County of Santa Cruz

PLANNING DEPARTMENT
701 OCEAN STREET, 4TH FLOOR, SANTA CRUZ, CA 95060
(831) 454-2580 FAX: (831) 454-2131
KATHLEEN MOLLOY, PLANNING DIRECTOR
www.sccoplanning.com

NOTICE OF INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION (RECIRCULATION)

NOTICE OF PUBLIC REVIEW AND COMMENT PERIOD

Pursuant to the California Environmental Quality Act, the following project has been reviewed by the County Environmental Coordinator to determine if it has a potential to create significant impacts to the environment and, if so, how such impacts could be solved. A Negative Declaration is prepared in cases where the project is determined not to have any significant environmental impacts. Either a Mitigated Negative Declaration or Environmental Impact Report (EIR) is prepared for projects that may result in a significant impact to the environment.

Public review periods are provided for these Environmental Determinations according to the requirements of the County Environmental Review Guidelines. The environmental document is available for review at the County Planning Department located at 701 Ocean Street, in Santa Cruz. You may also view the environmental document on the web at www.sccoplanning.com under the Planning Department menu. If you have questions or comments about this Notice of Intent, please contact Stephanie Hansen of the Environmental Review staff at (831) 454-3112.

The County of Santa Cruz does not discriminate on the basis of disability, and no person shall, by reason of a disability, be denied the benefits of its services, programs or activities. If you require special assistance in order to review this information, please contact Bernice Shawver at (831) 454-3137 to make arrangements.

PROJECT: Bean Creek Streambank Stabilization Project

APP #: N/A

APN(S): County Right-of-Way

PROJECT DESCRIPTION: The Santa Cruz County proposes to repair 42 linear feet of reinforced concrete crib wall with large woody debris as scour protection, asphalt dike and guardrail, erosion control and revegetation. This requires a Riparian Exception from the County, as well as state and federal permits.

PROJECT LOCATION: The proposed project is located on the west shoulder of Bean Creek Road, two miles north of the intersection of Bean Creek Road and Scotts Valley Blvd., west of the City of Scotts Valley in the unincorporated County of Santa Cruz. The proposed project is located entirely within the County right-of-way.

EXISTING ZONE DISTRICT: A (Agriculture)
APPLICANT: County of Santa Cruz, Department of Public Works
OWNER: County of Santa Cruz
PROJECT PLANNER: Juliette Robinson
EMAIL: Juliette.Robinson@santacruzcounty.us
ACTION: Negative Declaration with Mitigation
REVIEW PERIOD: October 19 through November 19, 2018
This project will be considered administratively by the Project Planner at the conclusion of the review period.

COUNTY OF SANTA CRUZ

PLANNING DEPARTMENT
701 OCEAN STREET, 4TH FLOOR, SANTA CRUZ, CA 95060
(831) 454-2580 FAX: (831) 454-2131 TDD: (831) 454-2123
KATHLEEN MOLLOY, PLANNING DIRECTOR
http://www.sccoplanning.com/

MITIGATED NEGATIVE DECLARATION

Project: Bean Creek Streambank Stabilization Project **APN(S): County Right-of-Way**

Project Description: Construct 42 linear feet of reinforced concrete crib wall with large woody debris as scour protection, asphalt dike and guardrail, erosion control and revegetation. This requires a Riparian Exception.

Project Location: The proposed project is located on the west shoulder of Bean Creek Road, two miles north of the intersection of Bean Creek Road and Scotts Valley Blvd., west of the City of Scotts Valley in the unincorporated County of Santa Cruz. Santa Cruz County is bounded on the north by San Mateo County, on the south by Monterey and San Benito counties, on the east by Santa Clara County, and on the south and west by the Monterey Bay and the Pacific Ocean.

Owner: County of Santa Cruz Department of Public Works

Applicant: County of Santa Cruz

Staff Planner: Juliette Robinson, (831) 454-3156

Email: Juliette.Robinson@santacruzcounty.us

This project will be considered administratively by the Project Planner at the conclusion of the review period.

California Environmental Quality Act Mitigated Negative Declaration Findings:

Find, that this Mitigated Negative Declaration reflects the decision-making body's independent judgment and analysis, and; that the decision-making body has reviewed and considered the information contained in this Mitigated Negative Declaration and the comments received during the public review period; and, that revisions in the project plans or proposals made by or agreed to by the project applicant would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur; and, on the basis of the whole record before the decision-making body (including this Mitigated Negative Declaration) that there is no substantial evidence that the project as revised will have a significant effect on the environment. The expected environmental impacts of the project are documented in the attached Initial Study on file with the County of Santa Cruz Clerk of the Board located at 701 Ocean Street, 5th Floor, Santa Cruz, California.

Review Period Ends: November 19, 2018

Date: _____

_____
KATHY MOLLOY, Environmental Coordinator
(831) 454-3136

County of Santa Cruz

PLANNING DEPARTMENT
701 OCEAN STREET, 4TH FLOOR, SANTA CRUZ, CA 95060
(831) 454-2580 FAX: (831) 454-2131 TDD: (831) 454-2123
KATHLEEN MOLLOY, PLANNING DIRECTOR
www.sccoplanning.com

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)
INITIAL STUDY/ENVIRONMENTAL CHECKLIST

Date: October 12, 2018 **Application Number**: N/A

Project Name: Bean Creek 1.00 **Staff Planner:** Juliette Robinson

I. OVERVIEW AND ENVIRONMENTAL DETERMINATION

APPLICANT: County of Santa Cruz Department of Public Works **APN(s):** County Right-of-Way

OWNER: County of Santa Cruz **SUPERVISORAL DISTRICT:** 5th

PROJECT LOCATION: The project is located on the west shoulder of Bean Creek Road, two miles north of the intersection of Bean Creek Road and Scotts Valley Drive, west of the City of Scotts Valley in the unincorporated County of Santa Cruz (Figure 1). The County of Santa Cruz is bounded on the north by San Mateo County, on the south by Monterey and San Benito counties, on the east by Santa Clara County, and on the south and west by the Monterey Bay and the Pacific Ocean.

SUMMARY PROJECT DESCRIPTION: Proposal to repair a partial road and stream bank failure by constructing a crib wall.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED: *All of the following potential environmental impacts are evaluated in this Initial Study. Categories that are marked have been analyzed in greater detail based on project specific information.*

- ☐ Aesthetics and Visual Resources
- ☐ Agriculture and Forestry Resources
- ☐ Air Quality
- ☒ Biological Resources
- ☒ Cultural Resources
- ☐ Geology and Soils
- ☐ Greenhouse Gas Emissions
- ☐ Hazards and Hazardous Materials
- ☒ Hydrology/Water Supply/Water Quality
- ☐ Land Use and Planning
- ☐ Mineral Resources
- ☐ Noise
- ☐ Population and Housing
- ☐ Public Services
- ☐ Recreation
- ☐ Transportation/Traffic
- ☐ Utilities and Service Systems
- ☐ Mandatory Findings of Significance

DISCRETIONARY APPROVAL(S) BEING CONSIDERED:

- ☐ General Plan Amendment
- ☐ Coastal Development Permit

- ☐ Land Division
- ☐ Rezoning
- ☐ Development Permit
- ☐ Sewer Connection Permit
- ☐ Grading Permit
- ☒ Riparian Exception
- ☐ LAFCO Annexation
- ☐ Other:

OTHER PUBLIC AGENCIES WHOSE APPROVAL IS REQUIRED (e.g., permits, financing approval, or participation agreement):

Permit Type/Action	Agency
1602 Streambed alteration agreement	California Department of Fish and Wildlife (CDFW)
401 Water Quality Certification	Regional Water Quality Control Board
404 Permit	United States (U.S.) Army Corps of Engineers
Section 7 Consultation	U.S. Fish and Wildlife Service (USFWS) and National Oceanographic Administration (NOAA) Fisheries

DETERMINATION:

On the basis of this initial evaluation:

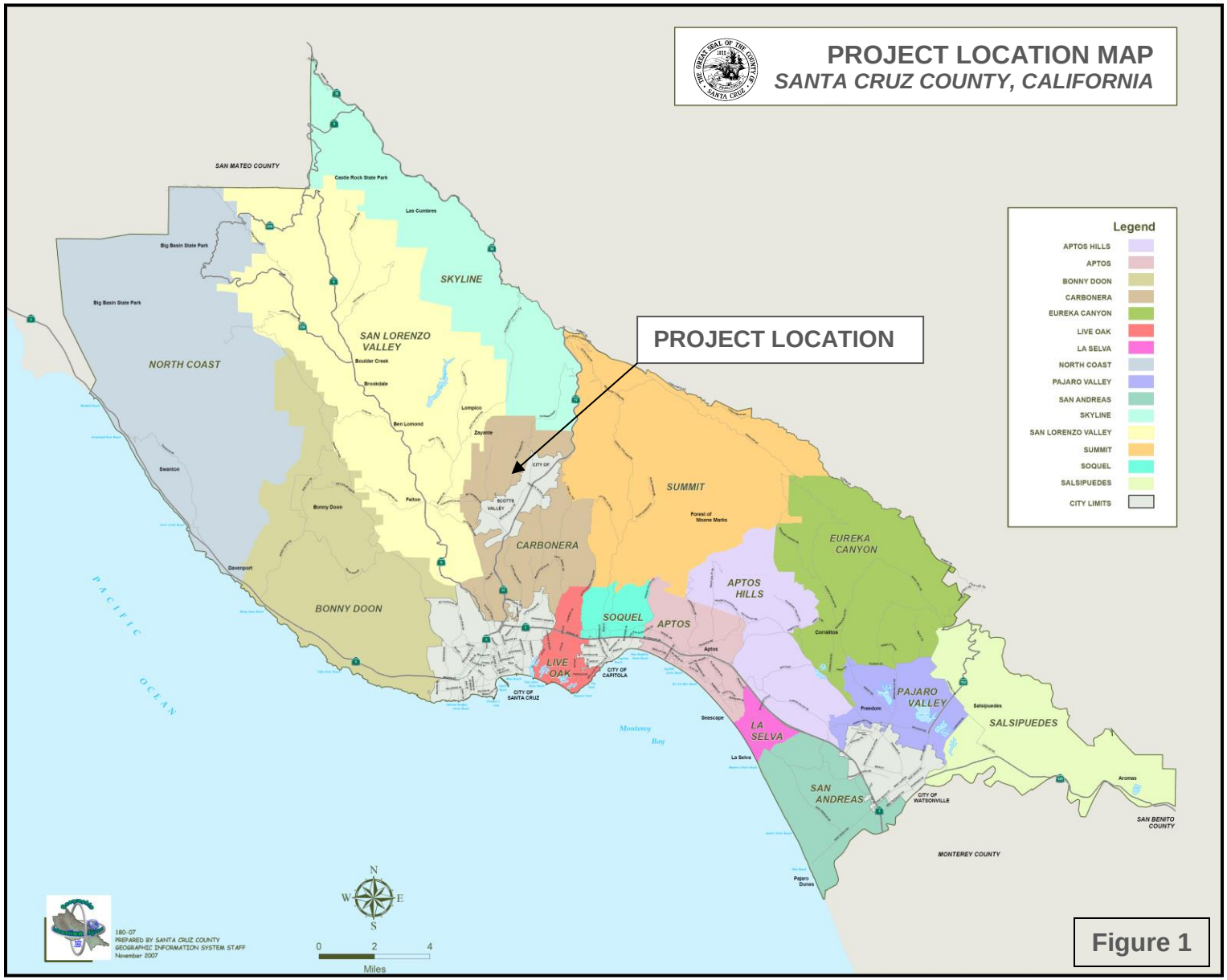
- ☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- ☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- ☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- ☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Kathleen Molloy

Kathleen Molloy, Environmental Coordinator

10-15-2018

Date


PROJECT LOCATION MAP
SANTA CRUZ COUNTY, CALIFORNIA
PROJECT LOCATION
Legend
APTOS HILLS
APTOS
BONNY DOON
CARBONERA
EUREKA CANYON
LIVE OAK
LA SELVA
NORTH COAST
PAJARO VALLEY
SAN ANDREAS
SKYLINE
SAN LORENZO VALLEY
SUMMIT
SOQUEL
SALSIPUEDES
CITY LIMITS
SAN MATEO COUNTY
NORTH COAST
SKYLINE
SAN LORENZO VALLEY
BONNY DOON
CARBONERA
SUMMIT
EUREKA CANYON
APTOS HILLS
SOQUEL
APTOS
LIVE OAK
LA SELVA
PAJARO VALLEY
SALSIPUEDES
SAN ANDREAS
MONTEREY COUNTY
SAN BENITO COUNTY
PACIFIC OCEAN
Monterey Bay
CITY OF SANTA CRUZ
CITY OF CAPITOLA
CITY OF WATSONVILLE
Castle Rock State Park
Las Cumbres
Big Basin State Park
Boulder Creek
Brookdale
Lompico
Ben Lomond
Zayante
Felton
Bonny Doon
Davenport
Swanton
Forest of Nisene Marks
Corralitos
Aptos
Freedom
Seascape
La Selva
Salsipuedes
Aromas
Pajaro Dunes
N
W
E
S
0
2
4
Miles
180-07
PREPARED BY SANTA CRUZ COUNTY
GEOGRAPHIC INFORMATION SYSTEM STAFF
November 2007
Figure 1

This page intentially left blank.

II. BACKGROUND INFORMATION

EXISTING SITE CONDITIONS:

Parcel Size (acres):	N/A
Existing Land Use:	Roadway / stream bank
Vegetation:	Riparian
Slope in area affected by project:	☒ 0 - 30% ☒ 31 – 100% ☐ N/A
Nearby Watercourse:	Bean Creek
Distance To:	Adjacent

ENVIRONMENTAL RESOURCES AND CONSTRAINTS:

Water Supply Watershed:	Yes	Fault Zone:	No
Groundwater Recharge:	Yes	Scenic Corridor:	No
Timber or Mineral:	No	Historic:	No
Agricultural Resource:	No	Archaeology:	No
Biologically Sensitive Habitat:	Yes	Noise Constraint:	No
Fire Hazard:	No	Electric Power Lines:	Yes
Floodplain:	Yes	Solar Access:	No
Erosion:	No	Solar Orientation:	No
Landslide:	No	Hazardous Materials:	No
Liquefaction:	No	Other:	

SERVICES:

Fire Protection:	Scotts Valley	Drainage District:	Zone 4
School District:	SVUSD	Project Access:	Bean Creek Rd
Sewage Disposal:	Waste Management	Water Supply:	N/A

PLANNING POLICIES:

Zone District: N/A
Special Designation: N/A
General Plan: N/A

Urban Services Line:	☐ Inside	☒ Outside
Coastal Zone:	☐ Inside	☒ Outside

ENVIRONMENTAL SETTING AND SURROUNDING LAND USES:

Natural Environment

Santa Cruz County is uniquely situated along the northern end of Monterey Bay approximately 55 miles south of the City of San Francisco along the Central Coast. The Pacific Ocean and Monterey Bay to the west and south, the mountains inland, and the prime agricultural lands along both the northern and southern coast of the county create limitations on the style and amount of building that can take place. Simultaneously, these natural features create an

environment that attracts both visitors and new residents every year. The natural landscape provides the basic features that set Santa Cruz apart from the surrounding counties and require specific accommodations to ensure building is done in a safe, responsible, and environmentally respectful manner.

Rural residential development and forest lands surround the project site. Bean Creek is a perennial tributary to Zayante Creek, which flows to the San Lorenzo River in Felton, approximately six miles downstream of the project site at Henry Cowell State Park. While Bean Creek is mapped as a perennial waterway, the project reach often goes dry in late summer during low flow years. The project site is within an area of residential clearings in redwood forest, with alder riparian woodland and in-stream wetlands located along Bean Creek (below the project work area).

PROJECT BACKGROUND:

In March, 2011, an alder in a row of alders along the stream bank adjacent to Bean Creek Road was undermined by scour and fell into the channel. The failure since then has grown from a 15-foot wide divot to its current width of 35 feet, but has been limited to the road shoulder. An alder just upstream of the failure recently fell into the channel, and two more downstream of the failure are undermined. A goal of the project, beyond repairing the road shoulder and stream bank, is to protect the two downstream alders from failure due to further scouring.

DETAILED PROJECT DESCRIPTION:

The County of Santa Cruz proposes the following repairs: construct approximately 42 linear feet (lf) of reinforced concrete crib retaining wall with one 18-inch diameter breast height (dbh) and two 24-inch dbh log footers for scour protection at water level, 76 lf of asphalt concrete dike, 95 lf of metal guard rail and erosion control (Attachment 2). Alternatively, a 30-inch redwood recently fell immediately adjacent to the project site that could also be used for scour protection. The construction staging area will be in a road pullout at the northern end of the work area and on the paved surface of Bean Creek Road within the project's lane closure area.

The proposed work requires the removal of understory vegetation. Road repair work will occur from the paved roadway at the top of slope above Bean Creek. Approximately 265 square feet of erosion control fabric, hydroseed and willows stakes will be placed for slope stabilization around the concrete cribwall. The total work area encompasses approximately 4,200 square feet (0.09 acre).

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

III. ENVIRONMENTAL REVIEW CHECKLIST

A. AESTHETICS AND VISUAL RESOURCES

Would the project:

1.	*Have a substantial adverse effect on a scenic vista?*	☐	☐	☐	☒

Discussion: The project would not directly impact any public scenic resources, as designated in the County's General Plan (1994) or obstruct any public views of these visual resources.

2.	*Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?*	☐	☐	☐	☒

Discussion: The project site is not located along a County-designated scenic road, public viewshed area, scenic corridor, within a designated scenic resource area, or within a state scenic highway. Therefore, no impact is anticipated.

3.	*Substantially degrade the existing visual character or quality of the site and its surroundings?*	☐	☐	☒	☐

Discussion: The existing visual setting is a rural stream along a rural road. The project is designed and landscaped so as to fit into this setting.

4.	*Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?*	☐	☐	☐	☒

Discussion: The project does not include a source of light and would not affect either day or nighttime views in the area.

B. AGRICULTURE AND FORESTRY RESOURCES

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

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

1.	*Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?*	☐	☐	☐	☒

***Discussion*:** The project site does not contain any lands designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency. In addition, the project does not contain Farmland of Local Importance. Therefore, no Prime Farmland, Unique Farmland, Farmland of Statewide or Farmland of Local Importance would be converted to a non-agricultural use. No impact would occur from project implementation.

2.	*Conflict with existing zoning for agricultural use, or a Williamson Act contract?*	☐	☐	☐	☒

***Discussion*:** The project site is County right-of-way and stream bank, which is not considered to be an agricultural zone. Additionally, the project site's land is not under a Williamson Act Contract. Therefore, the project does not conflict with existing zoning for agricultural use, or a Williamson Act Contract. No impact is anticipated.

3.	*Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?*	☐	☐	☐	☒

***Discussion*:** Although the project is adjacent to land designated as Timber Resource, the project would not conflict with existing zoning for forest land. The project would not affect the resource or access to harvest the resource in the future. The timber resource may only be harvested in accordance with California Department of Forestry timber harvest rules and regulations.

4.	*Result in the loss of forest land or conversion of forest land to non-forest use?*	☐	☐	☐	☒

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

***Discussion*:** See discussion under B-3 above. No impact is anticipated.

5.	*Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?*	☐	☐	☐	☒

***Discussion*:** Stream bank stabilization and roadway repair have no impacts on agricultural or forest resources.

C. AIR QUALITY

The significance criteria established by the Monterey Bay Unified Air Pollution Control District (MBUAPCD) has been relied upon to make the following determinations. Would the project:

1.	*Conflict with or obstruct implementation of the applicable air quality plan?*	☐	☐	☒	☐

***Discussion*:** The project would not conflict with or obstruct any long-range air quality plans of the Monterey Bay Unified Air Pollution Control District (MBUAPCD). Because general construction activity related emissions (i.e., temporary sources) are accounted for in the emission inventories included in the plans, impacts to air quality plan objectives are less than significant. See C-2 below.

General estimated basin-wide construction-related emissions are included in the MBUAPCD emission inventory (which, in part, form the basis for the air quality plans cited below) and are not expected to prevent long-term attainment or maintenance of the ozone and particulate matter standards within the North Central Coast Air Basin (NCCAB). Therefore, temporary construction impacts related to air quality plans for these pollutants from the project would be less than significant, and no mitigation would be required, since they are presently estimated and accounted for in the District's emission inventory, as described below. No stationary sources would be constructed that would be long-term permanent sources of emissions.

2.	*Violate any air quality standard or contribute substantially to an existing or projected air quality violation?*	☐	☐	☒	☐

***Discussion*:** Santa Cruz County is located within the NCCAB, which does not meet state standards for ozone (reactive organic gases [ROGs] and nitrogen oxides [NOx]) and fine particulate matter (PM_{10}). Therefore, the regional pollutants of concern that would be emitted by the project are ozone precursors and PM_{10}.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

Ozone is the main pollutant of concern for the NCCAB. The primary sources of ROG within the air basin are on- and off-road motor vehicles, petroleum production and marketing, solvent evaporation, and prescribed burning. The primary sources of NOx are on- and off-road motor vehicles, stationary source fuel combustion, and industrial processes. In 2010, daily emissions of ROGs were estimated at 63 tons per day. Of this, area-wide sources represented 49 percent, mobile sources represented 36 percent, and stationary sources represented 15 percent. Daily emissions of NOx were estimated at 54 tons per day with 69 percent from mobile sources, 22 percent from stationary sources, and 9 percent from area-wide sources. In addition, the region is "NOx sensitive," meaning that ozone formation due to local emissions is more limited by the availability of NOx as opposed to the availability of ROGs (MBUAPCD, 2013b).

PM_{10} is the other major pollutant of concern for the NCCAB. In the NCCAB, highest particulate levels and most frequent violations occur in the coastal corridor. In this area, fugitive dust from various geological and man-made sources combines to exceed the standard. Nearly three quarters of all NCCAB exceedances occur at these coastal sites where sea salt is often the main factor causing exceedance (MBUAPCD, 2005). In 2005 daily emissions of PM_{10} were estimated at 102 tons per day. Of this, entrained road dust represented 35 percent of all PM_{10} emission, windblown dust 20 percent, agricultural tilling operations 15 percent, waste burning 17 percent, construction 4 percent, and mobile sources, industrial processes, and other sources made up 9 percent (MBUAPCD, 2008).

Given that no new traffic would be generated by the project there is no indication that new emissions of ROGs or NOx would exceed MBUAPCD thresholds for these pollutants; and therefore, there would not be a significant contribution to an existing air quality violation.

Project construction may result in a short term, localized decrease in air quality due to generation of PM_{10}. However, standard dust control best management practices (BMPs), such as periodic watering, would be implemented during construction to avoid significant air quality impacts from the generation of PM_{10}, and impacts would be less than significant.

