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 PREVISICH, PLANNING DIRECTOR
www.sccoplanning.com

NOTICE OF INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION

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 Matt Johnston of the Environmental Review staff at (831) 454-3201

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 Romero at (831) 454-3137 (TDD number (831) 454-2123 or (831) 763-8123) to make arrangements.

PROJECT: Lompico Road Bridge Scour Repair Project

APP #: 121291

APN(S): Public Right-of-Way

PROJECT DESCRIPTION: The repair would consist of dewatering the stream. Once the site has been dewatered and the site has been isolated from the stream then the loose sands in the scour areas would be removed for a depth of approximately eight inches down to bedrock. Rock would be placed at the face of the holes to seal off the undermined area. Concrete grout would then be pumped through the rock to fill the undermined areas. After the grout has set the bypass pipe and checkdams would be removed.

PROJECT LOCATION: The proposed project is located at the intersection of Lompico Road and Creekwood Drive, within the community of Felton in the unincorporated County of Santa Cruz.

EXISTING ZONE DISTRICT: Public right-of-way
APPLICANT: County of Santa Cruz, Department of Public Works
OWNER: County of Santa Cruz
PROJECT PLANNER: Todd Sexauer
EMAIL: Todd.Sexauer@santacruzcounty.us
ACTION: Negative Declaration with Mitigations
REVIEW PERIOD: July 11, 2014 through August 11, 2014
This project will be considered administratively by the Project Planner at the conclusion of the review period.

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MITIGATED NEGATIVE DECLARATION

Project: Lompico Road Bridge Scour Repair Project **APN(S):** No APN Specific

Project Description: The repair would consist of dewatering the stream. Following dewatering, loose sands in the scour areas would be removed down to bedrock. Rock would be placed at the face of the holes to seal off the undermined area. Concrete grout would then be pumped through the rock to fill the undermined areas. After the grout has set the bypass pipe and checkdams would be removed.

Project Location: The proposed project is located at the intersection of Lompico Road and Creekwood Drive, within the community of Felton in the unincorporated County of Santa Cruz.

Owner: County of Santa Cruz

Applicant: County of Santa Cruz, Department of Public Works

Staff Planner: Todd Sexauer, (831) 454-3511

Email: todd.sexauer@santacruzcounty.us

This project will be considered administratively by the Project Planner at the completion 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. A digital copy of the document can be reviewed at the following web address:

http://www.sccoplanning.com/

Required Mitigation Measures or Conditions:

☐ None
☒ Are Attached

Review Period Ends: August 11, 2014

Note: This Document is considered Draft until it is Adopted by the Appropriate County of Santa Cruz Decision-Making Body

Date: 7/9/14

TODD SEXAUER, Environmental Coordinator
(831) 454-3511

County of Santa Cruz

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

Date: July 7, 2014 **Application Number:** 121291

Project Name: Lompico Road Bridge Scour Repair **Staff Planner:** Todd Sexauer

I. OVERVIEW AND ENVIRONMENTAL DETERMINATION

APPLICANT: Department of Public Works **APN(s):** Road right-of-way

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

PROJECT LOCATION: The proposed project is located at the intersection of Lompico Road and Creekwood Drive, within the community of Felton in the unincorporated County of Santa Cruz (see 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: The repair would consist of dewatering the stream. Once the site has been dewatered and the site has been isolated from the stream then the loose sands in the scour areas would be removed for a depth of approximately eight inches down to bedrock. Rock would be placed at the face of the holes to seal off the undermined area. Concrete grout would then be pumped through the rock to fill the undermined areas. After the grout has set the bypass pipe and checkdams would be removed.

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
- ☐ Land Division
- ☐ Rezoning
- ☐ Development Permit
- ☐ Sewer Connection Permit
- ☐ Coastal Development 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
401 Water Quality Certification	Regional Water Quality Control Board
404 Nationwide Permit	U.S. Army Corps of Engineers
Section 7 Consultation	National Marine Fisheries Service

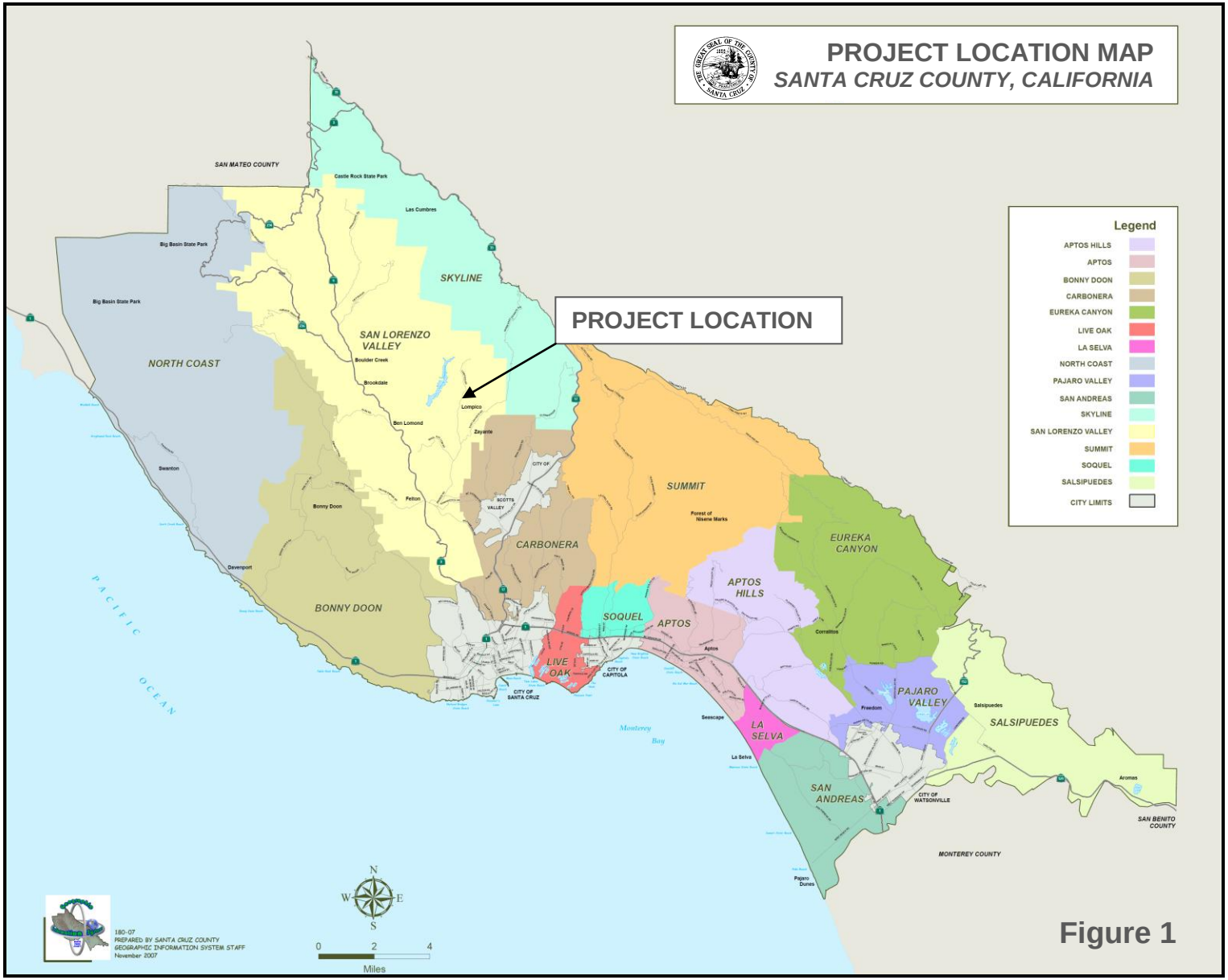
DETERMINATION:

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.

Todd Sexauer
TODD SEXAUER, Environmental Coordinator

7/9/14
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
PAJARO VALLEY
LA SELVA
SALSIPUEDES
SAN ANDREAS
MONTEREY COUNTY
SAN BENITO COUNTY
PACIFIC OCEAN
Monterey Bay
Big Basin State Park
Castle Rock State Park
Las Cumbres
Boulder Creek
Brookdale
Lompico
Ben Lomond
Zayante
Felton
Bonny Doon
Davenport
Swanton
Forest of Nisene Marks
Corralitos
Aptos
Freedom
Salsipuedes
Seascape
La Selva
Aromas
Pajaro Dunes
CITY OF SCOTTS VALLEY
CITY OF CAPITOLA
CITY OF SANTA CRUZ
CITY OF WATSONVILLE
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PREPARED BY SANTA CRUZ COUNTY
GEOGRAPHIC INFORMATION SYSTEM STAFF
November 2007
Figure 1

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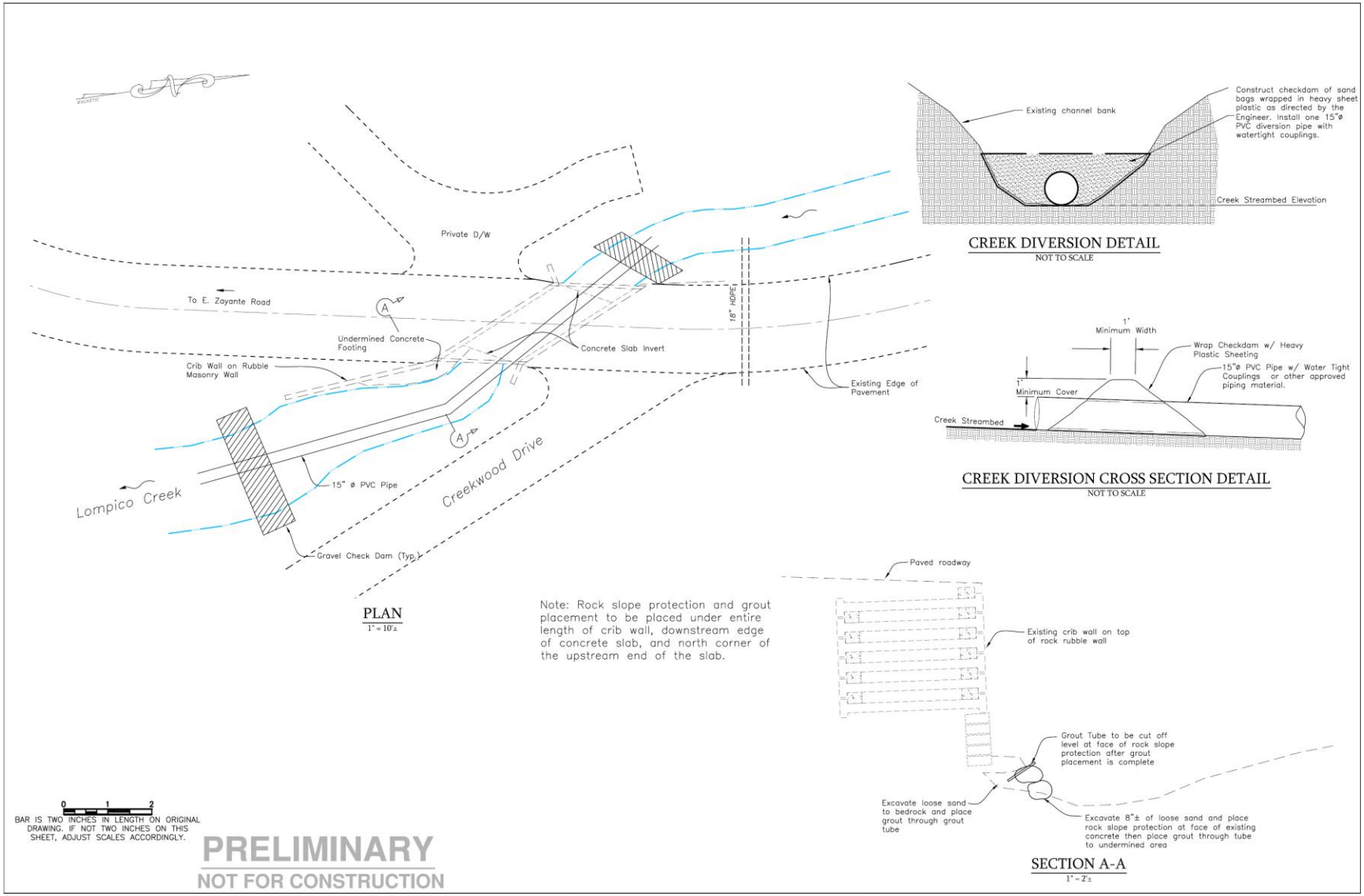

Project Site Plan **Figure 2**

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II. BACKGROUND INFORMATION

EXISTING SITE CONDITIONS:

Parcel Size (acres): N/A
Existing Land Use: County Roadway
Vegetation: Riparian
Slope in area affected by project: ☒ 0 - 30% ☐ 31 – 100% ☐ N/A
Nearby Watercourse: Lompico Creek
Distance To: The project would occur within the channel.

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:	Yes
Biologically Sensitive Habitat:	Yes	Noise Constraint:	No
Fire Hazard:	No	Electric Power Lines:	Yes
Floodplain:	Yes	Solar Access:	No
Erosion:	Yes	Solar Orientation:	N/A
Landslide:	No	Hazardous Materials:	No
Liquefaction:	Yes	Other:	

SERVICES:

Fire Protection:	Lompico	Drainage District:	Zone 8
School District:	San Lorenzo Valley	Project Access:	Lompico Road
Sewage Disposal:	N/A	Water Supply:	Lompico Water Dist.

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.

The California Coastal Zone affects nearly one third of the land in the urbanized area of the unincorporated County with special restrictions, regulations, and processing procedures required for development within that area. Steep hillsides require extensive review and engineering to ensure that slopes remain stable, buildings are safe, and water quality is not impacted by increased erosion. The farmland in Santa Cruz County is among the best in the world, and the agriculture industry is a primary economic generator for the County. Preserving this industry in the face of population growth requires that soils best suited to commercial agriculture remain active in crop production rather than converting to other land uses.

PROJECT BACKGROUND:

During a routine inspection, the County of Santa Cruz Department of Public Works (DPW) discovered that the road pavement had subsided at the southeast corner adjacent to a bridge over Lompico Creek. The subsidence was attributed to an undermined section of the bridge footing. DPW is proposing to repair the existing scour holes to stabilize the abutment. The bridge is a single span slab bridge with a concrete invert. The downstream retaining wall consists of a short section of full height rock rubble wall followed by a rock rubble wall with a concrete crib wall on top to the roadway surface. Scour has undermined the wall along the concrete invert and a portion of the bridge abutment compromising the stability of the roadway and bridge abutment. The approach roadway has settled approximately 3 inches near the retaining wall with cracks extending out near the centerline of the roadway. Scour has also occurred on the upstream end of the bridge near the abutment, although to a lesser degree.

DETAILED PROJECT DESCRIPTION:

The repair would consist of dewatering the stream by installing checkdams both upstream and downstream and running a PVC pipe through the site to pass the flows in the creek. The checkdams would consist of sandbags filled with gravel and wrapped in heavy sheet plastic. Once the site has been dewatered and the site has been isolated from the stream then the loose sands in the scour areas would be removed for a depth of approximately eight inches down to bedrock. Rock would be placed at the face of the holes to seal off the undermined area. Concrete grout would then be pumped through the rock to fill the undermined areas. After the grout has set the bypass pipe and checkdams would be removed. The proposed work, including the grout curing period would take 2-3 weeks.

Construction staging would be located within the existing roadway. A section of the roadway would be closed during construction.

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 riparian corridor in a creek channel. The proposed project would be designed and revegetated so as to conform to 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 measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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 zoned Special Use, 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*:** The project is not located near land designated as Timber Resource. Therefore, 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?*	☐	☐	☐	☒

***Discussion*:** No forest land occurs on the project site or in the immediate vicinity. See discussion under B-3 above. No impact is anticipated.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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: The project site and surrounding area within a radius of two mile(s) does not contain any lands designated as Prime Farmland, Unique Farmland, Farmland of Statewide Importance or Farmland of Local Importance as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency. Therefore, no Prime Farmland, Unique Farmland, Farmland of Statewide, or Farmland of Local Importance would be converted to a non-agricultural use. In addition, the project site contains no forest land, and no forest land occurs within one-quarter mile of the proposed project site. Therefore, no impacts are anticipated.

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 proposed 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. Impacts would be less than significant.

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

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

Discussion: Santa Cruz County is located within the North Central Coast Air Basin (NCCAB). The NCCAB 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}.

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).

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, such as periodic watering, would be implemented during construction to avoid significant air quality impacts from the generation of PM_{10}. 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}

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

primarily through diesel engine exhaust and fugitive dust. However, the Santa Cruz monitoring station has not had any recent violations of federal or state air quality standards mainly through dispersion of construction-related emission sources. Best management practices and best available construction technology would ensure emissions remain below a level of significance. Therefore, the proposed 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 bridge scour 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: California ultralow sulfur diesel fuel with a maximum sulfur content of 15 ppm by weight would be used in all diesel-powered equipment, which minimizes emissions of sulfurous gases (sulfur dioxide, hydrogen sulfide, carbon disulfide, and carbonyl sulfide). Therefore, no objectionable odors are anticipated from construction activities associated with the proposed project, and no mitigation measures would be required. The proposed 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: A Biological Report was prepared for this project by Biotic Resources Group dated November 13, 2012 (Attachment 2). This report has been reviewed and accepted by the Planning Department (Environmental Section). In addition, a Biological Assessment was prepared by Dana Bland & Associates and Hagar Environmental Science, dated November 2012 (Attachment 4). The steelhead (*Oncorhynchus mykiss*), a federally listed

threatened species, was identified as possibly occurring within the project area due to the presence of suitable habitat. Although suitable habitat for the Coho salmon (*Oncorhynchus kisutch*), a federally and state listed endangered species, occurs within the project area, it is not expected to occur because it is believed to have been extirpated from the San Lorenzo River watershed. Although suitable habitat for the California red-legged frog (CRLF; *Rana draytonii*) was not identified within the project area, there is a slight potential for their occurrence following informal consultation with the USFWS. No listed plants were identified as being present within the project area.

In addition to the species listed above, nesting migratory birds and/or raptors may be impacted as a result of project operations. Migratory birds and raptors are protected under the federal Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. 703-711). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR Part 10 including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). All migratory bird species are protected by the MBTA. Any disturbance that causes direct injury, death, nest abandonment, or forced fledging of migratory birds, is restricted under the MBTA. Any removal of active nests during the breeding season or any disturbance that results in the abandonment of nestlings is considered a 'take' of the species under federal law.

In order to reduce the potential impacts to the protected species to less than significant, the following mitigations shall be implemented:

Migratory Birds and Raptors:

BIO-1: Under the MBTA, nests that contain eggs or unfledged young are not to be disturbed during the breeding season. The nesting season for migratory birds and birds of prey is generally 1 February through 31 August. Implementation of the following measures will avoid potential impacts.

- If construction begins outside the 1 February to 31 August breeding season, there will be no need to conduct a preconstruction survey for active nests.
- If construction is scheduled to begin between 1 February and 31 August then a qualified biologist shall conduct a preconstruction survey for active nests. The survey will include a 250 foot radius from the work area for nesting birds of prey and a 50 foot radius from the work area for other nesting MBTA protected birds. The survey will be conducted from publicly accessible areas within one two weeks prior to construction. If no active nest of a bird of prey or MBTA bird is found, then no further mitigation measures are necessary.
- If an active nest of a bird of prey or MBTA bird is found, then the biologist shall determine a buffer suitable to protect the nest until fledging. The size of suitable buffers depends on the species of bird, the location of the nest relative

to the Project, Project activities during the time the nest is active, and other Project specific conditions.

- No construction activity shall be allowed in the buffer until the biologist determines that the nest is no longer active, or unless monitoring determines that a smaller buffer will protect the active nest. The buffer may be reduced if the biologist monitors the construction activities and determines that no disturbance to the active nest is occurring.
- If an active nest is identified in or adjacent to the construction zone after construction has started, the above measures will be implemented to ensure construction is not causing disturbance to the nest.

Steelhead:

BIO-2: At least 15 days prior to the onset of activities, the applicant or project proponent shall submit the name(s) and credentials of biologists who would conduct activities specified in the following measures. No project activities shall begin until proponents have received written approval from the Service that the biologist(s) is qualified to conduct the work.

BIO-3: All refueling, maintenance, and staging of equipment and vehicles shall occur at least 65 feet from any riparian habitat or water body. The USACE and permittee shall ensure contamination of habitat does not occur during such operations. Prior to the onset of work, the USACE shall ensure that the permittee has prepared a plan to allow a prompt and effective response to any accidental spills. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.

BIO-4: A Service-approved biologist shall ensure that the spread or introduction of invasive exotic plant species shall be avoided to the maximum extent possible. When practicable, invasive exotic plants in the project areas shall be removed.

BIO-5: Stream contours shall be returned to the original condition at the end of project activities, except where grading is shown on the plans, unless consultation with the Service has determined that it is not beneficial to the species or feasible.

BIO-6: The number of access routes, number and size of staging areas, and the total area of the activity shall be limited to the minimum necessary to achieve the project goal. Routes and boundaries shall be clearly demarcated, and these areas shall be outside of riparian and wetland areas.

BIO-7: Work activities shall be completed between July 1 and November 1. Should the proponent or applicant demonstrate a need to conduct activities outside this period, the USACE may authorize such activities after obtaining the Service's

approval.

BIO-8: To control erosion during and after project implementation, the applicant shall implement best management practices, as identified by the RWQCB.

BIO-9: Steelhead present in the work area will be relocated prior to dewatering and construction activities. Block nets will be placed at the upper and lower extent of the area to be dewatered to ensure that salmonids upstream and downstream do not enter the areas proposed for dewatering. Block nets will not be removed until installation of all cofferdams, bypass pipes or channels, diversion dams or other facilities designed to dewater or divert flow are completed.

BIO-10: If electrofishing techniques are utilized during fish relocation activities, at least one member of the field crew will be familiar with NOAA Fisheries' electrofishing guidelines and have a minimum of 100 hours of field experience with electrofishing techniques. Electrofishing and fish handling techniques will be consistent with guidelines for electrofishing waters containing salmonids listed under the endangered species act (NMFS 2000).

BIO-11: Electrofishing may not be performed if water temperatures exceed 18° Celsius, or could reasonably be expected to rise above this temperature during the activities.

