

**COUNTY OF SAN MATEO
PLANNING AND BUILDING DEPARTMENT**

DATE: October 8, 2014

TO: Planning Commission

FROM: Planning Staff

SUBJECT: EXECUTIVE SUMMARY: Consideration of a Coastal Development Permit to allow the replacement or reattachment of road culverts and the repairing of road slip-outs at various locations on Higgins Canyon Road, Seaside School Road, Bear Gulch Road, and Stage Road in the unincorporated areas of San Gregorio and the Rural Midcoast.

County File Number: PLN 2014-00199
(SMCo. Department of Public Works)

PROPOSAL

The applicant, San Mateo County Department of Public Works (DPW), proposes the replacement or reattachment of road culverts and the repairing of road slip-outs at various locations on Higgins Canyon Road (Rural Midcoast), Seaside School Road (San Gregorio), Bear Gulch Road (San Gregorio), and Stage Road (San Gregorio). The proposed work areas are located within or immediately adjacent to perennial or intermittent waterways. Two road slip-out repairs are located on Higgins Canyon Road and two road slip-out repairs are located on Seaside School Road. Culverts are proposed to be reattached on Stage Road and a culvert will be completely replaced on Bear Gulch Road. Once the project is completed, all disturbed areas will be re-vegetated with a native seed mixture as directed by the County biologist.

RECOMMENDATION

Approve the Coastal Development Permit, County File Number PLN 2014-00199, by adopting the required findings and conditions of approval.

SUMMARY

As a County agency, the Department of Public Works is typically exempt from compliance with zoning regulations (Government Code 53091); however, a Coastal Development Permit in compliance with Local Coastal Program, which includes the County's Zoning District Regulations as part of its implementation plan, is required and must be approved by the Planning Commission. For the purposes of compliance with the California Environmental Quality Act (CEQA), the County is the lead agency and the

Department of Public Works has assumed the role of lead department. As such, they have filed a notice of categorical exemption with the County Recorder, as required by the State Code.

The proposed work by the DPW will reduce the likelihood of future road failure. Staff has reviewed this project and found DPW is proposing standard repair and erosion control measures that will, as conditioned by staff, comply with the County's Local Coastal Program.

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**COUNTY OF SAN MATEO
PLANNING AND BUILDING DEPARTMENT**

DATE: October 8, 2014

TO: Planning Commission

FROM: Planning Staff

SUBJECT: Consideration of a Coastal Development Permit, pursuant to Section 6328.4 of the County Zoning Regulations, to allow the replacement or reattachment of road culverts and the repairing of road slip-outs at various locations on Higgins Canyon Road, Seaside School Road, Bear Gulch Road, and Stage Road in the unincorporated areas of San Gregorio and the Rural Midcoast.

County File Number: PLN 2014-00199
(SMCo. Department of Public Works)

PROPOSAL

The applicant, San Mateo County Department of Public Works (DPW), proposes the replacement or reattachment of road culverts and the repairing of road slip-outs at various locations on Higgins Canyon Road (Rural Midcoast), Seaside School Road (San Gregorio), Bear Gulch Road (San Gregorio), and Stage Road (San Gregorio). The proposed work areas are located within or immediately adjacent to perennial or intermittent waterways. Two road slip-out repairs are located on Higgins Canyon Road and two road slip-out repairs are located on Seaside School Road. Culverts are proposed to be reattached on Stage Road and a culvert will be completely replaced on Bear Gulch Road. Once the project is completed, all disturbed areas will be revegetated with a native seed mixture as directed by the County biologist.

RECOMMENDATION

Approve the Coastal Development Permit, County File Number PLN 2014-00199, by adopting the required findings and conditions of approval identified in Attachment A.