3. *Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?*	☐	☐	☒	☐

Discussion: Project construction would have a limited and temporary potential to contribute to existing violations of California air quality standards for ozone and PM_{10} primarily through diesel engine exhaust and fugitive dust. However, the Santa Cruz

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

monitoring station has not had any recent violations of federal or state air quality standards mainly through dispersion of construction-related emission sources. Given the size of the project and the minimal grading required to install a crib wall, the project would not result in a cumulatively considerable net increase in criteria pollutants. The impact on ambient air quality would be less than significant.

4.	*Expose sensitive receptors to substantial pollutant concentrations?*	☐	☐	☒	☐

***Discussion*:** The proposed stream bank stabilization and roadway repair project would not generate substantial pollutant concentrations. Emissions from construction activities represent temporary impacts that are typically short in duration. Impacts to sensitive receptors would be less than significant.

5.	*Create objectionable odors affecting a substantial number of people?*	☐	☐	☒	☐

***Discussion*:** The only odors that would be created as a result of this project would be from the exhaust of the vehicles used in construction. Given the rural setting and limited duration of the project, and the presence of other vehicles using the roadway, and the lack of a substantial number of people in the project vicinity, the project would not create objectionable odors affecting a substantial number of people; therefore, impacts are expected to be less than significant.

D. BIOLOGICAL RESOURCES

Would the project:

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

***Discussion*:**

The federally listed steelhead and coho salmon may occur within the Bean Creek at the project site. The project is within Designated Critical Habitat for Central California Coast Steelhead (National Marine Fisheries Service [NMFS] 2005) and Central California Coast Coho Salmon (NMFS 1999). Bean Creek is a tributary to Zayante Creek, which is a tributary to the San Lorenzo River. Steelhead are present throughout the San Lorenzo watershed.

The San Lorenzo River is the southern boundary of the Central California Coast Coho Salmon ESU. While small numbers of hatchery and wild coho have been observed in the trap at the

Felton Diversion in recent years, coho have generally been presumed to be extirpated as a regular spawning population from the San Lorenzo River since the drought of the late 1980s. A few young-of-year coho were found in 2005 in lower Bean Creek and two young-of-year were found in Zayante Creek near the Bean Creek confluence. Coho young-of-year have also been observed in snorkel surveys conducted by NOAA Fisheries (formerly NMFS) scientists in Bean Creek (see Biological Assessment, Attachment 3).

California red-legged frog (CLRF) may also occur within the project work area or the adjacent Bean Creek. Measures are recommended to avoid impacts to special status species.

Work will occur within the creek channel. During some years, the project reach is dry in late summer and fall. Water may or may not be present during the proposed cribwall construction. If water is flowing or standing in isolated pools, a site dewatering system shall be put in place prior to site disturbance.

Section 7 Consultation with NOAA Fisheries and USFWS has been initiated. A Biological Assessment for the project was prepared in March 2016 (Attachment 3). The USFWS determined that the project could be covered under the Programmatic Biological Opinion for CLRF.

Nesting birds may occur in the riparian vegetation adjacent to the project site. Because most nesting birds are protected by the Migratory Bird Treaty Act, measures are listed below to avoid potentially significant impacts if any are present during construction.

BIO-1: To avoid impacting breeding birds, if present, schedule construction to occur between August 1 and March 1 of any given year, which is outside the bird breeding season. If this is not practical, then have a qualified biologist conduct a preconstruction survey for nesting birds no more than two weeks prior to onset of construction. If any active bird (passerines) nests are found within 50 feet of the work area, or within 200 feet for raptors, postpone construction until the biologist has determined that all young have fledged.

BIO-2: To avoid impacts to aquatic species, work will be conducted when project location in dry. If this is not feasible, a qualified biologist will oversee the installation of the dewatering system, with isolation of the work area while retaining an open, free-flowing channel as the preferred option for dewatering the project area. All fish and aquatic organisms will be relocated to suitable alternative habitat out of harm's way.

BIO-3: To avoid impacts to CRLF, a qualified biologist will conduct a preconstruction survey for CRLF no more than 48 hours prior to beginning of construction. If any are observed within the work area, the County will consult with CDFW and USFWS prior to initiating work. The County will implement all avoidance measures recommended by the agencies to avoid impacts to the frog.

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

BIO-4: A qualified biologist will present a worker training about the CRLF, salmon and steelhead, just prior to beginning of construction. The training will include identification of the species, protected status, a brief life history, and measures to avoid impacts to the species.

2. Have a substantial adverse effect on any riparian habitat or sensitive natural community identified in local or regional plans, policies, regulations (e.g., wetland, native grassland, special forests, intertidal zone, etc.) or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐

***Discussion*:** Riparian woodland occurs along the banks of the Bean Creek in the project area. The woodland is dominated by red alder along the higher edge of the bank. The shrub layer is dominated by sword fern, California blackberry, coyote brush, horsetail, and spreading rush. The project would permanently impact .003 acre (130 square feet) of riparian woodland through the construction of a crib wall. Construction disturbance would temporarily impact another .003 acre (130 square feet) of riparian habitat where the logs will be placed at the toe of the crib wall and willow staking installed. The project would not involve in-water work. Staging will be on the adjacent roadway and a nearby pullout.

Temporary impact areas would be revegetated with native species.

Mitigation Measures

The following mitigation measures would reduce significant impacts to a less than significant level.

BIO-5: Riparian woodland understory cannot be avoided during construction. The removal of riparian woodland and native trees will be minimized with the following environmental commitments:

- Prior to construction, the Project Applicant and the Project Biologist will identify the limits of construction so as to maximize native vegetation retention. Temporary fencing will be placed along the limits of construction to avoid unnecessary disturbance to riparian woodland.
- Where possible, native vegetation that cannot be avoided will be cut at ground level rather than removed by the roots.

BIO-6: The Project shall restore disturbed riparian woodland with native riparian vegetation.

3. Have a substantial adverse effect on federally protected wetlands as defined by	☐	☐	☐	☒

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?				

***Discussion*:** There are no mapped or designated federally protected wetlands on or adjacent to the project site. Therefore, no impacts would occur from project implementation.

4 *Interfere substantially with the movement of any native resident or migratory fish or wildlife species or migratory wildlife corridors, or impede the use of native wildlife nursery sites?*	☐	☒	☐	☐

***Discussion*:** See BIO-2 in Section D.1.

5. *Conflict with any local policies or ordinances protecting biological resources (such as the Sensitive Habitat Ordinance, Riparian and Wetland Protection Ordinance, and the Significant Tree Protection Ordinance)?*	☐	☐	☐	☒

***Discussion*:** See discussions and mitigation measures previously specified under D-1 and D-2. No wetlands would be impacted by the project. The project would be consistent with the County of Santa Cruz Riparian Corridor and Wetlands Protection Ordinance with a Riparian Exception (Section 16.30.060 of the County Code). The following findings would need to be made:

1. *That there are special circumstances or conditions affecting the property;*

   Continued failure of this stream bank and roadway shoulder will result in the loss of accessibility due to total road failure.

2. *That the exception is necessary for the proper design and function of some permitted or existing activity on the property;*

   This project is necessary to protect the public roadway infrastructure.

3. *That the granting of the exception will not be detrimental to the public welfare or injurious to other property downstream or in the area in which the project is located;*

   The streambank will be restored to pre-failure topography to ensure no negative impacts based upon altered hydrological dynamics.

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

4. *That the granting of this exception, in the Coastal Zone, will not reduce or adversely impact the riparian corridor, and there is no feasible less environmentally damaging alternative; and*

   This project is not located within the Coastal Zone

5. *That the granting of the exception is in accordance with the purpose of this chapter, and with the objectives of the General Plan and elements thereof, and the Local Coastal Program Land Use Plan.*

   The project site is within the riparian corridor and sensitive habitat as defined in the Santa Cruz County Code chapters 16.30 and 16.32, respectively. The project will result in temporary disturbance of riparian and aquatic habitat by heavy equipment accessing and working in the project area. The completion of the initial study and the CEQA process and the incorporation of mitigations into the Riparian Exception supports Objective 1.1 of the General Plan. The conditions of the Riparian Exception will conform to all applicable policies of General Plan subsections 5.1 and 5.2 (Biological Resources and Riparian and Wetland Protection, respectively).

Impacts from project implementation would be less than significant with mitigation incorporated.

6.	*Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?*	☐	☐	☐	☒

Discussion: The project would not conflict with the provisions of any adopted Habitat Conservation Plan Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Therefore, no impact would occur.

7.	*Produce nighttime lighting that would substantially illuminate wildlife habitats?*	☐	☐	☐	☒

Discussion: All construction would be completed during daylight hours. No nighttime lighting impacts from project implementation would occur.

E. CULTURAL RESOURCES

Would the project:

1.	*Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5?*	☐	☐	☐	☒

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

***Discussion*:** The existing structure(s) on the property is/are not designated as a historic resource on any federal, state or local inventory. As a result, no impacts to historical resources would occur from project implementation.

2.	*Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?*	☐	☐	☒	☐

***Discussion*:** The project will occur within previously disturbed existing road fill. According to the Cultural Resources Report prepared by Holman & Associates for the project in April 2018, no archaeological resources have been identified in the project area (Attachment 4). Pursuant to County Code Section 16.40.040, if at any time in the preparation for or process of excavating or otherwise disturbing the ground, any human remains of any age, or any artifact or other evidence of a Native American cultural site which reasonably appears to exceed 100 years of age are discovered, the responsible persons shall immediately cease and desist from all further site excavation and comply with the notification procedures given in County Code Chapter 16.40.040. Impacts are expected to be less than significant.

3.	*Disturb any human remains, including those interred outside of formal cemeteries?*	☐	☐	☒	☐

***Discussion*:** Impacts are expected to be less than significant. However, pursuant to Section 16.40.040 of the Santa Cruz County Code, if at any time during site preparation, excavation, or other ground disturbance associated with this project, human remains are discovered, the responsible persons shall immediately cease and desist from all further site excavation and notify the Sheriff-Coroner and the Planning Director. If the coroner determines that the remains are not of recent origin, a full archeological report shall be prepared and representatives of the local Native California Indian group shall be contacted. If the Coroner determines that the remains are Native American, the Native American Heritage Commission will be notified as required by law. The Commission will designate a Most Likely Descendant who will be authorized to provide recommendations for management of the Native American human remains. Disturbance shall not resume until the significance of the archeological resource is determined and appropriate mitigations to preserve the resource on the site are established.

4.	*Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074?*	☐	☐	☒	☐

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

Discussion: See discussion under E-2. Impacts would be less than significant.

5.	*Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*	☐	☐	☐	☒

Discussion: The project will occur within previously disturbed existing road fill and no unique paleontological resources or unique geologic features are known to occur in the vicinity of the project. No impacts are anticipated.

F. GEOLOGY AND SOILS

Would the project:

1.	*Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:*				
	A. *Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.*	☐	☐	☒	☐
	B. *Strong seismic ground shaking?*	☐	☐	☒	☐
	C. *Seismic-related ground failure, including liquefaction?*	☐	☐	☒	☐
	D. *Landslides?*	☐	☐	☒	☐

Discussion (A through D):

All of Santa Cruz County is subject to hazard from earthquakes. However, the project site is not located within or adjacent to a County or state mapped fault zone, therefore the potential for ground surface rupture is low. The project site is likely to be subject to strong seismic shaking during the life of the improvements. The improvements have been designed to specifically withstand the hazards of seismic shaking and liquefaction to a less than significant level. There is no indication that land sliding is a significant hazard at this site.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
2. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐

***Discussion*:** Following a review of mapped information and a field visit to the site by the design engineer, there is no indication that the development site is subject to a significant potential for damage caused by unstable soils.

3. Develop land with a slope exceeding 30%?	☐	☐	☒	☐

***Discussion*:** The project is a vertical wall between a creek bed and a level roadway. While there is a change in grade between the roadway and the stream channel, the retaining structure restores the existing slope to pre-failure grade.

4. Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☒

***Discussion*:** The project is designed to arrest the existing erosion of a streambank adjacent to a roadway. This is a beneficial impact.

5. Be located on expansive soil, as defined in Section 1802.3.2 of the California Building Code (2007), creating substantial risks to life or property?	☐	☐	☒	☐

***Discussion*:** There is no indication that the development site is subject to substantial risk caused by expansive soils. Therefore, no impact is anticipated.

6. Have soils incapable of adequately supporting the use of septic tanks, leach fields, or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

***Discussion*:** The project does not involve any type of waste disposal.

7. Result in coastal cliff erosion?	☐	☐	☐	☒

***Discussion*:** The project is not located in the vicinity of a coastal cliff or bluff; and therefore, would not contribute to coastal cliff erosion. No impact is anticipated.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

G. GREENHOUSE GAS EMISSIONS

Would the project:

1.	*Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?*	☐	☐	☒	☐

***Discussion*:**

Impacts

Greenhouse gas (GHG) emissions for transportation projects can be divided into those produced during construction and those produced during operations. Construction GHG emissions include emissions produced as a result of material processing, emissions produced by onsite construction equipment, and emissions arising from traffic delays due to construction. These emissions would be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases.

In addition, with innovations such as longer pavement lives, improved traffic management plans, and changes in materials, the GHG emissions produced during construction can be mitigated to some degree by longer intervals between maintenance and rehabilitation events. Measures integrated into the project that help limit/minimize construction-related GHG emissions include reducing traffic delays by developing a Transportation Management Plan.

While construction would result in a slight temporary increase in GHG emissions during construction, no operational increase in GHG emissions associated with this project is anticipated. However, in the absence of further regulatory or scientific information related to GHG emissions and CEQA significance, it is too speculative to make a determination on the project's direct impact and its contribution on the cumulative scale to climate change. Nonetheless, the County has strategies to help reduce GHG emissions and energy consumption. These measures included in the *County of Santa Cruz Climate Action Strategy* (County of Santa Cruz, 2013) are outlined as follows:

Strategies for the Reduction of Greenhouse Gases from Transportation

- Reduce vehicle miles traveled through County and regional long-range planning efforts.
- Increase bicycle ridership and walking through incentive programs and investment in bicycle and pedestrian infrastructure and safety programs.
- Provide infrastructure to support zero and low emissions vehicles (plug-in, hybrid plug-in vehicles).
- Increase employee use of alternative commute modes: bus transit, walking, bicycling, carpooling, etc.

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

- Reduce County fleet emissions.

Strategies for the Reduction of Greenhouse Gases from Energy Use

- Develop a Community Choice Aggregation Program, if feasible.
- Increase energy efficiency in new and existing buildings and facilities.
- Enhance and expand the Green Business Program.
- Increase local renewable energy generation.
- Public education about climate change and impacts of individual actions.
- Continue to improve the Green Building Program by exceeding the minimum standards of the state green building code (Cal Green).
- Form partnerships and cooperative agreements among local governments, educational institutions, nongovernmental organizations, and private businesses as a cost-effective way to facilitate mitigation and adaptation.
- Reduce energy use for water supply through water conservation strategies.

Impacts are expected to be less than significant.

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

***Discussion*:** See the discussion under G-1. The project would be consistent with the County's adopted climate action strategy, and no significant impacts are anticipated.

H. HAZARDS AND HAZARDOUS MATERIALS

Would the project:

1.	*Create a significant hazard to the public or the environment as a result of the routine transport, use or disposal of hazardous materials?*	☐	☐	☒	☐

***Discussion*:** The project would not create a significant hazard to the public or the environment. No routine transport or disposal of hazardous materials is proposed. During construction, fuel would be used at the project site, however, all machinery will be operated from the roadway, and not in the stream channel. BMPs would be used to ensure that no impacts would occur. Impacts are expected to be less than significant.

2.	*Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?*	☐	☐	☒	☐

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

***Discussion*:** See discussion under H-1. Project impacts would be considered less than significant.

3.	*Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?*	☐	☐	☐	☒

***Discussion*:** The Scotts Valley High School is located at 555 Glenwood Drive, Scotts Valley, approximately 2,000 feet to the east of the project site. However, no impacts are anticipated.

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

***Discussion*:** The project site is not included on the current list of hazardous sites as compiled by the State Department of Toxic Substance Control ("Cortese List"). No impacts are anticipated from project implementation.

5.	*For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?*	☐	☐	☐	☒

***Discussion*:** The project is not located within two miles of a public airport or public use airport. No impact is anticipated.

6.	*For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?*	☐	☐	☐	☒

***Discussion*:** The project is not located in the vicinity of a private airstrip.

7.	*Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?*	☐	☐	☐	☒

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

***Discussion*:** The project would not conflict with implementation of the County of Santa Cruz Local Hazard Mitigation Plan 2010-2015 (County of Santa Cruz, 2010). Therefore, no impacts to an adopted emergency response plan or evacuation plan would occur from project implementation.

8.	*Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?*	☐	☐	☐	☒

***Discussion*:** Although the project is located in a Fire Hazard Area, the project will stabilize a roadway and will ensure residents have a viable escape route in the event of a fire. This is a beneficial impact. During construction, the project will use BMPs to ensure protection from fire.

I. HYDROLOGY, WATER SUPPLY, AND WATER QUALITY

Would the project:

1.	*Violate any water quality standards or waste discharge requirements?*	☐	☒	☐	☐

***Discussion*:** The project would not discharge runoff either directly or indirectly into a public or private water supply. Work in the stream channel will take place only in a dry setting. Depending upon the water year and the stream morphology, the disturbance area may be isolated from the active channel. See section D-1 for further dewatering discussion. Potential siltation from the project would be addressed through implementation of erosion control BMPs. No water quality standards or waste discharge requirements would be violated. With the incorporation of mitigation Bio-2, impacts would be less than significant.

2.	*Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?*	☐	☐	☐	☒

***Discussion*:** The project will have no impact on groundwater.

3.	*Substantially alter the existing drainage pattern of the site or area, including*	☐	☐	☒	☐

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?

***Discussion*:** The project is located adjacent to Bean Creek, and has the potential to generate water quality impacts during construction. The following water quality protection and erosion and sediment control BMPs would be implemented, based on standard County requirements, to minimize construction-related contaminants and mobilization of sediment to Bean Creek in the project area.

The BMPs will be selected to achieve maximum sediment removal and represent the best available technology that is economically achievable and are subject to review and approval by the County. The County will perform routine inspections of the construction area to verify the BMPs are properly implemented and maintained. The County will notify contractors immediately if there is a noncompliance issue and will require compliance.

The BMPs will include, but are not limited to, the following.

- All earthwork or foundation activities involving rivers, ephemeral drainages, and culverts, will occur in the dry season (generally between June 1 and October 15).
- Equipment used in and around drainages and wetlands will be in good working order and free of dripping or leaking engine fluids. All vehicle maintenance will be performed at least 100 feet from the stream bank. Any necessary equipment washing will be carried out where the water cannot flow into drainages or wetlands.
- Develop a hazardous material spill prevention control and countermeasure plan before construction begins that will minimize the potential for and the effects of hazardous or toxic substances spills during construction. The plan will include storage and containment procedures to prevent and respond to spills and will identify the parties responsible for monitoring the spill response. During construction, any spills will be cleaned up immediately according to the spill prevention and countermeasure plan. The County will review and approve the contractors' toxic materials spill prevention control and countermeasure plan before allowing construction to begin. Prohibit the following types of materials from being rinsed or washed into the streets, shoulder areas, or gutters: concrete; solvents and adhesives; thinners; paints; fuels; sawdust; dirt; gasoline; asphalt and concrete saw slurry; heavily chlorinated water.
- Measure baseline turbidity, pH, specific conductance, and temperatures in Bean Creek when flow is present. As required by the Regional Water Quality Control Board (RWQCB), avoid exceeding water quality standards specified in the Basin Plan standards over the natural in-situ conditions. If dewatering activities are required, water samples would be taken periodically during construction.

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

- Any surplus concrete rubble, asphalt, or other rubble from construction will be taken to a local landfill.
- An erosion and sediment control plan will be prepared and implemented for the project. It will include the following provisions and protocols. The Storm Water Pollution Prevention Plan for the project will detail the applications and type of measures and the allowable exposure of unprotected soils.
    - Discharge from dewatering operations, if needed, and runoff from disturbed areas will be made to conform to the water quality requirements of the waste discharge permit issued by the RWQCB.
    - Temporary erosion control measures, such as sandbagged silt fences, will be applied throughout construction of the project and will be removed after the working area is stabilized or as directed by the engineer. Soil exposure will be minimized through use of temporary BMPs, groundcover, and stabilization measures.
    - The contractor will conduct periodic maintenance of erosion and sediment control measures.
    - An appropriate seed mix of native species will be planted on disturbed areas upon completion of construction.
    - Enclose and cover exposed stockpiles of dirt or other loose, granular construction materials that could contribute sediment to waterways. Material stockpiles will be located in non-traffic areas only. Side slopes will not be steeper than 2:1. All stockpile areas will be surrounded by a filter fabric fence and interceptor dike.
    - Contain soil and filter runoff from disturbed areas by berms, vegetated filters, silt fencing, straw wattle, plastic sheeting, catch basins, or other means necessary to prevent the escape of sediment from the disturbed area.
    - Use other temporary erosion control measures (such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary re-vegetation or other ground cover) to control erosion from disturbed areas as necessary.
    - Avoid earth or organic material from being deposited or placed where it may be directly carried into the channel.

Implementation of the above BMPs would ensure that water quality impacts to Bean Creek and its tributaries are less than significant.

4. Substantially alter the existing drainage pattern of the site or area, including	☐	☐	☒	☐

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding, on- or off-site?

***Discussion*:** The project will reestablish the bank to a pre-failure condition and incorporate local large woody material to prevent scour around the new structure, consistent with the adjacent channel reaches.

5. *Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems, or provide substantial additional sources of polluted runoff?*	☐	☐	☐	☒

***Discussion*:** In reestablishing the roadway, runoff patterns will not be affected.

6. *Otherwise substantially degrade water quality?*	☐	☐	☒	☐

***Discussion*:** See discussion under I-1 above. Impacts would be considered less than significant with the implementation of BMPs.

7. *Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?*	☐	☐	☐	☒

***Discussion*:** No housing is included or affected as a result of this project.

8. *Place within a 100-year flood hazard area structures which would impede or redirect flood flows?*	☐	☐	☒	☐

***Discussion*:** According to the Federal Emergency Management Agency National Flood Insurance Rate Map, dated May 16, 2012, a portion of the project site lies within a 100-year flood hazard area. The project establishes a retaining wall on an outward bend of a creek where it is meandering into the roadway. Large woody material would be incorporated into the toe of the wall to soften the hardscape, increase roughness, and prevent scour and downstream transference. Streamflow is expected to remain in the same dynamic channel post-project, and impacts are expected to be less than significant.

9. *Expose people or structures to a significant risk of loss, injury or death*	☐	☐	☐	☒

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

involving flooding, including flooding as a result of the failure of a levee or dam?