BIO-12: Electrofishing shall not be utilized in areas where water conductivity is greater than 350 uS/cm. Only direct current (DC) shall be used. At least one assistant shall aid the biologist during electrofishing by netting stunned fish and other aquatic vertebrates.

BIO-13: Each electrofishing session must start with all equipment settings (voltage, pulse width, and pulse rate) set to the minimums needed to capture fish. These settings should be gradually increased only to the point where fish are immobilized and captured, and not allowed to exceed the specified maxima: Voltage = 100V (Initial) – 400V (Max); Pulse width= 500 uS (Initial) – 5 uS (Max); Pulse rate = 30 Hz (Initial) – 70 Hz (Max).

BIO-14: A minimum of three passes with the electrofisher will be utilized to ensure maximum capture probability of steelhead within the area proposed for dewatering, unless the number of fish captured in the second pass is less than 10 percent of the first pass. In that case, two passes are adequate. If steelhead are present on any pass, a minimum of 20 minutes will separate the beginning of each pass through the project reach to allow time for fish that are not captured to become susceptible to electrofishing again.

BIO-15: All captured fish will be held in water with temperatures not greater than ambient in-stream temperatures. If cooling is used, water temperatures will be maintained

not more than three degrees Celsius less than ambient in-stream temperatures. All captured fish will be held in well-oxygenated water, with a dissolved oxygen level of not less than seven parts per million. Prior to release, the following information shall be recorded: 1) Enumerate fish by species, 2) Visual determination of age of steelhead, 3) Enumerate steelhead injuries and fatalities by age class, 4) Enumerate successfully relocated steelhead by age class for each relocation site, and 5) Date and time of release of steelhead to each relocation site. Steelhead shall be subject to the minimum handling and holding times required. All captured fish will be allowed to recover from electrofishing and other capture gear before being returned to the stream. All captured fish will be processed and released prior to any subsequent electrofishing pass or netting effort.

BIO-16: Fish will be released to the most suitable habitat near the project site. If possible, captured fish will be released upstream of the block nets to facilitate redistribution into dewatered areas following construction activities.

BIO-17: In order to monitor the disturbance associated with fish relocation activities, a report will be submitted to NOAA Fisheries no later than November 15 of the year in which the work was completed. The report shall include the results of any incidental mortality that occurred during implementation of the project that included fish relocation. The report shall include: 1) information collected on each captured fish, as outlined previously, 2) any other relevant information regarding fish injuries or mortalities, 3) extent of the area dewatered and duration of dewatering, and 4) water and air temperatures taken at the beginning and end of the fish relocation effort.

BIO-18: A worker education program shall be undertaken for construction employees and contractors at the project site that will address the potential for steelhead in the project area, how they should respond if they encounter steelhead, and the importance of protecting essential habitat features for steelhead. Employees shall be instructed regarding construction impact minimization methods.

BIO-19: The grout or concrete will be allowed to cure for 30 days, unless an accelerant approved by CDFW is added. The water diversion will not be removed until the pH of the grout site is the same as the water in the upstream or downstream portions of the creek, or within the variation approved by CDFW.

<u>California red-legged frog</u>:

By incorporating the following mitigation measures, the project is not likely to adversely affect the CRLF (Attachment 5).

BIO-20: A biologist with experience in the identification of all life stages of the CRLF, and its critical habitat (75 FR 12816), will survey the project site no more than

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

24 hours before the onset of ground disturbing activities. If any life stage of the California red-legged frog is detected the USFWS will be notified prior to the start of construction. If the USFWS determines that adverse effects to the CRLF or its critical habitat cannot be avoided, the proposed project will not commence until the County completes the appropriate level of consultation with the USFWS.

BIO-21: Before work begins on any proposed project, a biologist with experience in the ecology of the California red-legged frog, as well as the identification of all its life stages, will conduct a training session for all construction personnel, which will include a description of the California red-legged frog, and specific measures that are being implemented to avoid adverse effects to the subspecies during the proposed project if one is encountered.

BIO-22 If a CRLF is encountered in an area that may disturb the species work should cease and the Service contacted immediately.

Should the measures above conflict with the requirements of the incidental take permits from either USFWS or NMFS, the requirements of the incidental take permits shall take precedence. The implementation of these mitigations would reduce potential impacts to less than significant.

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: The project area is located within a riparian corridor, which is considered a sensitive habitat by definition under the Santa Cruz County Code (sections 16.30 and 16.32, respectively). Temporary disturbance would occur within the riparian corridor due to the dewatering, the removal of vegetation and sediment, and the placement of grouted rock at the base of an existing crib wall during construction activities. Construction staging would be located within the County roadway.

A jurisdictional delineation was conducted by Biotic Resources Group and has been included as Attachment 3. The proposed project would permanently impact 100 square feet (0.002 acre) of riparian vegetation. Construction disturbance would temporarily impact 2,100 square feet (0.05 acre) of riparian vegetation (see Table 1). The proposed project would require dewatering during construction. Approximately 140 linear feet of the creek would be affected by the temporary dewatering. Permits would be required from the

County of Santa Cruz, California Department of Fish and Wildlife (CDFW), U.S. Army Corps of Engineers, and the Regional Water Quality Control Board (Table 1). Repair to the scour area would require hand labor and light equipment in the creek channel. No riparian vegetation would be removed, except for minor trimming to allow for worker access.

Table 1: Summary of Potential Impacts to Jurisdictional Areas

Agency	Permit Required	Permit Type	Jurisdictional Impact Acreage	
			Temporary[1]	Permanent[2]
USACE	Yes	Section 404 Nationwide Permit(s)	2,100 sq. ft. (0.05 acre)	100 sq. ft. (0.002 acre)
RWQCB	Yes	401 Water Quality Certification	2,100 sq. ft. (0.05 acre)	100 sq. ft. (0.002 acre)
CDFW	Yes	1602 Streambed Alteration Agreement	2,100 sq. ft. (0.05 acre)	100 sq. ft. (0.002 acre)
County of Santa Cruz	Yes	Riparian Exception	2,100 sq. ft. (0.05 acre)	100 sq. ft. (0.002 acre)

Notes:
1 – Temporary dewatering during construction; 2 – Scour Repair

The following mitigation measures have been included to reduce potential temporary impacts to the riparian corridor to a less than significant level.

BIO-23: The County shall secure all necessary permits from regulatory agencies prior to any work.

BIO-24: The County shall implement riparian habitat protection measures to minimize impacts to the riparian woodland (including native trees) located upstream and downstream of the work area, including:

a. Install plastic mesh fencing at the perimeter of the work area (i.e., upstream and downstream limits of work) to prevent impacts to the adjacent riparian 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. All removed material/vegetation shall be removed from the riparian corridor.

d. Avoid impacting patches of in-stream vegetation during placement of the dewatering structure upstream of Lompico Road.

BIO-25: Implement standard erosion control BMP's to prevent construction materials from entering the creek and adjacent riparian woodland. Install perimeter silt fencing

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

and construction area limit-of work fencing.

BIO-26: 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.

BIO-27: Schedule construction work within the riparian corridor to take place from June 15 to October 15 of any given year.

Should the measures above conflict with the requirements of the incidental take permits from either USFWS or NOAA – NMFS, the requirements of the incidental take permits shall take precedence. The implementation of these mitigations would reduce potential impacts to less than significant.

3. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒

***Discussion*:** A Jurisdictional Delineation Report was prepared for this project by Biotic Resources Group, dated May 8, 2014 (Attachment 3). Features identified on the subject property were evaluated in the jurisdictional Delineation Report. The report concluded that no jurisdictional wetlands are present on the subject property. 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*:** The proposed project would be short in duration and the mitigation measures provided in Section D-1 above would reduce significant impacts to migratory birds and steelhead to a less than significant level.

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 specified under D-1 and D-2 above.

No wetlands would be impacted by the proposed 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;*

   Impacts to the adjacent riparian habitat and creek channel would be required to implement the repair project. Now that the existing crib wall and rock rubble wall are settling, the bridge abutment is vulnerable and will continue to settle and may ultimately fail. No alternative exists to the proposed project that would avoid impacting the adjacent riparian habitat while protecting the bridge abutments from scour.

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

   The existing bridge abutment is threatened by scouring due to the failure of the existing crib wall and rubble wall. Reinforcement of the wall footing is necessary to maintain the existing structure to allow its continued use into the future.

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;*

   Not granting the exception would not allow the reinforcement of the crib and rubble walls to take place, thereby placing the existing bridge structure in jeopardy.

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*

   The proposed bridge repair project is not located in the Coastal Zone. However, no less environmentally damaging alternative exists.

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 granting of the exception would be consistent with the General Plan. Minimal impacts to the riparian zone would occur. Although no riparian vegetation would be removed, any site disturbance would be seeded with native vegetation following project construction (See discussion regarding erosion control plan under F-4).

Impacts from project implementation would be considered less than significant.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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 proposed 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?*	☐	☐	☐	☒

Discussion: The existing structure on the property is 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: No archeological resources have been identified in the project area. A records search was conducted by ESA Associates to determine if any archaeological resources are known to occur in the project area (Attachment 6). Records at the NWIC indicated that one cultural resources investigation was completed within a ½-mile radius of the project area. No cultural resources were identified in the vicinity during that study. The nearest recorded cultural resources are an abandoned railroad grade (P-44-000307) and an abandoned winery and hotel site (P-44-000387), both located over 1 mile east of the proposed project area. Therefore, no previously recorded archaeological resources are known to occur within a ½ mile radius of the project area.

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

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

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: See discussion E-2 above. No cultural resources or human remains are expected to occur within the project area.

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. 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.

Impacts are expected to be less than significant.

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

Discussion: No unique paleontological resources or unique geologic features are known to occur in the vicinity of the proposed 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*	☐	☐	☐	☒

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Mines and Geology Special Publication 42.				
B. Strong seismic ground shaking?	☐	☐	☒	☐
C. Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
D. Landslides?	☐	☐	☒	☐

***Discussion (A through D)*:** The project site is located outside of the limits of the State Alquist-Priolo Special Studies Zone (County of Santa Cruz GIS Mapping, California Division of Mines and Geology, 2001). However, the project site is located approximately 4.5 miles southwest of the San Andreas fault zone, and within the Zayante fault zone. While the San Andreas fault is larger and considered more active, each fault is capable of generating moderate to severe ground shaking from a major earthquake. Consequently, large earthquakes can be expected in the future. The October 17, 1989 Loma Prieta earthquake (magnitude 7.1) was the second largest earthquake in central California history.

All of Santa Cruz County is subject to some 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. Without the proposed repair, the potential for substantial adverse effects due to strong seismic shaking is exacerbated by the failing abutment. There is no indication that landsliding is a significant hazard at this site.

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 on May 15, 2013, there is no indication that the development site is subject to a significant potential for damage caused by any of these hazards.

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

***Discussion*:** There are slopes that exceed 30% on the property. However, no

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

improvements are proposed on slopes in excess of 30%.

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

Discussion: Some potential for erosion exists during the construction phase of the project, however, this potential is minimal because minimal site disturbance would occur and standard erosion controls are a required condition of the project. The project must have an approved Erosion Control Plan (*Section 16.22.060 of the County Code*), which would specify detailed erosion and sedimentation control measures. The plan would include provisions for disturbed areas to be seeded with native vegetation and to be maintained to minimize surface erosion. Impacts from soil erosion or loss of topsoil would be considered less than significant.

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: No septic systems are proposed. Therefore, no impact would occur.

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

Discussion: The proposed 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.

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: The proposed project, like all development, would be responsible for an incremental increase in green house gas emissions by usage of fossil fuels during the site grading and construction. Santa Cruz County has recently adopted a Climate Action Strategy (CAS) intended to establish specific emission reduction goals and necessary actions

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

to reduce greenhouse gas levels to pre-1990 levels as required under AB 32 legislation. The strategy intends to reduce greenhouse gas emissions and energy consumption by implementing measures such as reducing vehicle miles traveled through the County and regional long range planning efforts and increasing energy efficiency in new and existing buildings and facilities. All project construction equipment would be required to comply with the Regional Air Quality Control Board emissions requirements for construction equipment. As a result, impacts associated with the temporary increase in green house gas emissions 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 above. No 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 equipment used during construction activities would involve routine use o fuel and other petroleum products and hydraulic fluids typically used by construction equipment. The leakage of these fluids may occur during the course of construction activities. In order to reduce potential impacts from the accidental release of hazardous materials into the riparian corridor, the following mitigation would be implemented:

HAZ-1: A spill prevention and response plan including all appropriate products would be available at the project site during the course of construction activities, and the staging area(s) would be a minimum of 65 feet from any riparian area or water body. The staging area and associated plan would be reviewed at the preconstruction meeting to ensure that hazardous material containment is properly addressed.

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?*	☐	☒	☐	☐

Discussion: Please see discussion under H-1 above. Project impacts would be considered less than significant with the incorporation of mitigation.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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 project would produce emissions from the use of standard construction equipment but the site is not located within one-quarter mile an existing or proposed school. 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 January 30, 2014 list of hazardous sites in Santa Cruz County compiled pursuant to Government Code Section 65962.5. 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 proposed 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 proposed project is not located in the vicinity of a private airstrip. No impact is anticipated.

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

***Discussion*:** The proposed project would not conflict with implementation of the County of Santa Cruz Local Hazard Mitigation Plan 2010-2015 (County of Santa Cruz, 2010).

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

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*:** The proposed project is not located in a Fire Hazard Area. The proposed scour repair project would have no impact on wildland fire safety. No impact would occur from project implementation.

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. However, runoff from this project may contain small amounts of chemicals and other household contaminants. No commercial or industrial activities are proposed that would contribute contaminants. Potential siltation from the proposed project would be addressed through implementation of erosion control best management practices (BMPs). No water quality standards or waste discharge requirements would be violated. 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 proposes the removal of sediment from the creek channel and the placement of grout and rock. No impact on ground water would occur from project implementation.

3.	*Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would*	☐	☐	☒	☐

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

result in substantial erosion or siltation on- or off-site?

Discussion: Project improvements that would occur within Lompico Creek have the potential to generate water quality impacts during construction. However, the proposed project would require the preparation of an erosion control plan per Section 16.22.060 of the County Code.

The following water quality protection and erosion and sediment control best management practices (BMPs) would be implemented, based on standard County requirements, to minimize construction-related contaminants and mobilization of sediment to Lompico 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 or road crews 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 300 feet from all drainages and wetlands. 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 contractor's or road crew's 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.
- 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 proposed project. It will include the following provisions and protocols. The Storm Water Pollution Prevention Plan (SWPPP) 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 proposed 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. Exposed dust-producing surfaces will be sprinkled daily, if necessary, until wet; this measure will be controlled to avoid producing runoff. Paved streets will be swept daily following construction activities.
    - The contractor or road crew 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.
    - Cover or apply nontoxic soil stabilizers to inactive construction areas (previously graded areas inactive for 10 days or more) that could contribute sediment to waterways.
    - 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.

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

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

4. Substantially alter the existing drainage pattern of the site or area, including 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: A Department of Public Works staff engineer has reviewed and approved the proposed plan and has stated that the proposed placement of fill within the creek channel would not alter the stream in a manner that would result in flooding. Impacts would be less than significant.

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: The project includes removal of sediment within a creek channel and would have no additional runoff or impacts on any storm drain system. No impact would occur.

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

Discussion: The project is located below the intake station for Lompico Water and well above the City of Santa Cruz water intake station. The placement of the concrete grout could be a potential contaminant, therefore in order to mitigate potential impacts to water quality the following mitigations are required:

HYD-1: Staging of concrete washout shall be isolated away from the active channel

HYD-2: Concrete additive to accelerate the curing to reduce the duration the stream has to be dewatered.

HYD-3: Preconstruction meeting shall occur to confirm that the concrete washout station (item 1) is properly located away from the creek.

HYD-4: Construction activities shall occur during late summer months when water levels in the creek are low.

7. Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood	☐	☐	☒	☐

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

Insurance Rate Map or other flood hazard delineation map?

Discussion: According to the Federal Emergency Management Agency (FEMA) National Flood Insurance Rate Map, dated May 16, 2012, the project site lies within a 100-year flood hazard area. Approximately 5 cubic yards of sediment and rubble would be excavated from the creek channel, which would be replaced with approximately 6 cubic yards of rock slope protection and concrete grout to fill the void created by removal of sediment. A letter from the project civil engineer with the Department of Public Works stating that the proposed improvements for the Lompico Bridge would not affect the hydraulic capacity of the creek is attached (see Attachment 7).

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 (FEMA) National Flood Insurance Rate Map, dated May 16, 2012, the project site lies within a 100-year flood hazard area. A letter from the project civil engineer with the Department of Public Works is attached (see Attachment 7). This letter states the amount of fill within the flood hazard area would not increase the base flood elevation or impede or redirect flood flows. Therefore, impacts would be less than significant.

9.	*Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?*	☐	☐	☐	☒

Discussion: The proposed 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 is located outside the range of these hazards. No impact would occur.

J. LAND USE AND PLANNING

Would the project:

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

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

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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 proposed 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". Please 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 proposed project would not conflict with any applicable habitat conservation plan or natural community conservation plan. No impact would occur.

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 contained in 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 Designation Overlay (Q) (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. No impact would occur from project

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

implementation.

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*:**

County of Santa Cruz General Plan

The Santa Cruz County General Plan (County of Santa Cruz 1994) contains the following table, which specifies the maximum allowable noise exposure for stationary noise sources (Table 2). The County of Santa Cruz has not adopted noise thresholds for construction noise.

The following applicable noise related policy is found in the Public Safety and Noise Element of the Santa Cruz County General Plan (Santa Cruz County 1994).

- Policy 6.9.7 Construction Noise. Require mitigation of construction noise as a condition of future project approvals.

Table 2: Maximum Allowable Noise Exposure for Stationary Noise Sources[1]

	Daytime[5] (7:00 am to 10:00 pm)	Nighttime[2, 5] (10:00 pm to 7:00 am)
Hourly Leq average hourly noise level, dB[3]	50	45
Maximum Level, dB[3]	70	65
Maximum Level, dB – Impulsive Noise[4]	65	60

Notes:
1 As determined at the property line of the receiving land use. When determining the effectiveness of noise mitigation measures, the standards may be applied to the receptor side of noise barriers or other property line noise mitigation measures.
2 Applies only where the receiving land use operates or is occupied during nighttime hours
3 Sound level measurements shall be made with "slow" meter response.
4 Sound level measurements shall be made with "fast" meter response
5 Allowable levels shall be raised to the ambient noise levels where the ambient levels exceed the allowable levels. Allowable levels shall be reduced to 5 dB if the ambient hourly Leq is at least 10 dB lower than the allowable level.
Source: County of Santa Cruz 1994

County of Santa Cruz Code

There are no County of Santa Cruz ordinances that specifically regulate construction noise levels; however, the following code regulates offensive noise.

Section 8.30.010 (Curfew—Offensive noise) of the Santa Cruz County Code contains the following language regarding noise impacts:

A. No persons shall, between the hours of ten p.m. and eight a.m., make, cause, suffer, or

permit to be made any offensive noise:

1. Which is made within one hundred feet of any building or place regularly used for sleeping purposes; or
2. Which disturbs any person of ordinary sensitivities within his or her place of residence.

B. "Offensive noise" means any noise which is loud, boisterous, irritating, penetrating, or unusual, or that is unreasonably distracting in any other manner such that it is likely to disturb people of ordinary sensitivities in the vicinity of such noise, and includes, but is not limited to, noise made by an individual alone or by a group of people engaged in any business, meeting, gathering, game, dance, or amusement, or by any appliance, contrivance, device, structure, construction, ride, machine, implement, instrument or vehicle. (Ord. 4001 § 1 (part), 1989).

Sensitive Receptors

Some land uses are generally regarded as being more sensitive to noise than others due to the type of population groups or activities involved. Sensitive population groups generally include children and the elderly. Noise sensitive land uses typically include all residential uses (single- and multi-family, mobile homes, dormitories, and similar uses), hospitals, nursing homes, schools, and parks.

The use of construction equipment to accomplish the proposed project would result in noise in the project area, i.e., construction zone. Table 3 shows typical noise levels for common construction equipment that is expected to be used at the project site. The sources noise that levels are normally measured at 50 feet, are used to determine the noise levels at nearby sensitive receptors by attenuating 6 dB for each doubling of distance for point sources of noise such as operating construction equipment. Noise levels at the nearest sensitive receptors for each site were analyzed on a worst-case basis, using the equipment with the highest noise level expected to be used.

Table 3: Typical Noise Levels for Common Construction Equipment (at 50 feet)

Equipment	L_{max} (dBA)
Backhoe	80
Cement Mixer Truck	85
Cement Pump Truck	82
Excavator	85
Dump Truck	84
Pick-up Truck	55

Source: Federal Transit Authority, 2006.

The nearest sensitive receptors are located approximately 75 feet to the northeast of the construction area. Other sensitive receptors are located between 100 and 140 feet to the west of the construction area.

Impacts

Although construction activities would likely occur during daytime hours, noise may be audible to nearby residents. However, periods of noise exposure would be temporary.

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

Noise from construction activity may vary substantially on a day-to-day basis.

Potential Temporary Construction Noise Impacts

Construction activity would be expected to use equipment listed in Table 3. Based on the activities proposed for the proposed project, the equipment with the loudest operating noise level that would be used often during construction would be an excavator and cement mixer truck, which would produce noise levels of 85 dBA at a distance of 50 feet. The nearest sensitive receptor is located approximately 75 feet from the construction site. At that distance, the decibel level is reduced by approximately 4 to 81 decibels. However, these impacts would also be temporary.

The County of Santa Cruz has not adopted significance thresholds for construction noise. However, ·Policy 6.9.7 of the General Plan requires mitigation of construction noise as a condition of future project approvals.

The following mitigation measures will be required to assist in the reduction of temporary construction noise impacts. With the implementation of those measures, no adverse noise impacts are expected occur during construction activities.

Mitigation Measures

NOI-1 Limit construction activity to between the hours of 7:00 a.m. to 6:00 p.m. Monday through Friday, 9:00 a.m. to 5:00 p.m. Saturday in order to avoid noise during more sensitive nighttime hours. Prohibit construction activity on Sundays.

NOI-2 Require that all construction and maintenance equipment powered by gasoline or diesel engines have sound-control devices that are at least as effective as those originally provided by the manufacturer and that all equipment be operated and maintained to minimize noise generation.