BACKGROUND

Report Prepared By: Rob Bartoli, Planner II, Telephone 650/363-1857

Applicant: San Mateo County Department of Public Works

Owner: San Mateo County

Locations:

Project Site	USGS Quadrangle	Roadway Milepost	Proposed Actions
Pilarcitos Watershed			
Higgins Canyon Road #1	Half Moon Bay	0.7-mile (from State Route 1)	Repair Slip-out
Higgins Canyon Road #2	Half Moon Bay	1.8-mile (from State Route 1)	Repair Slip-out Attach Flex Pipe
San Gregorio Watershed			
Seaside School	San Gregorio	1,000 ft. (from Stage Road)	Repair Two Slip-outs
Bear Gulch Road	La Honda	0.5-mile (from State Route 84)	Replace Culvert
Stage Road #1	San Gregorio	300 ft. North (from State Route 84)	Reattach Culvert
Pomponio Watershed			
Stage Road #2	San Gregorio	3.2-miles South (from State Route 84)	Reattach Culvert

Zoning: PAD/CZ (Planned Agricultural District/Coastal Zone) and C-1/S-7/DR/CD (Neighborhood Commercial/S-7 Combining District/Design Review District/Coastal Zone)

General Plan Designations: Agriculture and Neighborhood Commercial

Flood Zones: Zone A (Areas of 100-Year Flood, base flood elevations and flood hazard factors not determined) and Zone X (Areas of minimal flood hazard that are outside of the Special Flood Hazard Area) FEMA Panels 06801C0260E, 06081C0360E, 06081C0380E, 06081C0370E (dated October 16, 2012).

Existing Land Use: The areas of proposed work consist of existing public road rights-of-way. Surrounding land uses include residential, commercial, and open space.

Environmental Evaluation: The County is the lead agency and DPW has assumed the role of lead department, per the California Environmental Quality Act (CEQA) Guidelines. The Department of Public Works has filed a Categorical Exemption under Section 15301 (Repair of Existing Facilities) of the California Environmental Quality Act.

Setting: Three vegetative habitat types (non-native annual grasslands, riparian, and coastal scrub) are found within and adjacent to the project sites. Below is a general description of each vegetative habitat type found within the project vicinity.

- Non-native Annual Grasslands

Roadway shoulders along all the project locations contain patches of bare soil, non-native ornamental plants, and ruderal annual grassland habitat consisting of

non-native annual grasses such as wild oat, mustard, plantain, and bristly ox-tongue as the dominant plant species. Annual grassland habitat of this nature can be utilized to a very minimal degree for foraging by common species of wildlife such as Botta's pocket gopher and voles.

- Riparian

All six project sites contain riparian habitat. Riparian habitat is a combination of aquatic and terrestrial habitat within stream corridors and extends to the dripline (extent of foliage) of the riparian vegetation. Within the project area, this habitat type is dominated by red alder, willow, and creek dogwood. Other plant species include California bay, eucalyptus, California blackberry, poison oak, mugwort, western sword fern, and periwinkle. Many common aquatic and nonaquatic wildlife species such as Pacific chorus frog, mule deer, coyote, brush rabbits, red-shouldered hawks, and California quail seek riparian habitats for water, places to forage, and refuge from predators. Three special status species, California red-legged frog (CRLF), San Francisco garter snake (SFGS), and San Francisco dusky-footed woodrat (SFDW) could be expected to occur within riparian habitats adjacent to or within the project sites. The habitats could potentially be used as a foraging area by SFGS and CRLF. The drainages could also be used as a potential migration corridor for CRLF and SFGS, since potential breeding ponds exist within 2 miles of the proposed project sites. San Francisco dusky-footed woodrat nests were observed at the Higgins Canyon #1, Higgins Canyon #2, and Bear Gulch Road project sites and are expected to be present in the adjacent riparian and coastal scrub habitats.

- Coastal Scrub

The slopes adjacent to all the project sites are vegetated with a low shrub intermixed with grassy meadow-dominated habitat containing species consistent with coastal scrub, such as coyote brush, poison oak, sticky monkey-flower, California blackberry, lizard's tail, and annual native and non-native grasses. Coastal scrub provides habitat for an abundance of wildlife species, especially for birds. Two San Francisco dusky-footed woodrat nests were also observed in the coastal scrub habitat at Higgins Canyon #2 project site but are out of the immediate construction area. These nests will be flagged for avoidance.

