performance criteria and is expected to include a minimum of three inspection of the project areas annually. Any invasive plant species not previously at the site will be removed from the site during the 5-year monitoring period.

Equipment will be inspected prior to mobilization on-site and must be weed free prior to initiating construction activities.

Monitoring Methods

Native cover, species richness, and natural recruitment will be documented through visual observations and photo documentation by qualified individuals.

For the planted areas, herbaceous species composition will be measured by visual estimation of cover for native versus non-native species. Native recruitment (e.g. seedlings) of native species will be recorded within that visual estimate.

Monitoring data sheets will be completed once per year in early summer when most (expected) species will be obvious. Data sheets should list all species encountered in each monitoring and have entry fields for planted/ recruited, native/non-native, etc. Each monitoring session should have a separate tab and species should be listed in corresponding lines on each tab to allow easy comparison and analysis from year to year, and the site should be visited in winter rainy season to note effects of water movement and erosion.

Mitigation Actions and Success Criterion

Staging Area 1. Staging Area 1 is an existing driveway/pull out area that has a redwood overstory and an understory of 0% cover and 100% redwood duff. Vegetation adjacent to this disturbed area is primarily wood sorrel with a few other herbaceous plants including but not limited to hedgenettle, wild strawberry, sword fern, and California rose (Table 4). There are also few small native trees (<1-inch dbh), including tan oak and hazelnut. Environmentally Sensitive Area (ESA) fencing will be installed to delineate and protect these adjacent plants from disturbance. Since staging area 1 is used as a parking area, the site will be stabilized with wood chips, redwood duff or weed free rice straw for 1st year erosion control.

Monitoring and Maintenance: Staging Area 1 will be monitored twice during the rainy season during the first year to ensure that the erosion control mulch remains in place and there is no erosion or sediment transport to the stream.

Success criteria: Project area will have 80%+ cover of mulch/duff in Year 1.

Staging Areas 2 and 3 and the Temporary Access Road. For the Staging Areas 2 and 3 and for the temporary access road, the approach for mitigation is to revegetate through salvage, container plants, and passive revegetation/ natural recruitment to revegetate the project area. The percentage of current cover (Table 4) will be achieved and native to non-native ratios will be maintained at current ratios or better. If the success criteria is not met after two consecutive growing seasons, additional plantings will occur. Based on post-fire recovery of the surrounding area, natural recruitment will be an efficient means to substantially contribute to the revegetation criteria.

To compete with the existing English ivy in and surrounding Staging Area 2, fast growing and hardy species, such as swordfern, wild rose, and dogwood will be harvested from the area prior to disturbance activities. Salvaged

material will be kept in a shaded location and watered once per week until it can be replanted after construction is complete. Creeping red fescue (*Festuca rubra)*, a shade tolerant native grass, will be seeded at a rate of 8 lbs/ acre. Seed will be hand broadcast into a clean, firm seedbed at a depth of ¼ inch.

To compete with the existing English ivy in and surrounding Staging Area 3 and the lower portion of the Temporary Access Road, bracken fern, which are fast growing and hardy, will be harvested from the Temporary Access Road prior to disturbance activities. Salvaged material will be kept in a shaded location and watered once per week until it can be replanted after construction is complete. Common barley (*Hordeum vulgare*) will be seeded as temporary erosion control at a rate of 200 lbs/ acre. Seed will be hand broadcast into a clean, firm seedbed at a depth of ¼ inch. The surrounding California blackberry is expected to re-colonize and cover the disturbed areas within 2 years.

To compete with the existing English ivy in and surrounding the upper portion of the Temporary Access Road, fast growing and hardy species, such as swordfern, wild rose, and thimbleberry will be harvested from the area prior to disturbance activities. Salvaged material will be kept in a shaded location and watered once per week until it can be replanted after construction is complete. Creeping red fescue (*Festuca rubra)*, a shade tolerant native grass will be seeded at a rate of 8 lbs/ acre. Seed will be hand broadcast into a clean, firm seedbed at a depth of ¼ inch.

Monitoring: Temporary staging areas 2 and 3 and the temporary access road will be monitored twice during the rainy season the first year to ensure there is no erosion or sediment transport to the stream. Vegetation and erosion control measures will be monitored twice during the first rainy season and annually thereafter at appropriate times of year when species identification is most reliable and continue until success criteria are met. The qualified individual will review the pre-species list (see table 4) and compare it to current conditions and record total percent cover and species ratio.

Success criteria: Project area will meet or exceed the following by year 5.

- Staging Area 2: Pre-construction 75% cover (50% native/25% non-native)
- Staging Area 3: Pre-construction 95% cover (70% native/25% non-native)
- Temporary Access Road (upper portion): Pre-construction 95% cover (15% native/80% non-native).
- Temporary Access Road (lower portion): Pre-construction 95% cover (70% native/25% non-native).

Streambank Stabilization: After grading, rock slope protection will be installed on top of a 0.5 ft thick rock filter layer to stabilize the 1.5:1 slope. The class X RSP will be backfilled with stream substrate and planted with willow cuttings, harvested on site and placed between the rock voids at 5 -8 ft o.c. spacing. A 4-inch-thick layer of soil will be placed on top of the class V RSP (above the 100 year water surface elevation (WSE). The finished slope will be covered with 100% biodegradable *North American green rollmax bionet c700BN* (or approved equal) and 9" *Earth Saver Biodegradable Rice Straw Wattles* (or approved equal) will be installed at 10-15' intervals.

The plant palette has been derived from a list of native species already present at the site and will be planted in a natural planting scheme to promote site aesthetics as well as functionality in a manner representative of upstream and downstream reference sites (Figure 5). To the greatest extent possible, native plants from the property will be collected on site for use in replanting including horsetail, giant chain fern, swordfern, Douglas iris (*Iris douglasiana*), brackenfern, nutsedge and thimbleberry. Native willow will be harvested on-site and dogwood slips will be procured for planting.

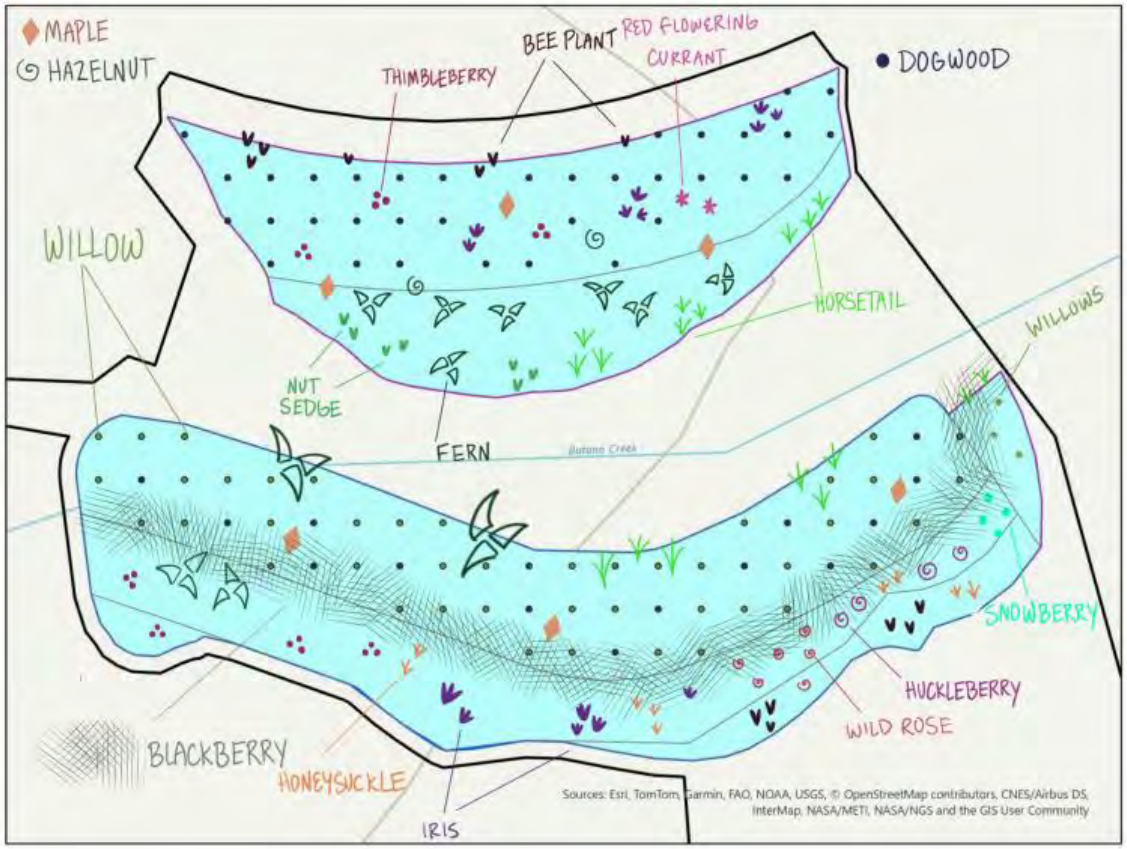


Figure 5. Schematic of Planting Plan

Additional plants that may be used depending on availability, that are native to the Butano or Pescadero Watersheds include: big leaf maple, California blackberry, wild rose, hairy honeysuckle, red flowering currant (*Ribes sanguineum*), huckleberry (*Vaccinium* sp.), creek monkey flower (*Mimulus guttatus*), snowberry (*Symphoricarpus albus*), and California Bee Plant (*Scrophularia californica*).

All plantings will be done in late fall just as the rainy season begins. There will be a minimum of 5 trees (a combination of maple, dogwood and willow) planted within the rock riprap to specifically mitigate for removal of one (1) 12-inch alder. If the area does not have adequate soil moisture, the soil will be pre-wetted a day or two before planting. The receiving planting hole will be twice the width and depth of the rootball with a whole cut in the fabric or pulled apart for placement of the plant. The rootball will be planted in the excavated planting hole so that the root crown is 2-inches above existing grade. Plants will be thoroughly hand watered immediately after installation and continue to be irrigated to maintain plants in a healthy condition until the rainy season.

All willow cuttings and dogwood slips will be installed concurrent with the placement of the rock riprap. Willow stakes, ¾ - ½ in. diameter, will be harvested from the property and surrounding area with sharp pruning shears or a sharp saw blade to prevent injury to the bark or stake. The top of the stake will be cut flat, and the bottom end of the stake (to be planted) will be cut at an angle. All stakes will be 3 to 5 ft in length. All stakes will be installed within 6 hours of being cut or they will be kept in clean fresh water for a minimum of 24 hours before installation. Stakes should not be soaked for more than 5 days prior to installation. Stakes will be installed with 75-90% off the stake below the rock and at least 2 buds above the ground after planting.

Irrigation: While an irrigation system is not being installed, supplemental hand irrigation is available at the site and will be conducted by the landowner. Irrigation will be needed if plantings experience drought stress, as determined by the restoration specialist monitoring the project. If needed, irrigation applications will occur on a monthly or bimonthly basis and include deep watering to ensure deep root development and native plant establishment.

Success criteria: Project area will meet or exceed the following by year 5.
Current cover in this area is 80% (15% native/65% non-native). This area should support a minimum of 40% native cover by Year 5. Non-native cover will not exceed 60%.

Mitigation for the single tree removal will occur on-site at a ratio agreed upon with the regulatory agencies to replace the function of the mature alder tree. Three species (big leaf maple, willows and dogwood) will be planted to specifically mitigate for the removal of the one 12-inch alder. The trees will be monitored for a minimum of 5 years.