NOI-3 Prohibit gasoline or diesel engines from having unmuffled exhaust.

NOI-4 Use noise-reducing enclosures around stationary noise-generating equipment capable of 6 dB attenuation.

2. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐

Discussion: The use of construction equipment would potentially generate vibration in the project area. The nearest residential property is located at approximately 75 feet to the northeast of the project site on Lompico Road. Due to this distance, none of the area residences would experience significant groundborne vibration or groundborne noise levels during construction activities associated with the proposed project. Therefore, Impacts would be considered 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 proposed 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 Lompico Road. However, no substantial increase in traffic trips is anticipated as a result of the proposed project. Impacts are expected to be less than significant.

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 with the incorporation of mitigation measures.

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 proposed project is not within two miles of a public airport. Therefore, the proposed 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 proposed project is not within two miles of a private airstrip. Therefore, the proposed 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*	☐	☐	☐	☒

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

of roads or other infrastructure)?

***Discussion*:** The proposed project would not extend the road or increase its capacity. No impact would occur.

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

***Discussion*:** The proposed 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 proposed project would not displace any people since the project is intended to repair scour occurring in the Lompico Creek channel that is impacting the bridge structure. 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)*:** The proposed project is intended to repair scour that is impacting the bridge structure. The project would not result in any new housing and would not affect public facilities or service ratios. No impact would occur.

	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 any 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 proposed 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: The first Transportation System Goal of the County of Santa Cruz General Plan states, "Provide a convenient, safe, and economical transportation system for the movement of people and goods, promoting the wise use of resources, particularly energy and clean air, and the health and comfort of residents." The proposed project would facilitate the maintenance of an existing transportation facility. No impact 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*	☐	☐	☐	☒

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

designated roads or highways?

***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 Regional Transportation Improvement Program and the Regional Transportation Plan. Any functions of the CMP which are useful, desirable and do not already exist in other documents may be incorporated into those documents.

The proposed 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 proposed project consists of scour repair on an existing bridge structure. No increase in hazards would occur from project design or from incompatible uses. No impact would occur from 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 proposed 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*	☐	☐	☐	☒

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

programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

Discussion: The proposed 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 proposed project would not generate wastewater. Therefore, wastewater treatment requirements would not be exceeded. No impacts 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 bridge repair project would not require water or wastewater treatment. No impacts are 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 bridge 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 proposed 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 impacts are expected to occur from project implementation.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
5. *Result in determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?*	☐	☐	☐	☒

Discussion: The proposed 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 impacts are 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 proposed would not generate solid waste during the operational phase of the project. However, construction debris would be generated during demolition and construction, much of which would be recycled. No impact is anticipated.

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

Discussion: The project would comply with all federal, state, and local statutes and regulations related to solid waste disposal. No impact would occur.

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

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

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 potentially significant that may be impacted by the project are limited to biological resources. However, mitigation has been included that clearly reduces these effects to a level below significance. This mitigation includes measures to avoid or minimize impacts to listed species and revegetation of all disturbed areas within the project would be required upon completion of construction activities.

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 projects potential for incremental effects that are cumulatively considerable. As a result of this evaluation, there were determined to be potentially significant cumulative effects related to biological resources, water quality, hazardous materials, and noise. However, mitigation has been included that clearly reduces these cumulative effects to a level below significance. This mitigation includes measures to reduce these impacts to a less than significant level. 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 were determined to be potentially significant effects to human beings related to the following: water quality, hazardous materials, and noise. However, mitigation has been included that

clearly reduces these effects to a level below significance. As a result of this evaluation, there is no substantial evidence that, after mitigation, 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.

V. ATTACHMENTS

1. Mitigation Monitoring and Reporting Program
2. Biological Report for the Lompico road (PM1.82) Proposed Repair to Bridge over Lompico Creek, Santa Cruz County, CA. November 13, 2012.
3. Delineation of State and Federal Jurisdictional Waters for the Lompico Road Bridge Scour Repair Project, Santa Cruz County, CA. May 8, 2014.
4. Biological Assessment for the Lompico Road PM 1.82 Bridge Repair Project, Santa Cruz County, CA. November 2012.

5. USFWS E Mail from Chad Mitcham for the Lompico Road Bridge Repair Project Regarding the California Red-legged Frog. January 23, 2013.
6. Northwest Information Center Records Search for the Lompico Road Bridge Repair Project. April 22, 2014.
7. Memo from County of Santa Cruz, Department of Public Works Regarding Lompico Hydraulics for the Lompico Road Bridge Repair Project. July 10, 2013.

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Attachment 1

Mitigation Monitoring and Reporting Program

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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 PREVISICH, PLANNING DIRECTOR

MITIGATION MONITORING AND REPORTING PROGRAM for the LOMPICO ROAD BRIDGE SCOUR REPAIR PROJECT

Application No. 121291, July 7, 2014

No.	Environmental Impact	Mitigation Measures	Responsibility for Compliance	Method of Compliance	Timing of Compliance
Biological Resources					
		Migratory Birds and Raptors			
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?*	Under the MBTA, nests that contain eggs or unfledged young are not to be disturbed during the breeding season. The nesting season for migratory birds and birds of prey is generally 1 February through 31 August. Implementation of the following measures will avoid potential impacts. • If construction begins outside the 1 February to 31 August breeding season, there will be no need to conduct a preconstruction survey for active nests. • If construction is scheduled to begin between 1 February and 31 August then a qualified biologist shall conduct a preconstruction survey for active nests. The survey will include a 250 foot radius from the work area for nesting birds of prey and a 50 foot radius from the work area for other nesting MBTA protected birds. The survey will be conducted from publicly accessible areas within one two weeks prior to construction. If no active nest of a bird of prey or MBTA bird is found, then no further mitigation measures are necessary. • If an active nest of a bird of prey or MBTA bird is found, then the biologist shall determine a buffer suitable to protect the nest until fledging. The size of suitable buffers depends on the species of bird, the location of the nest relative to the Project, Project activities during the time the nest is active, and other Project specific conditions. • No construction activity shall be allowed in the buffer until the biologist determines that the nest is no longer active, or unless monitoring determines that a smaller buffer will protect the active nest. The buffer may be reduced if the biologist monitors the construction activities and determines that no disturbance to the active nest is occurring. • If an active nest is identified in or adjacent to the construction zone after construction has started, the above measures will be implemented to ensure construction is not causing disturbance to the nest.	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 during the nesting season.

No.	Environmental Impact	Mitigation Measures	Responsibility for Compliance	Method of Compliance	Timing of Compliance
		Steelhead			
BIO-2	*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?*	At least 15 days prior to the onset of activities, the applicant or project proponent shall submit the name(s) and credentials of biologists who would conduct activities specified in the following measures. No project activities shall begin until proponents have received written approval from the Service that the biologist(s) is qualified to conduct the work.	County of Santa Cruz DPW and Contractor	To be carried out under the direction of a qualified biologist.	Prior to ground disturbance.
BIO-3		All refueling, maintenance, and staging of equipment and vehicles shall occur at least 65 feet from any riparian habitat or water body. The USACE and permittee shall ensure contamination of habitat does not occur during such operations. Prior to the onset of work, the USACE shall ensure that the permittee has prepared a plan to allow a prompt and effective response to any accidental spills. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.	County of Santa Cruz DPW, Contractor, and the USACE	Preparation of response plan followed by worker training to implement the plan.	To be completed prior to and during construction.
BIO-4		A Service-approved biologist shall ensure that the spread or introduction of invasive exotic plant species shall be avoided to the maximum extent possible. When practicable, invasive exotic plants in the project areas shall be removed.	County of Santa Cruz DPW and Contractor	To be carried out under the direction of a qualified biologist.	To be completed prior to and during construction.
BIO-5		Stream contours shall be returned to the original condition at the end of project activities, except where grading is shown on the plans, unless consultation with the Service has determined that it is not beneficial to the species or feasible.	County of Santa Cruz DPW and Contractor	Oversight by project engineer to ensure compliance.	To be completed during and following construction.
BIO-6		The number of access routes, number and size of staging areas, and the total area of the activity shall be limited to the minimum necessary to achieve the project goal. Routes and boundaries shall be clearly demarcated, and these areas shall be outside of riparian and wetland areas.	County of Santa Cruz DPW and Contractor	Oversight by project engineer and project biologist to ensure compliance.	To be completed prior to and during construction.
BIO-7		Work activities shall be completed between July 1 and November 1. Should the proponent or applicant demonstrate a need to conduct activities outside this period, the USACE may authorize such activities after obtaining the Service's approval.	County of Santa Cruz DPW and Contractor	Oversight by project engineer to ensure compliance.	To be completed during construction.
BIO-8		To control erosion during and after project implementation, the applicant shall implement best management practices, as identified by the RWQCB.	County of Santa Cruz DPW and Contractor	Oversight by project engineer to ensure compliance.	To be completed during and following construction.

No.	Environmental Impact	Mitigation Measures	Responsibility for Compliance	Method of Compliance	Timing of Compliance
BIO-9		Steelhead present in the work area will be relocated prior to dewatering and construction activities. Block nets will be placed at the upper and lower extent of the area to be dewatered to ensure that salmonids upstream and downstream do not enter the areas proposed for dewatering. Block nets will not be removed until installation of all cofferdams, bypass pipes or channels, diversion dams or other facilities designed to dewater or divert flow are completed.	County of Santa Cruz DPW and Contractor	To be carried out under the direction of a qualified biologist.	To be completed prior to, during, and following construction.
BIO-10		If electrofishing techniques are utilized during fish relocation activities, at least one member of the field crew will be familiar with NOAA Fisheries' electrofishing guidelines and have a minimum of 100 hours of field experience with electrofishing techniques. Electrofishing and fish handling techniques will be consistent with guidelines for electrofishing waters containing salmonids listed under the endangered species act (NMFS 2000).	County of Santa Cruz DPW and Contractor	To be carried out under the direction of a qualified biologist.	To be completed prior to, during, and following construction.
BIO-11		Electrofishing may not be performed if water temperatures exceed 18 ^{o} Celsius, or could reasonably be expected to rise above this temperature during the activities.	County of Santa Cruz DPW and Contractor	To be carried out under the direction of a qualified biologist.	To be completed prior to, during, and following construction.
BIO-12		Electrofishing shall not be utilized in areas where water conductivity is greater than 350 uS/cm. Only direct current (DC) shall be used. At least one assistant shall aid the biologist during electrofishing by netting stunned fish and other aquatic vertebrates.	County of Santa Cruz DPW and Contractor	To be carried out under the direction of a qualified biologist.	To be completed prior to, during, and following construction.
BIO-13		Each electrofishing session must start with all equipment settings (voltage, pulse width, and pulse rate) set to the minimums needed to capture fish. These settings should be gradually increased only to the point where fish are immobilized and captured, and not allowed to exceed the specified maxima: Voltage = 100V (Initial) – 400V (Max); Pulse width= 500 uS (Initial) – 5 uS (Max); Pulse rate = 30 Hz (Initial) – 70 Hz (Max).	County of Santa Cruz DPW and Contractor	To be carried out under the direction of a qualified biologist.	To be completed prior to, during, and following construction.
BIO-14		A minimum of three passes with the electrofisher will be utilized to ensure maximum capture probability of steelhead within the area proposed for dewatering, unless the number of fish captured in the second pass is less than 10 percent of the first pass. In that case, two passes are adequate. If steelhead are present on any pass, a minimum of 20 minutes will separate the beginning of each pass through the project reach to allow time for fish that are not captured to become susceptible to electrofishing again.	County of Santa Cruz DPW and Contractor	To be carried out under the direction of a qualified biologist.	To be completed prior to, during, and following construction.

No.	Environmental Impact	Mitigation Measures	Responsibility for Compliance	Method of Compliance	Timing of Compliance
BIO-15		All captured fish will be held in water with temperatures not greater than ambient in-stream temperatures. If cooling is used, water temperatures will be maintained not more than three degrees Celsius less than ambient in-stream temperatures. All captured fish will be held in well-oxygenated water, with a dissolved oxygen level of not less than seven parts per million. Prior to release, the following information shall be recorded: 1) Enumerate fish by species, 2) Visual determination of age of steelhead, 3) Enumerate steelhead injuries and fatalities by age class, 4) Enumerate successfully relocated steelhead by age class for each relocation site, and 5) Date and time of release of steelhead to each relocation site. Steelhead shall be subject to the minimum handling and holding times required. All captured fish will be allowed to recover from electrofishing and other capture gear before being returned to the stream. All captured fish will be processed and released prior to any subsequent electrofishing pass or netting effort.	County of Santa Cruz DPW and Contractor	To be carried out under the direction of a qualified biologist.	To be completed prior to, during, and following construction.
BIO-16		Fish will be released to the most suitable habitat near the project site. If possible, captured fish will be released upstream of the block nets to facilitate redistribution into dewatered areas following construction activities.	County of Santa Cruz DPW and Contractor	To be carried out under the direction of a qualified biologist.	To be completed prior to, during, and following construction.
BIO-17		In order to monitor the disturbance associated with fish relocation activities, a report will be submitted to NOAA Fisheries no later than November 15 of the year in which the work was completed. The report shall include the results of any incidental mortality that occurred during implementation of the project that included fish relocation. The report shall include: 1) information collected on each captured fish, as outlined previously, 2) any other relevant information regarding fish injuries or mortalities, 3) extent of the area dewatered and duration of dewatering, and 4) water and air temperatures taken at the beginning and end of the fish relocation effort.	County of Santa Cruz DPW and Contractor	To be carried out under the direction of a qualified biologist.	To be completed following construction.
BIO-18		A worker education program shall be undertaken for construction employees and contractors at the project site that will address the potential for steelhead in the project area, how they should respond if they encounter steelhead, and the importance of protecting essential habitat features for steelhead. Employees shall be instructed regarding construction impact minimization methods.	County of Santa Cruz DPW and Contractor	To be carried out under the direction of a qualified biologist.	To be completed prior to the onset of construction.
BIO-19		The grout or concrete will be allowed to cure for 30 days, unless an accelerant approved by CDFW is added. The water diversion will not be removed until the pH of the grout site is the same as the water in the upstream or downstream portions of the creek, or within the variation approved by CDFW.	County of Santa Cruz DPW and Contractor	Oversight by project engineer to ensure compliance.	To be completed prior to, during, and following construction.

No.	Environmental Impact	Mitigation Measures	Responsibility for Compliance	Method of Compliance	Timing of Compliance
		California Red-legged Frog			
BIO-20	*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?*	By incorporating the following mitigation measures, the project is not likely to adversely affect the CRLF. A biologist with experience in the identification of all life stages of the CRLF, and its critical habitat (75 FR 12816), will survey the project site no more than 24 hours before the onset of ground disturbing activities. If any life stage of the California red-legged frog is detected the USFWS will be notified prior to the start of construction. If the USFWS determines that adverse effects to the CRLF or its critical habitat cannot be avoided, the proposed project will not commence until the County completes the appropriate level of consultation with the USFWS.	County of Santa Cruz DPW	To be carried out under the direction of a qualified biologist.	To be completed prior to the onset of construction.
BIO-21		Before work begins on any proposed project, a biologist with experience in the ecology of the California red-legged frog, as well as the identification of all its life stages, will conduct a training session for all construction personnel, which will include a description of the California red-legged frog, and specific measures that are being implemented to avoid adverse effects to the subspecies during the proposed project if one is encountered.	County of Santa Cruz DPW and Contractor	To be carried out under the direction of a qualified biologist.	To be completed prior to the onset of construction.
BIO-22		If a CRLF is encountered in an area that may disturb the species work should cease and the Service contacted immediately.	County of Santa Cruz DPW and Contractor	To be carried out under the direction of a qualified biologist.	To be completed during construction.
BIO-23	*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?*	The County shall secure all necessary permits from regulatory agencies prior to any work.	County of Santa Cruz DPW and Contractor	Oversight by project engineer to ensure compliance.	To be completed prior to construction.
BIO-24		The County shall implement riparian habitat protection measures to minimize impacts to the riparian woodland (including native trees) located upstream and downstream of the work area, including: a. Install plastic mesh fencing at the perimeter of the work area (i.e., upstream and downstream limits of work) to prevent impacts to the adjacent riparian 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. All removed material/vegetation shall be removed from the riparian corridor.	County of Santa Cruz DPW and Contractor	To be carried out under the direction of the project engineer with oversight from a qualified biologist.	To be completed prior to and during project construction.

No.	Environmental Impact	Mitigation Measures	Responsibility for Compliance	Method of Compliance	Timing of Compliance
		d. Avoid impacting patches of in-stream vegetation during placement of the dewatering structure upstream of Lompico Road.			
BIO-25		Implement standard erosion control BMP's to prevent construction materials from entering the creek and adjacent riparian woodland. Install perimeter silt fencing and construction area limit-of work fencing.	County of Santa Cruz DPW and Contractor	To be carried out under the direction of the project engineer with oversight from a qualified biologist.	To be completed prior to and during project construction.
BIO-26		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.	County of Santa Cruz DPW and Contractor	Preparation of response plan followed by worker training to implement the plan.	To be completed prior to and during construction.
BIO-27		Schedule construction work within the riparian corridor to take place from June 15 to October 15 of any given year.	County of Santa Cruz DPW and Contractor	Oversight by project engineer to ensure compliance.	To be completed prior to construction.
Hazards and Hazardous Materials					
HAZ-1	*Create a significant hazard to the public or the environment as a result of the routine transport, use or disposal of hazardous materials?*	A spill prevention and response plan including all appropriate products would be available at the project site during the course of construction activities, and the staging area(s) would be a minimum of 65 feet from any riparian area or water body. The staging area and associated plan would be reviewed at the preconstruction meeting to ensure that hazardous material containment is properly addressed.	County of Santa Cruz DPW and Contractor	Oversight by project engineer to ensure compliance.	To be completed prior to and during construction.
Hydrology, Water Supply, and Water Quality					
HYD-1	*Otherwise substantially degrade water quality?*	Staging of concrete washout shall be isolated away from the active channel.	County of Santa Cruz DPW and Contractor	Oversight by project engineer to ensure compliance.	To be completed prior to and during construction.
HYD-2		Concrete additive to accelerate the curing to reduce the duration the stream has to be dewatered.	County of Santa Cruz DPW and Contractor	Oversight by project engineer to ensure compliance.	To be completed prior to and during construction.
HYD-3		Preconstruction meeting shall occur to confirm that the concrete washout station (item 1) is properly located away from the creek.	County of Santa Cruz DPW and Contractor	Oversight by project engineer to ensure compliance.	To be completed prior to and during construction.
HYD-4		Construction activities shall occur during late summer months when water levels in the creek are low.	County of Santa Cruz DPW and Contractor	Oversight by project engineer to ensure compliance.	To be completed prior to and during construction.
Noise					
NOI-1	*Exposure of persons to or generation of noise levels in excess of standards*	Limit construction activity to between the hours of 7:00 a.m. to 6:00 p.m. Monday through Friday, 9:00 a.m. to 5:00 p.m. Saturday in order to avoid noise during more sensitive nighttime hours. Prohibit construction activity on	County of Santa Cruz DPW and	To be monitored by the County DPW and	To be implemented during project

No.	Environmental Impact	Mitigation Measures	Responsibility for Compliance	Method of Compliance	Timing of Compliance
	established in the local general plan or noise ordinance, or applicable standards of other agencies?	Sundays.	Contractor	the Contractor.	construction.
NOI-2		Require that all construction and maintenance equipment powered by gasoline or diesel engines have sound-control devices that are at least as effective as those originally provided by the manufacturer and that all equipment be operated and maintained to minimize noise generation.	County of Santa Cruz DPW and Contractor	To be monitored by the County DPW and the Contractor.	To be implemented during project construction.
NOI-3		Prohibit gasoline or diesel engines from having unmuffled exhaust.	County of Santa Cruz DPW and Contractor	To be monitored by the County DPW and the Contractor.	To be implemented during project construction.
NOI-4		Use noise-reducing enclosures around stationary noise-generating equipment capable of 6 dB attenuation.	County of Santa Cruz DPW and Contractor	To be monitored by the County DPW and the Contractor.	To be implemented during project construction.

Attachment 2

Biological Report

for the

Lompico road (PM1.82) Proposed Repair to Bridge over Lompico Creek

Santa Cruz County, CA

November 13, 2012

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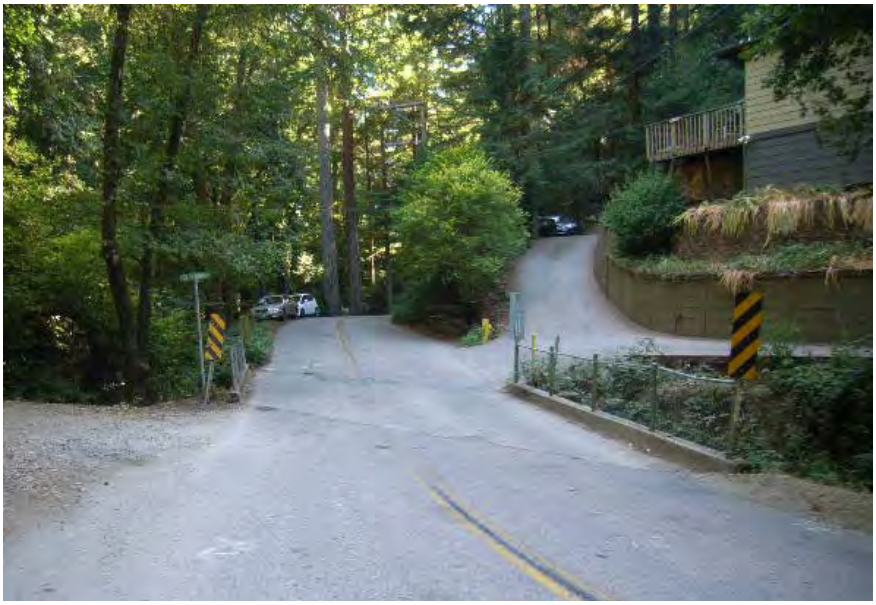
LOMPICO ROAD PM 1.82
Proposed Repair to Bridge over Lompico Creek
SANTA CRUZ COUNTY, CA

Biological Report



Biotic Resources Group
Biotic Assessments ◆ Resource Management ◆ Permitting

Biotic Resources Group

Biotic Assessments ◆ Resource Management ◆ Permitting

LOMPICO ROAD PM 1.82
Proposed Repair to Bridge over Lompico Creek
SANTA CRUZ COUNTY, CA

Biological Report

Prepared for
Santa Cruz County Department of Public Works
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Santa Cruz, CA 95060

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And

Dana Bland & Associates
Dana Bland, Wildlife Biologist

And

Hagar Environmental Science
Jeff Hagar, Fisheries Biologist

November 13, 2012

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1.0 INTRODUCTION

The Biotic Resources Group, Dana Bland & Associates, and Hagar Environmental Science documented and evaluated the biotic resources of a bridge repair located at PM 1.82 on Lompico Road in the unincorporated Lompico area of Santa Cruz County.