DISCUSSION

A. KEY ISSUES

1. Conformity with Zoning Regulations

The project sites are all located in the public right-of-way and are zoned either PAD/CZ (Planned Agricultural District/Coastal Zone) or C-1/S-7/DR/CD (Neighborhood Commercial/S-7 Combining District/Design

Review District/Costal Zone). The project requires review against the applicable Development Review Criteria.

a. Conformity with Planned Agricultural District Zoning Regulations

The majority of lands adjacent to the project sites are zoned PAD/CZ. Pursuant to PAD Regulations (Chapter 21A, Section 6355), the project is required to be reviewed against the PAD Substantive Criteria. The project does not propose any land division or conversion of land from an agricultural use. The projects are all on County-owned right-of-ways and will not impact private property. As there will be no impact on PAD zoned properties, the project meets the PAD Substantive Criteria.

b. Conformity with Neighborhood Commercial Zoning Regulations

A small portion of the project will be adjacent to lands that are zoned C-1/S-7/DR/CD. The projects are all on County-owned right-of-ways and will not impact private property. There is no specific development review criteria for projects in the C-1 zone (Chapter 15)

2. Conformity with the County General Plan

The project is subject to the policies of the County's General Plan.

a. Vegetative, Water, Fish and Wildlife Resources Policies

Policy 1.26 – *Protect Water Resources*. This policy requires that the project minimize the alteration of natural water bodies and maintains adequate stream flows. At the Higgins Canyon #2 site, a 15-inch flex pipe, 30 feet in length, will be added to the existing culvert to better direct water onto existing boulders for energy dissipation. The projects will minimize the impacts to the natural drainage patterns to the greatest extent possible. At the project sites where culverts are being reattached or replaced, the stones being added will help dissipate the energy of the water flowing and assist in preventing erosion. The addition of the stones, and the flex pipe at Higgins Canyon #2, will be the only alterations to the existing drainage pattern.

Policy 1.27 – *Protect Fish and Wildlife Resources*. This policy ensures that development will minimize the disruption of fish and wildlife and their habitats. The applicant's biological report (see additional discussion below under LCP Policy 7.5 – *Permit Conditions*, and Attachment D) identified the potential special status animal species at the project sites to include coho salmon, steelhead, San Francisco garter snake, pacific pond turtle, California red-legged frog, San Francisco dusky-footed woodrat, tidewater goby, yellow warbler, and

saltmarsh common yellowthroat. However, steelhead, California red-legged frog, and the San Francisco dusky-footed woodrat are the only species known to occur within the project sites' limits. If present at the time of construction, there is the potential for injury or crushing by heavy equipment. Predation of individual members of each species is a potential, but can be avoided if preventative steps are taken. The recommended steps include scheduling construction for mid-summer to late fall, conducting pre-construction surveys for the various species, implementation of best management practices, and educating the workers to identify these species and avoid them. These recommended measures have been incorporated into this staff report as conditions of approval.

Policy 1.30 speaks to uses permitted in Sensitive Habitats. The policy requires that development in areas adjacent to sensitive habitats be sited and designed to prevent impacts that could significantly degrade these resources. All uses shall be compatible with the maintenance of biologic productivity of the habitats. The proposed project will replace or reattach road culverts and repair road slip-outs. Failure to replace these failed structures and slip-outs will only exacerbate flooding and erosion problems, potentially leading to catastrophic road failures with resultant heavy siltation of the Arroyo Leon Creek, Pomponio Creek, San Gregorio Creek, and each creek's respective tributaries. The project will serve to reduce future sediment inputs into the creeks by reducing erosion potential at culvert outlets and roadside slip-outs.

b. Visual Quality Policies

The project complies with Policy 4.47 (*Regulation of Development in Scenic Corridors*). Two projects are located in the Higgins-Purisima Road Scenic County Corridor, two in the La Honda Scenic County Corridor, one in the Stage Road Scenic County Corridor, and two in the Cabrillo Scenic Highway State Corridor. The policies of this chapter generally refer to above-grade structures (such as houses) that are visible to travelers from a distance. The replacement or reattachment of road culverts and the repairing of road slip-outs will be at road level or below, and in most cases will not be visible to motorists traveling on the roads adjacent to the proposed projects.