<u>Floodplain Bench</u>
To maintain conveyance through this stream reach and enhance floodplain connectivity, one 12-inch alder will be removed. To mitigate for this impact, there will be a minimum of 5 trees (a combination of maples, dogwood and willow) planted back on to the floodplain bench. In addition, the 12-in removed alder will be cut in appropriate length to ensure the material would not cause unintended downstream impacts. The pieces of alder and associated branches will be piled onto the floodplain for erosion protection and short term habitat. The finished slope will be covered with 100% biodegradable *North American green rollmax bionet c700BN* (or approved equal) and a 9" *Earth Saver Biodegradable Rice Straw Wattle* (or approved equal) will be installed at 10-15' intervals.

The plant palette has been derived from a list of native species already present at the site and will be planted in a natural planting scheme to promote site aesthetics as well as functionality in a manner representative of upstream and downstream reference sites. To the greatest extent possible, native plants from the property will be collected on site for use in replanting including horsetail, sword Fern, Douglas iris (*Iris douglasiana*), nutsedge, and thimbleberry. Native willow will be harvested on-site and dogwood and maple slips will be procured for planting.

Additional plants that may be used depending on availability, that are native to the Butano or Pesacdero Watersheds include: big leaf maple, California bay, California blackberry, wild rose, hairy honeysuckle, Douglas iris (*Iris douglasiana*), red flowering Currant (*Ribes sanguineum*), black huckleberry (*Vaccinium* sp.), hazelnut (*Corylus cornuta*), sticky monkey flower (*Mimulus guttata*), snowberry (*Symphoricarpus albus*), and California Bee Plant *Scrophularia californica*).

All plantings will be done in late fall just as the rainy season begins. There will be a minimum of 5 trees (a combination of maples, dogwood and willow) planted to mitigate for removal of one (1) 12-inch alder. If the area does not have adequate soil moisture, the soil will be pre-wetted a day or two before planting. The receiving planting hole will be twice the width and depth of the rootball with a whole cut in the fabric or pulled apart for placement of the plant. The rootball will be planted in the excavated planting hole so that the root crown is 2-inches above existing grade. Plants will be thoroughly hand watered immediately after installation and continue to be irrigated to maintain plants in a healthy condition until the rainy season.

All willow cuttings and dogwood slips will be installed after construction is complete. Willow stakes, ¾ - ½ in. diameter, will be harvested from the property and surrounding area with sharp pruning shears or a sharp saw blade to prevent injury to the bark or stake. The top of the stake will be cut flat, and the bottom end of the stake (to be planted) will be cut at an angle. All stakes will be 3 to 5 ft in length. All stakes will be installed within 6 hours of being cut or they will be kept in clean fresh water for a minimum of 24 hours before installation. Stakes should

not be soaked for more than 5 days prior to installation. Stakes will be installed with 75-90% of the stake below the rock and at least 2 buds above the ground after planting.

Irrigation: While an irrigation system is not being installed, supplemental hand irrigation is available at the site and will be conducted by the landowner. Irrigation will be needed if plantings experience drought stress, as determined by the restoration specialist monitoring the project. If needed, irrigation applications will occur on a monthly or bimonthly basis and include deep watering to ensure deep root development and native plant establishment.

Success criteria: Project area will meet or exceed the following by year 5.
Current cover in this area is 100% (50% native/50% non-native). This area should support a minimum of 50% native cover by Year 5. Non-native cover will not exceed 65%.

Mitigation for the single tree removal will occur on-site at a ratio agreed upon with the regulatory agencies to replace the function of the mature alder tree. Three species (big leaf maple, willows and dogwood) will be planted to specifically mitigate for the removal of the one 12-inch alder. The trees will be monitored for a minimum of 5 years.

SCHEDULE

Project construction is scheduled to begin by September 1, 2025, with completion by October 15, 2025. Revegetation will occur thereafter through December 31, 2025.

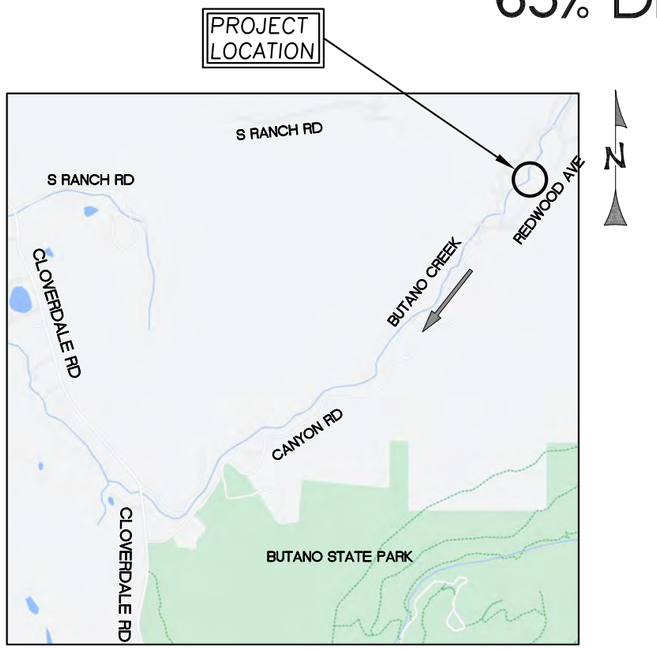
Table 4. Plant Survey by Project Area		1	2	3	Upper	Lower	Streambank Stabilization	Bench Excavation
Area (sq ft)		968.36	502	706	1120		3000	2080
Length (lf)		N/A	N/A	N/A	140		120	80
Disturbance Type		Temp	Temp	Temp	Temp	Temp	Temp	Temp
Total Vegetation Cover (%)		0	75	95	95	95	80	100
Success Criteria (% Native Cover)		N/A	50	70	15	70	15	50
Success Criteria (% Non-Native Cover)		N/A	25	25	80	25	65	50
Common Name	Botanical Name	Species Location on Project Site						
Native Plants								
Redwood sorrel	*Oxalis oregana*	x	x	x	x	x		
Thimbleberry	*Rubus parviflorus*				x			
False Soloman's seal	*Maianthemum racemosum*	x	x				x	
Western swordfern	*Polystichum munitum*	x	x	x	x	x	x	
California wild rose	*Rosa californica*	x	x		x			
Douglas Iris	*Iris douglasiana*		x	x		x	x	x
California blackberry	*Rubus ursinus*	x		x		x	x	
Wild strawberry	*Fragaria vesca*	x						
Hairy honeysuckle	*Lonicera hispidula*		x		x			
Trilium	*Trilium* sp.		x					
California hedgenettle	*Stachys bullata*	x	x					
Black huckleberry	*Vaccinium ovatum*	x			x			
Redwood violet	*Viola sempervirens*							
Horsetail	*Equisetum arvense*						x	x
Nutsedge	*Cyperus rotundus*						x	x
Western brackenfern	*Pteridium aquilinum*							x
Giant chain fern	*Woodwardia fimbriata*						x	
Trees								
Dogwood	*Cornus sericia*				x			
Willow	*Salix sp.*							x
Redwood	*Sequoia Sempervirens*	x	x	x	x	x	x	
Tan oak	*Notholithocarpus densiflorus*	x	x	x	x	x		x
Interior live oak	*Quercus wislizeni*	x						

California bay	*Umbellularia californica*		x	x		x	x	
Red alder	*Alnus rubra*							x
California hazelnut	*Corylus cornuta*	x						
Big-leafed maple	*Acer macrophyllum*			x	x	x	x	
Non-Native/ Ornamental Plants								
English ivy	*Hedera helix*	x	x	x	x	x	x	x
Garden montbretia	*Crocosmia x crocosmiiflora*						x	
Persian walnut	*Juglands regia*							x
Pittosporum	*Pittosporum sp.*							x
Panic veldtgrass	*Ehrharta erecta*						x	
Hydrangea	*Hydrangea sp.*						x	
Common vetch	*Vicia angustifolia*			x		x		
Forget-me-not	*Myosotis sylvatica*						x	

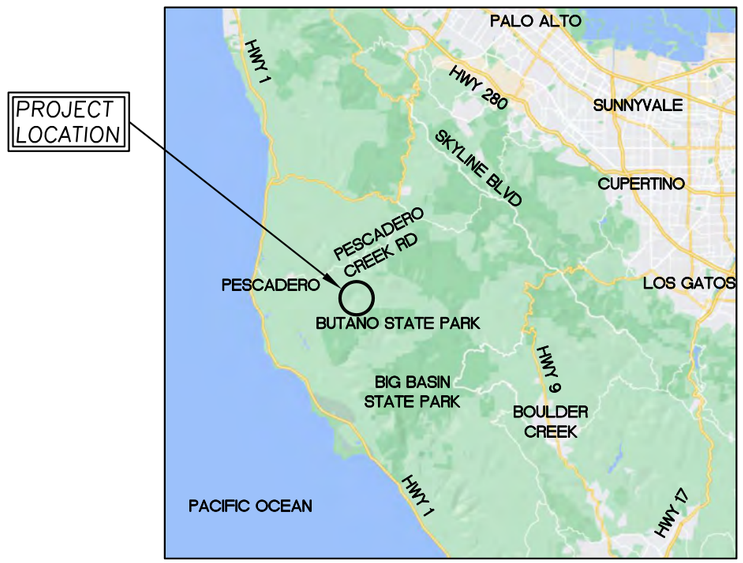
Attachment F

BUTANO CANYON HABITAT AND STREAMBANK RESTORATION PROJECT

65% DESIGN SUBMITTAL



VICINITY MAP
N.T.S. (GOOGLE)



REGIONAL MAP
N.T.S. (GOOGLE)

GENERAL NOTES

1. TOPOGRAPHIC MAPPING WAS PERFORMED BY:
   WATERWAYS CONSULTING, INC.
   509A SWIFT STREET
   SANTA CRUZ, CA 95060
   SURVEY DATES; SEPTEMBER 12, 2019, MARCH 14 2024, & MAY 14, 2024.
2. ELEVATION DATUM: AN ASSUMED ELEVATION OF 1000.00' WAS ESTABLISHED AT SURVEY CONTROL POINT #1 (MAG NAIL) SHOWN ON SHT. C2.
3. BASIS OF BEARINGS: AN ASSUMED PROJECT AZIMUTH BETWEEN POINTS #1 AND #2, AS SHOWN ON SHT. C2.
4. CONTOUR INTERVAL IS ONE FOOT. ELEVATIONS AND DISTANCES SHOWN ARE IN DECIMAL FEET.
5. THIS IS NOT A BOUNDARY SURVEY. PROPERTY LINES WERE COMPILED FROM RECORD INFORMATION. THE LOCATION OF THESE LINES IS SUBJECT TO CHANGE, PENDING THE RESULTS OF A COMPLETE BOUNDARY SURVEY.
6. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE 2023 EDITION OF THE STATE OF CALIFORNIA STANDARD SPECIFICATIONS, ISSUED BY THE DEPARTMENT OF TRANSPORTATION (HEREAFTER REFERRED TO AS "STANDARD SPECIFICATIONS").
7. THESE DESIGNS ARE INCOMPLETE WITHOUT THE FINAL STAMPED TECHNICAL SPECIFICATIONS PREPARED BY WATERWAYS CONSULTING, INC. REFER TO TECHNICAL SPECIFICATIONS FOR DETAILS NOT SHOWN HEREON.