Specific tasks conducted for this study include:

- Characterize and map 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.

1.1 PROPOSED PROJECT

The project is located just north of the community of Lompico, east of the Loch Lomond Reservoir, at PM 1.82 on Lompico Road in Santa Cruz County as shown on Figure 1.

During a routine inspection, the County discovered that the road pavement had subsided at the southeast corner adjacent to a bridge over Lompico Creek. The subsidence was attributed to an undermined section of the bridge footing. The County of Santa Cruz is proposing to repair the existing scour holes on the Lompico Road Bridge over Lompico Creek at postmile (PM) 1.82. The bridge is a single span slab bridge with a concrete invert. The downstream retaining wall consists of a short section of full height rock rubble wall followed by a rock rubble wall with a concrete crib wall on top to the roadway surface. Scour has undermined the wall along with the concrete invert and a portion of the bridge abutment compromising the stability of the roadway and bridge abutment. The approach roadway has settled approximately three inches near the retaining wall with cracks extending out near the centerline of the roadway. Scour has also occurred on the upstream end of the bridge near the abutment, although to a lesser degree.

The repair will consist of dewatering the stream by installing checkdams both upstream and downstream and running a PVC pipe through the site to pass the flows in the creek. The checkdams will consist of sandbags filled with gravel and wrapped in heavy sheet plastic. Approximately 140 linear feet of channel will be dewatered for this project. Once the site has been dewatered and the site has been isolated from the stream, then the loose sands in the scour areas will be removed for a depth of approximately eight inches down to bedrock. Rock will be placed at the face of the holes to seal off the undermined area. A concrete grout will then be pumped through the rock to fill the undermined areas. There will be no concrete washout area; the concrete will be delivered to the area directly from the truck. After the grout has set, the bypass pipe and checkdams will be removed. Work plus grout drying will take 2-3 weeks.

1.2 INTENDED USE OF THIS REPORT

The findings presented in this biological report are intended for the sole use of Santa Cruz County Department of Public Works and its consultants in evaluating the proposed project. The findings presented by the Biotic Resources Group 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.

2.0 EXISTING BIOTIC RESOURCES

2.1 METHODOLOGY

The biotic resources of the project site were assessed through literature review and field observations. Site observations were made on August 1 and 10, 2012 by Kathleen Lyons (plant ecologist), Dana Bland (wildlife biologist), and Jeff Hagar (fisheries biologist).

Vegetation mapping of the property was conducted from review of aerial photos, a topographic map, and field observations. The major plant communities within the project area, based on the classification system developed by *California Terrestrial Natural Communities (*California Department of Fish and Game, 2003 and 2007) and *A Manual of California Vegetation* (Sawyer and Keeler-Wolf 1995) and as amended to reflect site conditions, were identified during the field surveys. Modifications to the classification system's nomenclature were made, as necessary, to accurately describe the site's resources. The plant communities were mapped onto the engineer's base map. All plant species observed were recorded and identified to a level sufficient to determine their rarity; all species observed at listed in the narrative section of this report. Plant nomenclature follows The *Jepson Manual Online* (2012); the *An Annotated Checklist of the Vascular Plants of Santa Cruz County, California* (CNPS, 2005) was also reviewed.

To assess the potential occurrence of special status biotic resources, two electronic databases were accessed to determine recorded occurrences of sensitive plant communities and sensitive species. Information was obtained from the California Native Plant Society's (CNPS) Electronic Inventory (2012), and California Department of Fish & Game (CDFG) RareFind database (CDFG, 2012) for the Felton USGS quadrangle and surrounding quadrangles. A delineation of State and Federal Jurisdictional Waters was conducted; the results of the delineation are summarized in this report.

This report summarizes the findings of the biotic assessment for the proposed project. The potential impacts of the proposed bridge repair project on sensitive resources are discussed below. Measures to reduce significant impacts to a level of less-than-significant are recommended, as applicable.

2.2 ENVIRONMENTAL SETTING

2.2.1 Geographic Setting

The project is located on the Felton USGS quadrangle (see Figure 1). The project is located along Lompico Creek; residential development and forest lands surround the site. Lompico Creek is a perennial tributary to Zayante Creek, which then flows to the San Lorenzo River in Felton, approximately 5 miles downstream of the project site.

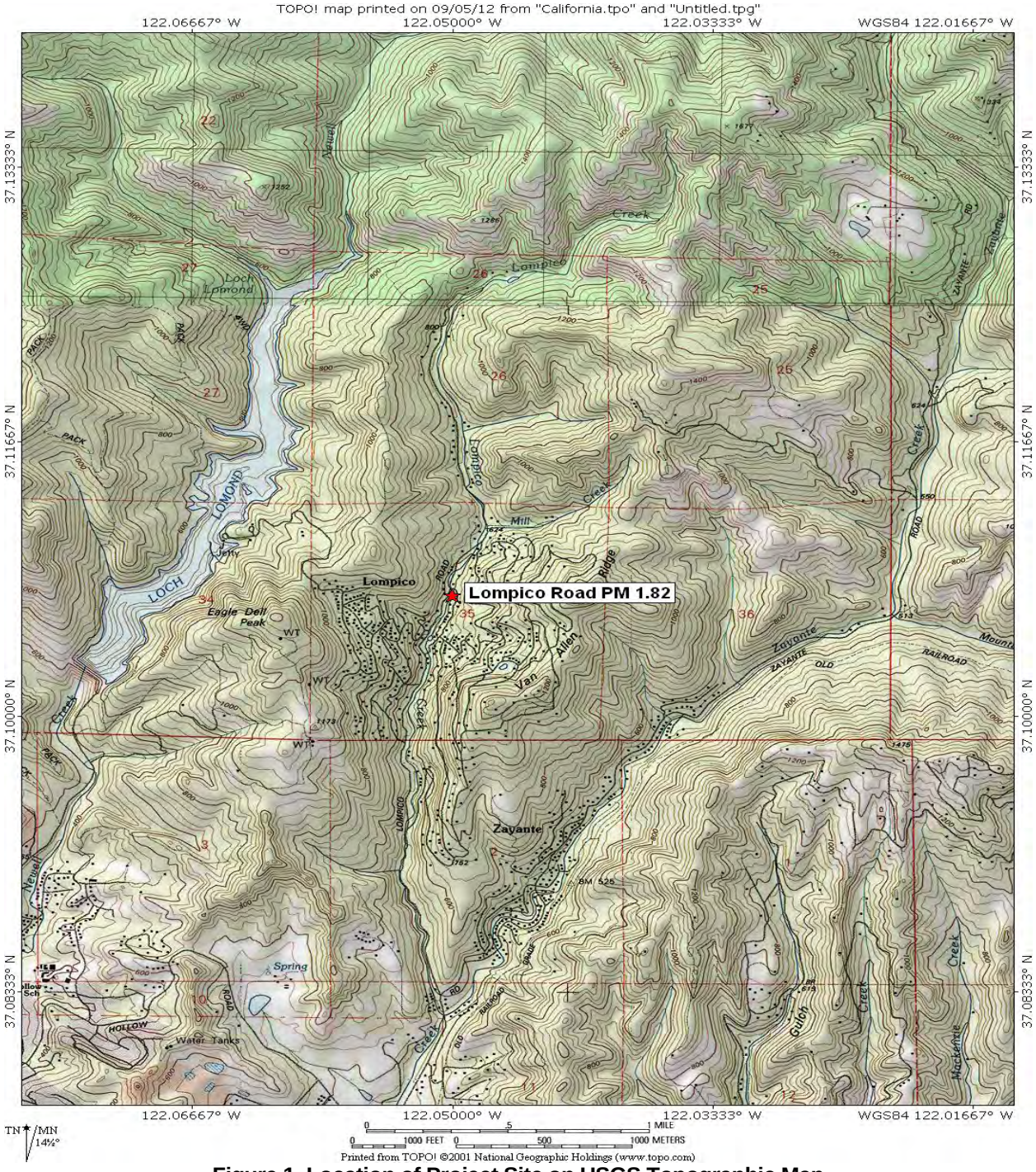

Figure 1. Location of Project Site on USGS Topographic Map
(USGS Felton Quadrangle)

The project site supports riparian woodland, with in-stream wetlands. Each vegetation type, its California vegetation code, and state ranking (rarity) are listed in Table 1.

Table 1. Vegetation Types at Lompico Road PM 1.82

CaCode[1]	Vegetation Type	Plant Association	State Ranking[2]
-	In-stream Wetlands	Coltsfoot	-
61.420.00	Riparian Woodland	Coast redwood/ red alder/ hazel – Himalaya berry	S4

[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.

2.2.2 Vegetation and Wildlife Habitats

Two principal plant community types were observed within the project area: in-channel wetlands and riparian woodland. The distribution of these vegetation types are depicted on Figure 2.

In-channel wetlands occur within the bed of Lompico Creek. Within the project area, two small patches of wetlands were observed upstream of Lompico Road. The two wetland patches are comprised of coltsfoot (*Petasites frigidus)*. Collectively the two patches encompass approximately 34 square feet. Figure 3 depicts the character of the in-channel wetlands; the location of these patches is depicted on Figure 4.

Figure 3. Patches of in-channel wetlands upstream of Lompico Road. August 2012

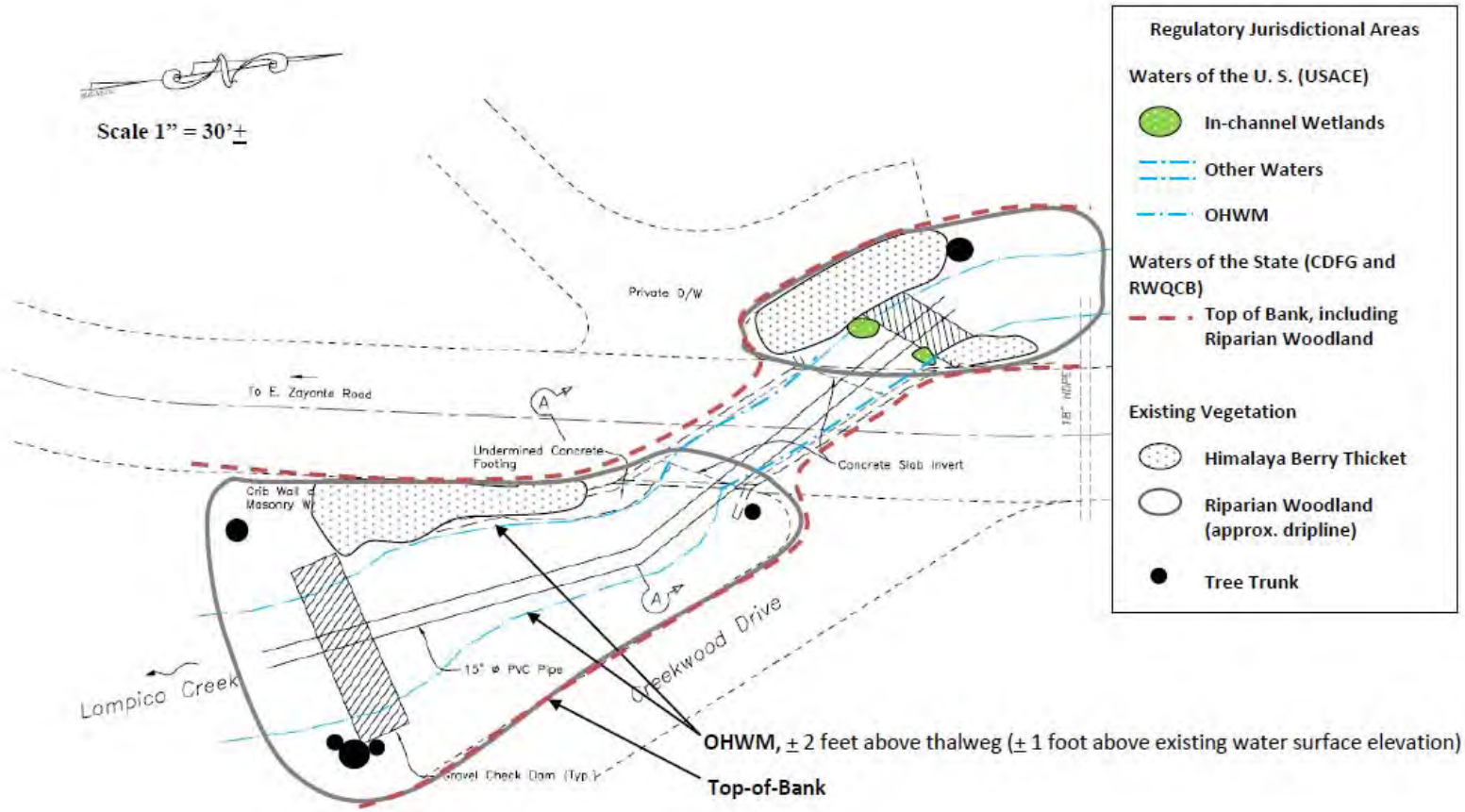

Figure 4. Distribution of vegetation in project area, August 2012

Lompico Creek also supports riparian woodland. The woodland is characterized by trees of red alder (*Alnus rubra*), coast redwood (*Sequoia sempervirens)*, hazel (*Corylus cornuta)*, and tanbark oak (*Lithocarpus densiflorus)*. The approximate location of the riparian trees (trunks) within the wetland study area is depicted on Figure 2.

The riparian understory vegetation includes dense thickets of Himalaya berry (*Rubus procerus)* (NI), intermixed with English ivy (*Hedera helix)* (NI), sword fern (*Polystichum munitum)* (FACU), and stinging nettle (*Urtica dioica)* (FAC). The character of the riparian woodland downstream of Lompico Road is depicted on Figure 5.

Figure 5. Riparian woodland downstream of Lompico Road, August 2012

The wildlife value of the wetlands and riparian habitat of Lompico Creek within the project vicinity is moderated by the proximity of the site to the road and residences (i.e., human disturbance). Common wildlife that can tolerate human presence are expected to occur along this portion of the creek, such as Pacific chorus frog (*Pseudacris regilla*), black phoebe (*Sayornis nigricans*), western scrub-jay (*Aphelocoma californica*), chestnut-backed chickadee (*Poecile rufescens*), and raccoon (*Procyon lotor*).

2.3 SENSITIVE BIOTIC RESOURCES

2.3.1 Regulated Habitats

The project area is located within Santa Cruz County outside the urban services line.

The project area supports riparian woodland, with in-stream wetlands, According to 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. The project area is located within the riparian corridor of Lompico Creek.

CDFG is a trustee agency that has jurisdiction under Section 1600 et seq. of the CDFG Code. Under Sections 1600-1603 of the California Fish and Game Code, the California Department of Fish and Game (CDFG) 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. CDFG also regulates alterations to ponds and impoundments; CDFG 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 project is located within CDFG's jurisdiction.

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

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 proposed project is located below the Ordinary High Water mark (OHWM) of Lompico Creek, such that work occurring in these areas would be within USACE's jurisdiction.

Field evidence of an OHWM was observed along Lompico Creek. Water marks, exposed roots, and other vegetation patterns, such as a line of moss growth on bedrock, were observed to indicate the elevation of the OHWM. The OHWM was found to correspond to approximately 2 feet above the thalweg (i.e., 1 foot above the August 2012 water surface elevation). The location of the OHWM is depicted in Figure 4. A complete wetland delineation is included in Appendix A.

2.3.2 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.

CDFG 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 property does not support any vegetation types with an imperiled status (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.

2.3.3 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 identified the special status plant species with potential to occur in the project area. No special status plant species have been recorded in the CNDDB as occurring within the immediate project area, although occurrences of species are known from chaparral habitats within the greater Felton/Lompico region (i.e., chaparral near Loch Lomond Reservoir). All species evaluated for potential occurrence within the proposed project area as per CNDDB and CNPS records are listed on Table 2.

Surveys for rare plants were limited to species deemed identifiable during the August 2012 site visit. No special status species were observed and none are expected due to the habitat conditions present at the site. The creek environment lacks specialized micro habitats (i.e., sandhills substrate) conducive to the occurrence of special status plant species.

Table 2. Special Status Plant Species Evaluated for Potential Presence at Lompico Road PM 1.82

Scientific Name	Common Name	Lifeform	CNPS Rare Plant Rank	CESA	FESA	Known of Potential to Occur on Site
Agrostis blasdalei	Blasdale's bent grass	perennial rhizomatous herb	1B.2	None	None	Not observed; no suitable habitat
Amsinckia lunaris	bent-flowered fiddleneck	annual herb	1B.2	None	None	Not observed; no suitable habitat
Arctostaphylos andersonii	Anderson's manzanita	perennial evergreen shrub	1B.2	None	None	Not observed; no suitable habitat
Arctostaphylos glutinosa	Schreiber's manzanita	perennial evergreen shrub	1B.2	None	None	Not observed; no suitable habitat
Arctostaphylos ohloneana	Ohlone manzanita	evergreen shrub	1B.1	None	None	Not observed; no suitable habitat
Arctostaphylos pajaroensis	Pajaro manzanita	perennial evergreen shrub	1B.1	None	None	Not observed; no suitable habitat
Arctostaphylos regismontana	Kings Mountain manzanita	perennial evergreen shrub	1B.2	None	None	Not observed; no suitable habitat
Arctostaphylos silvicola	Bonny Doon manzanita	perennial evergreen shrub	1B.2	None	None	Not observed; no suitable habitat
Arenaria paludicola	marsh sandwort	perennial herb	1B.1	CE	FE	Not observed; no suitable habitat
Astragalus pycnostachyus var. pycnostachyus	coastal marsh milk-vetch	perennial herb	1B.2	None	None	Not observed; no suitable habitat
Calyptridium parryi var. hesseae	Santa Cruz Mountains pussypaws	annual herb	1B.1	None	None	Not observed; no suitable habitat
Campanula californica	swamp harebell	perennial herb	1B.2	None	None	Not observed; no suitable habitat
Carex saliniformis	deceiving sedge	perennial rhizomatous herb	1B.2	None	None	Not observed; no suitable habitat
Chorizanthe pungens var. hartwegiana	Ben Lomond spineflower	annual herb	1B.1	None	FE	Not observed; no suitable habitat
Chorizanthe robusta var. hartwegii	Scotts Valley spineflower	annual herb	1B.1	None	FE	Not observed; no suitable habitat

Table 2. Special Status Plant Species Evaluated for Potential Presence at Lompico Road PM 1.82

Scientific Name	Common Name	Lifeform	CNPS Rare Plant Rank	CESA	FESA	Known of Potential to Occur on Site
Chorizanthe robusta var. robusta	robust spineflower	annual herb	1B.1	None	FE	Not observed; no suitable habitat
Cirsium andrewsii	Franciscan thistle	perennial herb	1B.2	None	None	Not observed; no suitable habitat
Collinsia multicolor	San Francisco collinsia	annual herb	1B.2	None	None	Not observed; no suitable habitat
Dacryophyllum falcifolium	tear drop moss	herb	1B.3	None	None	Not observed; marginal habitat on bedrock
Eriogonum nudum var. decurrens	Ben Lomond buckwheat	perennial herb	1B.1	None	None	Not observed; no suitable habitat
Erysimum ammophilum	sand-loving wallflower	perennial herb	1B.2	None	None	Not observed; no suitable habitat
Erysimum teretifolium	Santa Cruz wallflower	perennial herb	1B.1	CE	FE	Not observed; no suitable habitat
Grindelia hirsutula var. maritima	San Francisco gumplant	perennial herb	3.2	None	None	Not observed; no suitable habitat
Hesperevax sparsiflora var. brevifolia	short-leaved evax	annual herb	1B.2	None	None	Not observed; no suitable habitat
Hesperocyparis abramsiana var. abramsiana	Santa Cruz cypress	perennial evergreen tree	1B.2	CE	FE	Not observed; no suitable habitat
Hesperocyparis abramsiana var. butanoensis	Butano Ridge cypress	perennial evergreen tree	1B.2	CE	FE	Not observed; no suitable habitat
Hoita strobilina	Loma Prieta hoita	perennial herb	1B.1	None	None	Not observed; no suitable habitat
Holocarpha macradenia	Santa Cruz tarplant	annual herb	1B.1	CE	FT	Not observed; no suitable habitat
Horkelia cuneata var. sericea	Kellogg's horkelia	perennial herb	1B.1	None	None	Not observed; no suitable habitat
Horkelia marinensis	Point Reyes horkelia	perennial herb	1B.2	None	None	Not observed; no suitable habitat
Lessingia micradenia var. glabrata	smooth lessingia	annual herb	1B.2	None	None	Not observed; no suitable habitat
Limnanthes douglasii ssp. sulphurea	Point Reyes meadowfoam	annual herb	1B.2	CE	None	Not observed; no suitable habitat
Malacothamnus arcuatus	arcuate bush-mallow	perennial evergreen shrub	1B.2	None	None	Not observed; no suitable habitat
Microseris paludosa	marsh microseris	perennial herb	1B.2	None	None	Not observed; no suitable habitat

Table 2. Special Status Plant Species Evaluated for Potential Presence at Lompico Road PM 1.82

Scientific Name	Common Name	Lifeform	CNPS Rare Plant Rank	CESA	FESA	Known of Potential to Occur on Site
Monolopia gracilens	woodland woolythreads	annual herb	1B.2	None	None	Not observed; no suitable habitat
Orthotrichum kellmanii	Kellman's bristle moss	moss	1B.2	None	None	Not observed; marginal habitat on bedrock/redwoods
Pedicularis dudleyi	Dudley's lousewort	perennial herb	1B.2	CR	None	Not observed; no suitable habitat
Penstemon rattanii var. kleei	Santa Cruz Mountains beardtongue	perennial herb	1B.2	None	None	Not observed; no suitable habitat
Pentachaeta bellidiflora	white-rayed pentachaeta	annual herb	1B.1	CE	FE	Not observed; no suitable habitat
Pinus radiata	Monterey pine	perennial evergreen tree	1B.1	None	None	Not observed; no suitable habitat
Piperia candida	white-flowered rein orchid	perennial herb	1B.2	None	None	Not observed; no suitable habitat
Plagiobothrys chorisianus var. chorisianus	Choris' popcorn-flower	annual herb	1B.2	None	None	Not observed; no suitable habitat
Plagiobothrys diffusus	San Francisco popcorn-flower	annual herb	1B.1	CE	None	Not observed; no suitable habitat
Polygonum hickmanii	Scotts Valley polygonum	annual herb	1B.1	CE	FE	Not observed; no suitable habitat
Rosa pinetorum	pine rose	perennial shrub	1B.2	None	None	Not observed; no suitable habitat
Silene verecunda ssp. verecunda	San Francisco campion	perennial herb	1B.2	None	None	Not observed; no suitable habitat
Stebbinsoseris decipiens	Santa Cruz microseris	annual herb	1B.2	None	None	Not observed; no suitable habitat
Trifolium buckwestiorum	Santa Cruz clover	annual herb	1B.1	None	None	Not observed; no suitable habitat

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 populations. List 1B plants meet the definitions of Section 1901, Chapter 10 of the CDFG Code. **List 4:** List 4 is a watch list of plants with limited distribution in the state that have low vulnerability and threat at this time. These plants are uncommon, often significant locally, and should be monitored.