3. Conformity with the Local Coastal Program (LCP)

A Coastal Development Permit is required pursuant to San Mateo County Local Coastal Program Policy 2.1, which mandates compliance with the California Coastal Act for any government agency wishing to undertake development in the Coastal Zone. Development includes all public transportation facilities including roads and highways (Policy 2.2). Staff

has completed a Coastal Development Checklist for these projects. Summarized below are the following sections of the LCP that are relevant:

a. Sensitive Habitats Component

As outlined above in the setting section, all of the project locations could support sensitive habitat as defined under Policy 7.1 (*Definition of Sensitive Habitats*). Sensitive habitat areas include wetlands, all perennial and intermittent streams and their tributaries, and habitats supporting rare, endangered, and unique species. As discussed above under the project setting section, all of the project sites are adjacent to or within a riparian area. In addition, all of the work sites have the potential to support special status wildlife species (California red-legged frog, San Francisco garter snake, and San Francisco dusky-footed woodrat).

Policy 7.3 – *Protection of Sensitive Habitats*. This policy requires that development in areas adjacent to sensitive habitats be sited and designed to prevent impacts that could significantly degrade these resources. All uses shall be compatible with the maintenance of biologic productivity of the habitats. The proposed project will replace or reattach road culverts and repair road slip-outs. Failure to replace these failed structures and slip-outs will only exacerbate flooding and erosion problems, potentially leading to catastrophic road failures with resultant heavy siltation of the Arroyo Leon Creek, Pomponio Creek, San Gregorio Creek, and each creek's respective tributaries. The project will serve to reduce future sediment inputs into the creeks by reducing erosion potential at culvert outlets and roadside slip-outs. The Bear Gulch culvert replacement would replace a 60 inches wide pipe, 20 feet in length, with a pipe of the same size and length with no additional impacts on the project area. At the Higgins Canyon #2 site, a 15-inch flex pipe, 30 feet in length, will be added to the existing culvert to better direct water onto existing boulders for energy dissipation. The projects will minimize the impacts to the natural drainage patterns to the greatest extent possible. At the project sites where culverts are being reattached or replaced, the stones being added will help dissipate the energy of the water flowing and assist in preventing erosion. The addition of the stones, and the flex pipe at Higgins Canyon #2, will be the only alterations to the existing drainage pattern. Additionally, all personnel involved in repair activities will be briefed by a qualified biologist on appropriate best management practices (BMPs) selection and implementation, as well as other standard conservation measures outlined in the County of San Mateo Watershed Protection Program's Maintenance Standards. Revegetation of all disturbed areas is also included as part of this project.

No special status plant species were identified by the project biologist at any of the work sites. The applicant's biological report (see additional discussion below under Policy 7.5 – *Permit Conditions*, and Attachment D) identified the potential special status animal species at the project sites to include coho salmon, steelhead, San Francisco garter snake, pacific pond turtle, California red-legged frog, San Francisco dusky-footed woodrat, tidewater goby, yellow warbler, and saltmarsh common yellowthroat. However, steelhead, California red-legged frog, and the San Francisco dusky-footed woodrat are the only species known to occur within the project sites' limits. If present at the time of construction, there is the potential for injury or crushing by heavy equipment. Predation of individual members of each species is a potential, but can be avoided if preventative steps are taken. The recommended steps include scheduling construction for mid-summer to late fall, conducting pre-construction surveys for the various species, implementation of best management practices, and educating the workers to identify these species and avoid them. These recommended measures have been incorporated into this staff report as conditions of approval.

Policy 7.5 – Permit Conditions. This policy requires, as part of the development review process, that the applicant demonstrate that there will be no significant impact on sensitive habitats. This is achieved by having the applicant submit a biological report outlining what resources exist at the project location and how the project may impact those resources. As outlined above, the applicant has submitted a biological report for the site, which identifies potential impacts and recommended mitigation measures to minimize those impacts (see Attachment D). These recommendations were included by the applicant in their project proposal.

Policy 7.9 – Permitted Uses in Riparian Corridors. As discussed under the project setting section, all of the work sites have riparian woodland habitat associated with it, either directly or immediately adjacent. Policy 7.9 lists the permitted uses within a corridor, which includes the repair or maintenance of roadways or road crossings, when no feasible or practicable alternative exists. It is not feasible to re-align Higgins Canyon Road, Seaside School Road, Bear Gulch Road, or Stage Road without significant adverse environmental and fiscal impacts. It is also not feasible to create a span overpass or bridge over the existing waterways. Significant grading and vegetation removal would need to occur in order to construct these structures. There is the possibility that the natural drainage and flow for these waterways could be considerably altered and would require further environmental analysis. There could be impacts on protected species if the project included the building of bridges. The fiscal impact to DPW would also be greater. Therefore, the Department of Public

Works must continue to maintain these roads in their current alignment.