*** CALL BEFORE YOU DIG ***
CONTACT UNDERGROUND SERVICE ALERT (USA)
PRIOR TO ANY CONSTRUCTION WORK 1-800-642-2444

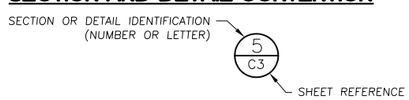
ABBREVIATIONS

AVG.	AVERAGE
CC	CONCRETE
CY	CUBIC YARDS
DIA.	DIAMETER
E	EXISTING
EG	EXISTING GROUND
ELEV.	ELEVATION
DI	DRAINAGE INLET
FG	FINISHED GRADE
FT	FEET
INV	INVERT
MIN	MINIMUM
N	NEW
NIC	NOT IN CONTRACT
N.T.S.	NOT TO SCALE
O.C.	ON CENTER
RC	RELATIVE COMPACTION
RSP	ROCK SLOPE PROTECTION
SPK	SPIKE
SQ.FT.	SQUARE FOOT
T	TREE
T.B.D.	TO BE DETERMINED
TYP	TYPICAL
UNK	UNKNOWN
WSE	WATER SURFACE ELEVATION
YR	YEAR

TREE SPECIES

A	ALDER
M	MAPLE
O	OAK
R	REDWOOD
T	TREE (SPECIES UNKNOWN)

SECTION AND DETAIL CONVENTION



PROJECT DESCRIPTION

THESE DRAWINGS PROVIDE DESIGN DETAILS FOR THE STABILIZATION OF A AN ERODING BANK THAT HAS BEGUN TO THREATEN AN EXISTING RESIDENCE ALONG BUTANO CREEK IN SAN MATEO COUNTY, CALIFORNIA.

WORK SHALL CONSIST OF GRADING BACK THE BANK, PLACEMENT OF VEGETATED ROCK SLOPE PROTECTION, GRADING OF A FLOODPLAIN BENCH, AND LARGE WOODY DEBRIS HABITAT ENHANCEMENT.

SHEET INDEX

WATERWAYS CONSULTING INC.
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DRAFT
NOT FOR CONSTRUCTION

PREPARED AT THE REQUEST OF:
KATHY MALONEY

COVER

BUTANO CANYON HABITAT AND STREAMBANK RESTORATION PROJECT
65% DESIGN SUBMITTAL

DESIGNED BY: M.W.
DRAWN BY: K.B./B.Z.
CHECKED BY: M.W.
DATE: 12/17/24
JOB NO.: 19-052

BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"

LEGEND

- EXISTING CONTOURS (85 / 86)
- EXISTING FLOW LINE
- EXISTING THALWEG
- PARCEL BOUNDARY (APPROX.)
- SURVEY CONTROL POINT (△2)
- EXISTING POWERPOLE
- EXISTING TREE (26"R)
- EXISTING STUMP (28"R (STUMP))
- EXISTING TREE TO BE REMOVED (12"A)
- TREE PROTECTION (26"R)
- PROPOSED CLASS X VEGETATED RSP
- PROPOSED CLASS V VEGETATED RSP WITH SOIL CAP
- ACCESS ROUTE
- BOUNDARY FENCE
- LIMITS OF DISTURBANCE
- SLOPE PROTECTION FABRIC

CONTROL POINTS

POINT #	DESCRIPTION	ELEV	NORTHING	EASTING
1	PN	1000.00	5000.00	5000.00
2	RBR	1005.05	5148.88	5000.00
3	RBR	1002.15	5173.88	4932.43
4	SPK	976.68	5004.27	4895.06
5	SPK	976.28	4995.02	4956.70
6	SPK	976.18	4957.77	4985.59
7	SPK	976.91	4866.42	5000.15
8	SPK	999.17	4975.17	5073.92
9	SPK	998.84	4935.46	5026.37
10	SPK	991.59	5040.67	4837.17
20	SPIKE	999.00	4956.04	5022.04
21	REBAR	996.21	4895.37	5057.58
22	REBAR	1008.47	5118.26	5069.93
401	SPK	975.29	4862.25	5156.11
1000	SPK	975.31	4862.25	5156.08
1001	SPK	976.91	4866.42	5000.15
2001	SPIKE	1004.33	5140.67	5000.06

REDWOOD AVE

TREE PROTECTION (2 / C7)

BOUNDARY FENCE (4 / C7)

ACCESS ROUTE

STAGING AREA

SILT FENCE
ESA FENCE

SLOPE PROTECTION FABRIC (1 / C7)

LIMITS OF DISTURBANCE

FLOODPLAIN BENCH

PARCEL BOUNDARY FROM RECORD INFORMATION (APPROX.)

089042050 089052050 089052060 089042999 089042060 089042070 089052070 089042040 089042030

BUTANO CK

(E) WATER METER BOXES
(E) GRAVEL DRIVEWAY
(E) FLOWLINE ACROSS DRIVEWAY
(E) PROPANE TANK
(E) ACCUMULATION OF WOOD, BRANCHES, AND DEBRIS
(E) RESIDENCE
(E) DECK
(E) CONCRETE PATIO
(E) SHOP
(E) SHED
(E) FALLEN 60" DIA. REDWOOD
(E) NEIGHBORING DECK
(E) FALLEN 16" DIA. ALDER

PROJECT AZIMUTH

ACCESS, STAGING, AND EROSION CONTROL PLAN
SCALE: 1" = 20'

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ACCESS, STAGING, AND EROSION CONTROL PLAN

BUTANO CANYON HABITAT AND STREAMBANK RESTORATION PROJECT
65% DESIGN SUBMITTAL

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0 1"

LEGEND

- EXISTING CONTOURS (85 / 86)
- EXISTING FLOW LINE
- EXISTING THALWEG
- PARCEL BOUNDARY (RECORD)
- SURVEY CONTROL POINT (2)
- EXISTING TREE (26"R)
- EXISTING STUMP (28"R (STUMP))
- EXISTING TREE TO BE REMOVED (12"A)
- TREE PROTECTION (24"R)
- PROPOSED CLASS V VEGETATED RSP WITH SOIL CAP
- PROPOSED CLASS X VEGETATED RSP
- LIMITS OF DISTURBANCE

ESA FENCE
(E) RESIDENCE
(E) CONCRETE PATIO
(E) DECK (ELEV: 1000.1
(E) DECK POST (TYP)
(E) ROCK RING AROUND REDWOOD
PARCEL BOUNDARY FROM RECORD INFORMATION (APPROX.)
PROJECT AZIMUTH
(E) RAMP
(E) SHOP
(E) UNDERCUT BANK
INSTALL CALTRANS CLASS V RSP
LOG/LOG CONNECTION (BURIED LOG/BOULDER CONNECTION)
LOG/BOULDER CONNECTION
LIMITS OF RSP
TOP OF SLOPE
THICKENED END. INCREASE CLASS X THICKNESS TO 8 FT AT UPSTREAM END FOR 8 LF IN DIRECTION OF CREEK STATIONING
GRADE SLOPE TO CONFORM TO EXISTING BANK
LOG/LOG CONNECTION
TOP LOWER LOG ELEV.: 975.6 (±)
TOP LOG ELEV.: 976.0 (±)
LIMITS OF BURIED RSP
FINISHED GRADE AT TOE OF SLOPE
TOP UPPER LOG ELEV.: 977.2 (±)
PROPOSED LOG STRUCTURE (TYP)
TOP LOG ELEV.: 973.0 (±)
TOP UPPER LOG ELEV.: 977.0 (±)
TOP LOWER LOG ELEV.: 975.0 (±)
INSTALL CALTRANS CLASS X RSP
CONFORM TO EXISTING GRADE ELEV.: 977.5
TOE OF SLOPE
FLOODPLAIN BENCH ELEV.: 977.5
LIMITS OF DISTURBANCE
PLACE REMOVED TREE ON FLOODPLAIN BENCH AS SLASH, PER THE DIRECTION OF THE ENGINEER
ACCUMULATION OF WOOD, BRANCHES, AND DEBRIS
BUTANO CREEK
16"A (LEANS TOWARD CREEK)
16"A (LEANING OVER CREEK)
72"R (STUMP)
8"8"6"6" MULTISTEM REDWOOD GROWING OUT OF STUMP (APPROX.)
28"R (STUMP)
10"R (APPROX.)
(E) FALLEN 60" DIA. REDWOOD
(E) FALLEN 16" DIA. ALDER
AVOID DISTURBANCE TO EXISTING ACCUMULATION OF WOOD AND DEBRIS
TOP OF SLOPE
2H:1V
1.5H:1V

SITE PLAN
SCALE: 1" = 8'

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SITE PLAN

BUTANO CANYON HABITAT AND STREAMBANK RESTORATION PROJECT
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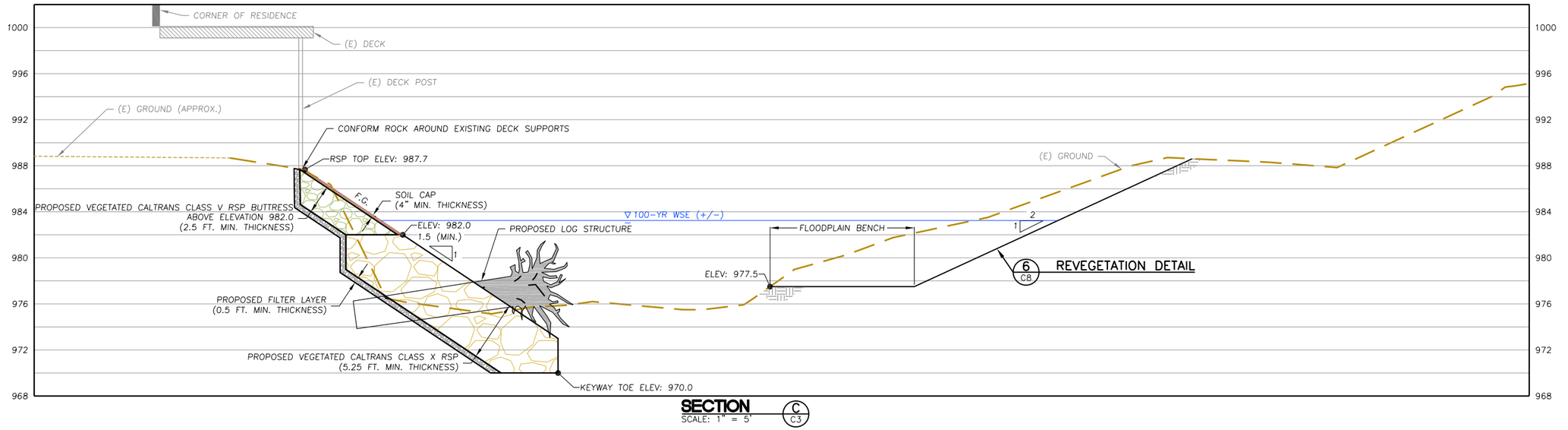
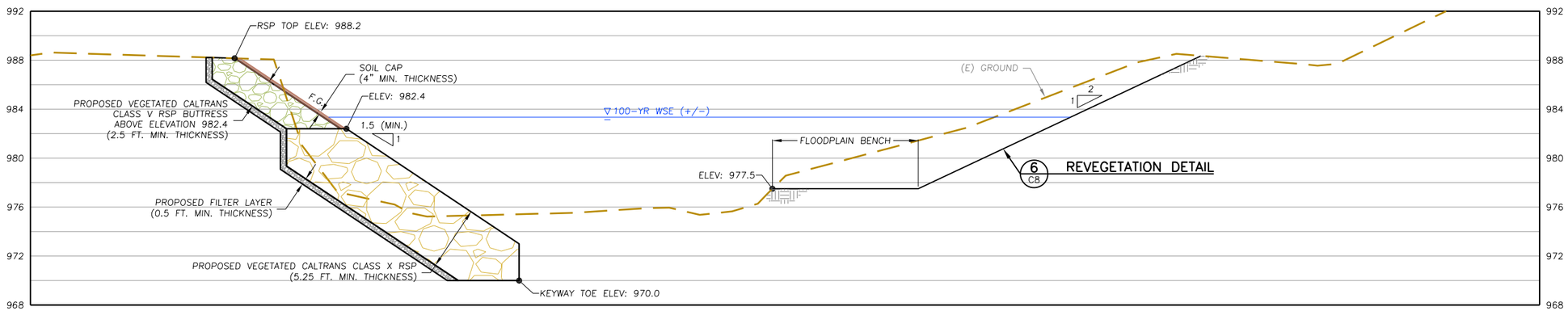
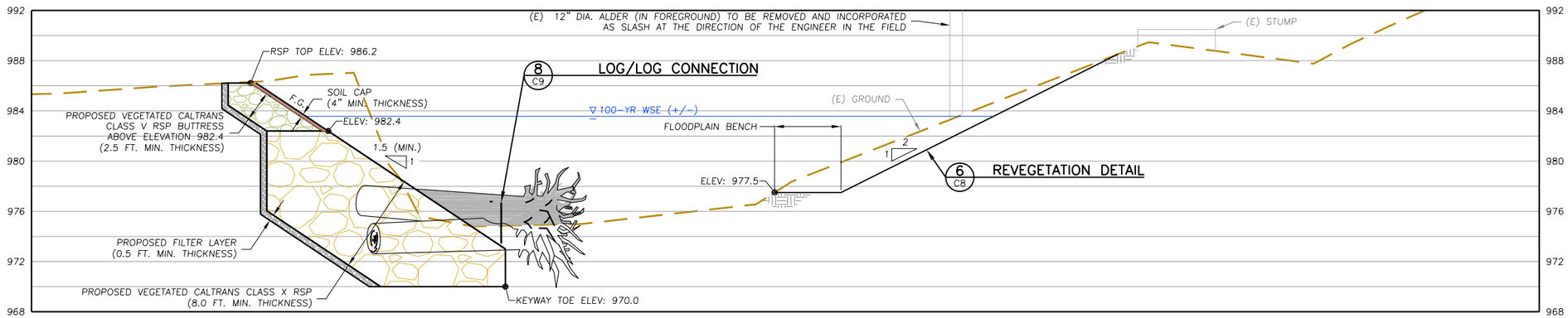
0 1"