2.3.4 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.

Table 3. Special status wildlife species and their predicted occurrence at Lompico Road PM 1.82, September 2012.

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	None, 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	Believed to be extirpated from the San Lorenzo River watershed. Suitable habitat on site.
Steelhead *Oncorhynchus mykiss*	FT	Perennial creeks and rivers with gravels for spawning	Suitable habitat on site. *O mykiss* observed during site visit.
Amphibians			
California red-legged frog *Rana aurora draytonii*	FT, CSC	Riparian, marshes, estuaries and ponds with still water at least into June.	Closest known observation is 2.5 miles to east. Unlikely to occur on site due to lack of breeding areas within 1 mile and high human presence/activity in area. Note: CRLF do not occur at Loch Lomond Reservoir (City of Santa Cruz Watershed Management Plan 2001).
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.	Unlikely, 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; unlikely to occur within work area because it is within

Table 3. Special status wildlife species and their predicted occurrence at Lompico Road PM 1.82, September 2012.

SPECIES	STATUS[1]	HABITAT	POTENTIAL OCCURRENCE ON SITE
			the floodway.
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

3.0 IMPACT AND MITIGATION DISCUSSION

3.1 IMPACT CRITERIA

3.1 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 botanical 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 CDFG or USFWS or NMFS;
- Riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFG 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.

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

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

The proposed project will require work within Lompico Creek. Temporary dewatering will be required. Approximately 140 linear feet of the creek will be affected by the temporary dewatering. Repair to the scour areas will also require hand labor and light equipment in the creek channel. No riparian vegetation will be removed, except for minor trimming to allow for worker access.

Assuming concurrence from regulatory agencies, permits will be required prior to commencement of proposed scour repair work. Lompico Creek was found to support federal and state jurisdictional areas, as summarized in Table 4. Repair of the scour areas, including temporary dewatering for construction, will be located within the jurisdiction of CDFG and RWQCB. The repair work, and structures used for temporary dewatering, will result in the placement of fill within waters of the U.S. (USACE jurisdiction). The project will also occur with areas regulated by Santa Cruz County under the Riparian Corridor Protection Ordinance (see Table 4).

Table 4. Summary of Potential Impacts to Jurisdictional Areas

Agency	Permit Required	Permit Type	Jurisdictional Impact Acreage	
			Temporary[1]	Permanent[2]
USACE	Yes	Section 404 Nationwide Permit(s)	2,100 sq. ft. (0.05 acre)	100 sq. ft. (0.002 acre)
RWQCB	Yes	401 Water Quality Certification	2,100 sq. ft. (0.05 acre)	100 sq. ft. (0.002 acre)
CDFG	Yes	1601 Streambed Alteration Agreement	2,100 sq. ft. (0.05 acre)	100 sq. ft. (0.002 acre)
County of Santa Cruz	Yes	Riparian Exception	2,100 sq. ft. (0.05 acre)	100 sq. ft. (0.002 acre)

[1] temporary dewatering during construction; [2] scour repair

The federally listed steelhead and coho salmon may occur within 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 Lompico Creek is tributary to Zayante Creek which is tributary to the San Lorenzo River. Steelhead are present throughout the San Lorenzo watershed. Santa Cruz County (2004) indicates that most of Lompico Creek is accessible to steelhead though a 4-foot high bedrock ledge is reported approximately 900 feet upstream from the confluence with Zayante Creek. Becker and Reining (2008) refer to an 8-foot natural bedrock falls at the mouth but also indicate that steelhead can pass this falls under certain conditions. Juvenile *O. mykiss* were observed at the project site on August 10, 2012. It is not known whether these are the progeny of steelhead or resident rainbow trout.

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, (possibly strays from nearby drainages with more persistent runs including San Vicente, Scott and Waddell Creeks) coho have been presumed to be extirpated from the SLR since the drought of the late 1980s (Alley et al. 2004). A few young-of-year coho were documented during 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 were also observed in snorkel surveys conducted by NOAA Fisheries in Bean Creek (Chris Berry, City of Santa Cruz, personal communication).

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

The following measures are recommended to avoid or mitigate potentially significant impacts to riparian and in-stream resources, 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 habitat protection measures to minimize impacts to the riparian woodland (including native trees) located upstream and downstream of the work area, including:
    a. Install plastic mesh fencing at the perimeter of the work area (i.e., upstream and downstream limits of work) to prevent impacts to the adjacent riparian 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. All removed material/vegetation shall be removed from the riparian corridor.
d. Avoid impacting patches of in-stream wetlands during placement of the dewatering structure upstream of Lompico Road.

3. Implement standard erosion control BMP's to prevent construction materials from entering the 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. Schedule construction work within the riparian corridor to take place from June 15 to October 15 of any given year.
6. To avoid impacting breeding birds, if present, schedule construction to occur between August 1 and October 15 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. If any active bird nests are found within 50 feet of the work area, postpone construction until the biologist has determined that all young have fledged.
7. Steelhead present in the work area will be relocated prior to dewatering and construction activities. Block nets will be placed at the upper and lower extent of the area to be dewatered to ensure that salmonids upstream and downstream do not enter the areas proposed for dewatering. Block nets will not be removed until installation of all cofferdams, bypass pipes or channels, diversion dams or other facilities designed to dewater or divert flow are completed.
8. If electrofishing techniques are utilized during fish relocation activities, at least one member of the field crew will be familiar with NOAA Fisheries' electrofishing guidelines and have a minimum of 100 hours of field experience with electrofishing techniques.
9. Electrofishing and fish handling techniques will be consistent with guidelines for electrofishing waters containing salmonids listed under the endangered species act (NMFS 2000).
10. A minimum of three passes with the electrofisher will be utilized to ensure maximum capture probability of steelhead within the area proposed for dewatering, unless the number of fish captured in the second pass is less than 10 percent of the first pass. In that case, two passes are adequate. If steelhead are present on any pass, a minimum of 20 minutes will separate the beginning of each pass through the project reach to allow time for fish that are not captured to become susceptible to electrofishing again.
11. All captured fish will be held in water with temperatures not greater than ambient in-stream temperatures. If cooling is used, water temperatures will be maintained not more than three degrees Celsius less than ambient in-stream temperatures. All captured fish will be held in well-oxygenated water, with a dissolved oxygen level of not less than seven parts per million. Prior to release, the following information shall be recorded: 1) Enumerate fish by species, 2) Visual determination of age of steelhead, 3) Enumerate steelhead injuries and fatalities by age class, 4) Enumerate successfully relocated steelhead by age class for each relocation site, and 5) Date and time of release of steelhead to each relocation site. Steelhead shall be subject to the minimum handling and holding times required. All captured fish will be allowed to recover from electrofishing and other capture gear before being returned to the stream. All captured fish will be processed and released prior to any subsequent electrofishing pass or netting effort.

12. Fish will be released to the most suitable habitat near the project site. If possible, captured fish will be released upstream of the block nets to facilitate redistribution into dewatered areas following construction activities.
13. In order to monitor the disturbance associated with fish relocation activities, a report will be submitted to NOAA Fisheries no later than November 15 of the year in which the work was completed. The report shall include the results of any incidental mortality that occurred during implementation of the project that included fish relocation. The report shall include: 1) information collected on each captured fish, as outlined previously, 2) any other relevant information regarding fish injuries or mortalities, 3) extent of the area dewatered and duration of dewatering, and 4) water and air temperatures taken at the beginning and end of the fish relocation effort.
14. A worker education program shall be undertaken for construction employees and contractors at the project site that will address the potential for steelhead in the project area, how they should respond if they encounter steelhead, and the importance of protecting essential habitat features for steelhead. Employees shall be instructed regarding construction impact minimization methods.
15. The grout or concrete will be allowed to cure for 30 days, unless an accelerant approved by California Department of Fish and Game is added. The water diversion will not be removed until the pH of the grout site is the same as the water in the upstream or downstream portions of the creek, or within the variation approved by CDFG.

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Attachment 3

Delineation of State and Federal Jurisdictional Waters
for the
Lompico Road Bridge Scour Repair Project
Santa Cruz County, California

May 8, 2014

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Lompico Road Bridge Scour Repair Project

Santa Cruz County, California

Delineation of State and Federal Jurisdictional Waters

Updated May 8, 2014

Biotic Resources Group

Biotic Assessments • Resource Management • Permitting

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Lompico Road Bridge Scour Repair Project

Santa Cruz County, California

Delineation of State and Federal Jurisdictional Waters

Prepared For:

Santa Cruz County Public Works Department
Attn: Timothy Bailey, Project Engineer

Prepared By

Biotic Resources Group

The undersigned certifies that this report is a complete and accurate account of the findings and conclusion of a jurisdictional "waters of the U.S." (including wetlands) and "waters of the State" determination for the above-referenced project.

Kathleen Lyons, M.A.
Plant Ecologist

Updated May 8, 2014

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Executive Summary

At the request of the Santa Cruz County Public Works Department, Biotic Resources Group (BRG) has prepared this Delineation of Jurisdictional Waters for a bridge proposed for scour repair located along Lompico Road in Santa Cruz County, California. This delineation was conducted in August 2012 and updated in May 2014 to document the regulatory authority of the U.S. Army Corps of Engineers (USACE), the Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW) pursuant to the Federal Clean Water Act (CWA), California Porter-Cologne Water Quality Act, and California Fish and Game Code. The project area was surveyed pursuant to the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0* (USACE, 2008) to identify evidence of hydrology, hydrophytic vegetation, and hydric soils; and the *Field Guide to Lake and Streambed Alteration Agreements Section 1600-1607* (CDFG, 1994) to identify evidence of streambeds and associated riparian vegetation.

Based on the review of current site conditions, this study has found that it will be necessary for the project applicant to obtain concurrence from regulatory agencies on the findings of this delineation, and assuming concurrence, permits will be required prior to commencement of proposed scour repair work. A perennial creek within the study area was found to support federal and state jurisdictional areas, as summarized in Table ES-1. Repair of the scour areas, including temporary dewatering for construction, will be located within the jurisdiction of CDFW and RWQCB. The repair work, and structures used for temporary dewatering, will result in the placement of fill within waters of the U.S. (USACE jurisdiction).

Table ES-1. Summary Table, indicating regulatory agency and jurisdiction.

Agency	Permit Required	Permit Type	Jurisdictional Impact Acreage	
			Temporary[1]	Permanent[2]
USACE	Yes	Section 404 Nationwide Permit(s)	2,100 sq. ft (0.05 acre)	100 sq. ft. (0.002 acre)
RWQCB	Yes	401 Water Quality Certification	2,100 sq. ft (0.05 acre)	100 sq. ft. (0.002 acre)
CDFW	Yes	1601 Streambed Alteration Agreement	2,100 sq. ft (0.05 acre)	100 sq. ft. (0.002 acre)

[1] temporary dewatering during construction; [2] scour repair

Intended Use of this Report

The findings presented in this delineation are intended for the sole use of Santa Cruz County Public Works Department in evaluating regulatory jurisdiction for the proposed scour repair project and presents BRG's best effort at determining the jurisdictional boundaries using the most current regulations and regulatory agency guidance. The findings presented by BRG in this report are for information purposes only; they are not intended to represent the interpretation of any State, Federal or local laws, polices or ordinances. The interpretation of such laws and/or ordinances is the responsibility of the applicable governing body. Each regulatory agency is responsible for making the final determination of their jurisdiction.

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Chapter 1. Introduction

1.1. Purpose of Delineation

This delineation was prepared for Santa Cruz County Public Works Department in order to delineate the U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW) jurisdictional authority for the Lompico Road Bridge scour repair project in Santa Cruz County, California (study area).

The County of Santa Cruz is proposing to repair undermined concrete footers on the Lompico Road Bridge over Lompico Creek at post mile 1.82 (see Figure 1). The bridge is a single span slab bridge with a concrete invert. The downstream retaining wall consists of a short section of full height rock rubble wall followed by a rock rubble wall with a concrete crib wall on top to the roadway surface. Scour has undermined the wall along with the concrete invert and a portion of the bridge abutment compromising the stability of the roadway and bridge abutment. The approach roadway has settled approximately three inches near the retaining wall with cracks extending out near the centerline of the roadway. Scour has also occurred on the upstream end of the bridge near the abutment, although to a lesser degree. The repair will consist of dewatering the stream by installing checkdams both upstream and downstream and running a PVC pipe through the site to pass the flows in the creek. The checkdams will consist of sandbags filled with gravel and wrapped in heavy sheet plastic. Once the site has been dewatered and the site has been isolated from the stream then the loose sands in the scour areas will be removed for a depth of approximately eight inches down to bedrock. Rock shall be placed at the face of the holes to seal off the undermined area. A concrete grout will then be pumped through the rock to fill the undermined areas. After the grout has set the bypass pipe and checkdams will be removed.

The study area is located along a portion of Lompico Creek approximately 60 feet upstream and approximately 100 feet downstream of Lompico Road. The site is located on the Felton USGS quadrangle in the northeastern half of Section 35, T9S, R2W; Mt Diablo Base and Meridian. The site is reached from Lompico Road, a public street accessed from Zayante Road, near State Highway 9 in the town of Felton.

The findings presented in this delineation present BRG's best effort at determining the jurisdictional boundaries using the most current regulations and regulatory agency guidance; however, the interpretation of such regulations is the responsibility of the applicable governing body. Each regulatory agency is responsible for making the final determination of their jurisdiction.

1.2. Property Information

The Lompico Road Bridge Scour Repair project area encompasses approximately 0.2 acre. The project area is situated along a perennial creek that is a tributary to the San Lorenzo River. Lompico Road crosses the creek with a single span slab bridge with concrete retaining walls that extend into Lompico Creek. Lompico Creek is depicted as a perennial blue-line stream on the USGS topographic map.

1.3. Project Description

The study area is located upstream and downstream of the existing bridge. The study area encompasses the construction area outlined for the repair of the undermined concrete footings and scour holes, including the temporary dewatering features. Figure 2 depicts the study area superimposed onto the proposed bridge construction plans.

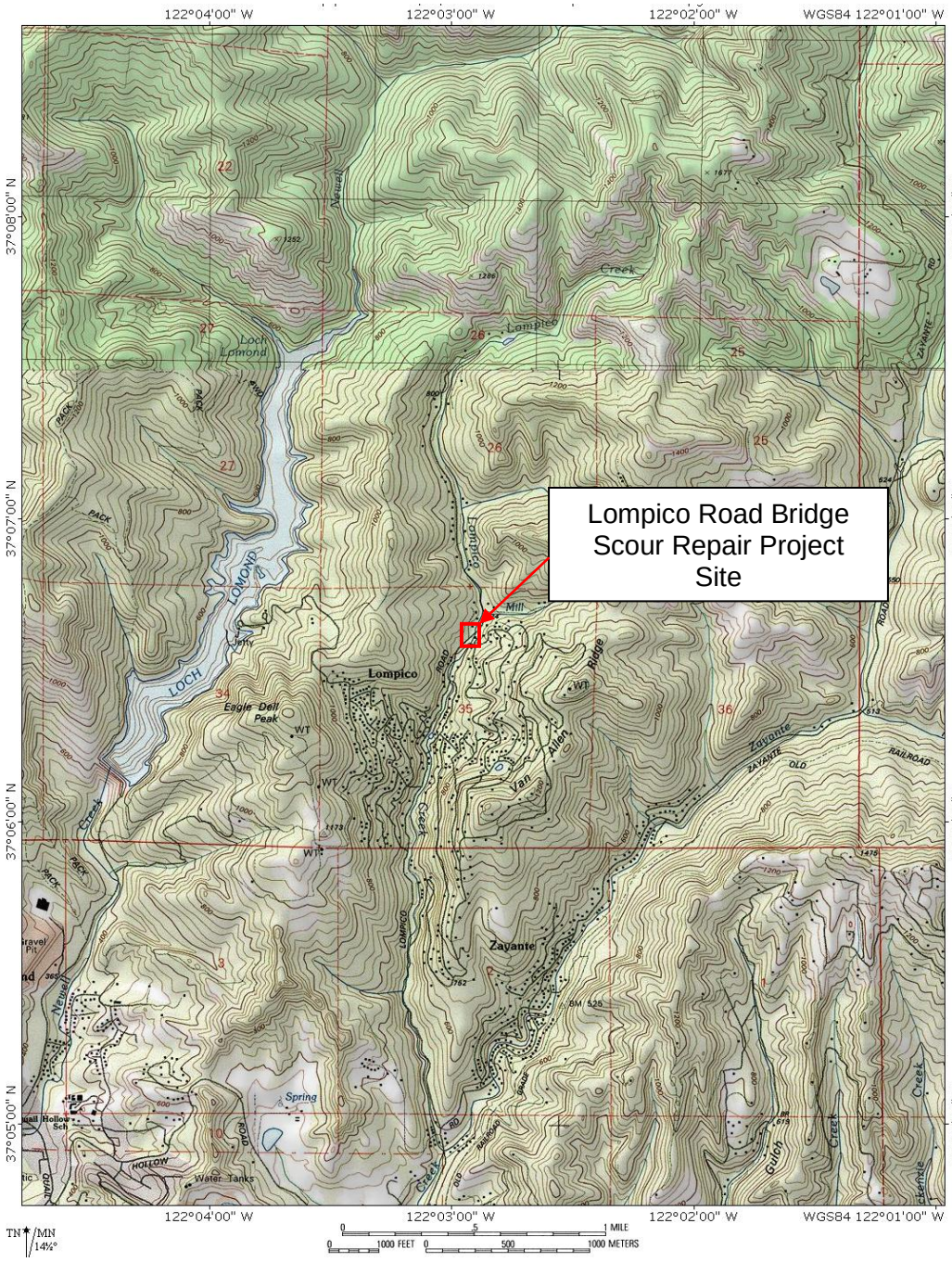

Figure 1. Proposed Project Location

(USGS Felton USGS Topographic Map)

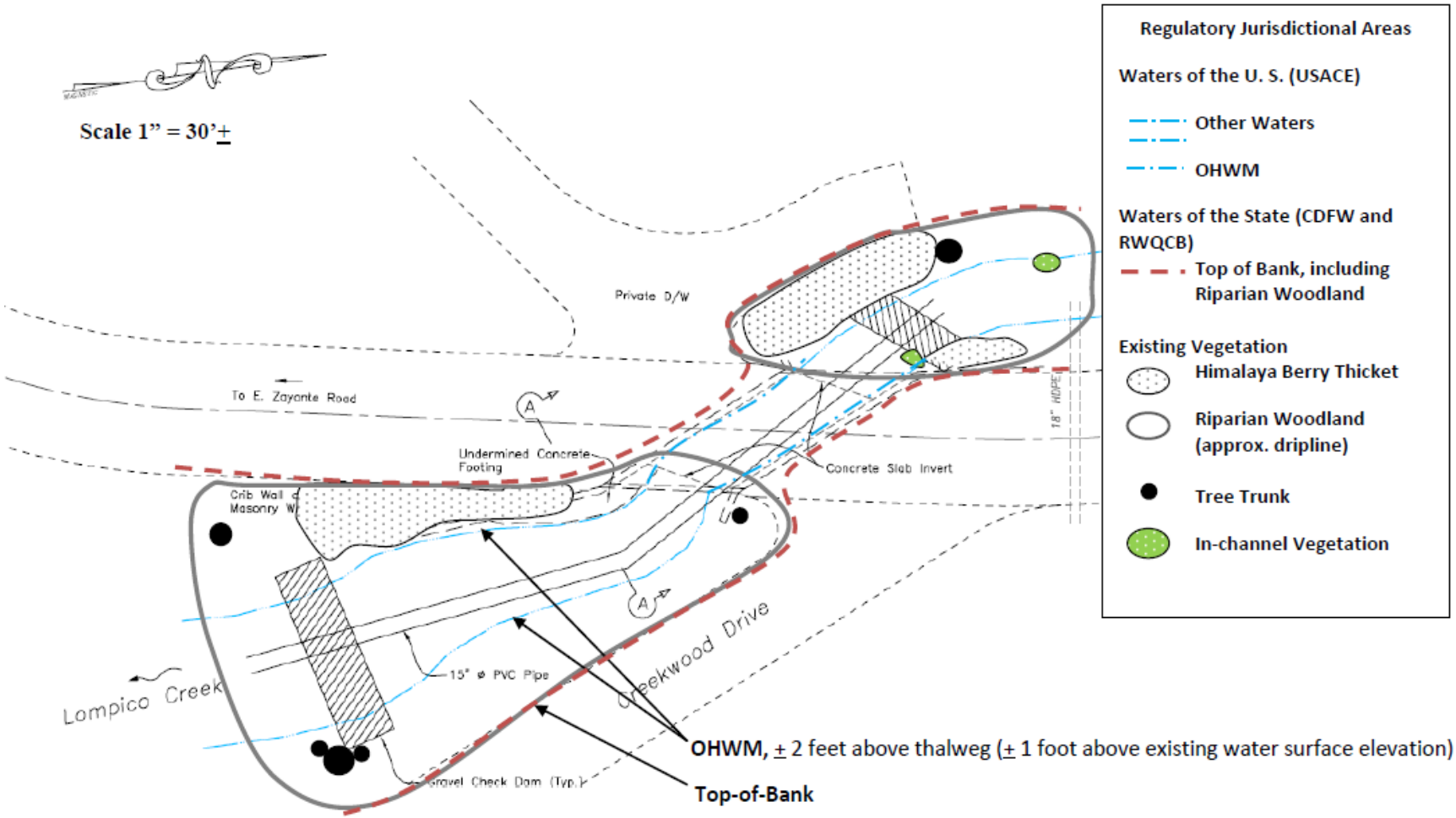

Figure 2. Study Area, Showing Delineation Results, May 2014

Chapter 2. Summary of Regulations

2.1. United States Army Corps of Engineers (USACE)

The 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. Examples of work include piers, docks, breakwaters, and dredging. 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). Navigable waters may be used currently, in the past, or in the future, to transport interstate or foreign commerce.