Discussion: The project would not increase the risk of flooding and would not lead to the failure of a levee or dam. No impact would occur.

10. Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

***Discussion*:** The project site is located approximately 450 feet above sea level. This is well beyond the reach of any predicted seiche or tsunami. No impacts are expected.

J. LAND USE AND PLANNING

Would the project:

1. Physically divide an established community?	☐	☐	☐	☒

***Discussion*:** The project does not include any element that would physically divide an established community. No impact would occur.

2. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐

***Discussion*:** The project does not conflict with any regulations or policies adopted for the purpose of avoiding or mitigating an environmental effect. General Plan policy 5.2.3 (Activities Within Riparian Corridors and Wetlands) states: "Development activities, land alterations and vegetation disturbance within riparian corridors and wetlands and required buffers shall be prohibited unless an exception is granted per the Riparian Corridor and Wetlands Protection ordinance." See complete discussion under Section D-5. Impacts would be considered less than significant.

3. Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

***Discussion*:** The project would not conflict with any applicable habitat conservation plan or natural community conservation plan. No impact would occur.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

K. MINERAL RESOURCES

Would the project:

1. *Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?*	☐	☐	☐	☒

Discussion: The site does not contain any known mineral resources that would be of value to the region and the residents of the state. Therefore, no impact is anticipated from project implementation.

2. *Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?*	☐	☐	☐	☒

Discussion: The project site is within the County right-of-way, which is not considered to be an Extractive Use Zone (M-3) nor does it have a land use designation with a Quarry (Q) Overlay (County of Santa Cruz 1994). Therefore, no potentially significant loss of availability of a known mineral resource of locally important mineral resource recovery (extraction) site delineated on a local general plan, specific plan or other land use plan would occur as a result of this project.

L. NOISE

Would the project result in:

1. *Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*	☐	☐	☒	☐

Discussion: Project construction will result in a temporary increase in ambient noise levels in the project vicinity. This impact is less than significant due to the temporary nature of these activities, limits on the duration of noise, and evening and nighttime restrictions imposed by the County Noise Ordinance.

2. *Exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels?*	☐	☐	☒	☐

Discussion: The use of construction equipment would not generate ground-borne vibration in the project area beyond that of passing vehicles. Construction equipment would use rubber tires and no pile-driving is involved. The construction methods include excavation and drilling of piers, and placement of materials. Impacts would be less than significant.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
3. *A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?*	☐	☐	☐	☒

***Discussion*:** The project would not result in a permanent increase in the ambient noise level. The main source of ambient noise in the project area is traffic noise along Bean Creek Road. No increase in traffic trips will be generated as a result of the project. No permanent impacts are expected from this project.

4. *A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?*	☐	☐	☒	☐

***Discussion*:** See discussion under L-1 above. Noise generated during project construction would increase the ambient noise levels in adjacent areas. Construction would be temporary, however, and given the limited duration of this impact, it is considered to be less than significant as the project will comply with the County's Noise Ordinance.

5. *For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?*	☐	☐	☐	☒

***Discussion*:** The project is not within two miles of a public airport. Therefore, the project would not expose people residing or working in the project area. No impact is anticipated.

6. *For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?*	☐	☐	☐	☒

***Discussion*:** The project is not within two miles of a private airstrip. Therefore, the project would not expose people residing or working in the project area. No impact is anticipated.

M. POPULATION AND HOUSING

Would the project:

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

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

***Discussion*:** The project would not induce substantial population growth in an area because the project does not propose any physical or regulatory change that would remove a restriction to or encourage population growth in an area. The project proposes only to repair a failing road shoulder and stream bank and would not induce population growth. No impact would occur.

2.	*Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?*	☐	☐	☐	☒

***Discussion*:** The project would not displace any existing housing. No impact would occur.

3.	*Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?*	☐	☐	☐	☒

***Discussion*:** The project would not displace a substantial number of people since the project is intended to repair a failing road shoulder and stream bank. No impact would occur.

N. PUBLIC SERVICES

Would the project:

1.	*Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:*				
	a. *Fire protection?*	☐	☐	☐	☒
	b. *Police protection?*	☐	☐	☐	☒
	c. *Schools?*	☐	☐	☐	☒
	d. *Parks?*	☐	☐	☐	☒
	e. *Other public facilities; including the maintenance of roads?*	☐	☐	☐	☒

***Discussion (a through e)*:** Repair of existing roadway infrastructure is a beneficial impact on the access and response times of public agencies and the public as a whole.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

O. RECREATION

Would the project:

1. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒

Discussion: The project would not increase the use of existing neighborhood and regional parks or other recreational facilities. No impact would occur.

2. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

Discussion: The project does not propose the expansion or construction of additional recreational facilities. No impact would occur.

P. TRANSPORTATION/TRAFFIC

Would the project:

1. Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☐	☒

Discussion: There would be no impact because no additional traffic would be generated and no conflict with applicable plans, policies, or ordinances would occur.

2. Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☒

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

***Discussion*:** In 2000, at the request of the Santa Cruz County Regional Transportation Commission (SCCRTC), the County of Santa Cruz, and other local jurisdictions exercised the option to be exempt from preparation and implementation of a Congestion Management Plan (CMP) per Assembly Bill 2419. As a result, the County of Santa Cruz no longer has a Congestion Management Agency or CMP. The CMP statutes were initially established to create a tool for managing and reducing congestion; however, revisions to those statutes progressively eroded the effectiveness of the CMP. There is also duplication between the CMP and other transportation documents such as the Regional Transportation Plan (RTP) and the Regional Transportation Improvement Program (RTIP). In addition, the goals of the CMP may be carried out through the RTIP and the RTP. Any functions of the CMP which are useful, desirable and do not already exist in other documents may be incorporated into those documents.

The project would not conflict with either the goals and/or policies of the RTP or with monitoring the delivery of state and federally-funded projects outlined in the RTIP. No impact would occur.

3.	*Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?*	☐	☐	☐	☒

***Discussion*:** No change in air traffic patterns would result from project implementation. Therefore, no impact is anticipated.

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

***Discussion*:** The project will stabilize the roadway shoulder and stream bank without affecting the roadway alignment. No impact would occur with project implementation.

5.	*Result in inadequate emergency access?*	☐	☐	☒	☐

***Discussion*:**

A temporary lane closure may be required for short periods of time during project construction. A traffic control plan would be prepared. However, the project would not restrict emergency access for police, fire, or other emergency vehicles. Impacts would be less than significant from project implementation.

6.	*Conflict with adopted policies, plans, or programs regarding public transit, bicycle,*	☐	☐	☐	☒

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?				

***Discussion*:** The project design would comply with current road requirements to prevent potential hazards to motorists, bicyclists, and/or pedestrians. No impact would occur.

Q. UTILITIES AND SERVICE SYSTEMS

Would the project:

1. *Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?*	☐	☐	☐	☒

***Discussion*:** The project would not generate wastewater. Therefore, wastewater treatment requirements would not be exceeded. No impact would occur.

2. *Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?*	☐	☐	☐	☒

***Discussion*:** The proposed road repair project would not require water or wastewater treatment. No impact is expected to occur.

3. *Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?*	☐	☐	☐	☒

***Discussion*:** The proposed road repair project would not generate increased runoff; therefore, it would not result in the need for new or expanded drainage facilities. No impact would occur.

4. *Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?*	☐	☐	☐	☒

***Discussion*:** The project would only use small amounts of water during construction for dust control and concrete work. No water use would be required during the operational phase of the project. No impact is expected to occur from project implementation.

5. *Result in determination by the wastewater treatment provider which serves or may*	☐	☐	☐	☒

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

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

Discussion: The project would only use small amounts of water during construction for dust control and concrete work. No wastewater would be generated. No water use would be required during the operational phase of the project. No impact is expected to occur from project implementation.

6. *Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?*	☐	☐	☐	☒

Discussion: The project would not generate solid waste during the operational phase of the project. No impact is anticipated.

7. *Comply with federal, state, and local statutes and regulations related to solid waste?*	☐	☐	☐	☒

Discussion: The project would not generate solid waste during the operational phase of the project. No impact is anticipated.

R. MANDATORY FINDINGS OF SIGNIFICANCE

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

Discussion: The potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory were considered in the response to each question in Section III (A through Q) of this Initial Study. Resources that have been evaluated as significant would be potentially impacted by the project, particularly CRLF, steelhead, and

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact

riparian habitat. However, mitigation has been included that clearly reduces these effects to a level below significance. This mitigation includes measures to protect water quality and to ensure no take occurs of protected species. As a result of this evaluation, there is no substantial evidence that, after mitigation, significant effects associated with this project would result. Therefore, this project has been determined not to meet this Mandatory Finding of Significance.

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

***Discussion*:** In addition to project specific impacts, this evaluation considered the project's potential for incremental effects that are cumulatively considerable. As a result of this evaluation, there is no substantial evidence that there are cumulative effects associated with this project. Therefore, this project has been determined not to meet this Mandatory Finding of Significance.

3.	*Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?*	☐	☐	☒	☐

***Discussion*:** In the evaluation of environmental impacts in this Initial Study, the potential for adverse direct or indirect impacts to human beings were considered in the response to specific questions in Section III (A through Q). As a result of this evaluation, there is no substantial evidence that there are adverse effects to human beings associated with this project. Therefore, this project has been determined not to meet this Mandatory Finding of Significance.

IV. REFERENCES USED IN THE COMPLETION OF THIS INITIAL STUDY

California Department of Conservation, 1980

Farmland Mapping and Monitoring Program Soil Candidate Listing for Prime Farmland and Farmland of Statewide Importance Santa Cruz County U.S. Department of Agriculture, Natural Resources Conservation Service, soil surveys for Santa Cruz County, California, August 1980.

County of Santa Cruz, 2013

County of Santa Cruz Climate Action Strategy. Approved by the Board of Supervisors on February 26, 2013.

County of Santa Cruz, 2010

County of Santa Cruz Local Hazard Mitigation Plan 2010-2015. Prepared by the County of Santa Cruz Office of Emergency Services.

County of Santa Cruz, 1994

1994 General Plan and Local Coastal Program for the County of Santa Cruz, California. Adopted by the Board of Supervisors on May 24, 1994, and certified by the California Coastal Commission on December 15, 1994.

MBUAPCD, 2008

Monterey Bay Unified Air Pollution Control District (MBUAPCD), CEQA Air Quality Guidelines. Prepared by the MBUAPCD, Adopted October 1995, Revised: February 1997, August 1998, December 1999, September 2000, September 2002, June 2004 and February 2008.

MBUAPCD, 2013a

Monterey Bay Unified Air Pollution Control District, NCCAB (NCCAB) Area Designations and Attainment Status – January 2013. Available online at http://www.mbuapcd.org/mbuapcd/pdf/Planning/Attainment_Status_January_2013_2.pdf

MBUAPCD, 2013b

Triennial Plan Revision 2009-2011. Monterey Bay Air Pollution Control District. Adopted April 17, 2013.

This page intentially left blank.

Attachment 1

Mitigation Monitoring and Reporting Program

This page intentially left blank.

County of Santa Cruz

PLANNING DEPARTMENT
701 OCEAN STREET, 4TH FLOOR, SANTA CRUZ, CA 95060
(831) 454-2580 FAX: (831) 454-2131 TDD: (831) 454-2123
KATHLEEN MOLLOY, PLANNING DIRECTOR

MITIGATION MONITORING AND REPORTING PROGRAM for the BEAN CREEK STREAMBANK STABILIZATION PROJECT

DPW Project Number P79088, October 12, 2018

No.	Environmental Impact	Mitigation Measures	Responsibility for Compliance	Method of Compliance	Timing of Compliance
Biological Resources					
BIO-1	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game, or U.S. Fish and Wildlife Service?	To avoid impacting breeding birds, if present, schedule construction to occur between August 1 and March 1 of any given year, which is outside the bird breeding season. If this is not practical, then have a qualified biologist conduct a preconstruction survey for nesting birds no more than two weeks prior to onset of construction. If any active bird (passerines) nests are found within 50 feet of the work area, or within 200 feet for raptors, postpone construction until the biologist has determined that all young have fledged.	Santa Cruz County DPW and Contractor	To be carried out under the direction of a qualified biologist	To be completed prior to ground disturbance.
BIO-2		To avoid impacts to aquatic species, work will be conducted when project location in dry. If this is not feasible, a qualified biologist will oversee the installation of the dewatering system, with isolation of the work area while retaining an open, free-flowing channel as the preferred option for dewatering the project area. All fish and aquatic organisms will be relocated to suitable alternative habitat out of harm's way.	County of Santa Cruz DPW and Contractor	To be carried out under the direction of a qualified biologist	To be completed prior to ground disturbance and during construction.
BIO-3		To avoid impacts to CRLF, a qualified biologist will conduct a preconstruction survey for California red-legged frogs no more than 48 hours prior to beginning of construction. If any are observed within the work area, the County will consult with CDFW and USFWS prior to initiating work. The County will implement all avoidance measures recommended by the agencies to avoid impacts to the frog.	County of Santa Cruz DPW and Contractor	To be carried out under the direction of a qualified biologist	Prior to ground disturbance and during construction.
BIO-4		A qualified biologist will present a worker training about the CRLF, salmon and steelhead, just prior to beginning of construction. The training will include identification of the species, protected status, a brief life history, and measures to avoid impacts to the species.	County of Santa Cruz DPW and Contractor	To be carried out under the direction of a qualified biologist	Prior to beginning of construction.

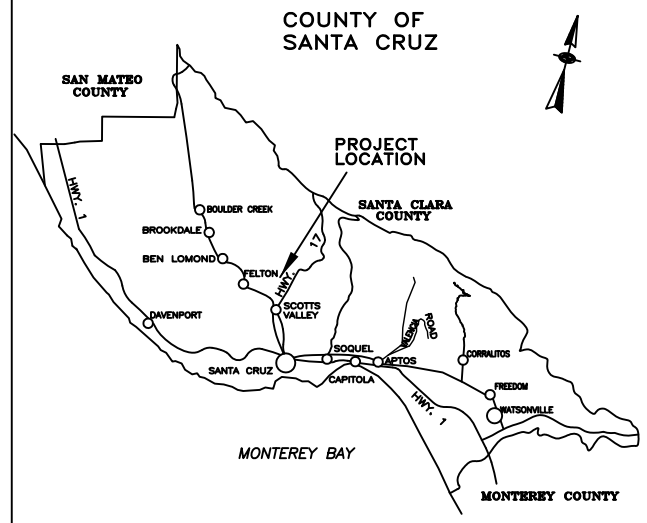
BIO-5		Riparian woodland understory cannot be avoided during construction. The removal of riparian woodland and native trees will be minimized with the following environmental commitments: • Prior to construction, the Project Applicant and the Project Biologist will identify the limits of construction so as to maximize native vegetation retention. Temporary fencing will be placed along the limits of construction to avoid unnecessary disturbance to riparian woodland. • Where possible, native vegetation that cannot be avoided will be cut at ground level rather than removed by the roots.	County of Santa Cruz DPW and Contractor	To be carried out under the direction of a qualified biologist	Prior to beginning of construction.
BIO-6		The Project shall restore disturbed riparian woodland with native riparian vegetation.	County of Santa Cruz DPW and Contractor	To be carried out under the direction of a qualified biologist, landscape architect, or restoration specialist.	During and post construction.

Attachment 2

Project Plans

This page intentially left blank.

DIST	COUNTY	ROUTE	POST MILE OF PROJECT	SHEET No.	TOTAL SHEETS
05	SCr	33030	P.M. 1.00	1	4



LOCATION MAP

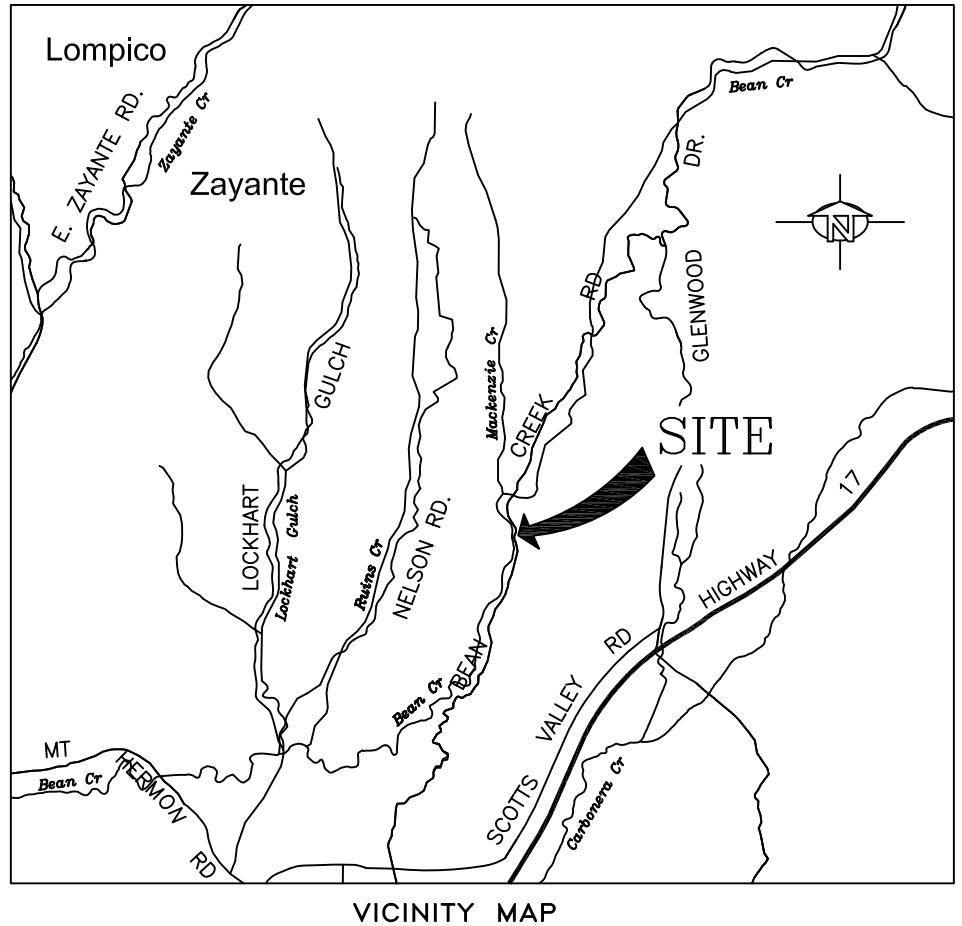
COUNTY OF SANTA CRUZ

DEPARTMENT OF PUBLIC WORKS

PROJECT PLANS FOR CONSTRUCTION ON

BEAN CREEK ROAD PM 1.00
STORM DAMAGE REPAIR PROJECT
March 2011 Storm Event

To be supplemented by CalTrans Standard Plans dated 2010



VICINITY MAP
NOT TO SCALE

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	PLAN VIEW
3	PROFILE AND SECTION VIEW
4	EROSION CONTROL & REVEGETATION

GENERAL NOTES

1. ALL CONSTRUCTION SHALL CONFORM TO THE COUNTY OF SANTA CRUZ DESIGN CRITERIA, THE STATE STANDARD PLANS AND THE APPLICABLE PROVISIONS OF THE STATE STANDARD SPECIFICATIONS.
2. THERE SHALL BE NO CHANGES IN THE APPROVED IMPROVEMENT PLANS WITHOUT PRIOR APPROVAL BY THE SANTA CRUZ COUNTY DEPARTMENT OF PUBLIC WORKS.
3. PLEASE CALL "UNDERGROUND SERVICE ALERT" (U.S.A.) AT 811 or 800-227-2600 BEFORE DIGGING.
4. THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE APPROVED BY TRANSPORTATION ENGINEERING.
5. THE 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, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF DESIGN PROFESSIONAL.
6. THE CONTRACTOR SHALL POSSESS A CLASS "A" LICENSE AT THE TIME THE CONTRACT IS AWARDED.