Policy 7.10 – *Performance Standards in Riparian Corridors*. This policy requires development permitted in corridors to:

Minimize removal of vegetation: While vegetation is proposed to be removed, the amount to be removed will be minimalized to the greatest extent possible. When possible, vegetation will be trimmed as opposed to removed. A qualified biologist will be present during all repair activities to oversee the removal process. At the project site on Bear Gulch Road, two mature trees are proposed to be removed. These trees are located in the middle of the proposed culvert replacement area and cannot be protected from being undermined during construction. No vegetation outside of the immediate area of construction is proposed for removal.

Minimize erosion, sedimentation, and runoff by appropriately grading and replanting modified areas: As part of their project proposal, the applicant will implement their standard construction best management practices to control erosion. These practices include the use of silt fencing or hay bales to entrap sediment and replanting of disturbed areas with an erosion control seed mix. The applicant is proposing that all work be conducted from the existing roadway. No powered equipment or vehicles will be within the stream channels. Thus, construction related sediment discharge should be minimal. The biotic report prepared for this project has included several recommendations that will help reduce the impact of this project upon the riparian habitat of the project sites. Those recommendations have been incorporated into this report as conditions of approval (See Attachment A).

b. Visual Resources Component

The project complies with Policy 8.31 (*Regulation of Scenic Corridors in Rural Areas*). Two projects are located in the Higgins-Purisima Road Scenic County Corridor, two in the La Honda Scenic County Corridor, one in the Stage Road Scenic County Corridor, and two in the Cabrillo Scenic Highway State Corridor. The policies of this chapter generally refer to above-grade structures (such as houses) that are visible to travelers from a distance. The replacement or reattachment of road culverts and the repairing of road slip-outs will be at road level or below, and in most cases will not be visible to motorists traveling on the roads adjacent to the proposed projects.

4. Conformity with Grading Regulations

Under this Coastal Development Permit, a total of approximately 690 cubic yards of fill will be used over the seven project work sites. Section 8603.9 of the San Mateo County Grading Regulations exempts work conducted in any County street public right-of-way or easement when the work is for a public facility, public utility, or other public purposes. Under PLN 2014-00199, DPW is improving a public facility, the roads and right-of-way, and falls under the above-mentioned exemption.

B. ENVIRONMENTAL REVIEW

The County is the lead agency and the Department of Public Works has assumed the role of lead department, per the CEQA Guidelines. The Department of Public Works filed a Categorical Exemption under Section 15301 (Repair of Existing Facilities) of the California Environmental Quality Act on May 27, 2014.

C. REVIEWING AGENCIES

California Coastal Commission

A referral was sent to this agency on July 31, 2014. As of the publication of this staff report, no comments have been received from the California Coastal Commission.

ATTACHMENTS

- A. Recommended Findings and Conditions of Approval
- B. Location Map
- C. Department of Public Works' Categorical Exemption
- D. Biotic Report

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County of San Mateo
Planning and Building Department

RECOMMENDED FINDINGS AND CONDITIONS OF APPROVAL

Permit or Project File Number: PLN 2014-00199 Hearing Date: October 8, 2014

Prepared By: Rob Bartoli, Project Planner For Adoption By: Planning Commission

RECOMMENDED FINDINGS

Regarding the Environmental Review, Find:

1. That the Planning Commission has reviewed and considered the Categorical Exemption, prepared by the Department of Public Works as Lead Department.

Regarding the Coastal Development Permit, Find:

2. That the project, as described in the application and accompanying materials required by Zoning Regulations Section 6328.7 and as conditioned in accordance with Section 6328.14, conforms with the plans, policies, requirements and standards of the San Mateo County Local Coastal Program as discussed in the staff report under Section A(2), including protection of biological resources.
3. That the project conforms to the specific findings required by policies of the San Mateo County Local Coastal Program as discussed in the staff report under Section A(2) and the applicant has agreed to implement the mitigation measures identified in the biological report in order to minimize any potential impact to biological resources to a less than significant level.

Regarding the Planned Agricultural Substantive Criteria, Find:

4. That the project, as described in the application and accompanying materials and discussion in this report and as conditioned, conforms to the applicable Substantive Criteria pursuant to Chapter 21.A Section 6355.