Section 404 of the Clean Water Act (CWA, 1977, as amended) requires a permit for discharge of dredged or fill material into Waters of the United States. Under Section 404, Waters of the United States is defined as all waters which are used currently, or were used in the past, or may be used in the future for interstate or foreign commerce, including waters subject to the ebb and flow of the tide up to the high tide line. Additionally, areas such as wetlands, rivers and streams (including intermittent streams and tributaries) are considered Waters of the U.S. Man-made ponds created by excavating dry land to collect and retain water for purposes of stock watering, irrigation or settling basins are typically not considered to be Waters of the U.S. (USACE Definitions, 2004).

The extent of wetlands is typically determined by examining the presence of hydrophytic vegetation, hydric soils and wetland hydrology. Under normal circumstances, all three of these parameters must be satisfied for an area to be considered a jurisdictional wetland under Section 404 of the Clean Water Act.

2.1.1. Isolated Waters (SWANCC Decision)

In 2001 the U.S. Supreme Court issued a decision on the scope of the USACE's Section 404 CWA permitting as it related to isolated waters. Known as the SWANCC decision, the Court found that the USACE does not have the authority over isolated, non-navigable, intrastate waters that are not tributary or adjacent to navigable waters or tributaries.

2.1.2. Intermittent and Ephemeral Streams and Wetlands (Rapanos Decision)

In 2006, the U.S. Supreme Court issued a decision that limits the definition of "wetlands" and waters of the U.S." under the CWA. In a 4-1-4 decision, four justices advocated for a narrower interpretation of the Clean Water Act, stating that waters of the U.S. should exclude intermittent or ephemeral streams and wetlands that have no continuous surface connection to navigable waters. In 2007, the USACE and the EPA issued guidance on this decision, stating that agencies will continue to assert jurisdiction over navigable waters and all wetlands adjacent to navigable

waters. Jurisdiction over waters, including wetlands will be made if either of the following standards are met: 1) relatively permanent (perennial or at least seasonally) non-navigable tributaries and wetlands with a continuous surface connection with such tributaries; or 2) certain adjacent and non-navigable tributaries where there is a significant nexus to navigable waters, such as chemical, physical, or biological connection.

2.1.3. Section 7 of the Endangered Species Act

The USFWS and the National Oceanic and Atmospheric Administration (NOAA) Marine Fisheries administer the federal Endangered Species Act (ESA). In general, NOAA is responsible for protection of ESA-listed marine species and anadromous fishes, while other fish and terrestrial species are under USFWS jurisdiction. A Proposed Project may permit the take of federally-listed species through a Section 7 Biological Opinion from USFWS or NOAA issued to another federal agency that funds or permits an action (e.g., USACOE). Under ESA, adverse impacts to protected species are avoided, minimized or mitigated for impacts to federally-listed species. This requires consultation with the USFWS and/or NOAA, which ultimately issues a Biological Opinion to USACE determining whether the federally listed species will be adversely impacted by a proposed project.

2.2. Regional Water Quality Control Board (RWQCB)

Water quality in California is governed by the Porter-Cologne Water Quality Control Act and certification authority under Section 401of the Clean Water Act, as administered by the Regional Water Quality Control Board (RWQCB). The Section 401 water quality certification program allows the State to ensure that activities requiring a Federal permit or license comply with State water quality standards. Water quality certification must be based on a finding that the proposed discharge will comply with 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 should be filed with the RWQCB. The RWQCB interprets waste to include fill placed into water bodies.

2.3. California Department of Fish and Wildlife (CDFW)

CDFW is a trustee agency that has jurisdiction under Section 1600 et seq. of the State 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 defines a "stream" as a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation. CDFW definition of lakes includes natural lakes and man-made reservoirs. Along watercourses, 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. If an existing fish or wildlife resource may be substantially adversely affected by the activity, the CDFW may propose reasonable measures that will allow protection of those resources. If these measures are agreeable to the party, they may enter into an agreement with the CDFW identifying the approved activities and associated mitigation measures.

2.4. Activities Requiring Permits

Projects that involve impacting drainages, streams or wetlands through filling, stockpiling, channelization, bank stabilization, road or utility crossing or any other modification would require permits from the USACE (including Section 7 consultation for endangered species, if required), RWQCB, and CDFW prior to and during site construction. Both permanent and temporary impacts are regulated and would require permitting.

The USACE has two permit categories: a Nationwide Permit (NP) or Individual Permit (IP), depending upon the project description and jurisdictional impacts. The USACE permit requires the RWQCB to complete their Section 401 Water Quality Certification. This certification, as well as 1600 SAA with CDFW can occur concurrently with the USACE permit process. A ROWD is required by the RWQCB if SWANCC or Rapanos waters are present. Typically, applications to both the RWQCB and CDFW require submittal of a valid CEQA document (i.e., Negative Declaration or Environmental Impact Report).

Chapter 3. Methodology

The field and reporting methodology followed the protocol specified in the 1987 USACE Manual (Environmental Laboratory, 1987) and Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys and Coast Region, Version 2.0 (USACE, 2010) to delineate the extent of federal waters and wetlands. Existing reference materials relevant to the proposed project were gathered and reviewed. These materials included the following:

- Topographic Map; Felton quadrangle (USGS)
- NRCS, Web Soil Survey, Santa Cruz County, California, 2014.
- Hydric Soils List; Official List of Hydric Soil Map Units for Santa Cruz County, California (SCS, 1989)
- National Wetland Plant List for the Western Mountains, Valley and Coasts (Lichvar and Minkin, 2012)
- Project Construction Plans, Santa Cruz County Public Works Department, 2012
- National Wetlands Inventory, USFWS, 2012

A field survey was conducted on August 1, 2012. A second field survey was conducted on May 1, 2014. Evidence of potential jurisdictional areas were searched by viewing the study area (i.e., banks of Lompico Creek) and searching for field indicators of wetlands, such as topographic features, wetland vegetation, and wetland soil conditions. Evidence of an Ordinary High Water Mark (OHWM) was examined. Features within the creek were photographed. Information gathered is described in this delineation report.

3.1. Waters of the U.S. and State Waters

The limits of USACE's jurisdiction in non-tidal waters extend to the OHWM which is typically defined as the line on the shore established by fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, or the presence of litter and debris. Vegetation that is bent, matted down, or absent may indicate water flow and scour. The OHWM can be recorded as a line on the project base map, as an elevation and/or as a measurement above the lowest point of the channel (thalweg). The RWQCB jurisdiction and CDFW's jurisdiction is determined by the break in slope of the creek bank and the top-of-bank or dripline of riparian vegetation, respectively. This information is obtained from field surveys and review of aerial photos and topographic maps. This information can be recorded as an elevation (top-of bank) and/or as a line on the project base map (dripline of riparian vegetation).

3.2. Wetlands

The extent of wetlands is typically determined by examining the presence of hydrophytic vegetation, hydric soils and wetland hydrology. Under normal circumstances, all three of these parameters must be satisfied for an area to be considered a jurisdictional wetland under Section

404 of the Clean Water Act as outlined in the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory, 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys and Coast Region* (USACOE, May 2010). The locations where all three parameters are met are typically depicted as polygons on the project base map. Wetlands are considered to be "special aquatic sites" under Section 404.

3.1.1. Vegetation

Hydrophytic vegetation is plant life that occurs in areas where the frequency and duration of inundation or soil saturation exerts a controlling influence on the plant species present. Plant species are characterized by their tendency to occur in wetlands; the five categories are listed and described below:

- OBL: almost always is a hydrophtye, rarely in uplands
- FACW: usually is a hydrophyte but occasionally found in uplands
- FAC: commonly occurs as either a hydrophyte or non-hydrophyte
- FACU: occasionally is a hydrophyte but usually occurs in uplands
- UPL: rarely is a hydrophyte, almost always in uplands.

Typically, an area is considered meet the USACE wetland vegetation criteria when the plant community passes the dominance test. In this test more than 50 percent of the dominant plant species across all strata are rated OBL, FACW or FAC. Species not listed on the wetland plant list are treated as upland species (Lichvar and Minkin, 2012). A stratum (tree, sapling/shrub, herb and woody vine) is defined as having 5% or more total plant cover. For the dominance test, cover of vegetation is estimated and ranked according to dominance. Species that contribute to a cumulative total of 50% of the total dominant coverage, plus any species that comprise at least 20% of the total dominant coverage are recorded. The "50/20 rule" also states that plant species from the ranked cover list be included, in decreasing order of coverage, until cumulative cover of selected species exceeds 50%. Therefore, in these instances, plant species providing less than 20% cover are included in the 50/20 rule analysis. The prevalence index is used to determine whether hydrophytic vegetation is present where indicators of hydric soil and wetland hydrology are present but the vegetation initially fails the dominance test. This test evaluates all plant species in the community and assigns weighted- numeric values to species within each indicator status categories. Hydrophytic vegetation is present if the prevalence index in 3.0 or less. This information is recorded on the Wetland Determination Data Form.

3.1.2. Hydrology

The assessment of the hydrologic criterion is based on four groups or indicators. Indicators include direct observation of surface water or groundwater, evidence of recent inundation (i.e., water marks, drift deposits, sediment deposits), and evidence of recent soil saturation (i.e., presence of oxidized rhizospheres within upper 12 inches). Other site conditions or data can also be used, such as shallow aquitards and the FAC-neutral test. This information is recorded on the Wetland Determination Data Form.

3.1.3. Soils

Hydric soils are surveyed in accordance with the USACE manuals. Soil pits are excavated to a depth of approximately 16 inches, with progressive pits dug laterally away from the channel/wetland features until hydric features are no longer present. At each soil pit, the soil texture and color are recorded and compared to a Munsell Soil Chart (1994) to designate hue, value and chroma. Indicators of hydric soil include organic accumulations, iron reduction, translocation and accumulation and sulfate reduction are recorded on the Wetland Determination Data Form. Soil survey information is also used to obtain soil information in regards to soil characteristics, drainage and color. The County Hydric Soil List is also referenced for soils considered to be hydric.

3.3. SWANCC Waters

The term “isolated waters” is generally applied to waters/wetlands that are not connected by surface water to a river, lake, ocean or other body of water. In the presence of isolated conditions, the RWQCB and CDFW have jurisdiction via the OHWM/streambed and/or the 3-parameter wetland methodology utilized by the USACE.

3.4. Rapanos Waters

Rapanos drainage features apply to non-navigable, ephemeral tributaries and their adjacent wetlands where there is a significant nexus to traditional navigable water (TNW). Factors considered in the significant nexus evaluation typically include volume, duration and frequency of flow, proximity to the TNW, size of the watershed, and average annual rainfall. Ecological factors can include the ability for tributaries to carry pollutants and flood waters to a TNW, ability to provide aquatic habitat that supports a TNW, the ability of the wetland to trap and filter pollutants, and the maintenance of water quality. Swales or erosion features (e.g., gullies, small washes) and ditches (including roadside ditches) excavated wholly in and draining only uplands and do not carry a relatively permanent flow of water are generally not considered federally jurisdictional waters. If Rapanos drainage conditions exist, the RWQCB and CDFW have jurisdiction via the OHWM and/or the 3-parameter wetland methodology utilized by the USACE.

Chapter 4. Existing Site Conditions

Two principal plant community types were observed within the study area: in-channel vegetation and riparian woodland. The distribution of these vegetation types are depicted on Figure 2.

In-channel vegetation occurs within the bed of Lompico Creek. This vegetation type is transitory; vegetation colonizes the channel bed in the channel in the spring and summer, yet if often washed downstream during winter flow events. In August 2012, two small vegetated areas, encompassing approximately 34 square feet were observed upstream of Lompico Road. A subsequent site visit in May 2014 documented two small patches upstream of Lompico Road; one patch was growing from a crack in a concrete apron and the other was growing upstream in the channel bed. In August 2012 and May 2014 the two vegetated areas were comprised of coltsfoot (*Petastes frigidus)* (FACW). In August 2014 the two patches encompass approximately 9.5 square feet; the location of these patches is depicted on Figure 2. Figure 3 depicts the character of the in-channel vegetation in August 2012. Figure 4 shows this area approximately two years later in May 2014.

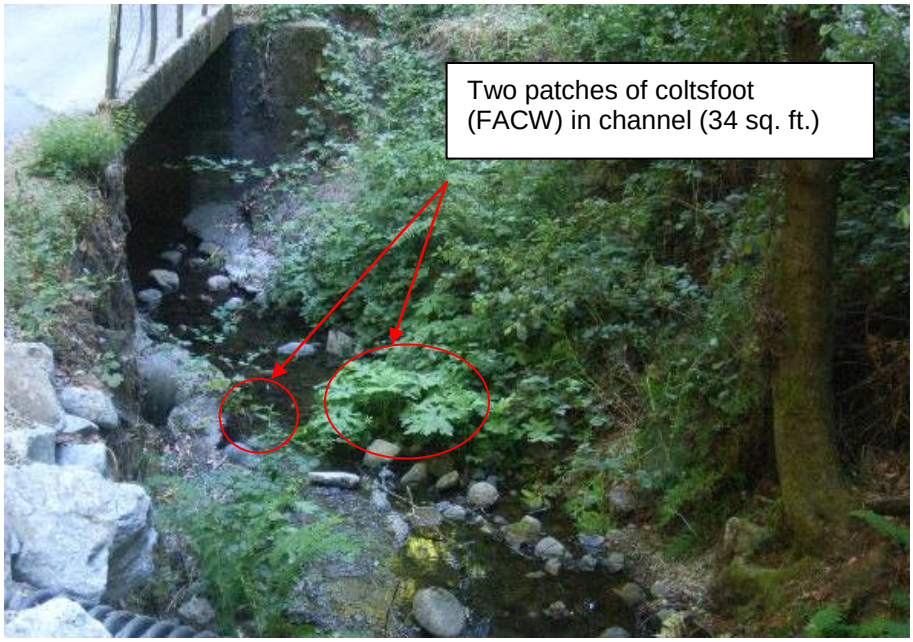

Figure 3. In-channel vegetation upstream of Lompico Road, August 2012

Figure 4. In-channel vegetation upstream of Lompico Road, May 2014

Lompico Creek also supports riparian woodland. The woodland within the study area is characterized by trees of red alder (*Alnus rubra*) (FAC), coast redwood (*Sequoia sempervirens)* (NI), hazel (*Corylus cornuta)* (FACU), and tanbark oak (*Lithocarpus densiflorus)* (NI). The approximate location of the riparian trees (trunks) within the study area is depicted on Figure 2. The riparian understory vegetation includes dense thickets of Himalaya berry (*Rubus procerus)* (NI), intermixed with English ivy (*Hedera helix)* (NI), sword fern (*Polystichum munitum)* (FACU), and stinging nettle (*Urtica dioica)* (FAC). The character of the riparian woodland downstream of Lompico Road is depicted on Figure 5.

Figure 5. Riparian woodland downstream of Lompico Road; channel is mudstone bedrock.

Two sample points were obtained within the study area. Due to the presence of FACW plant species growing within the channel bed upstream of Lompico Road, wetland attributes were suspected at these locations (see Table 1).

Table 1. Plant Community Types and Site Features Recorded, May 2014

Plant Community	Dominant Plant Species and Wetland Indicator Status	Soil Features	Hydrology Features	Meets Definition of USACE Wetlands?	Sample Point
In-channel Vegetation	*Petastes frigidus* (FACW)	Concrete apron associated within bridge; plants growing in crack in concrete – no hydric soils. In-stream gravel and cobbles; no hydric soil properties detected. Mudstone bedrock d/s of Lompico Road; no hydric soils	Surface water	No	SP#1 SP#2
Riparian Woodland	*Alnus rubra* (FAC) *Sequoia sempervirens* (NI) *Corylus cornuta* (FACU) *Lithocarpos densiflorus* (NI) *Hedera helix* (NI) *Rubus procerus* (NI)	Loam and clay loam; dry conditions on stream bank; mudstone bedrock d/s of Lompico Road; no hydric soils detected	None observed	No	-

4.1 Vegetation

At sample points #1 and #2, positive wetland vegetation was observed (i.e., more than 50% of the dominant plant species are FAC, FACW or OBL species). One species was present: coltsfoot (*Petastes frigidus)* (FACW) (Table 1). As of May 2014, two patches of coltsfoot were observed, collectively measuring 9.5 square feet; these two sites meet the wetland vegetation criteria. No other wetland vegetation was observed in the study area.

4.2 Soils

According to more current County soil survey maps (NRCS Web Soil Survey, 2010) the study area is mapped as Lompico-Felton complex, 30-5- percent slopes. The web soil survey map for the project area is presented in Appendix B.

The typical pedon of the Lompico-Felton complex is loam to 5 inches and clay loam to 20 inches. Below 20 inches the soil is a sandy clay loam to 30 inches, and then becomes extremely gravelly sandy clay loam until bedrock is reached at 37 to 48 inches. The soil is residuum weathered from mudstone and/or siltstone, sandstone, or shale.

Field observations found some slopes of the creek to conform to the survey mapping. Where mudstone bedrock was not encountered, the creek banks support loam to sandy clay loams. Upstream of Lompico Road the creek bed is comprised of gravels and cobbles; no soil profile was discernible and no hydric soil features were observed in the sampling pit. The downstream portion of the creek is at bedrock.

4.3 Hydrology

The study area is located along a perennial waterway; Lompico Creek is a perennial tributary to Zayante Creek, which empties into the San Lorenzo River. The river enters Monterey Bay in the City of Santa Cruz. Surface water was observed in Lompico Creek at the time of the August 2012 field survey (approximately 1 foot deep). Water levels were lower, approximately 6 inches) in May 2014.

4.3.1 Ordinary High Water Mark

Field evidence of an OHWM was observed. Water marks, exposed roots, and other vegetation patterns, such as a line of moss growth on bedrock, were observed to indicate the elevation of the OHWM.

The OHWM was found to correspond to approximately 2 feet above the thalweg (i.e., 1 foot above the August 2012 water surface elevation). The location of the OHWM downstream of Lompico Road is depicted in Figure 6. The location of the OHWM upstream of Lompico Road is depicted in Figure 7.

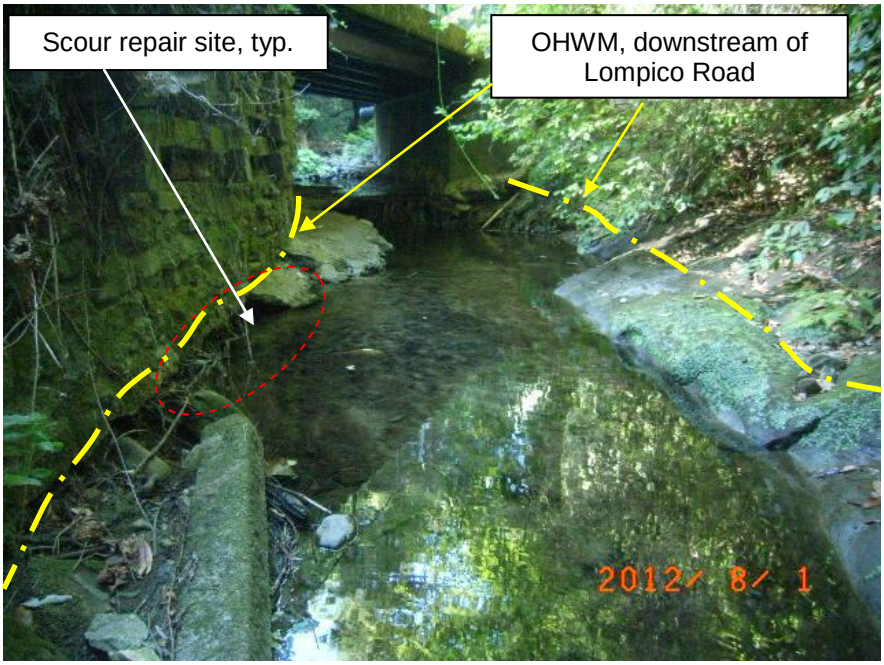

Figure 6. Location of OHWM downstream of Lompico Road within bedrock channel, August 2012

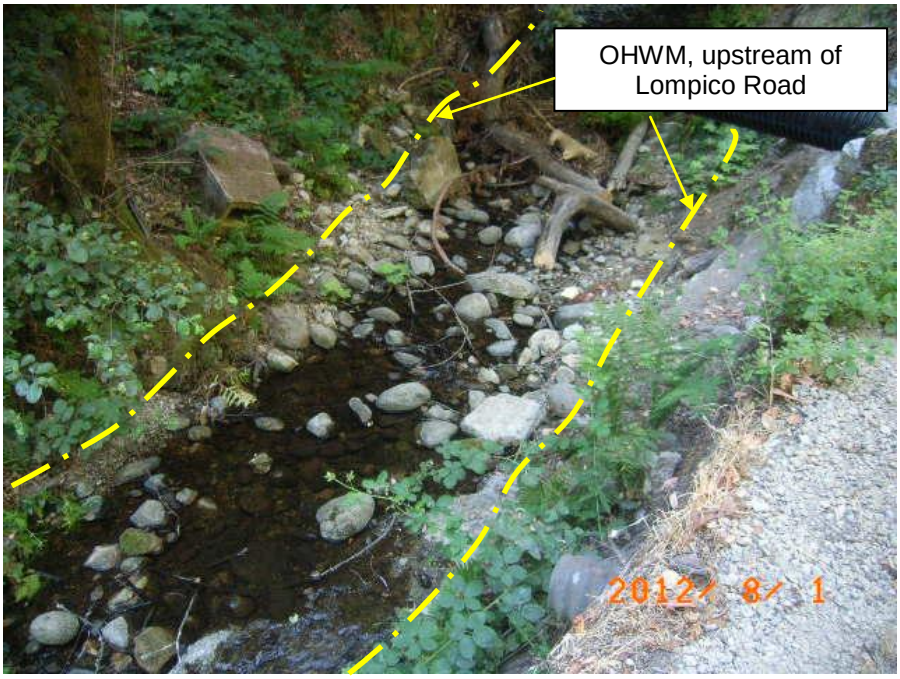

Figure 7. Location of OHWM upstream of Lompico Road within gravel and cobble substrate, August 2012

Chapter 5. Delineation Findings

5.1 U.S. Army Corps of Engineers Determination

5.1.1 Waters of the U.S. (Non-Wetland)

The study area supports a creek channel with open water. These unvegetated open water areas within the limits of the OHWM would be considered waters of the U.S.