SECTION (C / C3)
SCALE: 1" = 5'



SECTION (B / C3)
SCALE: 1" = 5'



SECTION (A / C3)
SCALE: 1" = 5'

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SECTIONS
(1 OF 2)

BUTANO CANYON HABITAT
AND STREAMBANK
RESTORATION PROJECT

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CHECKED BY:	M.W.
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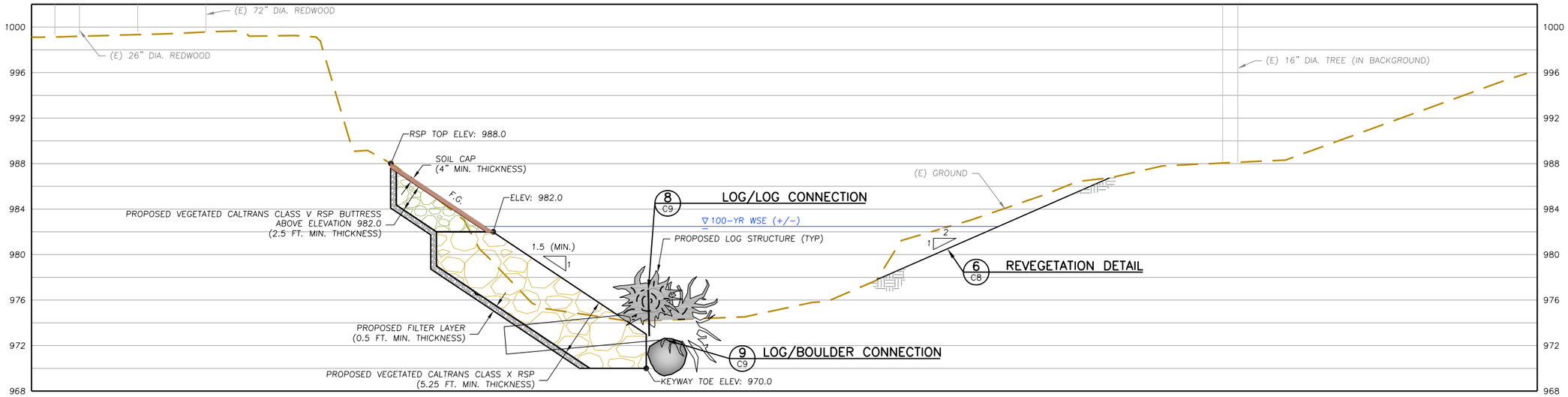
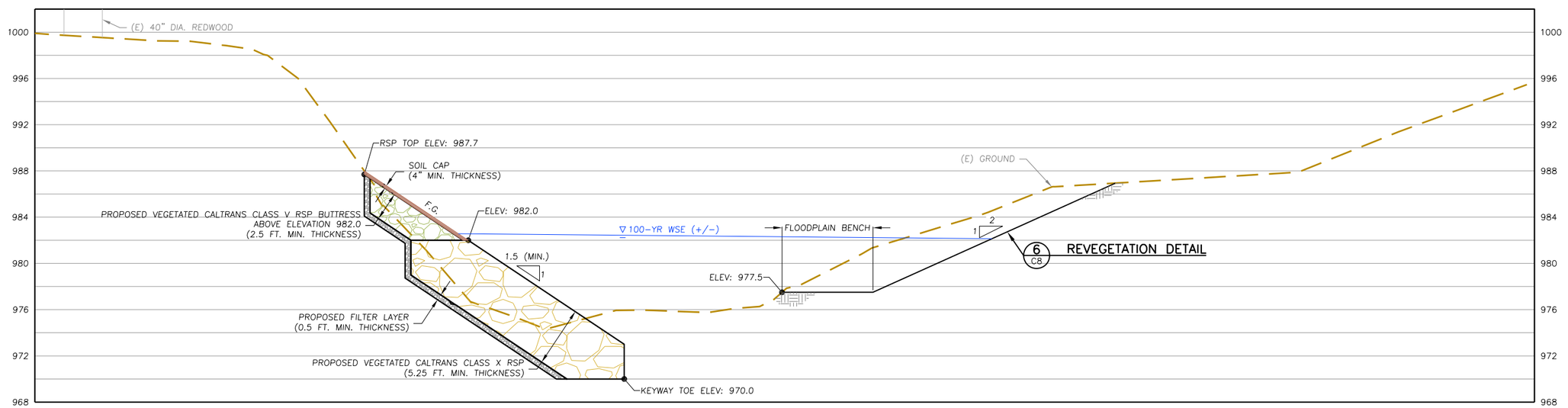
0 1"



SECTION E C3
SCALE: 1" = 5'



SECTION D C3
SCALE: 1" = 5'

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SECTIONS
(2 OF 2)

BUTANO CANYON HABITAT
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RESTORATION PROJECT

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0 1"

LEGEND

- EXISTING CONTOURS (85 / 86)
- EXISTING FLOW LINE
- EXISTING THALWEG
- PARCEL BOUNDARY (RECORD)
- SURVEY CONTROL POINT (△2)
- EXISTING TREE (26"R)
- EXISTING STUMP (28"R (STUMP))
- EXISTING TREE TO BE REMOVED (12"A)
- TREE PROTECTION (24"R)
- PROPOSED CLASS V VEGETATED RSP WITH SOIL CAP
- PROPOSED CLASS X VEGETATED RSP

SETTLING TANK
DEWATERING DISCHARGE HOSE
PARCEL BOUNDARY FROM RECORD INFORMATION (APPROX.)
DEWATERING PUMP
DIVERSION PIPE
BUTANO CREEK
DIVERSION DAM
FISH BLOCK NETS TO BE INSTALLED ACROSS CHANNEL
(E) RESIDENCE
(E) CONCRETE PATIO
(E) DECK (ELEV: 1000.1
(E) DECK POST (TYP)
(E) ROCK RING AROUND REDWOOD
(E) SHED
(E) RAMP
(E) SHOP
(E) UNDERCUT BANK
(E) FALLEN 60" DIA. REDWOOD
(E) FALLEN 16" DIA. ALDER
DIVERSION DAM TO PREVENT BACKWATERING AND CAPTURE SILT FROM WORK AREA
ACCUMULATION OF WOOD, BRANCHES, AND DEBRIS
PROJECT AZIMUTH

DIVERSION AND DEWATERING PLAN
SCALE: 1" = 10'

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DIVERSION AND DEWATERING PLAN

BUTANO CANYON HABITAT AND STREAMBANK RESTORATION PROJECT
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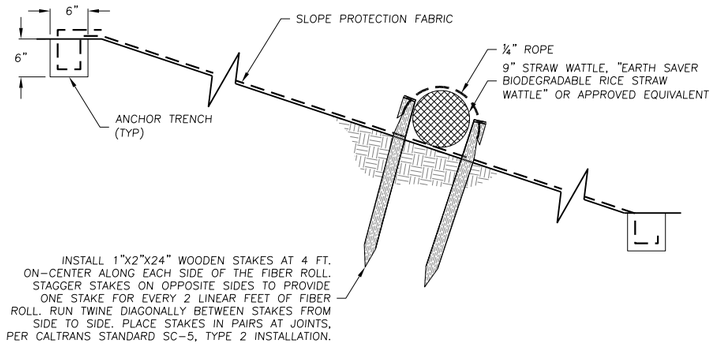
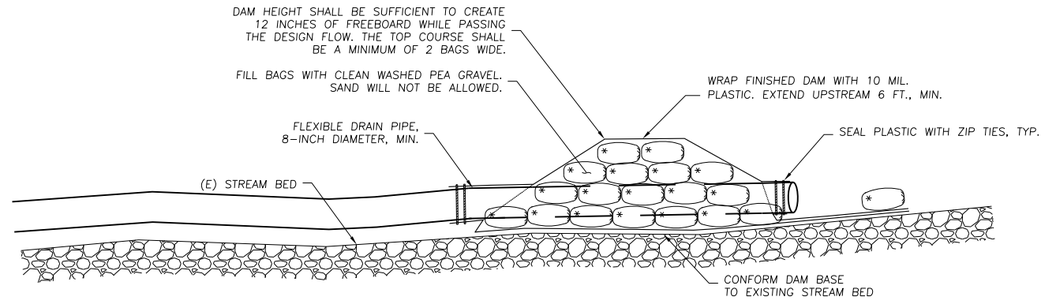
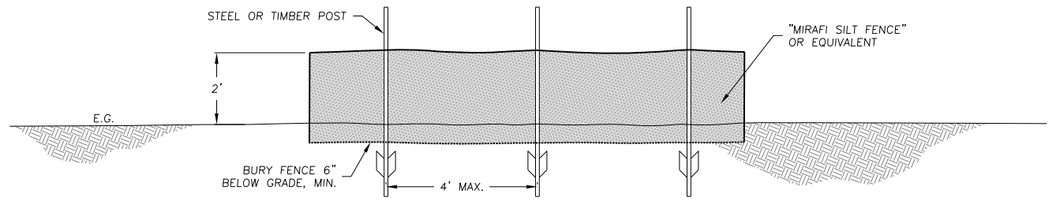


SLOPE PROTECTION (1 / C2)
SCALE: 1" = 1'



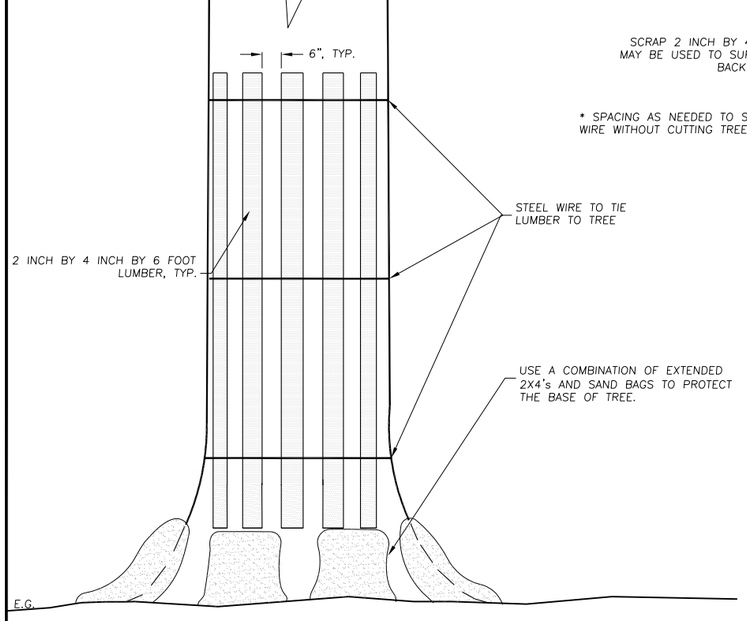
NOTE: CONTRACTOR MAY USE ALTERNATE DAM DETAIL, SUBJECT TO APPROVAL OF THE ENGINEER AND THE PERMITTING AGENCIES.