ABBREVIATIONS

A.B.	AGGREGATE BASE	KIP	1000 POUNDS FORCE
AC	ASPHALT CONCRETE	MBGR	METAL BEAM GUARD RAIL
APN	ASSESSOR'S PARCEL NUMBER	MIN	MINIMUM
APPROX	APPROXIMATE	N	NORTH
BOT	BOTTOM	(n)	NEW
BP	BOTTOM CONCRETE PIER	O.C.	ON CENTER
℄	CENTER LINE	OH	OVERHEAD
CL	CONTROL LINE	PERF	PERFORATED
CONC	CONCRETE	PG&E	PACIFIC GAS AND ELECTRIC
CONN	CONNECTION	PM	POST MILE
CONST	CONSTRUCTION	PRIN	PRINCIPAL
CP	CONTROL POINT	PT	POINT
DIA	DIAMETER	PVC	POLY VINYL CHLORIDE
E	EAST	RD	ROAD
(E), EXIST	EXISTING	REINF	REINFORCED
EA	EACH	RT	RIGHT
EL, ELEV	ELEVATION	R/W	RIGHT OF WAY
ENGR	ENGINEER	S	SOUTH
EP	EDGE OF PAVEMENT	SEC	SECTION
EST	ESTIMATE	SHT	SHEET
EXCAV	EXCAVATE, EXCAVATION	S.S.	SANDSTONE
FD	FOUND	STA	STATION
FT	FOOT, FEET	TP	TOP CONCRETE PIER
FTG	FOOTING	TYP	TYPICAL
GEN	GENERAL	U.B.	UNBONDED
GRD	GRADE	W	WEST
HDPE	HIGH DENSITY POLYETHYLENE	W/	WITH
HT	HEIGHT	&	AND
INV	INVERT	@	AT
IP	IRON PIPE	1ST	FIRST
JP	JOINT POLE	<	LESS THAN
		#	POUND

Design Engineer

REGISTERED PROFESSIONAL ENGINEER
GREG JONES
No. 61691
Exp. 06-30-17
CIVIL
STATE OF CALIFORNIA

Senior Design Engineer

REGISTERED PROFESSIONAL ENGINEER
RUSSELL CHEN
No. 53154
Exp. 06-30-17
CIVIL
STATE OF CALIFORNIA

Assistant Director of Public Works
Transportation Division

REGISTERED PROFESSIONAL ENGINEER
STEVEN B. WIESNER
No. 54814
Exp. 12-31-17
CIVIL
STATE OF CALIFORNIA

Director of Public Works

REGISTERED PROFESSIONAL ENGINEER
JOHN J. PRESLEIGH
No. 42802
Exp. 3-31-18
CIVIL
STATE OF CALIFORNIA

Chair, Board of Supervisors

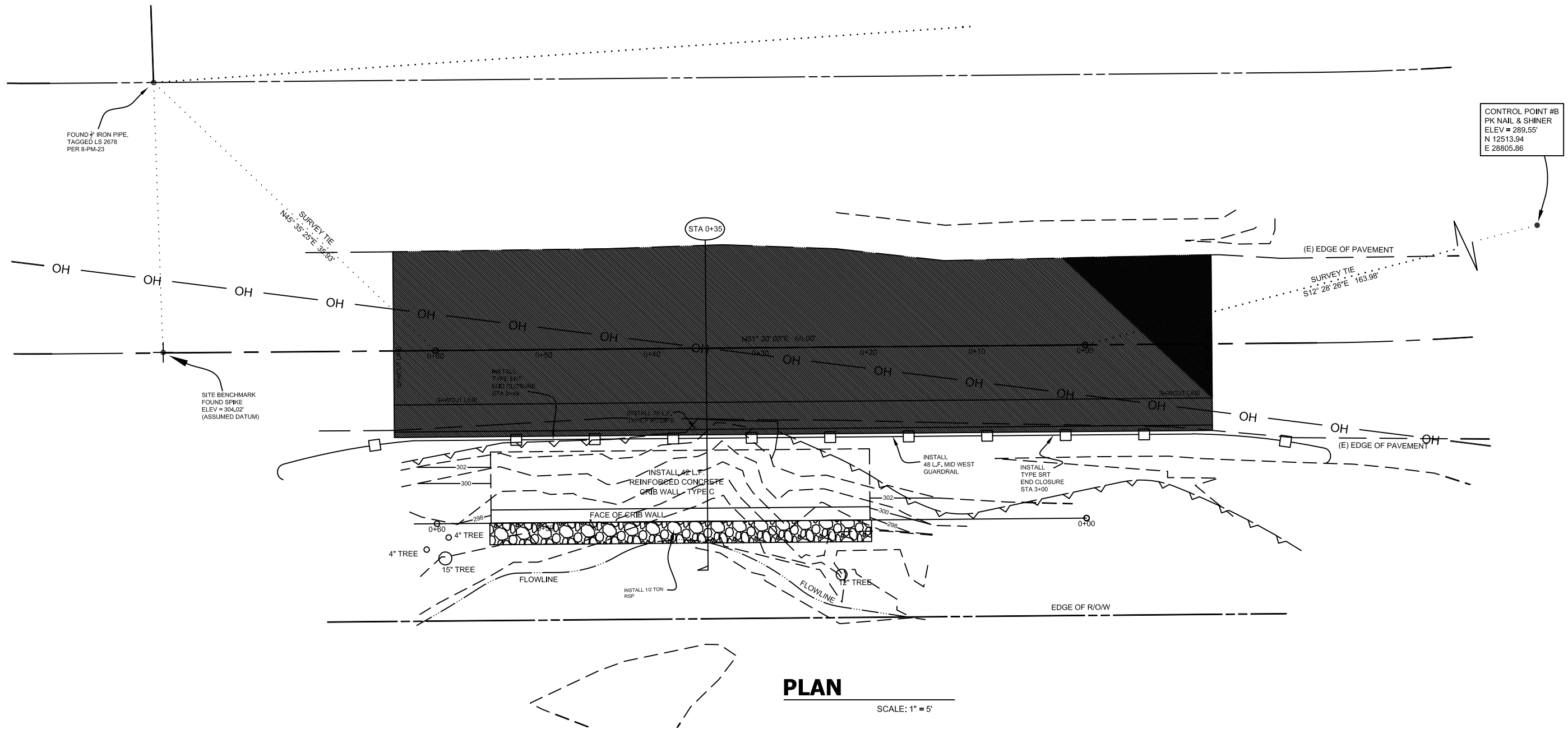
Date approved by Board of Supervisors

County Job No.	79088

Carisa Duran
Construction Engineer

Terry Reynolds
Road Superintendent

Jack Sohriakoff, P.E.
Traffic Engineer



PLAN

SCALE: 1" = 5'

GENERAL CONSTRUCTION NOTES:

1. THE WORK HEREIN SHALL BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS & PLANS DATED 2010 OF THE STATE OF CALIFORNIA AS THEY MAY APPLY TO THE CONTRACT PLANS AND SPECIAL PROVISIONS.
2. DIMENSIONS OF THE STRUCTURAL ITEMS ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS AND THE THE MANUFACTURER(S) RECOMMENDATIONS.
3. REFER TO THE STANDARD SPECIFICATIONS & SPECIAL PROVISIONS FOR THE STRUCTURE BACKFILL REQUIREMENTS FOR THE CRIB WALL.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND REPAIR OF ANY DAMAGE(S) TO PRIVATE PROPERTY & ANY UTILITIES ON BEAN CREEK ROAD. THE EXACT LOCATION OF EXISTING UNDERGROUND UTILITIES IS NOT KNOWN.
5. ALL CLEARING, GRADING, AND EROSION CONTROL MEASURES SHALL BE COMPLETED NO LATER THAN OCTOBER 15, 2016.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VISITING THE SITE TO REVIEW THE WORK AND ACCESS LIMITATIONS, VERIFY CONDITIONS, AND UNDERSTAND THE PROJECT BEFORE SUBMITTING A BID FOR THE WORK. THERE IS NO PRE-BID SITE MEETING FOR THIS PROJECT.

BENCHMARK

SITE BENCHMARK IS FOUND SPIKE IN THE CENTER OF BEAN CREEK ROAD APPROXIMATELY 30 FEET NORTH OF PROPOSED CONSTRUCTION SITE.

SITE BENCHMARK ELEVATION = 304.02 (ASSUMED DATUM)

BASIS OF BEARINGS

THE BASIS OF BEARINGS FOR THIS SURVEY IS BETWEEN MONUMENTS FOUND IS BETWEEN POINT DESIGNATED ON THIS MAP AS POINT "A" AND POINT "B" AND SHOWN ON THAT MAP FILED IN VOLUME 8 OF PARCEL MAPS, AT PAGE 43, SANTA CRUZ COUNTY RECORDS.

BASIS OF BEARINGS = S01° 54' 37"E 245.37' (245.41')

PLAN VIEW

DATE	REVISION	BY
10/18	Install 1/2 Ton RSP	SD

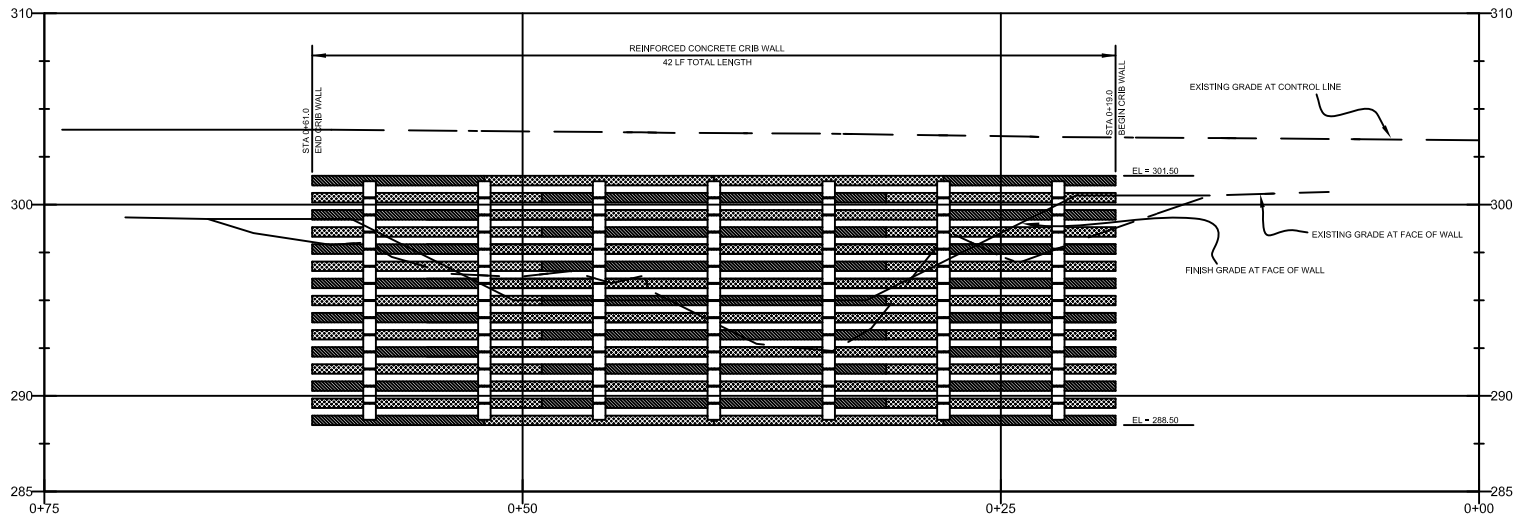
REGISTERED PROFESSIONAL ENGINEER — GREG JONES — No. 81811 — Exp. 06-30-19 — CIVIL — STATE OF CALIFORNIA

PROJECT ENGINEER
GREG JONES

COUNTY OF SANTA CRUZ – DEPARTMENT OF PUBLIC WORKS

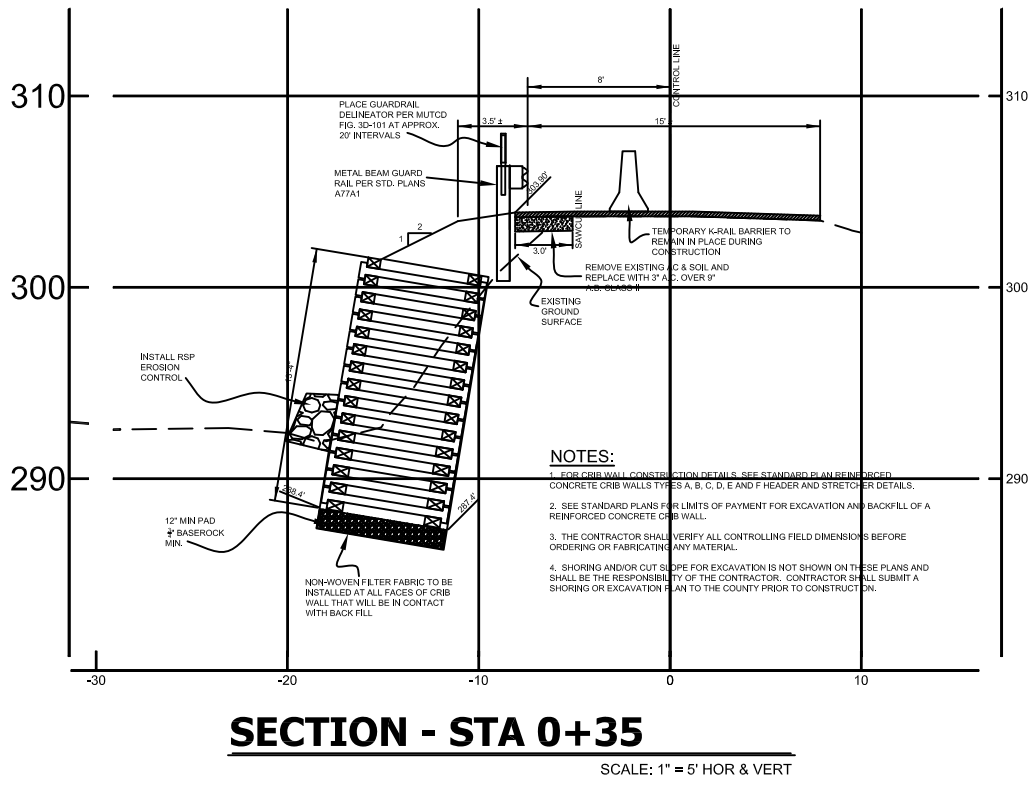
BEAN CREEK RD PM 1.00
STORM DAMAGE REPAIR PROJECT

DRAWN: GRJ
CHECKED: SD/RC
DATE: 11/2016
SCALE: 1"=10'
JOB NO. 79088
SHEET
2 OF 4



PROFILE

SCALE: 1" = 10'



NOTES:

1. FOR CRIB WALL CONSTRUCTION DETAILS, SEE STANDARD PLAN REINFORCED CONCRETE CRIB WALLS TYPES A, B, C, D, E AND F HEADER AND STRETCHER DETAILS.
2. SEE STANDARD PLANS FOR LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL OF A REINFORCED CONCRETE CRIB WALL.
3. THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.
4. SHORING AND/OR CUT SLOPE FOR EXCAVATION IS NOT SHOWN ON THESE PLANS AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR SHALL SUBMIT A SHORING OR EXCAVATION PLAN TO THE COUNTY PRIOR TO CONSTRUCTION.

SECTION - STA 0+35

SCALE: 1" = 5' HOR & VERT

PROFILE & SECTION VIEW

BY	DATE	REVISION

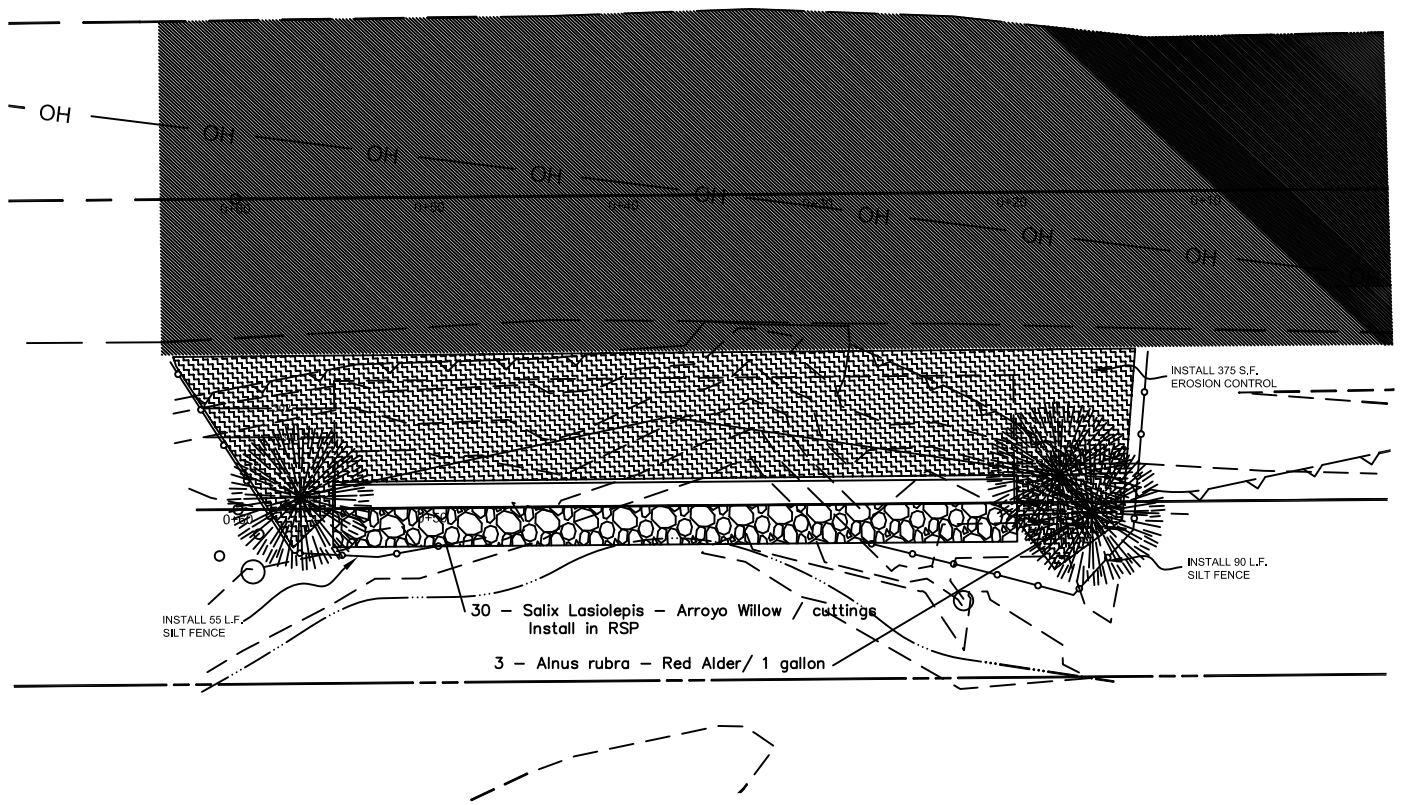
REGISTERED PROFESSIONAL ENGINEER GREG JONES No. 61881 Exp. 09-30-17 CIVIL STATE OF CALIFORNIA

PROJECT ENGINEER
GREG JONES

COUNTY OF SANTA CRUZ – DEPARTMENT OF PUBLIC WORKS

BEAN CREEK RD PM 1.00
STORM DAMAGE REPAIR PROJECT

DRAWN: GRJ
CHECKED: RC
DATE: 11/2016
SCALE: 1"=10'
JOB NO. 79088
SHEET 3 OF 4



PLAN

SCALE: 1" = 10'

NOTE: LOCATIONS FOR EROSION CONTROL INSTALLATIONS ARE APPROXIMATE AND SHOULD BE ADJUSTED IN THE FIELD AS NECESSARY AND APPROVED BY THE ENGINEER

LEGEND

HYDROSEEDING WITH STRAW ROLLS
Entire slope shall have Geocoir blanket, installation of straw rolls 10'-15' o.c., anchored with 3' long wood stakes and alternate with Arroyo willow (Salix Lasiolepis) 3' long pole cutting stakes 3' o.c.
Entire area to be hydroseeded and cover with native duff.
Coir Rolls - 2 rows minimum
Salix Lasiolepis - Arroyo Willow / 60 pole cuttings

EROSION CONTROL SEED MIXTURE

30 lbs.	Bromus carinatus cucamonga - Cucamonga Brome
6 lbs.	Vulpia microstachys - Three Weeks Fescue
4 lbs.	Trifolium wildenovii - Tomcat Clover
25 lbs.	Sterile Hybrid Wheatgrass or Barley

STRAW ROLLS

*SEE SPECIAL PROVISIONS FOR WILLOW STAKING.

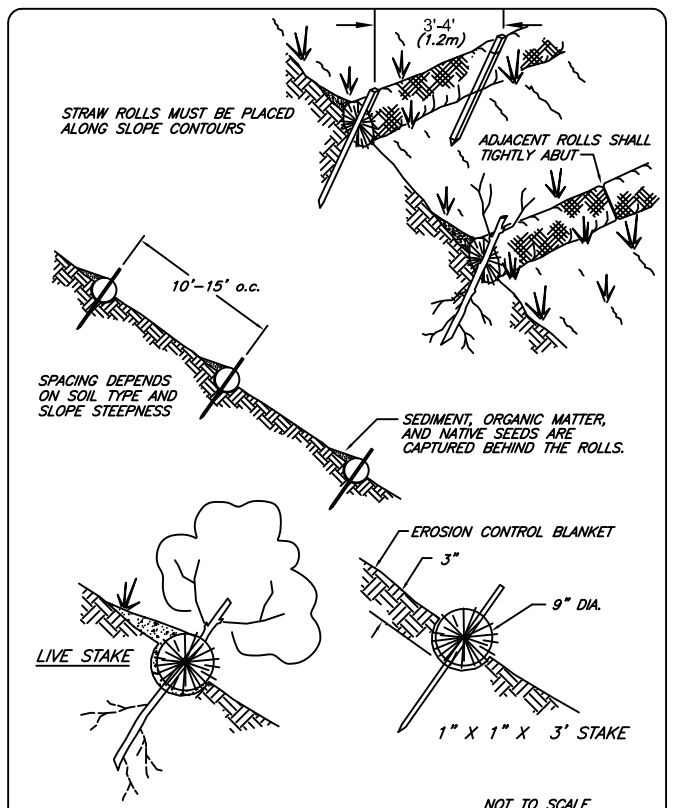
INSTALL PER MANUFACTURER'S SPECIFICATIONS.
THIS INCLUDES THE FOLLOWING: PREPARE THE SLOPE BEFORE THE INSTALLATION PROCEDURE IS STARTED. DIG 3-INCH DEEP TRENCHES ACROSS THE SLOPE ON CONTOUR TO PLACE THE ROLLS IN. START BUILDING TRENCHES FROM THE BOTTOM OF THE SLOPE AND WORK UP. CONSTRUCT TRENCHES AT CONTOUR INTERVALS OF 10-15 FEET APART DEPENDING ON STEEPNESS OF SLOPE.

MARK TRENCH LOCATION PRIOR TO HYDROSEEDING AND INSTALLATION OF EROSION CONTROL BLANKET (SEE HYDROSEEDING AND EROSION CONTROL BLANKET NOTES AND DETAIL FOR INSTALLATION METHODS).

INSTALL STRAW ROLL AFTER EROSION CONTROL BLANKET IS INSTALLED AND BEFORE HYDROSEEDING. MAKE SURE NO GAPS EXIST BETWEEN THE SOIL, EROSION CONTROL BLANKET AND THE STRAW WATTLE. USE A STRAIGHT BAR TO DRIVE HOLES THROUGH THE WATTLE AND INTO THE SOIL FOR THE POLE CUTTING OR WOODEN STAKES. DRIVE THE STAKE THROUGH PREPARED HOLE INTO THE SOIL. LEAVE ONLY 1-2 INCHES OF STAKE EXPOSED ABOVE ROLL.
INSTALL STAKES AT LEAST EVERY 3 FEET APART. ALTERNATE STRAIGHT LIVE POLE WILLOW CUTTING STAKES. ¾ INCH DIAMETER; ALTERNATE WITH WOODEN STAKES

EROSION CONTROL NOTES:

1. ALL OPERATIONS SHALL CONFORM TO REQUIREMENTS OF THE COUNTY EROSION CONTROL ORDINANCE. THE DESIRED END RESULT OF THE PROPOSED MEASURE IS TO CONTROL SITE EROSION AND TO PREVENT SEDIMENT TRANSPORT OFF THE SITE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SEE THAT ANY ADDITIONAL MEASURES TO MEET THIS GOAL ARE BEING MET. SILT FENCES AND SAND BAGS SHALL BE USED TO PREVENT SILT RUNOFF.
2. DISTURBANCE TO NATURAL VEGETATION SHALL BE MINIMIZED WITHIN AREA OF CONSTRUCTION.
3. BETWEEN OCTOBER 1 AND MAY 1, ALL DISTURBED EXPOSED SOIL SHALL BE PROTECTED FROM EROSION AT ALL TIMES. DURING CONSTRUCTION SUCH PROTECTION SHALL CONSIST OF MULCHING AND/OR PLANTING OF NATIVE VEGETATION OF ADEQUATE DENSITY. BEFORE COMPLETION OF PROJECT ANY EXPOSED SOIL ON DISTURBED SLOPES SHALL BE PERMANENTLY PROTECTED FROM EROSION.
4. SLOPE STABILIZATION SHALL CONSIST OF:
   1) REMOVAL OF ALL VEGETATIVE DEBRIS FROM SLOPE.
   2) HANDRAKING TO SMOOTH OUT THE DIRT SURFACE OF THE SLOPE.
   3) SEEDING ALL DISTURBED EXPOSED SOIL AREA WITH AN APPROVED GRASS SEED MIXTURE.
   4) PLACING EROSION CONTROL BLANKET OVER 3:1 SLOPE OR GREATER. ALL BLANKETS SHALL BE SECURED WITH HEAVY GAUGE WIRE STAPLES.
5. ANY EXCESS MATERIAL SHALL BE DISPOSED OF OFF-SITE OR STOCKPILED IN A MANNER TO AVOID RUNOFF ON ADJOINING PROPERTIES.
6. ANY MATERIAL STOCKPILED DURING CONSTRUCTION SHALL BE COVERED WITH PLASTIC.
7. CONTRACTOR SHALL NOTIFY COUNTY OF SANTA CRUZ EROSION CONTROL/GRADING DIVISION, (831-454-3168) AT LEAST 48 HOURS BEFORE ANY EARTHWORK IS BEGUN.
8. EARTHWORK BETWEEN OCTOBER 1 AND MAY 1 IS PROHIBITED UNLESS WINTER GRADING APPROVAL HAS BEEN ISSUED BY ENVIRONMENTAL PLANNING.
9. TEMPORARY STOCK PILING OF SUITABLE MATERIAL FROM EXCAVATION MAY OCCUR IN THE ROADWAY RIGHT-OF-WAY AREA, ALL UNSUITABLE EXCAVATED MATERIAL SHALL BE DISPOSED OF ON A DAILY BASIS AS DIRECTED AND APPROVED BY THE ENGINEER.