RECOMMENDED CONDITIONS OF APPROVAL

Current Planning Section

1. This approval applies only to the proposal, documents and plans described in this report and submitted to and approved by the Planning Commission at their October 8, 2014 meeting. Minor revisions or modifications to these projects may

be made subject to the review and approval of the Community Development Director.

2. The applicant shall implement their construction best management practices (BMPs) as necessary for each individual work area. Said practices shall conform to the San Mateo Countywide Stormwater Pollution Prevention Program “General Construction and Site Supervision Guidelines” and include, but not be limited to:
 - a. Using filtration materials on storm drain covers to remove sediment from dewatering effluent.
 - b. Stabilizing all denuded areas and maintaining erosion control measures continuously between October 1 and April 30.
 - c. Removing spoils promptly, and avoiding stockpiling of fill materials when rain is forecast. If rain threatens, stockpiled soils and other materials shall be covered with a tarp or other waterproof material.
 - d. Storing, handling, and disposing of construction materials and wastes so as to avoid their entry to a local storm drain system or water body.
 - e. Avoiding cleaning, fueling or maintaining vehicles on-site, except in an area designated to contain and treat runoff.
 - f. Ensuring that all contractors minimize the transport and discharge of pollutants from the project site into existing drainage systems and water bodies and adhere to the above referenced practices.
3. This permit shall be valid for one (1) year. Any extension of this permit shall require submittal of an application for permit extension and payment of applicable permit extension fees.
4. Prior to the beginning of construction activities associated with this Coastal Development Permit, the applicant shall submit copies of all applicable permits received from Local, State and Federal agencies for this project.

Biological Report Mitigation Measures

5. The project shall be timed to occur during the dry season (June 15 to October 15). Work shall not occur unless a zero precipitation forecast is obtained for the planned work days. If work is scheduled to begin prior to August 30, a qualified biologist shall conduct a pre-construction nesting bird survey.
6. If nesting birds are detected near the project sites, a 250-foot exclusion zone (1,000-foot for raptors) will be established. If the exclusion zone is located within the immediate work area, construction will be delayed until the young have

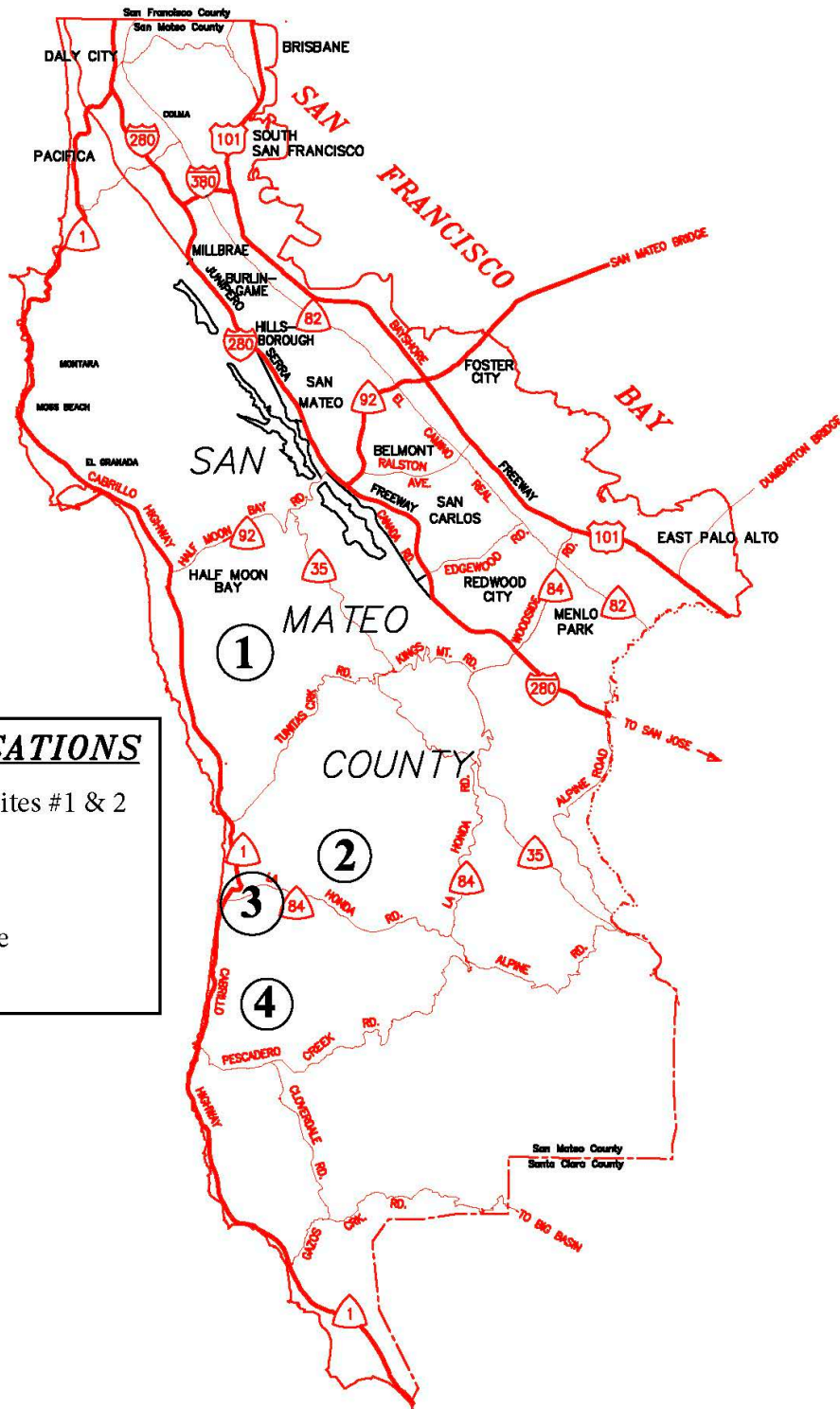
fledged and left the nest. If a site cannot be adequately surveyed for nesting birds, work at the site will be scheduled between August 30 and October 15.