DIVERSION DAM PROFILE (7 / C6)
SCALE: 1" = 5'

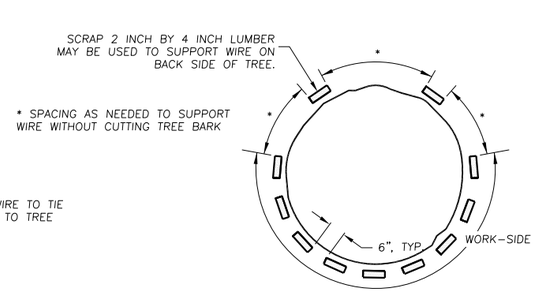


SILT FENCE NOTES
1. DIG TRENCH FIRST, THEN ERECT FENCE IN TRENCH. BACKFILL AND COMPACT SOIL TO SECURE FABRIC.
2. PROVIDE 1' MINIMUM OVERLAP AT FENCE SPLICES.
3. PLACE SILT FENCE PARALLEL WITH SLOPE CONTOURS.
4. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE ACCUMULATED SEDIMENT, TO AN APPROVED AREA.
5. TURN ALL FENCE TERMINATIONS UPSLOPE TO PREVENT FLANKING.

SILT FENCE (3 / C2)
SCALE: 1"=2'



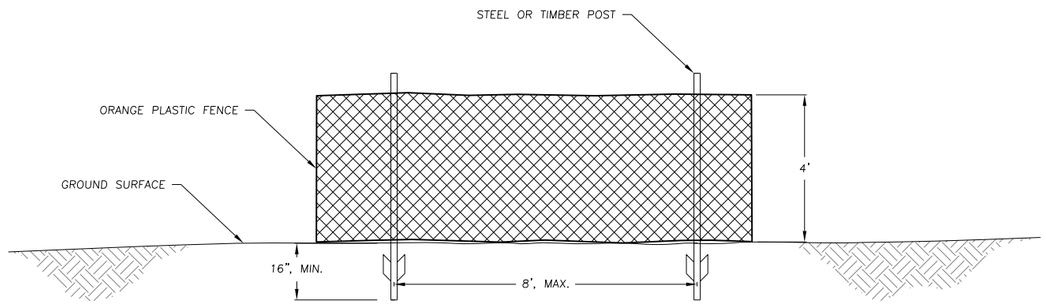
ELEVATION VIEW



PLAN VIEW

TREE PROTECTION NOTES:
1. THE INTENT OF THIS DETAIL IS TO PROTECT EXISTING TREES FROM DAMAGE DURING CONSTRUCTION.
2. THIS TREE BUMPER DETAIL SHALL BE USED WHEN WORKING WITHIN 10' OF AN EXISTING TREE TO REMAIN, AS DIRECTED BY THE ENGINEER.
3. ALL TREES SHALL BE SAVED UNLESS NOTED OTHERWISE ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
4. LUMBER, WIRE, AND SANDBAGS MAY BE REUSED AT OTHER TREES, AS WORK PROGRESSES.

TREE PROTECTION DETAIL (2 / C2)
SCALE: 1" = 1'



BOUNDARY FENCE (4 / C2)
SCALE: 1"=2'

WATERWAYS CONSULTING INC.
509A SWIFT ST.
SANTA CRUZ, CA 95060
PH:(831)421-9351 // FAX:(888)819-6847
WWW.WATWAYS.COM

DRAFT
NOT FOR CONSTRUCTION

PREPARED AT THE REQUEST OF:
KATHY MALONEY

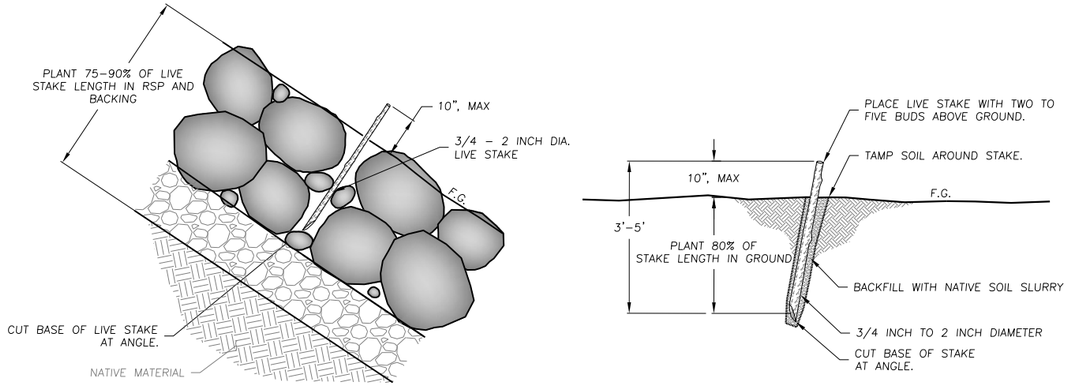
DETAILS (1 OF 3)

BUTANO CANYON HABITAT AND STREAMBANK RESTORATION PROJECT
65% DESIGN SUBMITTAL

DESIGNED BY:	M.W.
DRAWN BY:	K.B./B.Z.
CHECKED BY:	M.W.
DATE:	12/17/24
JOB NO.:	19-052

BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 — 1"

C7 | 7 OF 10



LIVE STAKE
SCALE: N.T.S.
5 / C8

LIVE STAKE NOTES
LIVE STAKES SHALL CONSIST OF LOCALLY–OBTAINED, NATIVE WILLOW SPECIES.

PREPARATION
1. CUT LIVE STAKE CUTTINGS WITH SHARP PRUNING SHEARS OR WITH A SHARP SAW BLADE, WITHOUT CAUSING INJURY TO THE BARK OR SPLITTING OF THE ENDS. ANGLE THE BUTT END OF THE CUTTING AND KEEP THE TOP END SQUARE. REMOVE ALL SIDE BRANCHES WITH SHARP PRUNING SHEARS. CUT FLUSH WITH STAKE, WITHOUT CAUSING INJURY.

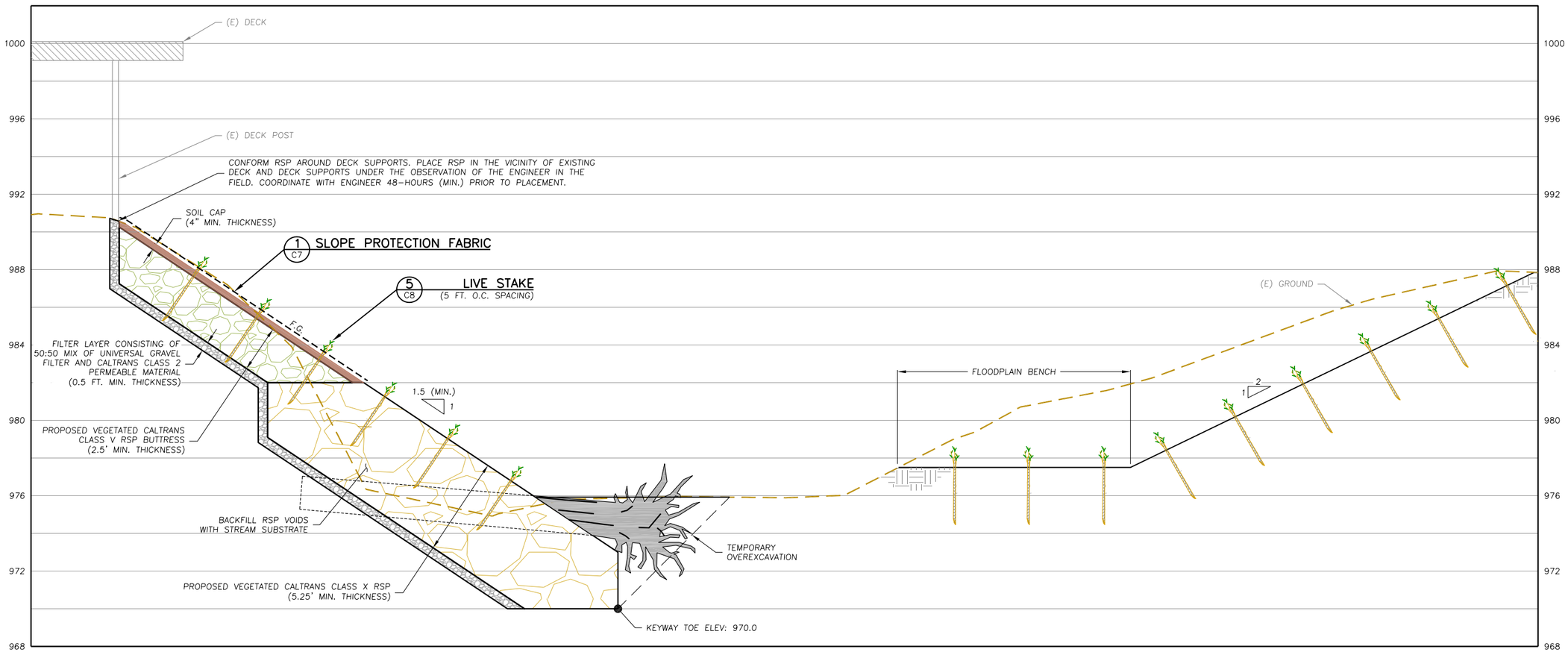
2. CUT LIVE STAKES IN LENGTHS FROM 3 TO 5 FEET AND 0.75 TO 2.0 INCHES IN DIAMETER.

INSTALLATION
1. INSTALL LIVE STAKES WITHIN 6 HOURS OF BEING CUT OR SUBMERGE THEM IN CLEAN FRESH WATER FOR 24 HOURS, MIN. PRIOR TO INSTALLATION. DO NOT SOAK LIVE STAKES FOR MORE THAN 5 DAYS PRIOR TO INSTALLATION.

2. INSTALL LIVE STAKES WITH AT LEAST 2 BUDS AND/OR BUD SCARS ABOVE THE GROUND AFTER PLANTING.

3. INSTALL LIVE STAKES AS DEEP AS POSSIBLE INTO THE SOIL, PREFERABLY WITH 80% OF ITS LENGTH IN CONTACT WITH NATIVE SOIL. USE OF A POWER AUGER OR PILOT BAR MAY HELP WITH INSTALLATION.