NOTE:
STRAW ROLL INSTALLATION REQUIRES THE PLACEMENT AND SECURE STAKING OF THE ROLL IN A TRENCH, 3" DEEP, DUG ON CONTOUR. RUNOFF MUST NOT BE ALLOWED TO RUN UNDER OR AROUND ROLL.

NOT TO SCALE

STRAW ROLLS

SILT FENCE INSTALLATION

CONSTRUCTION SPECIFICATIONS:
- THE HEIGHT OF A SILT FENCE SHALL NOT EXCEED 36 INCHES. STORAGE HEIGHT AND PONDING HEIGHT SHALL NEVER EXCEED 18 INCHES.
- THE FENCE LINE SHALL FOLLOW THE CONTOUR AS CLOSELY AS POSSIBLE.
- If possible, the filter fabric shall be cut from a continuous roll to avoid the use of joints. When joints are necessary, filter cloth shall be spliced only at a support post, with a minimum 6 inch overlap and both ends securely fastened to the post.
- Posts shall be spaced a maximum of 10 feet apart and driven securely into the ground (minimum of 12 inches). When extra-strength fabric is used without the wire support fence, post spacing shall not exceed 6 feet.
- Turn the ends of the fence uphill.
- A trench shall be excavated approximately 4 inches wide and 6 inches deep along the line posts and upslope from the barrier.
- When standard-strength filter fabric is used, a wire mesh support fence shall be fastened securely to the upslope side of the posts using heavy duty wire staples at least 1 inch long, tie wires or hog rings. The wire shall extend into the trench a minimum of 2 inches and shall not extend more than 36 inches above the original ground surface.
- The standard-strength filter fabric shall be stapled or wired to the fence, and 6 inches of the fabric shall extend into the trench. The fabric shall not extend more than 36 inches above the original ground surface. Filter fabric shall not be stapled to the existing trees.
- When extra-strength filter fabric and closer post spacing are used, the wire mesh support fence may be eliminated. In such a case, the filter fabric is stapled or wired directly to the posts.
- The trench shall be backfilled and the soil compacted over the toe of the filter fabric.
- Silt fences placed at the toe of a slope shall be set at least 6 feet from the toe in order to increase ponding volume.
- Silt fences shall be removed when they have served their useful purpose, but not before the upslope are has been permanently stabilized and any sediment stored behind the silt fence has been removed.

INSPECTION AND MAINTENANCE:
- Silt fence and filter barriers shall be inspected weekly after each significant storm (1 Inch In 24 hours). Any required repairs shall be made immediately.
- Sediment shall be removed when it reaches ½ height of the fence or 9 inches maximum.
- The removed sediment shall conform with the existing grade and be vegetated or otherwise stabilized.

EROSION CONTROL BLANKET INSTALLATION

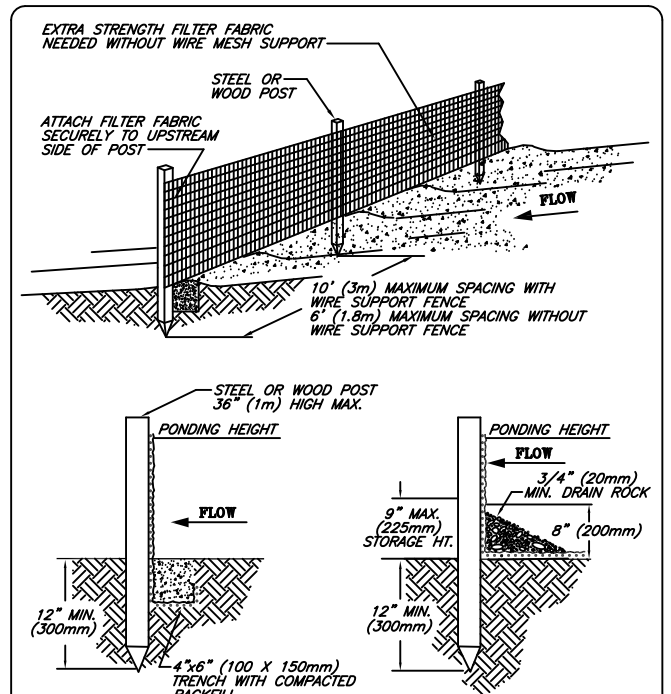
CONSTRUCTION SPECIFICATIONS:
Site Preparation:
- Proper site preparation is essential to ensure complete contact of the protection matting with the soil
- Grade and shape area of installation.
- Remove all rocks, clods, vegetative or other obstructions so that the installed blankets, or mats will have direct contact with the soil.
- Prepare seedbed by loosening 2-3 inches of topsoil above the final grade.
- Incorporate amendments, such as lime and fertilizer, into soil according to soil text and the seeding plan.

Seeding:
- Seed area before blanket installation for erosion control and re-vegetation. Seeding installation is often specified for turf reinforcement application. When seeding prior to blanket installation, all check slots and other areas disturbed during Installation must be reseeded.
- Where soil filling is specified, seed the matting and the entire disturbed area after installation and prior to filling the mat with soil.

Anchoring:
- U-shaped wire staples, metal geotextile stake pins, or triangular wooden stakes can be used to anchor mats to the ground surface. Wire staples shall be a minimum of 11 gauge. Metal stake pins shall be ⅜ Inch diameter steel with a 1 ½ Inch steel washer at the head of the pin. Wire staples and metal stakes shall be driven flush to the soil surface. All anchors shall be 6-8 inches long and sufficient ground penetration to resist pullout. Longer anchors may be required for loose soils.

Installation on Slopes:
- Begin at the top of the slope and anchor its blanket in a 6 Inch deep x 6 Inch wide trench. Backfill trench and tamp earth firmly.
- Unroll blanket downslope in the direction of the creek or streambed.
- The edges of adjacent parallel rolls must be overlapped 2-3 Inches and be stapled every 3 feet.
- When blankets must be spliced, place blankets end over end (shingle style) with 6 Inch overlap. Staple through overlapped area, approximately 12 Inches apart.
- Lay blankets loosely and maintain direct contact with the soil - do not stretch.
- Blankets shall be stapled sufficiently to anchor blanket and maintain contact with the soil. Staples shall be placed down the center and staggered with the staples placed along the edges. Steep slopes, 1:1 and 2:1 require 2 staples per square yard. Moderate slopes 2:1 to 3:1 require 1-2 staples per square yard (1 staple 3 ft. o.c.). Gentle slopes require 1 staple per square yard.

Installation In Channels:
- Dig Initial anchor trench 12 Inches deep and 6 Inches wide across the channel at the lower end of the project area.



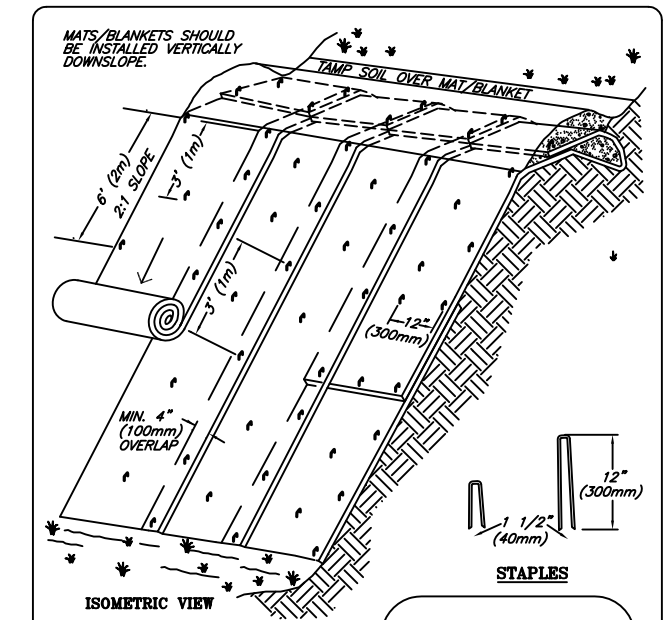
TRENCH DETAIL **INSTALLATION WITHOUT TRENCHING**

NOTES:
1. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.
2. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY. 9" (225mm) MAXIMUM RECOMMENDED STORAGE HEIGHT.
3. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.

NOT TO SCALE

SILT FENCE

FILE: SILTFENC



TYPICAL SLOPE SOIL STABLIZATION

NOTES:
1. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS AND GRASS. MATS/ BLANKETS SHALL HAVE GOOD SOIL CONTACT.
2. APPLY PERMANENT SEEDING BEFORE PLACING BLANKETS.
3. LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.

NOT TO SCALE

EROSION BLANKETS & TURF REINFORCEMENT MATS SLOPE INSTALLATION

FILE: BLNKTSLP

EROSION CONTROL & REVEGETATION

DATE	REVISION	BY
10/18	October 1, RSP, Alder relocation	CS

REGISTERED PROFESSIONAL ENGINEER GREG JONES No. 61091 Exp. 06-30-18 CIVIL STATE OF CALIFORNIA

PROJECT ENGINEER: GREG JONES

COUNTY OF SANTA CRUZ – DEPARTMENT OF PUBLIC WORKS

BEAN CREEK RD PM 1.00
STORM DAMAGE REPAIR PROJECT

DRAWN: GRJ
CHECKED: SD/CS
DATE: 11/2016
SCALE: NOTED
JOB NO. 79088
SHEET 4 OF 4

Attachment 3

Biological Assessment

This page intentially left blank.

Bean Creek Road PM 1.0

Proposed Road Repair

SANTA CRUZ COUNTY, CA

Biological Assessment

Prepared for

Santa Cruz County Department of Public Works

Greg Jones, Project Engineer

Santa Cruz, CA 95060

Prepared by:

Kittleson Environmental Consulting

3/11/2016

INTRODUCTION

KEC, documented and evaluated the biotic resources of a road repair located at PM 1.00 on Bean Creek Road in the unincorporated area of Santa Cruz County, north of the City of Scotts Valley.

Specific tasks conducted for this study include:

- Characterize the major plant communities within the proposed project area.
- Identify sensitive biotic resources, including habitats, plant or wildlife species of concern.
- Evaluate the potential effects of the proposed project activities on sensitive biotic resources and recommend measures to avoid or reduce such impacts.

PROPOSED PROJECT

The project is located at PM 1.0 on Bean Creek Road in Santa Cruz County as shown on Figure 1. The site is on Bean Creek, a tributary to the San Lorenzo River.

The County of Santa Cruz proposes the following repairs: construct approximately 35 linear feet (lf) of reinforced concrete crib retaining wall with one 18" dbh and two 24" dbh log footers for scour protection at water level, 76 linear feet of AC dike, 95 linear feet of metal guard rail and erosion control. The construction staging area will be in a road pullout at the northern end of the work area and on the paved surface of Bean Creek Road within the project's lane closure area. See Figure 2.

The proposed work requires the removal of understory vegetation; one 12" dbh alder tree will be removed. Road repair work will occur from the paved roadway at the top of slope above Bean Creek. Approximately 265 square feet of erosion control fabric, hydroseed and willows stakes will be placed for slope stabilization around the concrete cribwall. See Figure 3. The total work area encompasses approximately 4,200 square feet (0.09 acre).

The findings presented in this biological report are intended for the sole use of Santa Cruz County Department of Public Works in evaluating the proposed project. The findings presented in this report are for information purposes only; they are not intended to represent the interpretation of any State, Federal or County law or ordinance pertaining to permitting actions within sensitive habitat or endangered species. The interpretation of such laws and/or ordinances is the responsibility of the applicable governing body.

Figure 1. Location of Project Site on USGS Topographic Map

(USGS Laurel Quadrangle)

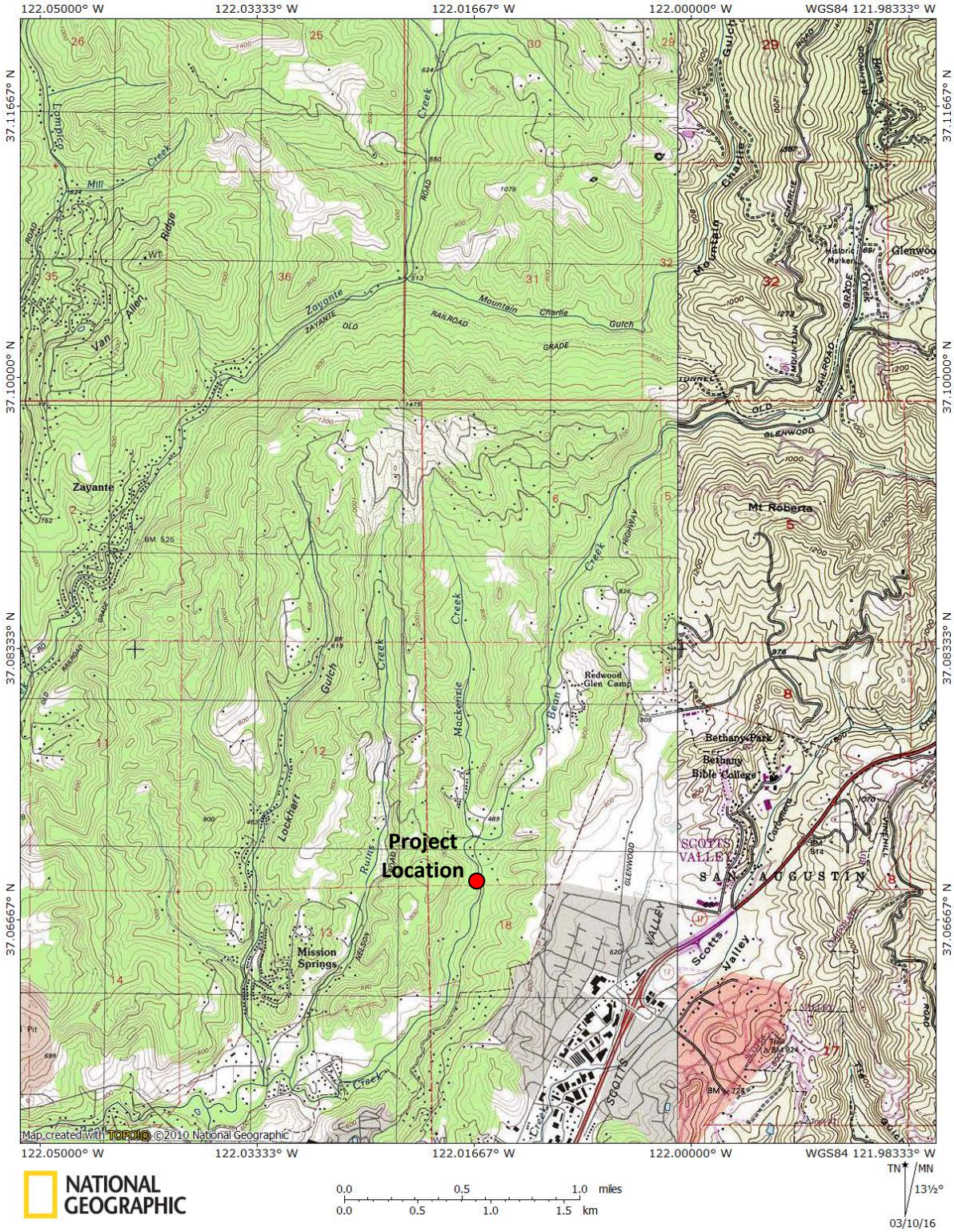


Figure 2. Bean Creek Road PM 1.0 Cribwall Project Layout

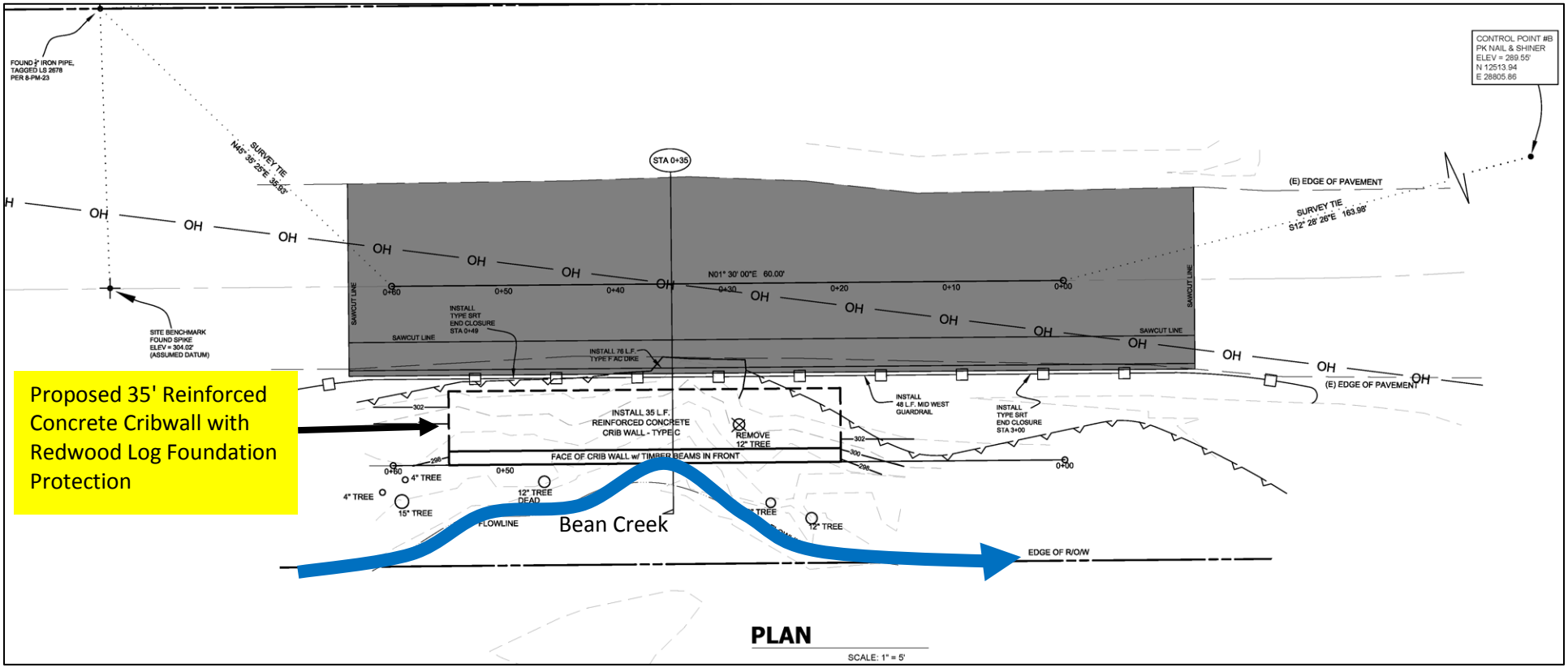
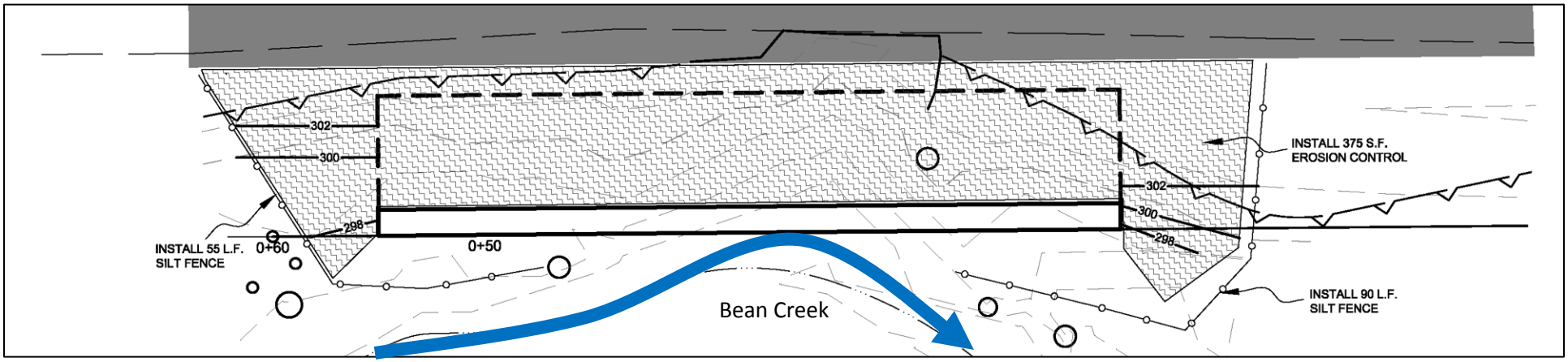


Figure 3. Bean Creek Road PM 1.0 Cribwall Project Erosion Control Plan



EXISTING BIOTIC RESOURCES

METHODS

The biotic resources of the project site were assessed through literature review and field observations. Site observations were made on2/24/2016 and 3/8/2016 by Gary Kittleson. Vegetation characterization was conducted from review of digital aerial photos and field observations. The major plant communities within the project area were classified using *California Terrestrial Natural Communities (*California Department of Fish and Game, 2003 and 2007) and *A Manual of California Vegetation* (Sawyer and Keeler-Wolf 1995). All plant species observed were recorded and identified to a level sufficient to determine their rarity. The California Native Plant Society's (CNPS) Electronic Inventory (2015), and California Department of Fish & Wildlife (CDFW) RareFind database (CDFW, 2015) were reviewed for the Felton and Laurel USGS quadrangles prior to the site visits.

The potential impacts of the proposed project on sensitive biological resources are discussed below. Avoidance and mitigation measures to reduce significant impacts to a level of less-than-significant are included.