7. The applicant shall preform pre-construction surveys for special status semi-aquatic species and other wildlife. Surveys shall be conducted by a qualified biologist. If sensitive semi-aquatic species (California red-legged frog, San Francisco garter snake) are observed near the project sites, the appropriate agencies, California Department of Fish and Wildlife (CDFW) and United States Fish and Wildlife Service (USFWS), will be notified immediately.
8. The applicant shall preform pre-construction surveys for San Francisco dusky-footed woodrat (SFDW) nests by a qualified biologist. If SFDW nests are found in the project site area, nests shall be clearly marked/flagged and a 10-foot exclusion buffer will be designated. If nests are located within 10 feet of the active work area, a qualified biologist will be present during construction activities to ensure no SFDW nests are impacted. If SFDW nests are within the immediate work area and impacts to the nest cannot be avoided, a permitted biologist will relocate the nests to a nearby area with the appropriate habitat requirements. Proximity to existing SFDW nests, food availability, and understory and canopy cover will be considered when relocating the nest(s) in order to maximize relocation success. Nest relocation would occur prior to construction and during the non-breeding season for SFWD (October 1st to January 31st). A SFDW Relocation Plan will be developed and submitted to the CDFW for approval prior to initiating relocation.
9. Additional special status plant species surveys will be conducted during peak blooming periods, in order to maximize the likelihood of locating sensitive species in the immediate work areas. Special status plants will be clearly marked/flagged or temporary construction fencing will be erected to delineate the areas to be avoided.
10. The applicant shall conduct a pre-construction briefing of all personnel involved in repair activities by a qualified biologist including sensitive species training and best management practices (BMPs) implementation (Appendix C Sensitive Species Information Sheets).
11. The applicant shall perform on-site monitoring of repair activities. Monitoring shall be by a qualified biologist. The monitoring biologist shall inspect the work area for wildlife each day prior to the start of repair activities and remain on-site until the work is completed. Work will not take place in any area in which California red-legged frog (CRLF) is present. If this species is detected within the active work area, repair activities shall stop until a permitted biologist relocates the animal or it leaves on its own. Work will not take place in any area in which San Francisco garter snake (SFGS) is present. If this species is detected within the active work area, repair activities shall stop until the animal leaves the area on its own. The monitoring biologist shall inspect beneath all vehicles that have been parked for more than 15 minutes before they leave the project sites.