4. DO NOT DAMAGE THE BUDS, SPLIT STAKE ENDS, OR STRIP THE BARK DURING INSTALLATION.



TYPICAL REVEGETATION DETAIL
SCALE: 1" = 3'
6 / C4;C5

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DRAFT
NOT FOR CONSTRUCTION

PREPARED AT THE REQUEST OF:
KATHY MALONEY

DETAILS
(2 OF 3)

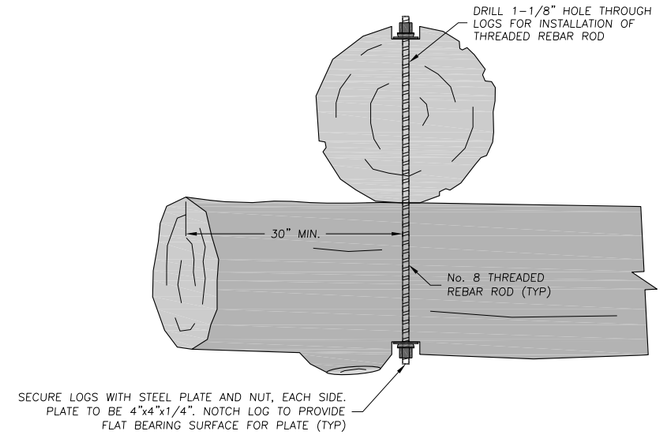
BUTANO CANYON HABITAT AND STREAMBANK RESTORATION PROJECT
65% DESIGN SUBMITTAL

DESIGNED BY:	M.W.
DRAWN BY:	K.B./B.Z.
CHECKED BY:	M.W.
DATE:	12/17/24
JOB NO.:	19–052

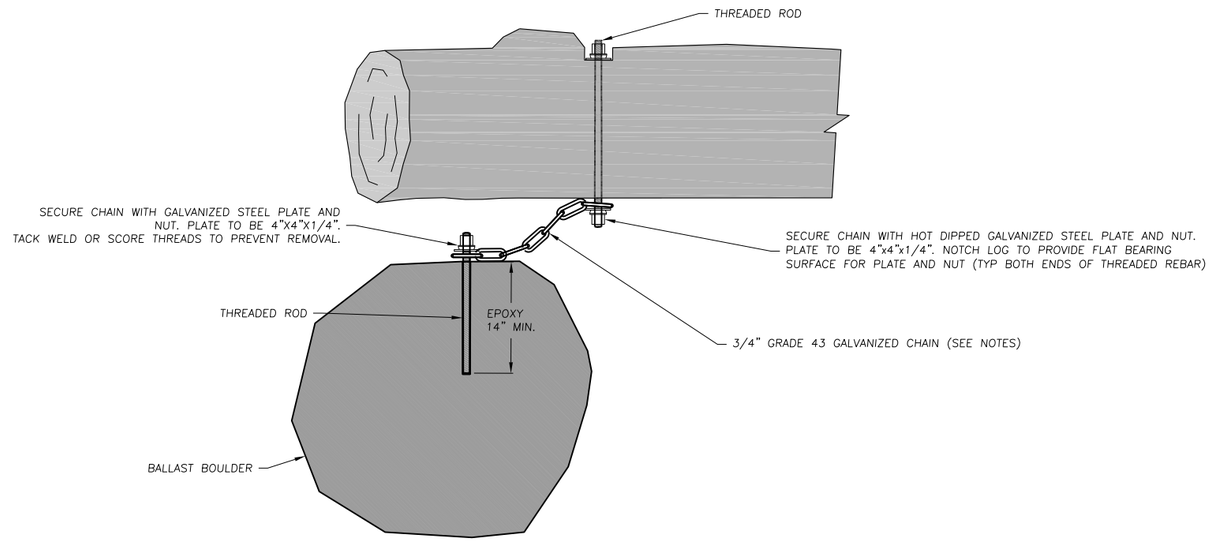
BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 — 1"

C8

8 OF 10



LOG/LOG CONNECTION (8)
SCALE: 1" = 1' C5.C4.25



LOG/BOULDER CONNECTION (9)
SCALE: 1" = 1' C5.C4.25

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WWW.WATWAYS.COM

DRAFT
NOT FOR CONSTRUCTION

PREPARED AT THE REQUEST OF:
KATHY MALONEY

DETAILS
(3 OF 3)

BUTANO CANYON HABITAT AND STREAMBANK RESTORATION PROJECT
65% DESIGN SUBMITTAL

DESIGNED BY:	M.W.
DRAWN BY:	K.B./B.Z.
CHECKED BY:	M.W.
DATE:	12/17/24
JOB NO.:	19-052

BAR IS ONE INCH ON ORIGINAL DRAWING. ADJUST SCALES FOR REDUCED PLOTS
0 1"

GENERAL NOTES

1. PREPARED AT THE REQUEST OF:
   JOHN AND KATHY MALONEY
   301 REDWOOD AVE
   PESCADERO, CA 94060

2. AFFECTED APN: 089-042-060

3. NOTIFY THE ENGINEER AT LEAST 48 HOURS PRIOR TO CONSTRUCTION. THE ENGINEER OR A DESIGNATED REPRESENTATIVE SHALL OBSERVE THE CONSTRUCTION PROCESS, AS NECESSARY TO ENSURE PROPER INSTALLATION PROCEDURES.

4. EXISTING UNDERGROUND UTILITY LOCATIONS:

   A. CALL UNDERGROUND SERVICE ALERT (1-800-642-2444) TO LOCATE ALL UNDERGROUND UTILITY LINES PRIOR TO COMMENCING CONSTRUCTION.

   B. PRIOR TO BEGINNING WORK, CONTACT ALL UTILITIES COMPANIES WITH REGARD TO WORKING OVER, UNDER, OR AROUND EXISTING FACILITIES AND TO OBTAIN INFORMATION REGARDING RESTRICTIONS THAT ARE REQUIRED TO PREVENT DAMAGE TO THE FACILITIES.

   C. EXISTING UTILITY LOCATIONS SHOWN ARE COMPILED FROM INFORMATION SUPPLIED BY THE APPROPRIATE UTILITY AGENCIES AND FROM FIELD MEASUREMENTS TO ABOVE GROUND FEATURES READILY VISIBLE AT THE TIME OF SURVEY. LOCATIONS SHOWN ARE APPROXIMATE. THE CONTRACTOR IS CAUTIONED THAT ONLY ACTUAL EXCAVATION WILL REVEAL THE DIMENSIONS, SIZES, MATERIALS, LOCATIONS, AND DEPTH OF UNDERGROUND UTILITIES.

   D. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE LOCATION AND/OR PROTECTION OF ALL EXISTING AND PROPOSED PIPING, UTILITIES, TRAFFIC SIGNAL EQUIPMENT (BOTH ABOVE GROUND AND BELOW GROUND), STRUCTURES, AND ALL OTHER EXISTING IMPROVEMENTS THROUGHOUT CONSTRUCTION.

   E. PRIOR TO COMMENCING FABRICATION OR CONSTRUCTION, DISCOVER OR VERIFY THE ACTUAL DIMENSIONS, SIZES, MATERIALS, LOCATIONS, AND ELEVATIONS OF ALL EXISTING UTILITIES AND POTHOLE THOSE AREAS WHERE POTENTIAL CONFLICTS ARE LIKELY OR DATA IS OTHERWISE INCOMPLETE.

   F. TAKE APPROPRIATE MEASURES TO PROTECT EXISTING UTILITIES DURING CONSTRUCTION OPERATIONS. CONTRACTOR IS SOLELY RESPONSIBLE FOR THE COST OF REPAIR/REPLACEMENT OF ANY EXISTING UTILITIES DAMAGED DURING CONSTRUCTION.

   G. UPON LEARNING OF THE EXISTENCE AND/OR LOCATIONS OF ANY UNDERGROUND FACILITIES NOT SHOWN OR SHOWN INACCURATELY ON THE PLANS OR NOT PROPERLY MARKED BY THE UTILITY OWNER, IMMEDIATELY NOTIFY THE UTILITY OWNER AND THE COUNTY BY TELEPHONE AND IN WRITING.

   H. UTILITY RELOCATIONS REQUIRED FOR THE CONSTRUCTION OF THE PROJECT FACILITIES WILL BE PERFORMED BY THE UTILITY COMPANY, UNLESS OTHERWISE NOTED.

5. IF DISCREPANCIES ARE DISCOVERED BETWEEN THE CONDITIONS EXISTING IN THE FIELD AND THE INFORMATION SHOWN ON THESE DRAWINGS, NOTIFY THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.

6. ALL TESTS, INSPECTIONS, SPECIAL OR OTHERWISE, THAT ARE REQUIRED BY THE BUILDING CODES, LOCAL BUILDING DEPARTMENTS, OR THESE PLANS, SHALL BE DONE BY AN INDEPENDENT INSPECTION COMPANY. JOB SITE VISITS BY THE ENGINEER DO NOT CONSTITUTE AN OFFICIAL INSPECTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE REQUIRED TESTS AND INSPECTIONS ARE PERFORMED.

7. PROJECT SCHEDULE: PRIOR TO COMMENCEMENT OF WORK, SUBMIT TO THE ENGINEER FOR REVIEW AND APPROVAL A DETAILED CONSTRUCTION SCHEDULE. DO NOT BEGIN ANY CONSTRUCTION WORK UNTIL THE PROJECT SCHEDULE AND WORK PLAN IS APPROVED BY THE ENGINEER. ALL CONSTRUCTION SHALL BE CLOSELY COORDINATED WITH THE ENGINEER SO THAT THE QUALITY OF WORK CAN BE CHECKED FOR APPROVAL. PURSUE WORK IN A CONTINUOUS AND DILIGENT MANNER TO ENSURE A TIMELY COMPLETION OF THE PROJECT.

8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGN, PERMITTING, INSTALLATION, AND MAINTENANCE OF ANY AND ALL TRAFFIC CONTROL MEASURES DEEMED NECESSARY.

9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR GENERAL SAFETY DURING CONSTRUCTION. ALL WORK SHALL CONFORM TO PERTINENT SAFETY REGULATIONS AND CODES. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR FURNISHING, INSTALLING, AND MAINTAINING ALL WARNING SIGNS AND DEVICES NECESSARY TO SAFEGUARD THE GENERAL PUBLIC AND THE WORK, AND PROVIDE FOR THE PROPER AND SAFE ROUTING OF VEHICULAR AND PEDESTRIAN TRAFFIC DURING THE PERFORMANCE OF THE WORK. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR COMPLIANCE WITH ALL APPLICABLE PROVISIONS OF OSHA IN THE CONSTRUCTION PRACTICES FOR ALL EMPLOYEES DIRECTLY ENGAGED IN THE CONSTRUCTION OF THIS PROJECT.

10. CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTION LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF DESIGN PROFESSIONAL. NEITHER THE PROFESSIONAL ACTIVITIES OF CONSULTANT NOR THE PRESENCE OF CONSULTANT OR THEIR OR HER EMPLOYEES OR SUB-CONSULTANTS AT A CONSTRUCTION SITE SHALL RELIEVE THE CONTRACTOR AND ITS SUBCONTRACTORS OF THEIR RESPONSIBILITIES INCLUDING, BUT NOT LIMITED TO, CONSTRUCTION MEANS, METHODS, SEQUENCE, TECHNIQUES OR PROCEDURES NECESSARY FOR PERFORMING, SUPERINTENDING OR COORDINATING ALL PORTIONS OF THE WORK OF CONSTRUCTION IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND APPLICABLE HEALTH OR SAFETY REQUIREMENTS OF ANY REGULATORY AGENCY OR OF STATE LAW.

11. MAINTAIN A CURRENT, COMPLETE, AND ACCURATE RECORD OF ALL AS-BUILT DEVIATIONS FROM THE CONSTRUCTION AS SHOWN ON THESE DRAWINGS AND SPECIFICATIONS, FOR THE PURPOSE OF PROVIDING THE ENGINEER OF RECORD WITH A BASIS FOR THE PREPARATION OF RECORD DRAWINGS.

12. MAINTAIN THE SITE IN A NEAT AND ORDERLY MANNER THROUGHOUT THE CONSTRUCTION PROCESS. STORE ALL MATERIALS WITHIN APPROVED STAGING AREAS.

13. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO BE FULLY INFORMED OF AND TO COMPLY WITH ALL PERMIT CONDITIONS, LAWS, ORDINANCES, CODES, REQUIREMENTS AND STANDARDS, WHICH IN ANY MANNER AFFECT THE COURSE OF CONSTRUCTION OF THIS PROJECT, THOSE ENGAGED OR EMPLOYED IN THE CONSTRUCTION AND THE MATERIALS USED IN THE CONSTRUCTION.

14. PROVIDE, AT CONTRACTOR'S SOLE EXPENSE, ALL MATERIALS, LABOR AND EQUIPMENT REQUIRED TO COMPLY WITH ALL APPLICABLE PERMIT CONDITIONS AND REQUIREMENTS.

15. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION STAKING AND LAYOUT, UNLESS OTHERWISE SPECIFIED.

16. FIELD INSPECTIONS AND OR THE PROVISION OF CONSTRUCTION STAKES DO NOT RELIEVE THE CONTRACTOR OF THEIR SOLE RESPONSIBILITY FOR ESTABLISHING ACCURATE CONSTRUCTED LINES AND GRADES, AS SPECIFIED.

17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND PRESERVATION OF ALL SURVEY MONUMENTS OR PROPERTY CORNERS. DISTURBED MONUMENTS SHALL BE RESTORED BACK TO THEIR ORIGINAL LOCATION AND SHALL BE CERTIFIED BY A REGISTERED CIVIL ENGINEER OR LAND SURVEYOR AT THE SOLE EXPENSE OF THE CONTRACTOR.

18. THE OWNER SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL PROPERTY LINES AND EASEMENTS AND CONFIRMING THAT PROPOSED PROJECT ELEMENTS ARE LOCATED ON OWNED LANDS OR ARE COORDINATED WITH OWNERS AND APPROPRIATE PERMISSIONS ARE GRANTED FOR THE WORK.

19. TREE DIMENSIONS: TRUNK DIAMETERS SHOWN REPRESENT DIAMETER AT BREAST HEIGHT (DBH), MEASURED IN INCHES. DBH IS MEASURED 4.5 FT ABOVE GROUND FOR SINGLE TRUNKS AND TRUNKS THAT SPLIT INTO SEVERAL STEMS CLOSE TO THE GROUND. THE DBH FOR TREES THAT SPLIT INTO SEVERAL STEMS CLOSE TO THE GROUND MAY BE CONSOLIDATED INTO A SINGLE DBH BY TAKING THE SQUARE ROOT OF THE SUM OF ALL SQUARED STEM DBH'S, UNLESS OTHERWISE NOTED. WHERE TREES FORK NEAR BREAST HEIGHT, TRUNK DIAMETER IS MEASURED AT THE NARROWEST PART OF THE MAIN STEM BELOW THE FORK. FOR TREES ON A SLOPE, BREAST HEIGHT IS REFERENCED FROM THE UPPER SIDE OF THE SLOPE. FOR LEANING TREES, BREAST HEIGHT IS MEASURED ON THE SIDE THAT THE TREE LEANS TOWARD. TREES WITH DBH LESS THAN 8" ARE TYPICALLY NOT SHOWN.

    12"P = 12" DBH PINE

20. TREE SPECIES ARE IDENTIFIED WHEN KNOWN. HOWEVER, FINAL DETERMINATION SHOULD BE MADE BY A QUALIFIED BOTANIST. REFER TO THE LEGEND FOR TREE SPECIES SYMBOLS.

21. TREE TRUNK DIMENSIONS MAY BE SHOWN OUT-OF-SCALE FOR PLOTTING CLARITY. CAUTION SHOULD BE USED IN DESIGNING NEAR TREE TRUNKS. THERE ARE LIMITATIONS ON FIELD ACCURACY, DRAFTING ACCURACY, MEDIUM STRETCH AS WELL AS THE "SPREAD" OR "LEANING" OF TREES. REQUEST ADDITIONAL TOPOGRAPHIC DETAIL WHERE CLOSE TOLERANCES ARE ANTICIPATED. INDIVIDUAL TREES ARE NOT TYPICALLY LOCATED WITHIN DRIPLINE CANOPY AREAS SHOWN.

22. APPROXIMATE CENSUS OF TREES TO BE REMOVED:

COMMON NAME	NUMBER
ALDER:	1
TOTAL:	1

23. WILLOWS TO BE REMOVED SHALL BE TRIMMED, TRANSPLANTED, AND UTILIZED IN THE REVEGETATION PLAN.

24. ALL STANDARD STREET MONUMENTS, LOT CORNER PIPES, AND OTHER PERMANENT MONUMENTS DISTURBED DURING THE PROCESS OF CONSTRUCTION SHALL BE REPLACED AND A RECORD OF SURVEY OR CORNER RECORD PER SECTION 8771 OF THE PROFESSIONAL LAND SURVEYORS ACT FILED BEFORE ACCEPTANCE OF THE IMPROVEMENTS BY THE COUNTY OF SAN MATEO. COPIES OF ANY RECORD OF SURVEY OR CORNER RECORDS SHALL BE SUBMITTED TO THE COUNTY.

25. CONTRACTOR IS REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.

26. THE CONTRACTOR SHALL CONFORM TO THE RULES AND REGULATIONS OF THE CONSTRUCTION SAFETY ORDERS OF THE CALIFORNIA DIVISION OF OCCUPATIONAL SAFETY AND HEALTH PERTAINING TO EXCAVATION AND TRENCHES THE CALIFORNIA CODE OF REGULATIONS TITLE 8, SUBCHAPTER 4 CONSTRUCTION SAFETY ORDERS, ARTICLE 6 EXCAVATION.

27. CULTURAL RESOURCES: IN THE EVENT THAT HUMAN REMAINS AND/OR CULTURAL MATERIALS ARE FOUND, ALL PROJECT-RELATED CONSTRUCTION SHALL CEASE WITHIN A 100-FOOT RADIUS. THE CONTRACTOR SHALL, PURSUANT TO SECTION 7050.5 OF THE HEALTH AND SAFETY CODE, AND SECTION 5097.94 OF THE PUBLIC RESOURCES CODE OF THE STATE OF CALIFORNIA, NOTIFY THE SAN MATEO COUNTY CORONER IMMEDIATELY.

EROSION CONTROL NOTES

1. THE EROSION CONTROL PLAN SHOWN IS INTENDED FOR THE SUMMER CONSTRUCTION SEASON (APRIL 15TH TO OCTOBER 15TH). IF THE DRAINAGE FEATURES SHOWN ON THESE DRAWINGS ARE NOT COMPLETED AND DISTURBED AREAS STABILIZED BY OCTOBER 1ST, CONSULT THE ENGINEER FOR ADDITIONAL RAINY SEASON EROSION CONTROL MEASURES.

2. PRIOR TO COMMENCING WORK, PROTECT AREAS TO REMAIN UNDISTURBED WITH ESA FENCING, AS SHOWN ON THE DRAWINGS. ADDITIONAL FENCING MAY BE REQUIRED AT THE DIRECTION OF THE ENGINEER.

3. UTILIZE ONLY THE APPROVED HAUL ROADS AND ACCESS POINTS (AS SHOWN ON THE DRAWINGS) FOR TRANSPORT OF MATERIALS AND EQUIPMENT.

4. BETWEEN OCTOBER 15 AND APRIL 15, PROTECT EXPOSED SOIL FROM EROSION AT ALL TIMES. DURING CONSTRUCTION, SUCH PROTECTION MAY CONSIST OF MULCHING AND/OR PLANTING OF NATIVE VEGETATION OF ADEQUATE DENSITY. BEFORE COMPLETION OF THE PROJECT, STABILIZE ALL EXPOSED SOIL ON DISTURBED SLOPES AGAINST EROSION.

5. MAINTAIN A STANDBY CREW FOR EMERGENCY WORK AT ALL TIMES DURING THE RAINY SEASON (OCTOBER 15 THROUGH APRIL 15). STOCKPILE NECESSARY MATERIALS AT CONVENIENT LOCATIONS TO FACILITATE RAPID CONSTRUCTION OF TEMPORARY DEVICES.

6. CONSTRUCT TEMPORARY EROSION CONTROL MEASURES AS SHOWN ON THIS PLAN AND/OR AS DIRECTED BY THE ENGINEER TO CONTROL DRAINAGE WHICH HAS BEEN AFFECTED BY GRADING AND/OR TRENCHING OPERATIONS.

7. INCORPORATE ADEQUATE DRAINAGE PROCEDURES DURING THE CONSTRUCTION PROCESS TO ELIMINATE EXCESSIVE PONDING AND EROSION.

8. CONSTRUCT AND MAINTAIN EROSION CONTROL MEASURES TO PREVENT THE DISCHARGE OF EARTHEN MATERIALS TO THE CREEK FROM DISTURBED AREAS UNDER CONSTRUCTION AND FROM COMPLETED CONSTRUCTION AREAS.

9. INSTALL ALL PROTECTIVE DEVICES AT THE END OF EACH WORK DAY WHEN THE FIVE-DAY RAIN PROBABILITY EQUALS OR EXCEEDS 50 PERCENT AS DETERMINED FROM THE NATIONAL WEATHER SERVICE FORECAST OFFICE: WWW.SRH.NOAA.GOV.

10. THE EROSION CONTROL DEVICES ON THIS PLAN ARE A SCHEMATIC REPRESENTATION OF WHAT MAY BE REQUIRED. EROSION CONTROL DEVICES MAY BE RELOCATED, DELETED, OR ADDITIONAL ITEMS MAY BE REQUIRED DEPENDING ON THE ACTUAL SOIL CONDITIONS ENCOUNTERED, AT THE DISCRETION OF THE ENGINEER.

11. MAINTAIN ALL EROSION CONTROL DEVICES AND MODIFY THEM AS SITE PROGRESS DICTATES.

12. MONITOR THE EROSION CONTROL DEVICES DURING STORMS AND MODIFY THEM IN ORDER TO PREVENT PROGRESS OF ANY ONGOING EROSION.

13. CLEAN DAILY ANY EROSION OR DEBRIS SPILLING ONTO A PUBLIC STREET.

14. CONTACT THE ENGINEER IN THE EVENT THAT THE EROSION CONTROL PLAN AS DESIGNED REQUIRES ANY SUBSTANTIAL REVISIONS.

15. IMPLEMENT ALL REQUIRED BMP'S PRIOR TO COMMENCING SITE DISTURBING ACTIVITIES.

DUST CONTROL NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTINUOUS DUST CONTROL, THROUGHOUT THE CONSTRUCTION, IN ACCORDANCE WITH THE PERMIT CONDITIONS OF APPROVAL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REGULAR CLEANING OF ALL MUD, DIRT, DEBRIS, ETC., FROM ANY AND ALL ADJACENT ROADS AND SIDEWALKS, AT LEAST ONCE EVERY 24 HOURS WHEN OPERATIONS ARE OCCURRING.

2. ALL DISTURBED AREAS, INCLUDING UNPAVED ACCESS ROADS OR STORAGE PILES, NOT BEING ACTIVELY UTILIZED FOR CONSTRUCTION PURPOSES, SHALL BE EFFECTIVELY STABILIZED OF DUST EMISSIONS USING WATER, CHEMICAL STABILIZER/SUPPRESSANT, OR VEGETATIVE GROUND COVER.

3. ALL GROUND-DISTURBING ACTIVITIES (E.G., CLEARING, GRUBBING, SCRAPING, AND EXCAVATION) SHALL BE EFFECTIVELY CONTROLLED OF FUGITIVE DUST EMISSIONS UTILIZING APPLICATION OF WATER OR BY PRE-SOAKING.