ENVIRONMENTAL SETTING

Geographic Setting

The project is located on the Felton USGS quadrangle (see Figure 1). The cribwall project is located on the left bank of Bean Creek, at a road slip out on Bean Creek Road. Rural residential development and forest lands surround the site. Bean Creek is a perennial tributary to Zayante Creek, which flows to the San Lorenzo River in Felton, approximately 6 miles downstream of the project site at Henry Cowell State Park. While Bean Creek is mapped as a perennial waterway, the project reach often goes dry in late summer during low flow years, like 2014 and 2015 (KEC, pers. obs.). The project area is located outside of the County-designated urban and rural service areas (County of Santa Cruz GIS, 2014).

The project site is within an area of residential clearings in redwood forest, with alder riparian woodland and in-stream wetlands located along Bean Creek (below the project work area). Each vegetation type, its California vegetation code, and state ranking (rarity) are listed in Table 1. Photos of the site are depicted in Figure 4.

Table 1. Vegetation Types at Bean Cl. Rd PM 1.00

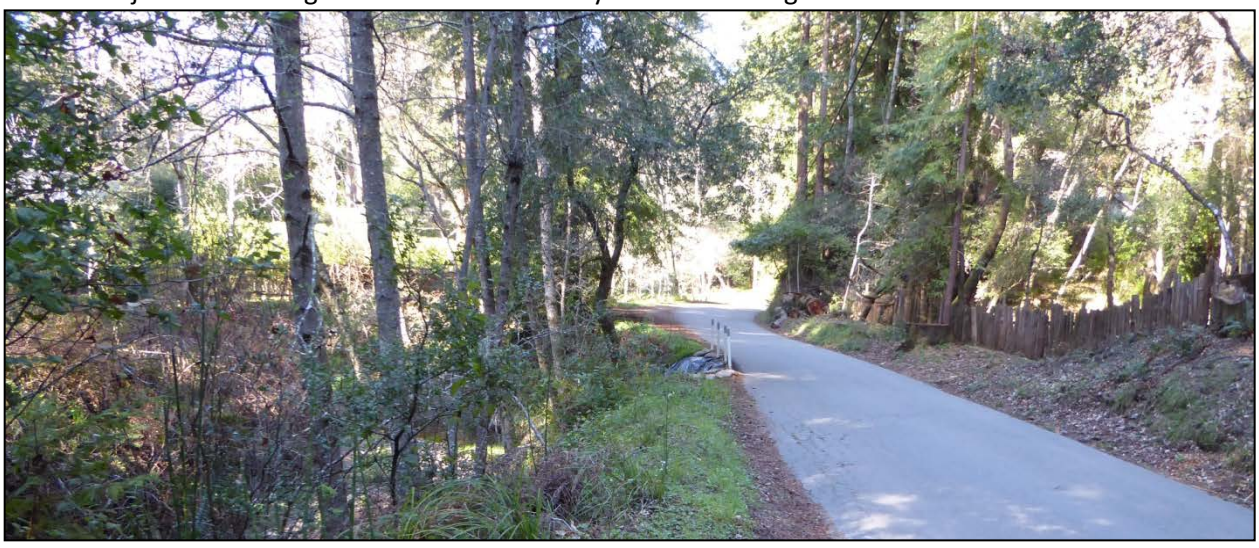
CaCode[1]	Vegetation Type	Plant Association	State Ranking[2]
86.100.14	Coast Redwood Forest	Coast Redwood/Tan Oak/Big Leaf Maple/ California Bay – Sword Fern/California Blackberry/French Broom	S3
-	In-stream Wetlands	Coltsfoot/Nutsedge – Dock/Forget-me-Not	-
86.100.02	Riparian Woodland	Coast Redwood/ Red Alder – Chain Fern/Five-finger Fern	S3

[1] – California vegetation code as per CDFG/CNDDB (2010); [2]- Vegetation types are ranked between S1 and S5. For vegetation types with ranks of S1-S3, all associations within the type are considered to be highly imperiled.

Figure 4. Site Photos

LEFT: Proposed Bean Creek Rd. PM 1.0 cribwall project site, looking upstream.
RIGHT: Project site, looking downstream after early March 2016 high flows. Note downed alder tree.

LEFT: Eroded left bank and scour pool at toe of slope.
RIGHT: Project site looking downstream after early March 2016 high flows.



Project area overview at Bean Creek Road PM 1.0, looking upstream

Vegetation and Wildlife Habitats

The dominant plant community type observed within the Bean Creek Road repair project area is coast redwood forest. Tree species are dominated by coast redwood (*Sequoia sempervirens)*. Other tree species observed at and around the road repair site include tan oak (*Notholithocarpus densiflora)*, California hazel (*Corylus cornuta)*, California bay (*Umbellularia californica)*, and Douglas fir (*Pseudostuga menziesii)*. The forest understory within the work area supports both native and non-native species, although the project construction area is a mix of bare soils and non-native groundcover. The near-vertical slope failure is currently covered by plastic. Understory species within the work area include sword fern (*Polystichum munitum)*, California blackberry (*Rubus ursinus)*, , coyote brush (*Baccharis pilularis)*, horsetail (*Equisetum arvense)*, spreading rush *(Juncus patens),* forget-me-not (*Myosotis latifolia)*, fumitory (*Fumaria sp.)*, and periwinkle (*Vinca major)*.

Bean Creek flows directly against the toe of the project area streambank. A band of red alders (*Alnus rubra)* grow along the roadway and the creek channel. One dead alder on the site fell across the creek between the two site visits that were conducted by KEC. Additional riparian plant species include chain fern (*Woodwardia fimbriata)*, sword fern, and spreading rush. A small number of in-channel wetland species were observed within the bed of Bean Creek during the initial site visit 2/24/2016. The wetland species observed include forget-me-not, coltsfoot (*Petasites frigidus)*, dock (*Rumex sp.)*, and nutgrass (*Cyperus sp.)*. The proposed road repair work area is located on the eroded bank of the creek, with work located between the paved roadway and the flowing water of Bean Creek. No wetland plants will be removed.

The wetlands and riparian habitat of Bean Creek within the project vicinity provide high quality habitat for native wildlife species. Common wildlife that are expected to occur along this portion of the creek, include raccoon (*Procyon lotor*), black phoebe (*Sayornis nigricans*), western scrub-jay (*Aphelocoma californica*), yellow-rumped warbler (*Setophaga coronata*), and chestnut-backed chickadee (*Poecile rufescens*).

SENSITIVE BIOTIC RESOURCES

Regulated Habitats

The project area is located within Santa Cruz County outside the urban and rural services lines. The field survey found that the proposed road repair work area supports riparian woodland vegetation. Under the existing County Code (Section 16.32), all lakes, wetlands, estuaries, lagoons, streams and rivers are considered sensitive habitat. According to County Code (Section 16.30), the riparian corridor along perennial channels extends 50 feet outward from the bank-full flow line or edge of riparian vegetation, whichever is greater. All proposed road repair work will occur within this area.

California Department of Fish and Wildlife (CDFW) has jurisdiction under Section 1600 et seq. of the CDFW 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 also regulates alterations to ponds and impoundments; 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. The proposed road repair

project is located in the riparian corridor of Bean Creek and all work will occur within and immediately upslope of the active channel. Based on this, a CA Dept of Fish and Wildlife Streambed Alteration Agreement will be required prior to implementing the road repair work.

Management and protection of water quality in California is governed by the state Porter-Cologne Water Quality Control Act and certification authority under Section 401 of the federal 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 water quality standards which are in the regional board's basin plans. 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 to be protected. Waters of the State subject to RWQCB regulation extend to the top of bank, as well as isolated water/wetland features and saline waters. 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. The proposed road repair work will be located within the RWQCB's jurisdiction as per the Section 401 water quality certification program, as a portion of the proposed work will occur within the creek channel.

The US Army Corps of Engineers (USACE) regulates activities within waters of the United States pursuant to congressional acts: 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). The footing of the proposed cribwall and energy dissipating logs at the wall toes will be located within the USACE's jurisdiction and will occur within the limits of the OHWM.

Sensitive Habitats

Sensitive habitats are defined by local, State, or Federal agencies as those habitats that support special status species, provide important habitat values for wildlife, represent areas of unusual or regionally restricted habitat types, and/or provide high biological diversity.

CDFW classifies and ranks the State's natural communities to assist in the determining the level of rarity and imperilment. Vegetation types are ranked between S1 and S5. For vegetation types with ranks of S1-S3, all associations within the type are considered to be highly imperiled. If a vegetation alliance is ranked as S4 or S5, these alliances are generally considered common enough to not be of concern; however, it does not mean that certain associations contained within them are not rare (CDFG, 2007 and 2010). The project study area supports coast redwood forest and a redwood-influenced riparian woodland, both of which are considered to have imperiled status (S3) (see Table 1).

According to County Code, development activities shall conform to permitted uses and impacts to sensitive habitat be avoided. If development occurs within any sensitive habitat area the County requires projects mitigate significant environmental impacts and restoration of any area which is

degraded sensitive habitat or has caused or is causing the degradation, with restoration commensurate with the scale of the development. The proposed road repair work will occur outside the County-designated 50- foot wide riparian corridor.

Special Status Plant Species

Plant species of concern include those listed by either the Federal or State resource agencies as well as those identified as rare by CNPS (List 1B). The search of the CNPS and CNDDB inventories for the Laurel and eight surrounding quadrangles identified the special status plant species with potential to occur in the project area. Species evaluated for potential occurrence within the proposed project area as per CNDDB and CNPS records are listed on Table 2.

The project site was not observed to support any special status trees or shrubs. In addition, due to the disturbed condition of the road repair area (i.e., failed slope covered by plastic with dense growth of invasive, non-native plant species) and the lack of specialized microhabitats (i.e., lack of serpentine, rocky outcrops, and grassland), it was determined that the project work area has a very low likelihood of supporting special status species. The scoured condition of the creek channel was found to be unsuitable for any special status seasonal wetland/marsh species, although rock outcrops along the creek may be suitable for tear drop moss, yet none were observed. In summary, no species status plant species were observed, or are expected to occur, in the project work area.

Special Status Wildlife Species

Special status wildlife species include those listed, proposed or candidate species by either the Federal or the State resource agencies as well as those identified as State species of special concern. In addition, all raptor nests are protected by Fish and Game Code, and all migratory bird nests are protected by the Federal Migratory Bird Treaty Act. Special status wildlife species were evaluated for their potential presence in the project area as described in Table 3 below.

Although Bean Creek provides potential habitat for coho salmon and steelhead, there is potential for the project reach to be dry during the late summer-fall construction window. If streamflow or standing water is present during construction, fish relocation and dewatering of the site will be necessary. A coffer dam and piped stream diversion may be required. If dewatering is necessary, all aquatic organisms would be removed by a qualified biologist prior to construction.

The project will not remove any mature trees, and therefore, will not alter the shaded riverine habitat for these fish. Implementation of best management practices to prevent any silt from entering the creek during construction, will avoid any potential impacts to fish.

California red-legged frog is known to occur in Bean Creek may occur along the creek, creek bank, and in the riparian vegetation. Measures are recommended to avoid any impacts to CA red-legged frog.

Table 2. Special Status Plant Species Evaluated for Potential Presence at Bean Creek Road PM 1.0 Project, February/March 2016

Scientific Name	Common Name	Lifeform	CNPS Rare Plant Rank	CESA	FESA	Nearest Record Potential to Occur on Site
Amsinckia lunaris	bent-flowered fiddleneck	annual herb	1B.2	None	None	Polo Ranch, Scotts Valley; rich soils in grassland No suitable habitat; presumed absent
Arctostaphylos andersonii	Anderson's manzanita	perennial evergreen shrub	1B.2	None	None	Nisene Marks SP, N end of Redwood Drive, Aptos No suitable habitat; not observed
Arctostaphylos hookeri ssp. hookeri	Hooker's manzanita	perennial evergreen shrub	1B.2	None	None	Mar Monte Road area, Aptos No suitable habitat; not observed
Arctostaphylos pajaroensis	Pajaro manzanita	perennial evergreen shrub	1B.1	None	None	Monterey County No suitable habitat; not observed
Arctostaphylos silvicola	Bonny Doon manzanita	perennial evergreen shrub	1B.2	None	None	N of Redwood Glen Camp in Zayante sandhills No suitable habitat; not observed
Arenaria paludicola	marsh sandwort	perennial stoloniferous herb	1B.1	CE	FE	Rich marsh area; historic record from Camp Evers, Scotts Valley No suitable habitat; presumed absent
Calyptridium parryi var. hesseae	Santa Cruz Mountains pussypaws	annual herb	1B.1	None	None	Zayante sandhills No suitable habitat; presumed absent
Campanula californica	swamp harebell	perennial rhizomatous herb	1B.2	None	None	Rich seasonally marshy area; historic record from Camp Evers, Scotts Valley No suitable habitat; presumed absent
Carex saliniformis	deceiving sedge	perennial rhizomatous herb	1B.2	None	None	Historic record from Camp Evers, Scotts Valley; Forested area in UCSC No suitable habitat; not observed
Ceanothus ferrisiae	Coyote ceanothus	perennial evergreen shrub	1B.1	None	FE	Serpentine chaparral, Santa Clara Co. No suitable habitat; not observed
Centromadia parryi ssp. congdonii	Congdon's tarplant	annual herb	1B.1	None	None	Mesic grassland, Watsonville region No suitable habitat; presumed absent
Chorizanthe pungens var. hartwegiana	Ben Lomond spineflower	annual herb	1B.1	None	FE	Zayante sandhills No suitable habitat; presumed absent
Chorizanthe pungens var. pungens	Monterey spineflower	annual herb	1B.2	None	FT	Mar Monte area, Aptos Sandy soils on oak woodland, scrub, maritime chaparral

Table 2. Special Status Plant Species Evaluated for Potential Presence at Bean Creek Road PM 1.0 Project, February/March 2016

Scientific Name	Common Name	Lifeform	CNPS Rare Plant Rank	CESA	FESA	Nearest Record Potential to Occur on Site
						No suitable habitat; presumed absent
Chorizanthe robusta var. hartwegii	Scotts Valley spineflower	annual herb	1B.1	None	FE	Scotts valley grassland/sandstone outcrops No suitable habitat; presumed absent
Chorizanthe robusta var. robusta	robust spineflower	annual herb	1B.1	None	FE	Freedom Blvd area, Aptos, sandy soils No suitable habitat; presumed absent
Cirsium fontinale var. campylon	Mt. Hamilton thistle	perennial herb	1B.2	None	FE	Serpentine seeps, Sierra Azul No suitable habitat; not observed
Collinsia multicolor	San Francisco collinsia	annual herb	1B.2	None	None	Moist, shady slopes; found in north coast /Swanton and Scotts creek. Shady hillside present yet previously disturbed by road washout; presumed absent
Dacryophyllum falcifolium	tear drop moss	perennial herb	1B.3	None	None	Moist bedrock outcrops Suitable habitat on exposed bedrock along Bean Creek; however habitat outside of project work area; not observed
Dudleya abramsii ssp. setchellii	Santa Clara Valley dudleyi	perennial herb	1B.2	None	None	Serpentine chaparral No suitable habitat; not observed
Eriogonum nudum var. decurrens	Ben Lomond buckwheat	perennial herb	1B.1	None	None	Zayante sandhills No suitable habitat; not observed
Erysimum ammophilum	sand-loving wallflower	perennial herb	1B.2	None	None	Dunes, Monterey Bay dunes No suitable habitat; presumed absent
Erysimum teretifolium	Santa Cruz wallflower	perennial herb	1B.1	CE	FE	Zayante sands No suitable habitat; presumed absent
Fissidens pauperculus	minute pocket moss	moss	1B.2	None	None	Nisene Marks SP, redwood forest No suitable habitat; presumed absent
Fritillaria liliacea	Fragrant fritillary	perennial herb	1B.2	None	None	Moist areas ,serpentine grassland No suitable habitat; not observed
Gilia tenuiflora ssp. arenaria	Monterey gilia	annual herb	1B.2	CT	FE	Dune sands, Monterey Bay dunes No suitable habitat; presumed absent
Hesperocyparis abramsiana var. abramsiana	Santa Cruz cypress	perennial evergreen tree	1B.2	CE	FE	Pine forest on sandstone outcrops, sandy soils; Majors Creek, Boulder Creek No suitable habitat; not observed
Hoita strobilina	Loma Prieta hoita	perennial herb	1B.1	None	None	Serpentine chaparral, Loma Prieta No suitable habitat; not observed
Holocarpha macradenia	Santa Cruz tarplant	annual herb	1B.1	CE	FT	Coastal terrace grassland; Soquel area, Twin Lakes, Arana Gulch, Watsonville

Table 2. (Cont.) Special Status Plant Species Evaluated for Potential Presence at Bean Creek Road PM 1.0 Project, February/March 2016

Scientific Name	Common Name	Lifeform	CNPS Rare Plant Rank	CESA	FESA	Nearest Record Potential to Occur on Site
						No suitable habitat; presumed absent
Horkelia cuneata var. sericea	Kellogg's horkelia	perennial herb	1B.1	None	None	Sandy soil, UCSC grassland No suitable habitat; presumed absent
Horkelia marinensis	Point Reyes horkelia	perennial herb	1B.2	None	None	Coastal prairie, UCSC grassland No suitable habitat; presumed absent
Lessingia micradenia var. glabrata	smooth lessingia	annual herb	1B.2	None	None	Serpentine chaparral, Loma Prieta No suitable habitat; presumed absent
Malacothamnus aboriginum	Indian Valley bush mallow	perennial evergreen shrub	1B.2	None	None	Sandy washes, scrub, chaparral No suitable habitat; not observed
Malacothamnus arcuatus	arcuate bush-mallow	perennial evergreen shrub	1B.2	None	None	Mt. Bache Road area, chaparral No suitable habitat; not observed
Malacothamnus hallii	Hall's bush-mallow	perennial evergreen shrub	1B.2	None	None	Serpentine chaparral No suitable habitat; not observed
Microseris paludosa	marsh microseris	perennial herb	1B.2	None	None	Moist areas in coastal prairie, Graham Hill Road area No suitable habitat; presumed absent
Monardella sinuata ssp. nigrescens	northern curly-leaved monardella	annual herb	1B.2	None	None	Zayante sandhills No suitable habitat; presumed absent
Monolopia gracilens	woodland woolythreads	annual herb	1B.2	None	None	Sandy openings in chaparral, Quail Hollow County park No suitable habitat; presumed absent
Pedicularis dudleyi	Dudley's lousewort	perennial herb	1B.2	CR	None	Redwood forest; extirpated from County; historic record from headwaters of Aptos Creek No suitable habitat; presumed absent
Penstemon rattanii var. kleei	Santa Cruz Mountains beardtongue	perennial herb	1B.2	None	None	Burned or disturbed areas in chaparral and woodland; historic record from Empire Grade area No suitable habitat; presumed absent
Pentachaeta bellidiflora	white-rayed pentachaeta	annual herb	1B.1	CE	FE	Beach cliffs near Santa Cruz (historic) No suitable habitat; presumed absent
Piperia candida	White-flowered rein orchid	perennial herb	1B.2	None	None	Open to shady site in coniferous forests Shady hillside present yet previously disturbed by road washout; presumed absent

Table 2. (Cont.) Special Status Plant Species Evaluated for Potential Presence at Bean Creek Road PM 1.0 Project, February/March 2016

Scientific Name	Common Name	Lifeform	CNPS Rare Plant Rank	CESA	FESA	Nearest Record Potential to Occur on Site
Plagiobothrys chorisianus var. chorisianus	Choris' popcorn-flower	annual herb	1B.2	None	None	Moist depressions in grassland; Polo Ranch Scotts Valley, Watsonville area No suitable habitat; presumed absent
Plagiobothrys diffusus	San Francisco popcorn-flower	annual herb	1B.1	CE	None	Seasonally moist grassland on coastal terrace, Moore Creek area, Fairway Drive area , Polo Ranch Scotts Valley, Pogonip No suitable habitat; presumed absent
Plagiobothrys glaber	Hairless popcorn-flower	annual herb	1A	CE	None	Seasonally moist alkaline soils in marshes, meadows, swamps No suitable habitat; presumed absent
Polygonum hickmanii	Scotts Valley polygonum	annual herb	1B.1	CE	FE	Grasslands with sandstone outcrops, Scotts Valley No suitable habitat; presumed absent
Rosa pinetorum	pine rose	perennial shrub	1B.2	None	None	Pine woodland, Big Basin No suitable habitat; not observed
Silene verecunda ssp. verecunda	San Francisco campion	perennial herb	1B.2	None	None	Exposed mudstone in north part of County No suitable habitat; presumed absent
Strepthanthus albidus ssp. albidus	Metcalf Canyon jewel flower	annual herb	1B.2	None	FE	Serpentine chaparral and grassland No suitable habitat; presumed absent
Strepthanthus albidus ssp. peramoenus	most beautiful jewel flower	annual herb	1B.2	None	None	Serpentine chaparral and grassland, No suitable habitat; presumed absent
Trifolium buckwestiorum	Santa Cruz clover	annual herb	1B.1	None	None	Moist depressions in grassland; Soquel area, UCSC No suitable habitat; presumed absent

CNPS Status: List 1B: These plants (predominately endemic) are rare through their range and are currently vulnerable or have a high potential for vulnerability due to limited or threatened habitat, few individuals per population, or a limited number of popula012566tions. List 1B plants meet the definitions of Section 1901, Chapter 10 of the CDFW Code.

Table 3. Special status wildlife species and their potential occurrence at Bean Creek Road PM 1.0.

SPECIES	STATUS[1]	HABITAT	POTENTIAL OCCURRENCE ON SITE
Invertebrates			
Ohlone tiger beetle *Cicindela ohlone*	FE	Coastal terrace prairie with sparse vegetation and openings, Watsonville loam soils	No suitable habitat on site.
Mt. Hermon June beetle *Polyphylla barbata*	FE	Chaparral and ponderosa pine with Zayante sandy soils	No suitable habitat on site.
Zayante band-winged grasshopper *Trimerotropis infantilis*	FE	Openings in sand hills parkland habitat with Zayante sandy soils	No suitable habitat on site.
Smith's blue butterfly *Euphilotes enoptes smithi*	FE	Coastal dunes and coastal sage scrub with buckwheat plants	No suitable habitat on site.
Fish			
Coho salmon *Oncorhynchus kisutch*	FE, SE	Perennial creeks and rivers with gravels for spawning	Rare and declining in San Lorenzo Watershed. Locally known from San Vicente and Scotts Creek on North Coast. Suitable habitat on site.
Steelhead *Oncorhynchus mykiss*	FT	Perennial creeks and rivers with gravels for spawning	Suitable habitat on site. May be present if stream is flowing during construction.
Amphibians			
California red-legged frog *Rana aurora draytonii*	FT, CSC	Riparian, marshes, estuaries and ponds with still water at least into June.	2 observations of this frog have been made in Bean Creek 1.5 and 1.8 mi. upstream of site. May occur on site.
Reptiles			
Western pond turtle *Actinemys marmorata*	CSC	Creeks and ponds with water of sufficient depth for escape cover, and structure for basking; grasslands or bare areas for nesting.	Known to inhabit the San Lorenzo River and Quail Hollow County Park. Unlikely to occur as site lacks deep water escape areas and basking sites.
Birds			
White-tailed kite *Elanus leucurus*	FP	Nests in tall riparian trees adjacent to open lands for foraging	None, no suitable habitat on site.
Mammals			
Pallid bat *Antrozous pallidus*	CSC	Roosts in caves, hollow trees, mines, buildings, bridges, rock outcroppings	None, no suitable habitat on site.
Santa Cruz kangaroo rat *Dipodomys venustus venustus*	None	Manzanita chaparral with sandy soils	None. No suitable habitat on site.
San Francisco dusky-footed woodrat *Neotoma fuscipes annectens*	CSC	Woodlands including oaks, willow riparian, Eucalyptus	No nests observed within work area.
American badger *Taxidea taxus*	CSC	Grasslands with friable soils	None, no suitable habitat on site.