5.1.2 Wetlands

No wetlands (i.e., special aquatic sites) were observed in the study area. Although the study area supports two small patches of in-channel wetland vegetation, the vegetation was found to be growing on non-hydric substrate (i.e., one patch growing within a crack in concrete and another within rock/cobble). The wetlands occur upstream of Lompico Road, encompassing approximately 34 square feet. These areas meet the definition of wetlands.

5.2 Regional Water Quality Control Board Determination

The study area includes areas within the top of bank of Lompico Creek. All areas below top of bank, including the water features within the channel meeting the definition of waters of the State subject to RWQCB jurisdiction.

5.3 California Department of Fish and Wildlife Determination

The study area includes areas within the top of bank of Lompico Creek. All areas below top of bank, including the water features within the channel, as well as riparian woodland that may extend beyond top-of-bank, meet the definition of waters of the State subject to CDFW jurisdiction.

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Appendix A Determination Data Forms

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WETLAND DETERMINATION DATA FORM – Arid West Region

Updated 5/1/14

Project/Site: Lompico Road Bridge City/County: Santa Cruz Sampling Date: 8/1/12

Applicant/Owner: Santa Cruz County PW State: CA Sampling Point: #1

Investigator(s): K. Lyons Section, Township, Range:

Landform (hillslope, terrace, etc.): creek channel Local relief (concave, convex, none): Slope (%): <5%

Subregion (LRR): Lat: Long: Datum:

Soil Map Unit Name: Lompico-Felton Complex, 30-50% slopes NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No (If no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology significantly disturbed? no Are "Normal Circumstances" present? Yes ✓ No

Are Vegetation , Soil , or Hydrology naturally problematic? no (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No	Is the Sampled Area within a Wetland? Yes	No ✓
Hydric Soil Present?	Yes	No ✓	
Wetland Hydrology Present?	Yes ✓	No	

Remarks: U/s of existing bridge

in-stream patch 1'x 0.5' on (R) bank (0.5 ft²)

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	0		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	0		
Herb Stratum			
1. Potentilla frigidus	100	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	100%		
Woody Vine Stratum			
1.			
2.			
Total Cover:	0		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ Dominance Test is >50%
- 1 Prevalence Index is ≤3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ✓ No

Remarks:

Patch of in-channel vegetation on (R) side of creek u/s of existing bridge.

SOIL

Sampling Point: #1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
	stream gravels & cobble							and vegetation in concrete crack
	no hydric soil							

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):
Type: bedrock observed on sidebanks.
Depth (inches): variable

Hydric Soil Present? Yes ___ No ✓

Remarks:
No hydric soils – vegetation growing in crack of concrete apron near road support.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ✓ Surface Water (A1)
- ___ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ✓ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ✓ No ___ Depth (inches): 12"
Water Table Present? Yes ✓ No ___ Depth (inches): 12"
Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 0"

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
perennial waterway.
OHWM observed 2' above thalweg (±1' above existing water surface elevation)

WETLAND DETERMINATION DATA FORM – Arid West Region

Updated 5/1/14

Project/Site: Lompico Road Bridge City/County: Santa Cruz Sampling Date: 6/1/12
Applicant/Owner: Santa Cruz County PW State: CA Sampling Point: #2
Investigator(s): K. Lyons Section, Township, Range:
Landform (hillslope, terrace, etc.): creek channel Local relief (concave, convex, none): Slope (%): <5%
Subregion (LRR): Lat: Long: Datum:
Soil Map Unit Name: Lompico-Felton complex, 30-50% slope NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? no Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? no (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	Is the Sampled Area within a Wetland? Yes ____ No ✓
Hydric Soil Present?	Yes ____	No ✓	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks: u/s of existing bridge
in-stream patch 3'x3' on (L) bank (9A)

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	0		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	0		
Herb Stratum			
1. Petasites frigidus	100	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	100%		
Woody Vine Stratum			
1.			
2.			
Total Cover:	0		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:
___ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:

SOIL

Sampling Point: #2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
	no hydric soil							gravels & cobbles and bedrock

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
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- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
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Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ____ No ✓

Remarks: rock, cobbles and gravel in soil sample; no hydric soil observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
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- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ✓ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ✓ No ____ Depth (inches): 12"

Water Table Present? Yes ✓ No ____ Depth (inches): 12"

Saturation Present? (includes capillary fringe) Yes ✓ No ____ Depth (inches): 0"

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: perennial waterway.

Appendix B Web Soil Survey Map

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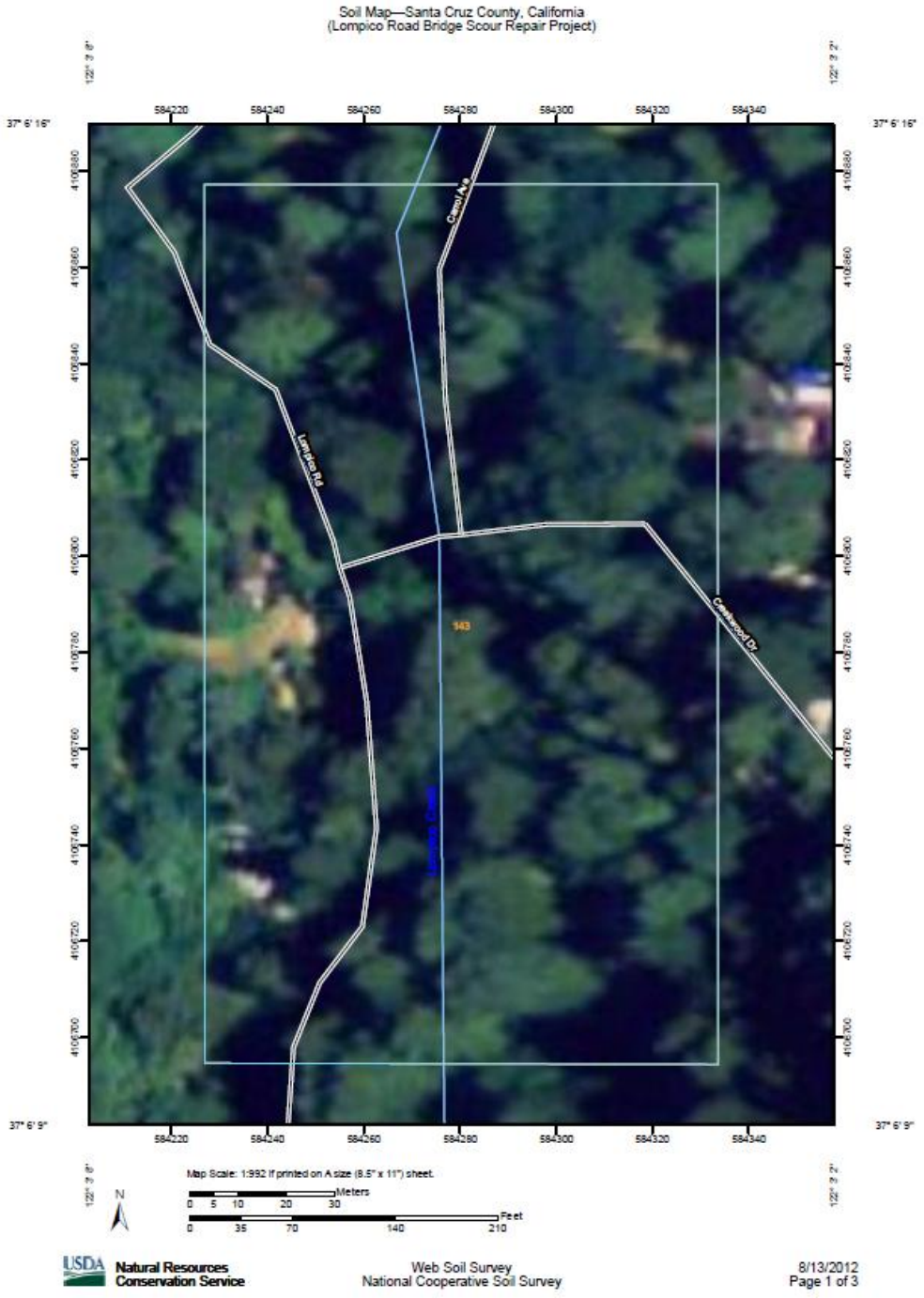

Map Unit Legend

Santa Cruz County, California (CA087)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
143	Lompico-Felton complex, 30 to 50 percent slopes	4.8	100.0%
Totals for Area of Interest		**4.8**	**100.0%**

Attachment 4

Biological Assessment

for the

Lompico Road PM 1.82 Bridge Repair Project

Santa Cruz County, CA

November 2012

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BIOLOGICAL ASSESSMENT

FOR

LOMPICO ROAD PM 1.82 BRIDGE REPAIR PROJECT

SANTA CRUZ COUNTY, CALIFORNIA

Report Prepared for:

Santa Cruz County Department of Public Works
Attn: Timothy Baily, Project Engineer

Report Prepared by:

Dana Bland
Dana Bland & Associates
P.O. Box 636
Aptos, CA 95001

And

Jeff Hagar
Hagar Environmental Science
6253 Claremont Avenue
Richmond, CA 94805

November 2012

Introduction

The purpose of this Biological Assessment is to review the proposed Lompico Road PM 1.82 Bridge Repair Project in Santa Cruz County, California to determine the effects the proposed project may have on federally listed threatened, endangered, proposed or candidate species. The following species are considered in this document:

Steelhead (*Oncorhynchus mykiss*) Central California Coast ESU, **Federal Threatened**

Coho Salmon (*Oncorhunchus kisutch) Central California Coast ESU*, **Federal Endangered, California Endangered)**

The project is within Designated Critical Habitat for Central California Coast Steelhead (NMFS 2005) and Central California Coast Coho Salmon (NMFS 1999).

No other federally listed, proposed or candidate plant or animal species were identified as potentially occurring within the project area.

Proposed Project Description

The purpose of the proposed Project is to repair a damaged bridge that spans Lompico Creek at Lompico Road PM 1.82. The proposed project site is located north of Felton and east of Loch Lomond Reservoir in the unincorporated area of Santa Cruz County, California, on the USGS Felton 7.5' quadrangle (Figure 1).

During a routine inspection, the County discovered that the road pavement had subsided at the southeast corner adjacent to a bridge over Lompico Creek. The subsidence was attributed to an undermined section of the bridge footing. The County of Santa Cruz is proposing to repair the existing scour holes on the Lompico Road Bridge over Lompico Creek at postmile (PM) 1.82. The bridge is a single span slab bridge with a concrete invert. The downstream retaining wall consists of a short section of full height rock rubble wall followed by a rock rubble wall with a concrete crib wall on top to the roadway surface. Scour has undermined the wall along with the concrete invert and a portion of the bridge abutment compromising the stability of the roadway and bridge abutment. The approach roadway has settled approximately three inches near the retaining wall with cracks extending out near the centerline of the roadway. Scour has also occurred on the upstream end of the bridge near the abutment, although to a lesser degree.

The repair will consist of dewatering the stream by installing checkdams both upstream and downstream and running a PVC pipe through the site to pass the flows in the creek. The checkdams will consist of sandbags filled with gravel and wrapped in heavy sheet plastic. Approximately 140 linear feet of channel will be dewatered for this project. Once the site has been dewatered and the site has been isolated from the stream then the loose sands in the scour areas will be removed for a depth of approximately eight inches down to bedrock. Rock will be placed at the face of the holes to seal off the undermined area. A concrete grout will then be pumped through the rock to fill the undermined areas. There will be no concrete washout area; the concrete will be delivered to the area directly from the truck. After the grout has set, the bypass pipe and checkdams will be removed. Work plus grout drying will take 2-3 weeks.

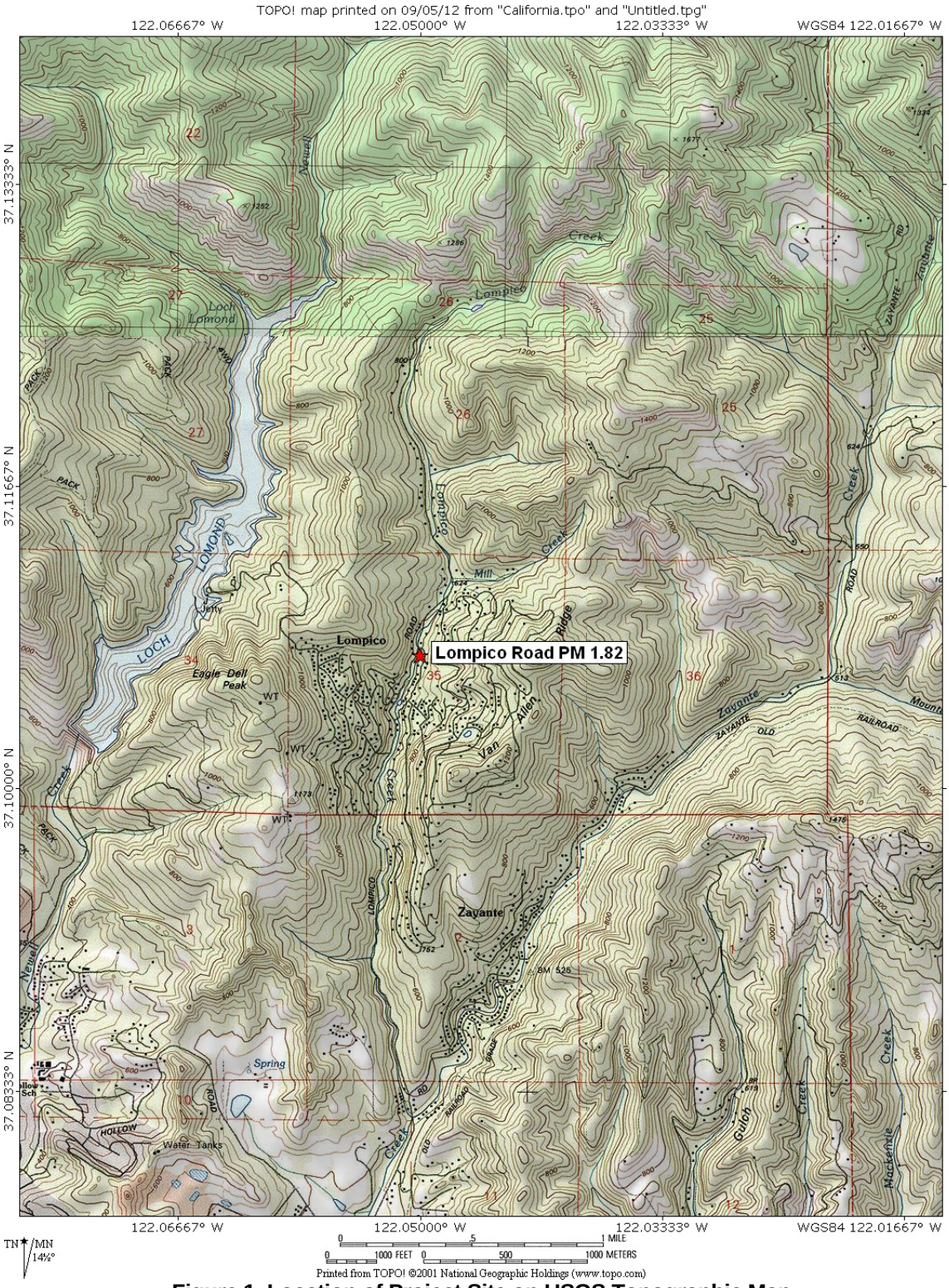

Figure 1. Location of Project Site on USGS Topographic Map
(USGS Felton Quadrangle)

Existing Habitat Conditions of the Proposed Project Site

Dana Bland, Wildlife Biologist, Kathy Lyons, Plant Ecologist, and Jeff Hagar, Fisheries Biologist, conducted site visits of the proposed project area in August 2012 to identify plant communities and potential sensitive plant and wildlife resources within the project area and adjacent areas. Kathy Lyons prepared a map of the plant communities for the project site, which is included here as Figure 2.

The Lompico Road PM 1.82 Bridge Repair Project is located in northeastern Santa Cruz County, in the Santa Cruz Mountains. The surrounding land use is primarily residential, with forested areas on the steeper slopes. The project area supports two plant communities: in-stream wetlands and riparian woodland. The project also supports open water within Lompico Creek. These plant communities are shown on Figure 2.

Listed Species in the Project Area

Two federally listed fish species, steelhead (*Onocorhynchus mykiss)* and coho salmon (*Oncorhynchus kisutch)* may occur within the project area. A brief account and the status of these species in the general project vicinity is given below.

Steelhead (*Oncorhynchus mykiss*) is a State Species of Special Concern and Federally listed as threatened (Central California Coast Evolutionary Significant Unit [CCC ESU]). Steelhead/rainbow trout (*Oncorhynchus mykiss*) have a highly flexible life history and may follow a variety of life-history patterns including residents (non-migratory rainbow trout) at one extreme and individuals that migrate to the open ocean (anadromous) at another extreme. Intermediate life-history patterns include fish that migrate within the stream (potamodromous), fish that migrate only as far as estuarine habitat, and fish that migrate to near-shore ocean areas. These life-history patterns do not appear to be genetically distinct, and have been observed interbreeding (Shapovalov and Taft 1954). Steelhead are the anadromous form of *O. mykiss* and are unique among Pacific salmon in that ocean migrating individuals may return to the ocean after spawning and return to freshwater to spawn one or more times. Only the anadromous form of *O. mykiss* (steelhead) are listed as threatened; resident forms (not migrating to the ocean) are not.

Steelhead migrate from the ocean up freshwater creeks and rivers to spawn. The young steelhead typically remains in freshwater for two years before migrating to the ocean or bay. They typically spend 2-3 years in marine waters before returning to their natal stream to spawn (National Marine Fisheries Service 1997).

Spawning usually occurs between December and June. Eggs are laid in gravels of streams, and take 3 weeksto 3 months to hatch depending on temperature. The hatchlings are called alevins and remain in the gravels until their yolk sac is absorbed, at which time they emerge from the gravels as “fry” and begin actively feeding. After 1-4 years, the steelhead migrates to the ocean as “smolts.”

The project site on Lompico Creek is tributary to Zayante Creek which is tributary to the San Lorenzo River. Steelhead are present throughout the San Lorenzo watershed. Santa Cruz County (2004) indicates that most of Lompico Creek is accessible to steelhead though a 4-foot high bedrock ledge is reported approximately 900 feet upstream from the confluence with the Zayante Creek. Becker and Reining (2008) refer to an 8-foot natural bedrock falls at the mouth but also

indicate that steelhead can pass this falls under certain conditions, Juvenile *O. mykiss* were observed at the project site on August 10, 2012. It is not known whether these are the progeny of steelhead or resident rainbow trout.

Coho salmon adults migrate upstream to spawn between December and February along the Central California coast. Coho have less swimming and leaping ability than steelhead are likely to spawn in lower gradient areas lower in the watershed. Coho are also known to spawn in very small tributary streams though fry often move out of these smaller tributaries after hatching. In Central California streams coho typically rear for one year in freshwater before migrating to sea. Peak migration of smolts is in April and May.

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, (possibly strays from nearby drainages with more persistent runs including San Vicente, Scott and Waddell Creeks) coho have been presumed to be extirpated from the SLR since the drought of the late 1980s (Alley et al. 2004). A few young-of-year coho were documented during 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 were also observed in snorkel surveys conducted by NOAA Fisheries in Bean Creek (Chris Berry, City of Santa Cruz, personal communication).

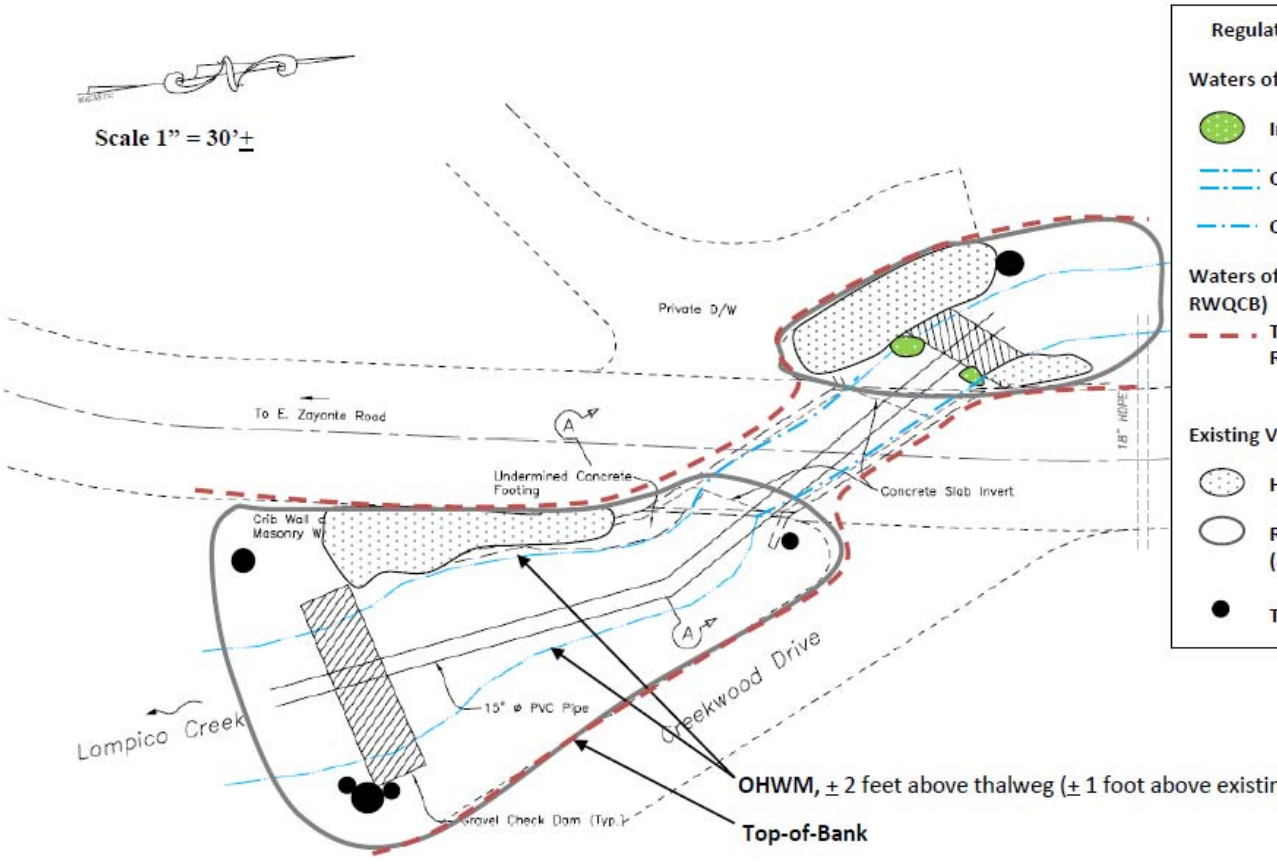

Figure 2. Distribution of vegetation in project area, August 2012

Potential Effects of the Proposed Project on Listed Species

The proposed project may cause the following direct and indirect effects to steelhead or coho salmon if they are present within the work area.