4. ALL MATERIALS TRANSPORTED OFFSITE SHALL BE COVERED OR EFFECTIVELY WETTED TO LIMIT DUST EMISSIONS.

5. FOLLOWING THE ADDITION OF MATERIALS TO, OR THE REMOVAL OF MATERIALS FROM, THE SURFACES OF OUTDOOR STORAGE PILES, SAID PILES SHALL BE EFFECTIVELY STABILIZED OF FUGITIVE DUST EMISSIONS UTILIZING SUFFICIENT WATER OR CHEMICAL STABILIZER/SUPPRESANT.

6. DISTURBED AREAS SHALL BE SEEDED PRIOR TO OCTOBER 15TH OR EARLIER AS REQUIRED BY THE APPLICABLE PERMIT CONDITIONS.

EARTHWORK NOTES

1. ALL GRADING SHALL COMPLY WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL INVESTIGATION, AND WITH THE APPLICABLE REQUIREMENTS OF THE SAN MATEO COUNTY GRADING ORDINANCE. REFER TO GEOTECHNICAL INVESTIGATION REPORT BY:

   CMAG ENGINEERING, INC.
   P.O. BOX 640
   APTOS, CA 95001
   (831) 475-1411
   JOB No. 19-140-SM

   PRIOR TO PERFORMING ANY WORK, THE CONTRACTOR SHALL BE FAMILIAR WITH THE GEOTECHNICAL INVESTIGATION. IN THE EVENT OF DISCREPANCY BETWEEN THE REPORT AND THE NOTES HEREIN, THE REPORT SHALL PREVAIL. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VISIT THE SITE AND MAKE THEIR OWN INTERPRETATIONS WITH REGARD TO MATERIALS, METHODS AND EQUIPMENT NECESSARY TO PERFORM THE WORK REQUIRED FOR THIS PROJECT.

2. GRADING SUMMARY:
   TOTAL CUT VOLUME = 150 CY
   TOTAL FILL VOLUME = 25 CY
   NET (CUT/FILL) = 125 CY

   THE ABOVE QUANTITIES ARE APPROXIMATE IN-PLACE VOLUMES CALCULATED AS THE DIFFERENCE BETWEEN EXISTING GROUND AND THE PROPOSED FINISH GRADE, PREPARED FOR PERMITTING PURPOSES ONLY. EXISTING GROUND IS DEFINED BY THE TOPOGRAPHIC CONTOURS AND/OR SPOT ELEVATIONS ON THE PLAN. PROPOSED FINISH GRADE IS DEFINED AS THE DESIGN SURFACE ELEVATION OF WORK TO BE CONSTRUCTED. THE QUANTITIES HAVE NOT BEEN FACTORED TO INCLUDE ALLOWANCES FOR BULKING, CLEARING AND GRUBBING, SUBSIDENCE, SHRINKAGE, OVER EXCAVATION, AND RECOMPACTION, UNDERGROUND UTILITY AND SUBSTRUCTURE SPOILS AND CONSTRUCTION METHODS.

   THE CONTRACTOR SHALL PERFORM AN INDEPENDENT EARTHWORK ESTIMATE FOR THE PURPOSE OF PREPARING BID PRICES FOR EARTHWORK. THE BID PRICE SHALL INCLUDE COSTS FOR ANY NECESSARY IMPORT AND PLACEMENT OF EARTH MATERIALS OR THE EXPORT AND PROPER DISPOSAL OF EXCESS OR UNSUITABLE EARTH MATERIALS.

3. PRIOR TO COMMENCING WORK, PROTECT ALL SENSITIVE AREAS TO REMAIN UNDISTURBED WITH TEMPORARY FENCING, AS SHOWN ON THE DRAWINGS, AS SPECIFIED, OR AS DIRECTED BY THE ENGINEER.

4. DO NOT DISTURB AREAS OUTSIDE OF THE DESIGNATED LIMITS OF DISTURBANCE, UNLESS AUTHORIZED IN WRITING BY THE ENGINEER. THE COST OF ALL ADDITIONAL WORK ASSOCIATED WITH RESTORATION AND REVEGETATION OF DISTURBED AREAS OUTSIDE THE DESIGNATED LIMITS OF DISTURBANCE, AS SHOWN ON THE DRAWINGS, SHALL BE BORNE SOLELY BY THE CONTRACTOR.

5. REMOVE ALL EXCESS SOILS TO AN APPROVED DUMP SITE OR DISPOSE OF ON SITE AT A LOCATION TO BE APPROVED BY THE ENGINEER, IN A MANNER THAT WILL NOT CAUSE EROSION.

6. CLEARING AND GRUBBING, SUBGRADE PREPARATION AND EARTHWORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 17 & 19 OF THE STANDARD SPECIFICATIONS, THESE DRAWINGS, AND THE TECHNICAL SPECIFICATIONS.

7. PRIOR TO STARTING WORK ON THE PROJECT, SUBMIT FOR ACCEPTANCE BY THE ENGINEER A HAZARDOUS MATERIALS CONTROLS AND SPILL PREVENTION PLAN. INCLUDE PROVISIONS FOR PREVENTING HAZARDOUS MATERIALS FROM CONTAMINATING SOIL OR ENTERING WATER COURSES, AND ESTABLISH A SPILL PREVENTION AND COUNTERMEASURE PLAN.

8. UNLESS AUTHORIZED BY THE GEOTECHNICAL ENGINEER, THE FOLLOWING MATERIALS SHALL NOT BE INCORPORATED INTO THE WORK:

   A. ORGANIC MATERIALS SUCH AS PEAT, MULCH, ORGANIC SILT OR SOD.
   B. SOILS CONTAINING EXPANSIVE CLAYS.
   C. MATERIAL CONTAINING EXCESSIVE MOISTURE.
   D. POORLY GRADED COURSE MATERIAL
   E. PARTICLE SIZES IN EXCESS OF 6 INCHES.
   F. MATERIAL WHICH WILL NOT ACHIEVE SPECIFIED DENSITY OR BEARING.

9. FINE GRADING ELEVATIONS, CONFORMS, AND SLOPES NOT CLEARLY SHOWN ON THE DRAWINGS SHALL BE DETERMINED BY THE CONTRACTOR IN THE FIELD TO DIRECT DRAINAGE TO PROTECTED DRAINAGE CONTROL STRUCTURES OR NATURAL WATERWAYS IN A MANNER THAT SUPPORTS THE INTENT OF THE DESIGN. ALL FINAL GRADING SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER.

10. THE TOP 6" OF SUBGRADE UNDER ALL PAVED SURFACES SUBJECT TO VEHICULAR USE SHALL BE COMPACTED TO A MINIMUM OF 95% RELATIVE COMPACTION, IN ACCORDANCE WITH ASTM-D1557. ALL OTHER FILL TO BE COMPACTED TO A MINIMUM OF 90% MAXIMUM DENSITY AS DETERMINED BY ASTM-D1557 AND SO CERTIFIED BY TESTS AND REPORTS FROM THE CIVIL ENGINEER IN CHARGE OF THE GRADING CERTIFICATION.

11. SPREAD FILL MATERIAL IN LIFTS OF APPROXIMATELY 8 INCHES, MOISTENED OR DRIED TO NEAR OPTIMUM MOISTURE CONTENT AND RECOMPACTED. THE MATERIALS FOR ENGINEERED FILL SHALL BE APPROVED BY A REGISTERED CIVIL ENGINEER. ANY IMPORTED MATERIALS MUST BE APPROVED BEFORE BEING BROUGHT TO THE SITE. THE MATERIALS USED SHALL BE FREE OF ORGANIC MATTER AND OTHER DELETERIOUS MATERIALS.

12. ALL CONTACT SURFACES BETWEEN ORIGINAL GROUND AND RECOMPACTED FILL SHALL BE EITHER HORIZONTAL OR VERTICAL. ALL ORGANIC MATERIAL SHALL BE REMOVED AND THE REMAINING SURFACE SCARIFIED TO A DEPTH OF AT LEAST 12 INCHES, UNLESS DEEPER EXCAVATION IS REQUIRED BY THE ENGINEER.

ACCESS AND STAGING AREA NOTES

1. USE ONLY THE APPROVED ACCESS POINTS, AS SHOWN ON THE DRAWINGS. STOCKPILE MATERIALS WITHIN AN EXISTING FLAT AND PREVIOUSLY DISTURBED AREA.

2. THE ACCESS PLAN SHOWN ON THE DRAWINGS IS SCHEMATIC. SUBMIT A SITE ACCESS PLAN FOR APPROVAL BY THE ENGINEER, PRIOR TO MOBILIZATION.

3. CONTAIN THE DOWNSLOPE PERIMETER OF STAGING OR STOCKPILE AREAS WITH SILT FENCE.

4. STORE, MAINTAIN AND REFUEL ALL EQUIPMENT AND MATERIALS IN A DESIGNATED PORTION OF THE STAGING AREA.

AIR QUALITY BEST MANAGEMENT PRACTICES

1. ALL EXPOSED SURFACES (E.G., PARKING AREAS, STAGING AREAS, SOIL PILES, GRADED AREAS, AND UNPAVED ACCESS ROADS) SHALL BE WATERED TWO TIMES PER DAY.

2. ALL HAUL TRUCKS TRANSPORTING SOIL, SAND, OR OTHER LOOSE MATERIAL OFF-SITE SHALL BE COVERED.

3. ALL VISIBLE MUD OR DIRT TRACKOUT ONTO ADJACENT PUBLIC ROADS SHALL BE REMOVED USING WET POWER VACUUM STREET SWEEPERS AT LEAST ONCE PER DAY. THE USE OF DRY POWER SWEEPING IS PROHIBITED.

4. ALL VEHICLE SPEEDS ON UNPAVED ROADS SHALL BE LIMITED TO 15 MPH.

5. ALL ROADWAYS, DRIVEWAYS, AND SIDEWALKS TO BE PAVED SHALL BE COMPLETED AS SOON AS POSSIBLE. BUILDING PADS SHALL BE LAID AS SOON AS POSSIBLE AFTER GRADING UNLESS SEEDING OR SOIL BINDERS ARE USED.

6. ALL EXCAVATION, GRADING, AND/OR DEMOLITION ACTIVITIES SHALL BE SUSPENDED WHEN AVERAGE WIND SPEEDS EXCEED 20 MPH.

7. ALL TRUCKS AND EQUIPMENT, INCLUDING THEIR TIRES, SHALL BE WASHED OFF PRIOR TO LEAVING THE SITE.

8. UNPAVED ROADS PROVIDING ACCESS TO SITES LOCATED 100 FEET OR FURTHER FROM A PAVED ROAD SHALL BE TREATED WITH A 6- TO 12-INCH LAYER OF COMPACTED LAYER OF WOOD CHIPS, MULCH, OR GRAVEL.

9. PUBLICLY VISIBLE SIGNS SHALL BE POSTED WITH THE TELEPHONE NUMBER AND NAME OF THE PERSON TO CONTACT AT THE LEAD AGENCY REGARDING DUST COMPLAINTS. THIS PERSON SHALL RESPOND AND TAKE CORRECTIVE ACTION WITHIN 48 HOURS. THE AIR DISTRICT'S GENERAL AIR POLLUTION COMPLAINTS NUMBER SHALL ALSO BE VISIBLE TO ENSURE COMPLIANCE WITH APPLICABLE REGULATIONS.

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DRAFT
NOT FOR CONSTRUCTION

PREPARED AT THE REQUEST OF:
KATHY MALONEY

NOTES

BUTANO CANYON HABITAT AND STREAMBANK RESTORATION PROJECT
65% DESIGN SUBMITTAL

DESIGNED BY:	M.W.
DRAWN BY:	K.B./B.Z.
CHECKED BY:	M.W.
DATE:	1/28/25
JOB NO.:	19-052

BAR IS ONE INCH ON ORIGINAL DRAWING, ADJUST SCALES FOR REDUCED PLOTS
0 1"