[1] Key to status:

FE=Federally listed as endangered species;

FT=Federally listed as threatened species;

FP=Fully protected species by State;

CSC=California species of special concern

IMPACT AND MITIGATION DISCUSSION

IMPACT CRITERIA

Thresholds of Significance

The thresholds of significance presented in Appendix G of the CEQA Guidelines were used to evaluate project impacts and to determine if implementation of the proposed project would pose significant impacts to biological resources. For this analysis, significant impacts are those that substantially affect, either directly or through habitat modifications:

- A species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by CDFW or USFWS or NMFS;
- Riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW or USFWS;
- 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 local 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 local, regional, or state habitat conservation plan.

ENVIRONMENTAL IMPACTS, MITIGATION MEASURES AND SIGNIFICANCE DETERMINATION FOR THE PROPOSED PROJECT

The proposed road repair project was evaluated for its potential direct and indirect impacts to biotic resources. Impacts to sensitive habitats/resources were considered potentially significant.

Impacts to Sensitive Habitats

The proposed project will require work in Bean Creek, a perennial waterway, and all work will occur within the County's designated 50-foot riparian corridor. The cribwall foundation and redwood log scour protections feature planned in proposed project will also be located below OHWM and will require work and construction access to the creek for footing excavation and fill.

The road repair work will require understory vegetation to be removed within the riparian corridor to accommodate construction of the cribwall and associated project features. Vegetation to be affected are plants growing within previously disturbed areas (i.e., road slip out areas) and on adjacent failing streambank. While most of this vegetation is comprised of non-native species, such as Himalayan blackberry, periwinkle, and thistles, native species of hazel, California blackberry, hedgenettle, and a 12"dbh red alder tree will be removed. In addition, limbs of native trees that overhang the work area may need to be trimmed to accommodate construction equipment; however no mature trees will be

removed. Implementation of the measures listed in Section 3.2.3 will reduce this impact to a less than significant level.

Due to the proposed project's location on the streambank of Bean Creek, within the riparian zone, local, state and federal permits will be required prior to commencement of proposed road repair work, as summarized in Table 4.

Table 4. Summary of Impacts to Jurisdictional Areas

Agency	Permit	Permit Type	Jurisdictional Impact Acreage	
			Temporary	Permanent
USACE	yes	404 Wetland Fill Permit	**0.003**	**0.003**
RWQCB	yes	401 WQ Certification	**0.003**	**0.003**
CA DFW	yes	1601 Streambed Alteration	**0.01**	**0.003**
County of Santa	yes	Riparian Exception	**0.01**	**0.01**

Impacts to Wildlife

The federally listed steelhead and coho salmon may occur within the Bean Creek at the project site. The project is within Designated Critical Habitat for Central California Coast Steelhead (NMFS 2005) and Central California Coast Coho Salmon (NMFS 1999). The project site on Bean Creek is tributary to Zayante Creek which is tributary to the San Lorenzo River. Steelhead are present throughout the San Lorenzo watershed.

The San Lorenzo River is the southern boundary of the Central California Coast Coho Salmon ESU. While small numbers of hatchery and wild coho have been observed in the trap at the Felton Diversion in recent years, coho have generally been presumed to be extirpated as a regular spawning population from the SLR since the drought of the late 1980s (Alley et al. 2004). A few young-of-year coho were found in 2005 in lower Bean Creek (DW Alley and Associates 2007) and two young-of-year were found in Zayante Creek near the Bean Creek confluence (HES 2005). Coho young-of-year have also been observed in snorkel surveys conducted by NOAA Fisheries scientists in Bean Creek (Chris Berry, City of Santa Cruz, pers. comm.).

As noted above, work will occur within the creek channel, and one 12" dbh red alder tree will be removed for this project. During some years, the project reach is dry in late summer and fall. Water may or may not be present during the proposed cribwall construction. If water is flowing or standing in isolated pools, a site dewatering system shall be put in place prior to site disturbance. With the implementation of silt and erosion control during construction, this project will not affect coho salmon or steelhead.

California red-legged frog may also occur within the project work are or the adjacent Bean Creek. Measures are recommended below to avoid impact to this frog species.

Nesting birds may occur in the riparian vegetation adjacent to the project site. Because most nesting birds are protected by the Migratory Bird Treaty Act, measures are listed below to avoid potentially significant impacts if any are present during construction.

Recommended Avoidance, Minimization and Mitigation Measures

The following measures are recommended to avoid or mitigate potentially significant impacts to the riparian corridor, native trees, and wildlife, to a less-than significant level:

1. The County shall secure all necessary permits from regulatory agencies prior to any work.

2. The County shall implement riparian corridor protection measures to minimize impacts to the riparian corridor (including native trees) located down slope of the work area, including:

a. Install plastic mesh fencing at the perimeter of the work area (i.e., limits of work) to prevent impacts to the adjacent woodland, and injury to adjacent native trees. Protective fencing shall be in place prior to ground disturbances and removed once all construction is complete. During construction, no grading, construction or other work shall occur outside the designated limits of work.

b. No excess soil, chemicals, debris, equipment or other materials shall be dumped or stored outside the designated limits of work.

c. Hand tools shall be used to trim vegetation to the extent necessary to gain access to the work area.

3. Implement standard erosion control BMP's to prevent construction materials from entering the nearby creek and adjacent riparian woodland. Install perimeter silt fencing and construction area limit-of-work fencing.

4. All staging of equipment and materials, and refueling of equipment, shall be located in existing roadways, driveways, and parking areas. The contractor shall prepare and implement a fuel spill prevention and clean-up plan.

5. To avoid impacting breeding birds, if present, schedule construction to occur between August 1 and March 1 of any given year, which is outside the bird breeding season. If this is not practical, then have a qualified biologist conduct a preconstruction survey for nesting birds no more than two weeks prior to onset of construction. If any active bird (passerines) nests are found within 50 feet of the work area, or within 200 feet for raptors, postpone construction until the biologist has determined that all young have fledged.

6. A qualified biologist will conduct a preconstruction survey for California red-legged frogs no more than 48 hours prior to beginning of construction. If any are observed within the work area, the County will consult with CDFW and USFWS prior to initiating work. The County will implement all avoidance measures recommended by the agencies to avoid impacts to the frog.

7. A qualified biologist will present a worker training about the California red-legged frogs just prior to beginning of construction. The training will include identification of the frog, its protected status, a brief life history of the frog, and measures to avoid impacts to the frog.

8. A qualified biologist will oversee the installation of the dewatering system, if water is present in the creek during construction. All fish and aquatic organisms will be relocated to suitable alternative habitat out of harm's way.

LITERATURE CITED AND REFERENCES

Barbour & Major, 1988. Terrestrial Vegetation of California. California Native Plant Society, Sacramento, CA

Becker, G.S. and I.J. Reining. 2008. Steelhead/rainbow trout *(Oncorhynchus mykiss)* resources south of the Golden Gate, California. Cartography by D.A. Asbury. Center for Ecosystem Management and Restoration. Oakland, CA.

Bland, D. and K. Lyons. 2015. Glenwood Drive. PM 2.02 Proposed Road Repair Biological Report.

California Native Plant Society. 2015. Electronic Inventory of Rare and Endangered Vascular Plants of California. CNPS, Sacramento CA.

California Native Plant Society. 2013. Annotated Checklist of the Vascular Plants of Santa Cruz County. CNPS, Santa Cruz County Chapter.

California, State of, Department of Fish & Game. 2010. The Vegetation Classification and Mapping Program, List of California Terrestrial Natural Communities Recognized by the CNDDB. December 2010.

California, State of, Department of Fish & Wildlife. 2015. Natural Diversity DataBase, Natural Communities. Rarefind Program, February 2015

DW Alley and Associates, 2014. Juvenile Steelhead Densities in the San Lorenzo, Soquel, Aptos, and Corralitos Watersheds, Santa Cruz County, California. Prepared for the Santa Cruz County Environmental Health Department.

Hickman, J. 1993. The Jepson Manual Higher Plants of California. Berkeley: University of California Press.

Holland, R.F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. CDFG Unpublished report, October 1986.

Kittleson, G. 2015. Glenwood Drive. PM 2.02 Road Repair Biological Monitoring Report.

NMFS. 2005. Endangered and Threatened Species; Designation of Critical Habitat for 12 Evolutionarily Significant Units of West Coast Salmon and Steelhead in Washington, Oregon, and Idaho Federal Register / Vol. 70, No. 170 / Friday, September 2, 2005 / Rules and Regulations

NMFS. 1999. Designated Critical Habitat; Central California Coast and Southern Oregon/ Northern California Coasts Coho Salmon. Federal Register /Vol. 64, No. 86 /Wednesday, May 5, 1999 /Rules and Regulations.

Santa Cruz County. 2004. Steelhead and Coho Salmon Distribution http://www.sccoplanning.com/LinkClick.aspx?fileticket=zTB8bX62SAM%3D&tabid=1094

Sawyer & Keller-Wolf, 1995. A Manual of California Vegetation. California Native Plant Society, Sacramento, CA

USDA, 1980. Soil Survey of Santa Cruz County, California. United States Department of Agriculture, Soil Conservation Service in cooperation with University of California Agricultural Experiment Station.

Attachment 4

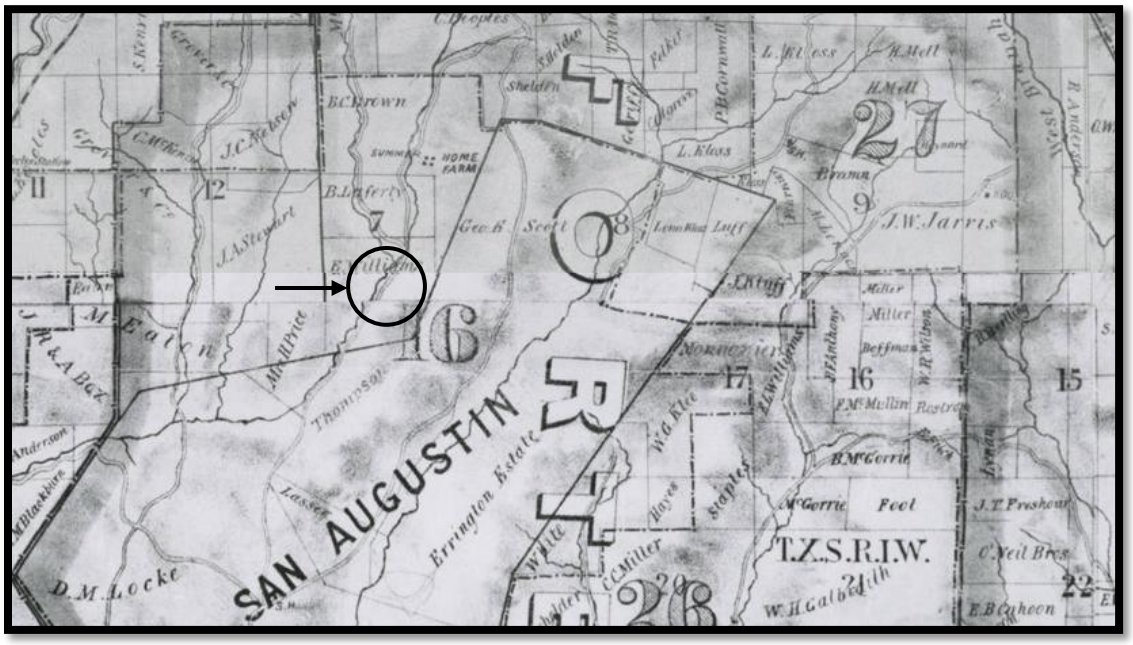
Cultural Resources Report

This page intentially left blank.

Cultural Resources Report
Bean Creek Road Repair Project
Santa Cruz County, California

By
John Schlagheck, M.A., RPA
Associate Archaeologist

April 2018



Report Completed for
Santa Cruz County Department of Public Works Road Design Division

Holman & Associates
Archaeological Consultants
3615 Folsom Street
San Francisco, CA 94110
Holman.assoc@comcast.net

Notice of Confidential Information
This report contains cultural resource location information. Report distribution should be restricted to those with a need to know and should *not* include distribution for public comment. Cultural resources are a nonrenewable resource and their scientific and aesthetic value can be significantly degraded by disturbance that may result from the distribution of location information. The legal authority to restrict this information is in California Government Code 6254.1.

Table of Contents

Introduction and Management Summary 3
Project Description 5
Project Location and Context 5
Prehistoric Cultural Background 6
Historical Period Cultural Background 7
Section 106 Compliance 8
Area of Potential Effects Determination 8
Records Search Results 9
Native American Consultation 9
Surface Conditions and Reconnaissance 9
Discussion and Finding of Effects 10
Recommendations 10
References Cited 11

Maps

1. Project Regional Location 4
2. Project Location 5
3. Project Area of Potential Effects (APE) ..... Appendix A

Appendices

A. Map 3: Project Area of Potential Effects (APE)
B. Records Search Results
C. Project Photo Set
D. Project Improvement Plans

Acronyms and Abbreviations

Area of Potential Effects	APE
Bean Creek Road Repair Project	Project
Santa Cruz County Department of Public Works Road Design Division	County
California Historical Resources Information System	CHRIS
Northwest Information Center	NWIC
United States Geological Survey	USGS
United States Army Corps of Engineers	USACE

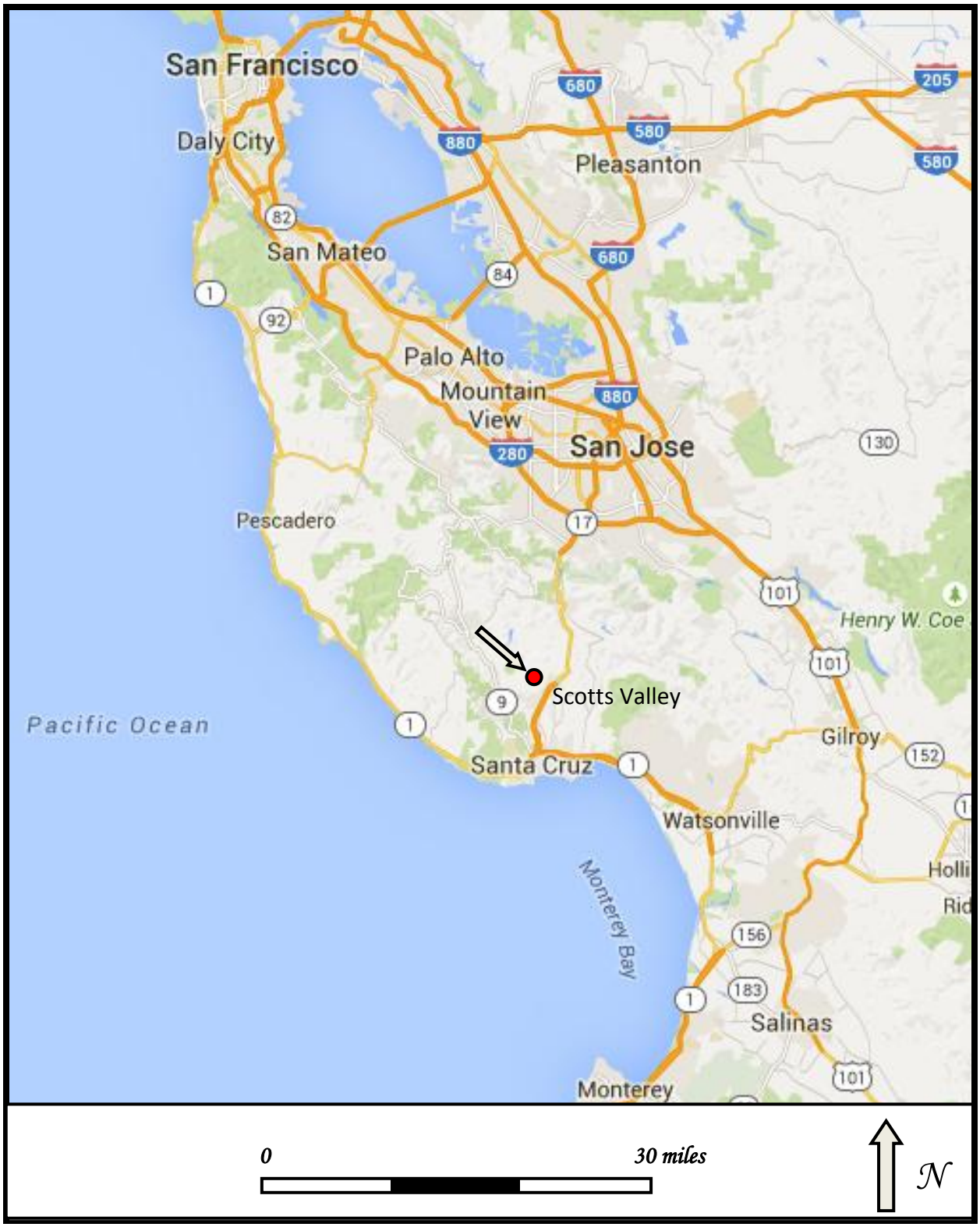
Introduction and Management Summary

The Bean Creek Road Repair Project (Project) is a public works project by the Santa Cruz County Department of Public Works Road Design Division (County) to repair a section of Bean Creek Road and an adjacent creek bank that failed. The Project is subject to Section 106 of the National Historic Preservation Act because the United States Army Corps of Engineers (USACE) must issue a Section 404 Nationwide Permit as part of the Project's entitlements. The Project's Area of Potential Effects (APE) includes approximately 4,200 square feet of public right-of-way along Bean Creek Road.

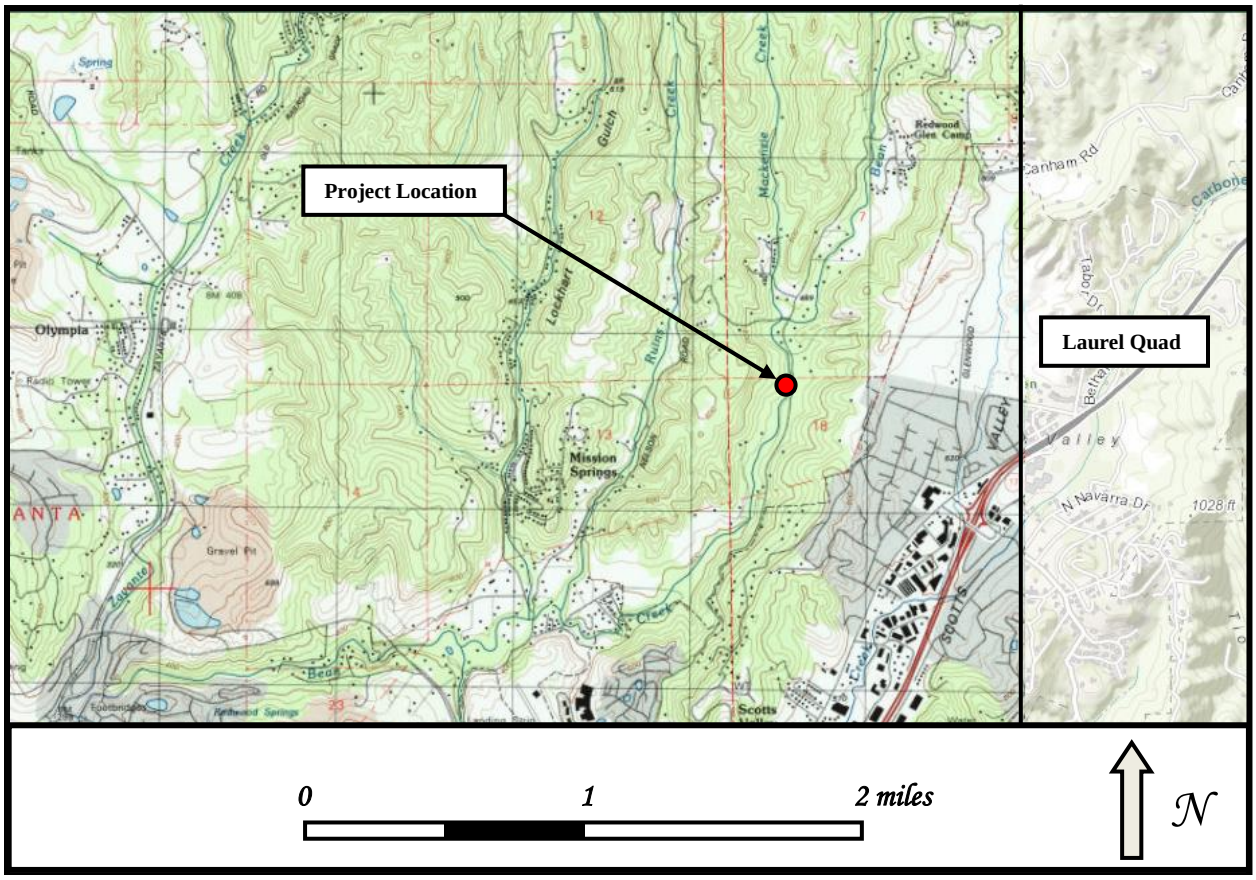
The present cultural resources investigation entailed three steps: 1) A search of relevant records and maps maintained by the Northwest Information Center (NWIC) of the California Historical Resources Information System (CHRIS) at Sonoma State University and other documentary sources. 2) A surface reconnaissance of the property in and immediately adjacent to the APE. 3) This report and recommendations addressing the Project's potential effects on historic properties under Section 106 of National Historic Preservation Act.

The archival research showed that the Project APE had not been previously surveyed for cultural resources and that no previously recorded historic properties are located within the APE. The surface reconnaissance found no indication of potentially eligible cultural resources within the APE.

The results of the present investigation suggest a very low potential for encountering unknown cultural resources during the proposed construction. This report recommends a **finding of no effect** on historic properties for the Project. A copy of this report will be send to the NWIC as required under the CHRIS guidelines.