- Mortality or injuries to individuals during placement of the stream diversion, if any are present in the creek, or during the fish capture and relocation.
- Harassment of individuals by relocating them from the work area.
- Displacement of individuals from the creek diversion site.
- Increased predation by raccoons and other predators due to temporary cover (vegetation) removal and to individuals displaced to less favorable sites.

Adverse effects to salmonid habitat may occur as a result of this project. The instream work involves the temporary impacts to approximately 34 square feet of instream wetlands, and the temporary impacts to 2,100 square feet of streambed during dewatering. The project will permentnaly fill 100 square feet of the scour hole. No trees that provide creek shade will be removed and removal of tree limbs for construction access will be minimal. The project will not adversely modify critical habitat for coho or steelhead salmon.

Effects Determination

The diversion of this portion of Lompico Creek may result in adverse effects to individuals of steelhead or coho salmon if any are present during the diversion and have to be relocated. The project may result in limited modification of habitat for salmonids due to changes in channel gradient or width.

Cumulative Effects to Listed Species

Cumulative effects to listed species include effects of future private, local, or State actions that are reasonably certain to occur in the general vicinity of this proposed project site. Cumulative effects do not include other federal actions that may occur, as these are considered separately under Section 7 of the Endangered Species Act.

There are no other private, local or State projects that are known to be certain to occur in the general project area.

Measures to Avoid and Minimize for Proposed Action

The following measures will be implemented as part of the proposed project description to avoid and minimize potential effects described above for federally listed species.

1) At least 15 days prior to the onset of activities, the applicant or project proponent shall submit the name(s) and credentials of biologists who would conduct activities specified in the following measures. No project activities shall begin until proponents have received written approval from the Service that the biologist(s) is qualified to conduct the work.
2) All refueling, maintenance, and staging of equipment and vehicles shall occur at least 20 meters from any riparian habitat or water body. The USACE and permittee shall ensure contamination of habitat does not occur during such operations. Prior to the onset of work, the USACE shall ensure that the permittee

has prepared a plan to allow a prompt and effective response to any accidental spills. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.

3) A Service-approved biologist shall ensure that the spread or introduction of invasive exotic plant species shall be avoided to the maximum extent possible. When practicable, invasive exotic plants in the project areas shall be removed.
4) Stream contours shall be returned to the original condition at the end of project activities, except where grading is shown on the plans, unless consultation with the Service has determined that it is not beneficial to the species or feasible.
5) The number of access routes, number and size of staging areas, and the total area of the activity shall be limited to the minimum necessary to achieve the project goal. Routes and boundaries shall be clearly demarcated, and these areas shall be outside of riparian and wetland areas.
6) Work activities shall be completed between July 1 and November 1. Should the proponent or applicant demonstrate a need to conduct activities outside this period, the USACE may authorize such activities after obtaining the Service's approval.
7) To control erosion during and after project implementation, the applicant shall implement best management practices, as identified by the RWQCB.
8) Steelhead present in the work area will be relocated prior to dewatering and construction activities. Block nets will be placed at the upper and lower extent of the area to be dewatered to ensure that salmonids upstream and downstream do not enter the areas proposed for dewatering. Block nets will not be removed until installation of all cofferdams, bypass pipes or channels, diversion dams or other facilities designed to dewater or divert flow are completed.
9) If electrofishing techniques are utilized during fish relocation activities, at least one member of the field crew will be familiar with NOAA Fisheries' electrofishing guidelines and have a minimum of 100 hours of field experience with electrofishing techniques. Electrofishing and fish handling techniques will be consistent with guidelines for electrofishing waters containing salmonids listed under the endangered species act (NMFS 2000).
10) Electrofishing may not be performed if water temperatures exceed 18^{o} Celsius, or could reasonably be expected to rise above this temperature during the activities.
11) Electrofishing shall not be utilized in areas where water conductivity is greater than 350 uS/cm. Only direct current (DC) shall be used. At least one assistant shall aid the biologist during electrofishing by netting stunned fish and other aquatic vertebrates.
12) Each electrofishing session must start with all equipment settings (voltage, pulse width, and pulse rate) set to the minimums needed to capture fish. These settings should be gradually increased only to the point where fish are immobilized and captured, and not allowed to exceed the specified maxima: Voltage = 100V (Initial) – 400V (Max); Pulse width= 500 uS (Initial) – 5 uS (Max); Pulse rate = 30 Hz (Initial) – 70 Hz (Max).
13) A minimum of three passes with the electrofisher will be utilized to ensure maximum capture probability of steelhead within the area proposed for dewatering, unless the number of fish captured in the second pass is less than 10 percent of the first pass. In that case, two passes are adequate. If steelhead are present on any pass, a minimum of 20 minutes will separate the beginning of each pass through the project reach to allow time for fish that are not captured to become susceptible to electrofishing again.

14) All captured fish will be held in water with temperatures not greater than ambient in-stream temperatures. If cooling is used, water temperatures will be maintained not more than three degrees Celsius less than ambient in-stream temperatures. All captured fish will be held in well-oxygenated water, with a dissolved oxygen level of not less than seven parts per million. Prior to release, the following information shall be recorded: 1) Enumerate fish by species, 2) Visual determination of age of steelhead, 3) Enumerate steelhead injuries and fatalities by age class, 4) Enumerate successfully relocated steelhead by age class for each relocation site, and 5) Date and time of release of steelhead to each relocation site. Steelhead shall be subject to the minimum handling and holding times required. All captured fish will be allowed to recover from electrofishing and other capture gear before being returned to the stream. All captured fish will be processed and released prior to any subsequent electrofishing pass or netting effort.
15) Fish will be released to the most suitable habitat near the project site. If possible, captured fish will be released upstream of the block nets to facilitate redistribution into dewatered areas following construction activities.
16) In order to monitor the disturbance associated with fish relocation activities, a report will be submitted to NOAA Fisheries no later than November 15 of the year in which the work was completed. The report shall include the results of any incidental mortality that occurred during implementation of the project that included fish relocation. The report shall include: 1) information collected on each captured fish, as outlined previously, 2) any other relevant information regarding fish injuries or mortalities, 3) extent of the area dewatered and duration of dewatering, and 4) water and air temperatures taken at the beginning and end of the fish relocation effort.
17) A worker education program shall be undertaken for construction employees and contractors at the project site that will address the potential for steelhead in the project area, how they should respond if they encounter steelhead, and the importance of protecting essential habitat features for steelhead. Employees shall be instructed regarding construction impact minimization methods.
18) The grout or concrete will be allowed to cure for 30 days, unless an accelerant approved by California Department of Fish and Game is added. The water diversion will not be removed until the pH of the grout site is the same as the water in the upstream or downstream portions of the creek, or within the variation approved by CDFG.

Summary and Conclusions

The proposed Project has the potential to adversely affect individuals of listed species: steelhead and coho salmon, if any are present within the project work area during construction. With implementation of the above-listed avoidance and minimization measures, the proposed project is not likely to jeopardize the continued existence of these listed species. Potential temporary adverse effects during the construction phase due to mortality, harassment and/or relocation of individuals, if any are present, can be avoided or minimized by the measures listed above. The project is not expected to permanently adversely affect these federally listed species, or adversely modify their critical habitat.

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Attachment 5

USFWS E Mail from Chad Mitcham

for the

Lompico Road Bridge Repair Project

Regarding the California Red-legged Frog

January 23, 2013

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From: Connie Silva
Sent: Thursday, January 24, 2013 8:28 AM
To: Russell Chen
Cc: Timothy Bailey
Subject: FW: Lompico Rd Bridge 2012-00342S (UNCLASSIFIED)
FYI – See USFWS concurrence below

From: Mitcham, Chad [mailto:chad_mitcham@fws.gov]
Sent: Wednesday, January 23, 2013 9:14 AM
To: Connie Silva
Cc: Kyle J Dahl
Subject: Re: Lompico Rd Bridge 2012-00342S (UNCLASSIFIED)

Connie,

Thank you for agreeing to the following measures for the Lompico Road Bridge Repair to ensure no impacts to California red-legged frogs (CRLF). You have agreed to: 1) having a qualified biologist conduct a pre-construction survey (within 24 hours of ground disturbing activities) of the project area to ensure no CRLF are present in the action area, and 2) having the qualified biologist provide a pre-construction briefing to construction crew members on CRLF to ensure they are aware of the species and their responsibilities if a CRLF is encountered. If a CRLF is encountered in an area that may disturb the species work should cease and the Service contacted immediately. By incorporating the above measures consider this email our concurrence that the project is not likely to adversely affect the species. Thank you and feel free to contact me if you have any questions.

Chad
805-512-6805

On Wed, Jan 9, 2013 at 9:14 PM, Dana Bland <danabland@charter.net> wrote:
Hi Connie, Chad --
The possibility of CRLF occurring at the Lompico Bridge site is next to none -- other than the fact that there is water.

But, if it would make the USACOE consultation with USFWS easier, I would suggest the following mitigation measures be added to the biotic report. These measures are similar to those in programmatic CRLF biological opinions bewteen the USACOE and USFWS.

1. A qualified biologist will conduct a preconstruction survey for CRLF no more than 48 hours prior to commencement of work (i.e., prior to any clearing of vegetation, placement of coffer dams, and dewatering) at the project site. If no CRLF are observed, no further measures are required.

2. If CRLF are observed within the work area, the work will be postponed until the qualified biologist determines that all CRLF have left the area on their own accord. This will include a minimum of two more preconstruction surveys for CRLF, spaced at least 24 hours apart. If no CRLF are observed within 48 hours of commencement of construction, no further mitigaiton measures will be required.

3. If CRLF do not leave the area within the 3 preconstruction surveys outlined above, the work will be postponed until the USACOE consults with the USFWS for a formal consultation that may include relocating CRLFs outside the work area.

Again, I want to emphasize, that there is little possibility of encountering CRLF at this work site. It is miles from any other observations of this species, the area is immediately adjacent to many residences, there are no ponds that would serve as a source population for many miles, and the Loch Lomond Reservoir (located about 1or 2 miles straight line distance to the west) and its tributary creeks were thoroughly surveyed for CRLF with negative results (City of Santa Cruz Watershed Study 2001). The reservoir is full of predatory fish species such as bass, as well as other non-native aquatic species and fish, making it unsuitable for CRLF breeding, as past surveys have confirmed.

However, a preconstruction survey for CRLF could be conducted to confirm that none are within the construction site, and that measure could be added to the biotic report.

If you have any more questions, or need more information, please contact me.

Thank you,

Dana Bland
Dana Bland & Assoc.
P.O. Box 636
Aptos, CA 95001
ph: 831-688-2104
email: danabland@charter.net

----- Original Message -----
From: Connie Silva
To: 'Dana Bland'
Sent: Wednesday, January 09, 2013 4:24 PM
Subject: FW: Lompico Rd Bridge 2012-00342S (UNCLASSIFIED)

From: Mitcham, Chad [mailto:chad_mitcham@fws.gov]
Sent: Wednesday, January 09, 2013 10:37 AM
To: Connie Silva
Subject: Fwd: Lompico Rd Bridge 2012-00342S (UNCLASSIFIED)

Hi Connie,

Please take a look at the email chain and let me know if the County agrees to having a CRLF biological monitor onsite, give me a call if you have any questions. Thanks.

Chad
805-512-6805

---------- Forwarded message ----------
From: **Dahl, Kyle J SPN** <Kyle.J.Dahl@usace.army.mil>
Date: Wed, Jan 9, 2013 at 9:03 AM
Subject: RE: Lompico Rd Bridge 2012-00342S (UNCLASSIFIED)

To: "Mitcham, Chad" <chad_mitcham@fws.gov>
Cc: Connie Silva <dpw356@co.santa-cruz.ca.us>

Classification: UNCLASSIFIED
Caveats: NONE

Thanks Chad,

Please feel free to contact the County. The contact individual is Connie Silva, her email is below. Thanks again

dpw356@co.santa-cruz.ca.us

Kyle Dahl
Project Manager
Regulatory Division - South Branch

U.S. Army Corps of Engineers (USACE)
San Francisco District (SPN)
(415) 503-6783 direct
Kyle.J.Dahl@usace.army.mil

-----Original Message-----
From: Mitcham, Chad [mailto:chad_mitcham@fws.gov]
Sent: Tuesday, January 08, 2013 5:33 PM
To: Dahl, Kyle J SPN
Subject: Lompico Rd Bridge 2012-00342S

Kyle,

I've reviewed the biological report for the above project in which the Corps has determined the project is not likely to adversely affect CRLF (and ZBWG). It appears to me that there is potential for CRLF to occur in the project area; although, I agree it is probably pretty low. Would the Corps be amenable to the inclusion of a measure that states the applicant (County) will have a qualified CRLF biological monitor on-site during project activities? If a CRLF is detected work will cease and formal consultation will be initiated.

If you like I can contact the County to determine; if so let me know who the County contact is. Thanks.

Chad

Classification: UNCLASSIFIED
Caveats: NONE

Attachment 6

Northwest Information Center Records Search
for the
Lompico Road Bridge Repair Project

April 22, 2014

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ESA

1425 N. McDowell Boulevard
Suite 200
Petaluma, CA 94954
707.795.0900 phone
707.795.0902 fax

www.esassoc.com

memorandum

date April 22, 2014

to Tim Bailey, County of Santa Cruz Department of Public Works

from Heidi Koenig, ESA Archaeologist

subject NWIC records search for the Lompico Road Bridge Repair Project (ESA Project #D211621.8)

Introduction

The County of Santa Cruz Department of Public Works (County) has retained Environmental Science Associates (ESA) to complete a background study for the Lompico Road Bridge Repair Project (proposed project). The County is proposing to repair the Lompico Road Bridge over Lompico Creek by installing an in-channel creek diversion and excavating loose sand to reduce scour. The proposed project is shown on the Felton, California 7.5-minute topographic quadrangle in Section 35 of Township 9 South, Range 2 West.

Background Research

ESA archaeologist Heidi Koenig M.A. conducted a records search at the Northwest Information Center (NWIC) of the California Historical Resources Information System at Sonoma State University on April 18, 2014 (File No. 13-1602). The purpose of the records search was to (1) determine whether known cultural resources have been recorded within or within a ½-mile radius of the project area; (2) assess the likelihood for unrecorded cultural resources to be present based on historical references and the distribution of nearby sites; and (3) develop a context for the identification and preliminary evaluation of cultural resources. The records search consisted of an examination of the following documents:

- **NWIC base maps** (USGS Felton 7.5-minute topographic map), to identify recorded archaeological sites and studies within a ½-mile radius of the project area.
- **NWIC base maps** (USGS Felton 7.5-minute topographic map), to identify recorded historic-period resources of the built environment (building, structures, and objects) within a ½-mile radius of the project area.
- **Resource Inventories**: *California Inventory of Historical Resources, California Historical Landmarks, Historic Properties Directory Listing for Santa Cruz County* (through April 2012), Caltrans Historic Bridge Inventory (1986, updated 2010).

Summary of Records Search Results

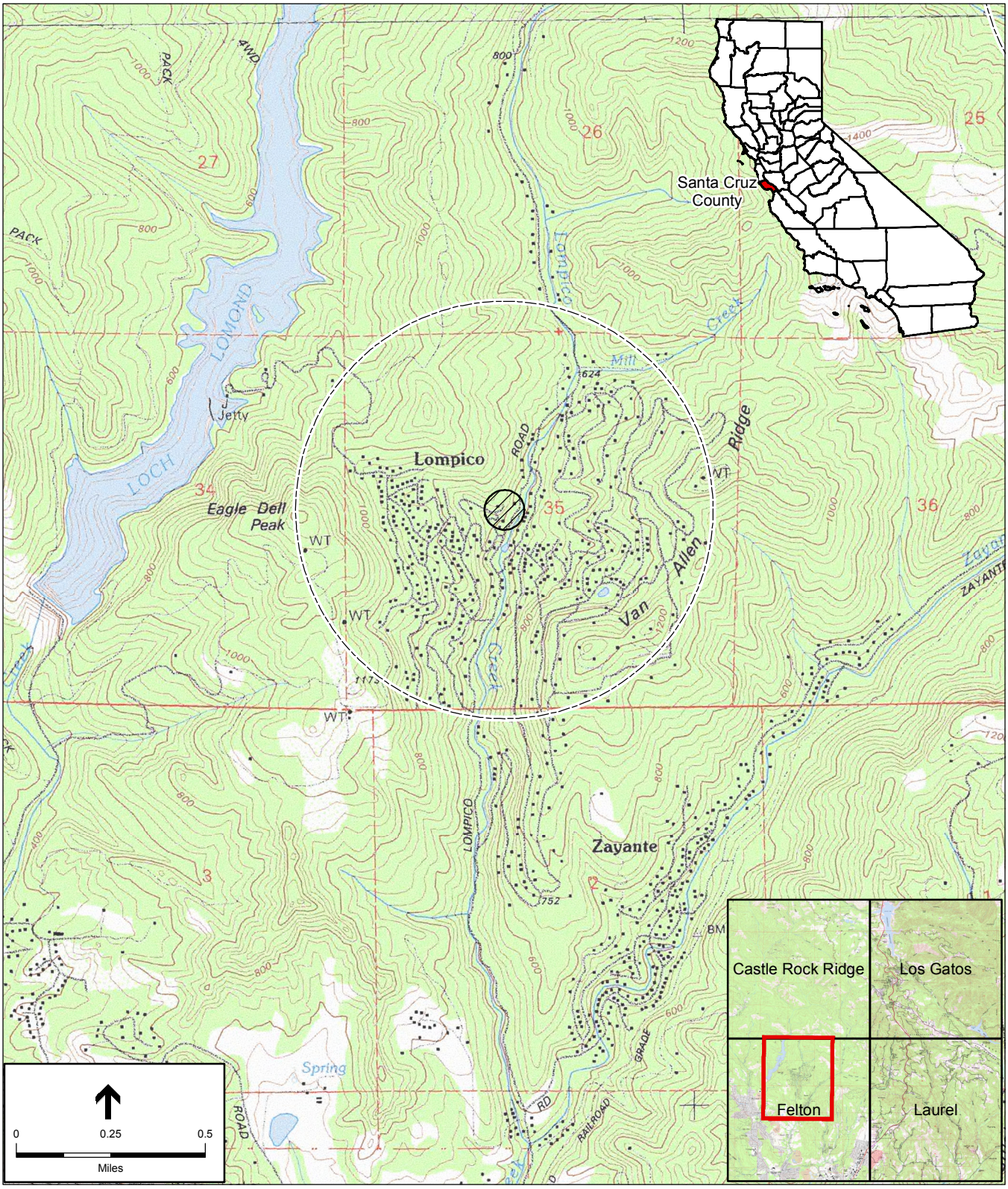
Records at the NWIC indicate that one cultural resources investigation has been completed within a ½-mile radius of the project area (**Table 1**). No cultural resources were identified in the vicinity during that study.

TABLE 1
CULTURAL RESOURCES STUDIES WITHIN THE RECORDS SEARCH RADIUS

Study No.	Title	Author	Year	Distance from Project Area
S-32322	An Archaeological Survey Report for the Mountain Residential Properties Timber Harvest Plan, Santa Cruz County, California	James Hildreth	2004	½ mile south

Figure 1 shows the project location. There are no previously recorded cultural resources within a ½-mile radius of the proposed project. The nearest recorded cultural resources are an abandoned railroad grade (P-44-000307) and an abandoned winery and hotel site (P-44-000387), both located over 1 mile east of the proposed project area. There are no previously recorded prehistoric archaeological resources in this vicinity.

FIGURE 1



SOURCE: USGS Felton, Calif. 7.5-minute topographic quadrangle

Lompico Records Search. 211621.09

Figure 1

Project Location

Attachment 7

Memo from County of Santa Cruz, Department of Public Works Regarding Lompico Hydraulics

for the

Lompico Road Bridge Repair Project

July 10, 2013

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COUNTY OF SANTA CRUZ
DEPARTMENT OF PUBLIC WORKS
INTER-OFFICE CORRESPONDENCE

DATE: July 10, 2013

TO: Jessica Duktig

FROM: Tim Bailey

SUBJECT: Lompico Hydraulics

The proposed improvements for the Lompico Road Bridge at Lompico Creek will not affect the hydraulic capacity of the creek. The controlling factor is the bridge with concrete slab invert. This section will not be affected by the project with only material being added underneath the slab. The channel opens up both upstream and downstream of the bridge allowing for increased flow capacity. The minor amount of fill being added doesn't affect the capacity through this area which is limited by the capacity of the bridge structure itself.