Map 1: Project Regional Location



Map 2: Project Location (USGS *Felton* 7.5-minute topographic Quadrangle)

Project Description

The Project is the repair of a failed portion of Bean Creek Road and the adjacent east bank of Bean Creek. The Project specifically includes removal of material from the failed roadway and bank, construction of approximately 42 linear feet of reinforced concrete crib retaining wall with rip-rap, 76 linear feet of AC dike, 95 linear feet of metal guard rail, and erosion control. A staging area will be in a pullout at the north end of the work area on the paved surface of Bean Creek Road. The total area of the Project is approximately 4,200 square feet. Specific details of the proposed construction are contained in the project improvement plans appended to this report by reference as Appendix D.

Project Location and Context

The Project APE is located at PM 1.0 on Bean Creek Road, a public roadway in an unincorporated portion of Santa Cruz County, California, approximately 7 miles north of Monterey Bay and approximately 1,500 feet northwest of the city limits of the City of Scotts Valley (Maps 1 and 2).

The Project is located along the east bank of Bean Creek, a perennial stream and tributary to the San Lorenzo River that joins the river to the west approximately six miles downstream from the

Project. Rivers, perennial streams, and other drainages in the area have all been significantly modified by modern development but are generally in the same locations as prior to and during the early colonial period. The project vicinity contains some flat land near Bean Creek as well as some moderate to severe slopes. Relatively dry, flat land above the sloped banks of all types of waterways is strongly associated with prehistoric use of the land. That use is reflected in the broad pattern of prehistoric sites having been found along and above watercourses. Historical-period use of watercourses and their near surroundings is also well-documented (Moratto 1984). The general area in the vicinity of the Project has been developed in modern times with a combination of low density suburban residential and semi-rural development.

Prehistoric Cultural Background

The Native Americans who inhabited the San Francisco Bay region, Santa Cruz Mountains, East Bay Hills, and the Monterey Bay area at the time of the 1769 Spanish incursion are now most commonly known as "Ohlone," a name taken from a coastal village between Santa Cruz and Half Moon Bay. Archaeological evidence indicates the ancestral Ohlone arrived in the San Francisco Bay region—depending on location—somewhere around A.D. 500 (Moratto 1984; Breschini and Haversat 2005, 2011), possibly from the lower Sacramento Valley/Delta, and in the Santa Cruz/Monterey Bay region somewhat later, displacing earlier populations. Anthropologists and the Federal Government labeled these people "Costanoan" (from the Spanish *costanos* or coast-dwellers) as a linguistic term coined to describe groups speaking related languages, occupying the coast from the Golden Gate to Point Sur and inland to about the crest of the Diablo Range. Some descendants of these peoples prefer the term "Costanoan," while others prefer "Ohlone" or more readily identify with more specific tribelet names such as Amah, Mutsun, or Rumsen/Rumsien.

According to Milliken (1995, 1999), three Ohlone tribal groups had territories near the Project Area. These groups were the *Uypi* that controlled the area of present day Santa Cruz and the mouth of the San Lorenzo River, the *Sayanta* that controlled the area east of the San Lorenzo River to Aptos and north to include what are now Scotts Valley, Glenwood, and Laurel, and the *Aptos* that controlled present day Aptos south to the Pajaro River. The vicinity of the APE was permanently occupied, probably supporting both permanent and seasonally occupied villages, and very likely had been for a millennium or more; whether any of the Project's direct impact areas were the locations of permanent or seasonal habitation is unknown. All of the region's landscape was likely used to some extent in aboriginal times for specific tasks, such as gathering and processing food resources. Consequently, the Project vicinity should be treated cautiously regarding the possibility of finding prehistoric archaeological resources.

Although it is not entirely clear how population movements affected cultural continuity in the area, it is well established that hunting and gathering or a combination of hunting and gathering and collecting, as described by Binford (1980), was the primary subsistence strategy used by the region's inhabitants up to the beginning of the Spanish colonial presence in 1769. Natural resources of their home areas provided for nearly all the needs of the aboriginal Ohlone populations. The Ohlone had adapted to and managed their abundant local environment so well that some places were continuously occupied for thousands of years. Compared to modern standards, population density remained relatively low, but for centuries the Ohlone territory,

especially around Monterey Bay and San Francisco Bay, was one of the most densely populated areas of prehistoric California.

Triblets such as the *Uypi, Sayanta*, and *Aptos* were small independent groups of usually related families occupying a specific territory. An incredible diversity of languages had evolved in Central California, evidence of centuries of in-place divergence of very small social groups. Early linguists encountered some groups of only 50 to 100 people speaking related but dialectically distinct languages. Inter-tribelet relationships were socially and economically necessary, however, to supply both marriage partners and goods and services not available locally. Trade and marriage patterns were usually, but not always, dictated by proximity; traditional enemies were usually also defined by proximity. Regional festivals and religious dances would bring groups together during periods of suspended hostilities.

Traditional trade patterns thousands of years old were operating when the Spanish arrived. Trade supplied the Ohlone with products from sources sometimes several hundred kilometers distant and allowing export of products unique to their region. Historically, Ohlone groups traded most often with each other, but they also exchanged regularly with the Plains and Coast Miwok, the Yokut, the Salinan and Esselen to the south, and North Coast Ranges groups such as the Pomo. Of particular interest archaeologically are imported obsidian and exported marine mollusk shell beads and ornaments. Obsidian was obtained by the Ohlone from the North Coast Ranges and Sierran sources, in patterns that changed through time. By 1769, the Ohlone had been trading for or buying finished obsidian arrowheads of specific forms, manufactured by North Coast Range tribes, for hundreds of years. Shell beads and ornaments, a major export from the Ohlone regions, were made primarily from the shells of abalone (*Haliotis*), Purple Olive snail (*Olivella*) and Washington clam (*Saxidomus*)—all ocean coast species. Shell beads and ornaments evolved through many different and definable types through the millennia, allowing chronological typing of these common artifacts to serve as a key to the age and relative cultural position of archaeological complexes. These beads were traded for thousands of years and have been found in prehistoric sites from California to the Great Basin, showing that prehistoric peoples on the coast were tied into extensive systems of trade. Discussions of the Ohlone include Kroeber (1925), Levy (1978), and Margolin (1978).

Historical Period Cultural Background

From 1769 to 1776, three Spanish expeditions to reconnoiter the region for colonization passed through the Central Coast. With the development of the Spanish Presidio at Monterey Bay and the Franciscan mission at Carmel in 1770–1771, and later the missions at Soledad and Santa Cruz (1791), and San Juan Bautista (1797), aboriginal life changed profoundly for the Ohlone. The root cause of change was Spanish religious and political hegemony brought by the Franciscan missionaries and enforcement of their assumed authority by the Spanish military. Religious conversion, adoption of farming practices, lethal illnesses, and intermarriage with other groups also contributed to the disintegration of tribal culture. Mission Santa Cruz dramatically affected the local Native population. According to Milliken, the *Uypi* were the first Native American group to go to the mission in large numbers and the first to be completely absorbed (Milliken 1995:259). By 1796, the *Uypi, Sayanta*, and *Aptos* people had all experienced significant absorption into the mission system (Milliken 1995, 1999).

The vicinity of the APE was accessible and likely used to some degree by the Spanish, and later Mexicans and Americans, since the late 1700s, and considerable change has been wrought to the landscape. Throughout the mid-to-late-nineteenth century, industries such as hide tanning and lumber production were established that had a major impact on the region, including the removal of most of the abundant local tanoak and redwood trees. The growth of such industries attracted labor and by the 1850s communities had been established from Santa Cruz to Watsonville and up through the San Lorenzo River basin.

Bean Creek Road is clearly shown on the 1889 Official Map of Santa Cruz County (cover photo) in its present location. The road is shown as improved access on the 1902 USGS Santa Cruz 1:125,000-scale map series.

Section 106 Compliance

The Project is subject to Section 106 of the National Historic Preservation Act because USACE must issue a Section 404 Nationwide Permit for the Project. USACE is therefore the lead agency for Section 106 compliance including consultation with Native American groups with local knowledge and consultation with SHPO under 36 CFR 800.13. This report addresses the specific information requirements as codified in 36 CFR Part 800 as an initial step in the environmental review process concerning identification of cultural resources that may be affected by the Project.

Specific elements of this report include: 1) a current records search for prehistoric and historical-period cultural resources within and near the APE as well as relevant archaeological and historical reports for the vicinity of the APE; 2) a general surface reconnaissance (King et al. 1973) of all accessible land within the APE for evidence of unknown prehistoric and historical period cultural resources; and 3) a recommended finding regarding the Project's effects on historic properties as defined in applicable regulations.

Area of Potential Effects Determination

Determination of the APE is a critical first step in the Section 106 process. The APE "means the geographical area or areas within which an undertaking may directly or indirectly cause alteration in the character or use of historic properties" (Sec. 800.16 [d]). The boundary of the APE is based on project improvement plans appended to this report (Appendix D) and includes the areas of potential ground disturbance and areas of temporary disturbance. The APE is shown on Map 3 appended to this report in Appendix A.

The vertical extent of the APE is zero over much of the Project area, as most of the paved area of Bean Creek Road will not be changed by the Project. Excavation to about 3 feet below existing grade will be required for construction of the crib retaining wall footings at the base of the east bank of Bean Creek. Subsurface disturbance from zero to about 3 feet may occur where new guardrail post will be installed at the west boundary of the Bean Creek Road pavement.

Records Search Results

On March 29, 2018, Charles Mikulik conducted a records search for the Project at the NWIC of CHRIS at Sonoma State University (NWIC File No. 17-2361). Literature, maps, and other documentation showed that the APE had not been previously surveyed for cultural resources. There are no recorded resources within or adjacent to the APE.

Within an expanded radius of at least ¼ mile beyond the APE perimeter, there is one recorded cultural resource. CA-SCR-99 (P-44-000103) is located about 600 feet north of the APE on the east side of Bean Creek and Bean Creek Road. The site was recorded by R. Kerr in 1974 as three clumps of fire affected rocks in association with fragments of carbon and one piece of worked obsidian within a recently disced orchard. There are no survey reports within ¼ mile of the Project. There are numerous general area studies with some coverage of the vicinity; however, such reports do not specifically report findings from within the APE.

Native American Consultation

USACE is the Project's lead agency for compliance with Section 106 of the National Historic Preservation Act. USACE conducted a Sacred Lands File search through the Native American Heritage Commission. USACE also conducted the required Native American consultation directly from the USACE district office in San Francisco (personal communication, Frances Malamud-Roam). The contact for the Native American consultation is Frances Malamud-Roam, USACE, 1455 Market Street, San Francisco, California (telephone: 415-503-6792).

Surface Conditions and Reconnaissance

On April 9, 2018, this author conducted a pedestrian reconnaissance on all accessible land within and adjacent to the APE. The reconnaissance was a general surface reconnaissance (King et al. 1973) that included careful inspection for prehistoric and historical-period cultural materials as well as topographic indicators and soil characteristics that might indicate surface or subsurface cultural materials. Where partially exposed soil was encountered, a small hoe was used to increase soil visibility by removing light vegetation, duff, and imported materials such as gravel. Where the APE is the paved surface of Bean Creek Road, soil adjacent to the road surface was inspected.

No indications of significant cultural resources were found during the reconnaissance. The upper east portion of the APE is the paved surface of Bean Creek Road and the adjacent narrow shoulders where the native soil has clearly been impacted by the construction and maintenance of the public road for well over a century. The lower flat area is approximately eight feet below the roadway and consists of the rocky channel of Bean Creek and adjacent areas of low vegetation. The failed slope on the east bank of Bean Creek is between the roadway and the creek channel. Bean Creek had a moderate flow of water at the time of the reconnaissance. Slightly higher ground exists to the east and west just beyond the limits of the APE. Just west of the creek channel, large imported boulders have been placed from the creek bed to the first break in slope.

Soil in the upper portion of the APE is medium sandy silt that is heavily mixed with asphalt and gravel likely related to construction and maintenance of Bean Creek Road and the several driveways and pullouts that are adjacent to Bean Creek Road near the APE. In the lower portion of the APE the soil is light to medium gray sand within a matrix of rounded and semi-rounded river rocks. Past subsurface disturbances are evident including installation of several small pipes that likely drain storm water from private parcels and the road into Bean Creek. Most of the surface appears modified to some degree. Photos of the APE and adjacent property are attached to this report in Appendix C.

The survey found no indication of prehistoric archaeological soils or material commonly used as raw materials for prehistoric tool manufacture. Similarly, no other material associated with use of the property during prehistoric times (such as charred faunal remains, marine shell, modified rocks, or charcoal) was observed. Other than modern debris (e.g., plastic and glass), no historical-period cultural materials were found.

Discussion and Finding of Effects

Per Section 106 procedures, only cultural resources that qualify as "historic properties" require mitigation of effects. No known historic properties have been identified in the APE. Furthermore, visual inspection of the APE found no evidence to suggest that unknown (buried) cultural resources will be impacted by the Project. This report recommends a **finding of no effect** on historic properties for the Project.

Recommendations

Per Section 106 regulations, construction should proceed under a plan that accounts for the possibility of finding unexpected cultural resources during construction. Any plan should conform to all local, State, and Federal laws pertaining to the protection of cultural resources.

Because there is always some chance of finding buried cultural resources during construction, the following standard language, or the equivalent, should be included in permits and environmental documents issued for the Project:

- If archaeological resources or human remains are accidentally discovered during construction, work shall be halted within 50 meters (150 feet) of the find until it can be evaluated by a qualified professional archaeologist.

- If human remains are found at any time, work must be stopped and the County Coroner must be notified immediately. If the Coroner determines that the remains are Native American, the Native American Heritage Commission will be notified as required by law. The Commission will designate a Most Likely Descendant who will be authorized to provide recommendations for management of the Native American human remains.

References Cited

Binford, Lewis
1980 Willow Smoke and Dogs' Tails: Hunter-Gatherer Settlement Systems and Archaeological Site Formation. *American Antiquity* 45(1):4–20.

Breschini, G.S., and T. Haversat
2005 Radiocarbon Dating and Cultural Models on the Monterey Peninsula, California. *Pacific Coast Archaeological Society Quarterly* 38(1).
2011 A Revised Cultural Sequence for the Monterey Peninsula Area, California. *Pacific Coast Archaeological Society Quarterly* 44(3).

Kerr, R.
1974 Site Record for CA-SCR-99 (P-44-000103). On file, Northwest Information Center, Sonoma State University.

King, Thomas F., Michael J. Moratto, and Nelson N. Leonard III
1973 *Recommended Procedures for Archaeological Impact Evaluation*. Report prepared for the Society of California Archaeology and University of California at Los Angeles Archaeological Survey. Los Angeles.

Kroeber, A. L.
1925 *Handbook of the Indians of California*. Bureau of American Ethnology Bulletin No. 78.

Levy, R.
1978 Costanoan. *In* The Handbook of North American Indians, Vol. 8, pp. 485–495. Smithsonian Institution: Washington.

Margolin, M.
1978 *The Ohlone Way*. Heyday: Berkeley.

Milliken, Randall T.
1995 *A Time of Little Choice: The Disintegration of Tribal Culture in the San Francisco Bay Area 1769–1810*. Ballena Press, Menlo Park, CA.
1999 The Moss Landing Hill Site (Volume II): An Ethnohistory of the Calendaruc Ohlone Of the Monterey Bay Area. Far Western Anthropological Research Group, Inc. Submitted to California State University.

Moratto, Michael J.
1984 *California Archaeology*. Coyote Press, Salinas, CA.

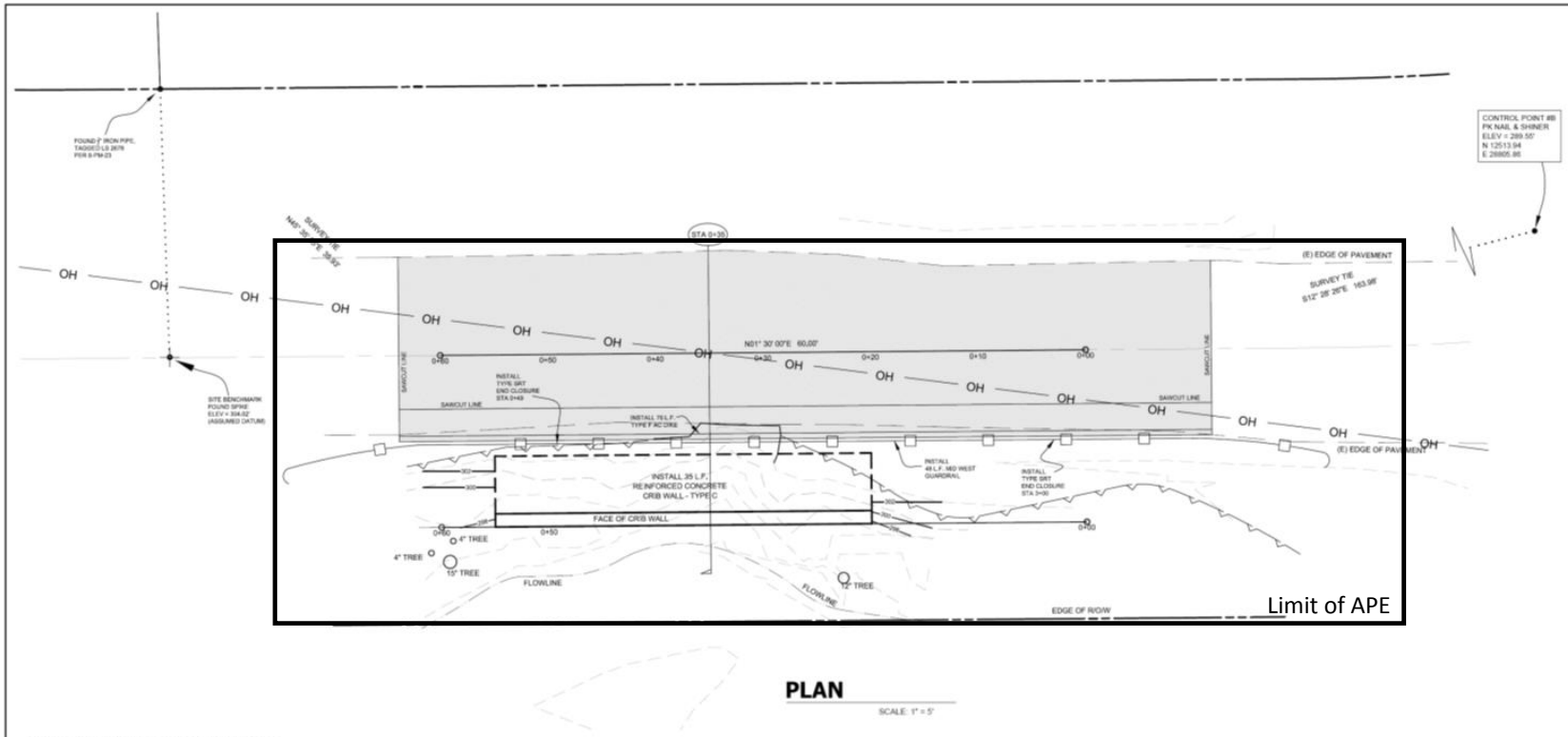
United States Geological Survey (USGS), Department of the Interior
1902 Santa Cruz [Quadrangle]. Topographic Map, 1:125,000 series.
1943 Ben Lomond. [Quadrangle]. Topographic Map, 15-minute series.
1955 Felton [Quadrangle]. Topographic Map, 7.5-minute series.
1998 Felton [Quadrangle]. Topographic Map, 7.5-minute series.

APPENDIX A

Map 3: Area of Potential Effects (APE) Map

Cultural Resources Report

Bean Creek Road Repair Project
Santa Cruz County, California



PLAN

SCALE: 1" = 5'

GENERAL CONSTRUCTION NOTES:

1. THE WORK HEREIN SHALL BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS & PLANS DATED 2010 OF THE STATE OF CALIFORNIA AS THEY MAY APPLY TO THE CONTRACT PLANS AND SPECIAL PROVISIONS.
2. DIMENSIONS OF THE STRUCTURAL ITEMS ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS AND THE THE MANUFACTURER(S) RECOMMENDATIONS.
3. REFER TO THE STANDARD SPECIFICATIONS & SPECIAL PROVISIONS FOR THE STRUCTURE BACKFILL REQUIREMENTS FOR THE CRIB WALL.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND REPAIR OF ANY DAMAGE(S) TO PRIVATE PROPERTY & ANY UTILITIES ON BEAN CREEK ROAD. THE EXACT LOCATION OF EXISTING UNDERGROUND UTILITIES IS NOT KNOWN.
5. ALL CLEARING, GRADING, AND EROSION CONTROL MEASURES SHALL BE COMPLETED NO LATER THAN OCTOBER 15, 2016.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VISITING THE SITE TO REVIEW THE WORK AND ACCESS LIMITATIONS, VERIFY CONDITIONS, AND UNDERSTAND THE PROJECT BEFORE SUBMITTING A BID FOR THE WORK. THERE IS NO PRE-BID SITE MEETING FOR THIS PROJECT.

BENCHMARK

SITE BENCHMARK IS FOUND SPIKE IN THE CENTER OF BEAN CREEK ROAD APPROXIMATELY 30 FEET NORTH OF PROPOSED CONSTRUCTION SITE.

SITE BENCHMARK ELEVATION = 304.02 (ASSUMED DATUM)

BASIS OF BEARINGS

THE BASIS OF BEARINGS FOR THIS SURVEY IS BETWEEN MONUMENTS FOUND IS BETWEEN POINT DESIGNATED ON THIS MAP AS POINT "A" AND POINT "B" AND SHOWN ON THAT MAP FILED IN VOLUME 8 OF PARCEL MAPS, AT PAGE 43, SANTA CRUZ COUNTY RECORDS.

BASIS OF BEARINGS = S01° 54' 37"E 245.37' (245.41')

Area of Potential Effect (APE)

PLAN VIEW

APPENDIX B

Records Search Results

(Note: The records search found no resources recorded within or adjacent to the APE and no survey reports that included any portion of the APE, hence this appendix contains no supporting documentation. See page 9 of this report)

APPENDIX C

Project Photos Set

Cultural Resources Report

Bean Creek Road Repair Project
Santa Cruz County, California

Photo 1: Project APE looking south along the east edge Bean Creek Road

Photo 2: Project APE looking north along the east edge of Bean Creek Road

Photo 3: Project APE looking north showing the failed east bank of Bean Creek from the west edge of Bean Creek Road

Photo 4: Project APE looking southeast at the failed east bank of Bean Creek from the Bean Creek channel

APPENDIX D

Project Improvement Plans
(By reference)

Cultural Resources Report

Bean Creek Road Repair Project
Santa Cruz County, California