12. All heavy equipment shall be operated from the roadway or roadside shoulders.
13. Fueling and maintenance of vehicles shall take place at least 65 feet away from the waterways.
14. Erosion control and containment BMPs (e.g., installation of sandbags, silt fencing, and/or natural fiber tightly woven straw wattles, street sweeping, etc.) shall be installed to prevent delivery of pollutants into the waterways.
15. The removal of wetland and riparian vegetation shall be minimized. When possible, wetland and riparian vegetation shall be trimmed as opposed to removed. One 3-inch diameter at breast height (dbh) arroyo willow (*arroyo lasiolepis*) located at the Higgins Canyon Road #1 project site will require removal for proper slip-out repair. Additionally, two 12- to 13-inch dbh arroyo willows will require removal to extract the deteriorated culvert at the Bear Gulch Road project site (Section 8 – Site Specific Descriptions).
16. Where appropriate, biotechnical designs, including the brushlayering technique, shall be incorporated into the project repairs to minimize impacts to natural habitats.
17. Disturbed areas along the roadway shoulder shall be seeded with a native seed mix following culvert replacement/reattachment and slip-out repair.
18. Vegetation, sediment, debris, and trash will not be stockpiled on-site and shall be removed from the sites at the end of each workday.

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PACIFIC OCEAN



- PROJECT LOCATIONS**
- ① Higgins Canyon Sites #1 & 2
 - ② Bear Gulch Site
 - ③ Stage #1 Site and Seaside School Site
 - ④ Stage #2 Site

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DESIGNED BY:
 CHECKED BY: EG
 DRAWN BY: MH

FIGURE 1. COASTAL CULVERT REPLACEMENT,
 REATTACHMENT, AND SLIP-OUT REPAIRS PROJECT
VICINITY MAP

SCALE: NONE
 DATE: JAN 2014
 FILE NO: 1/XXXX

JAMES C. PORTER, DIRECTOR OF PUBLIC WORKS
 SAN MATEO COUNTY

555 COUNTY CENTER, 5TH FLOOR
 REDWOOD CITY, CALIFORNIA 94063-1665

San Mateo County Planning Commission Meeting

Owner/Applicant: _____ Attachment: _____

File Numbers: _____

County of San Mateo

Department of Planning and Building

455 County Center, 4th Floor

Redwood City, CA 94063

Phone: (650) 363-4161

**COASTAL CULVERT REPLACEMENT, REATTACHMENT, AND SLIP-OUT REPAIRS PROJECT
BIOLOGICAL IMPACT FORM**

**For compliance with:
POLICY 7.5**

LOCAL COASTAL PROGRAM

Filing Date: _____

Public Hearing: _____

Approval Date: _____

1. Project Location:

The Coastal Culvert Replacement, Reattachment, and Slip-out Repairs Project (Project) sites are located on Higgins Canyon Road, Seaside School Road, Bear Gulch Road, and Stage Road, in unincorporated San Mateo County (Appendix A, Figures 1, 2, 5, 7, 9). The project sites are mapped as occurring on the United States Geological Survey (USGS) Half Moon Bay, La Honda, and San Gregorio 7.5 minute topographic quadrangle maps and listed below in Table 1. Project sites are grouped based on their respective watersheds.

Table 1 – Locations of Coastal Culvert Replacements, Reattachment, and Slip-out Repairs Project Sites. (Latitude/Longitude WGS84)					
Project Site	USGS Quadrangle	Roadway Milepost	Latitude (deg min sec)	Longitude (deg min sec)	Proposed Actions
Pilarcitos Watershed					
Higgins Canyon Road #1	Half Moon Bay	0.7 (from State Route 1)	37° 27' 7.49"	-122° 24' 59.62"	Repair Slip-out
Higgins Canyon Road #2	Half Moon Bay	1.8 (from State Route 1)	37° 26' 34.90"	-122° 24' 9.61"	Repair Slip-out Attach Flexpipe
San Gregorio Watershed					
Seaside School Road	San Gregorio	1000 ft (from Stage Road)	37° 19' 27.73"	-122° 23' 1.55"	Repair Two Slip-outs

Table 1 – Locations of Coastal Culvert Replacements, Reattachment, and Slip-out Repairs Project Sites. (Latitude/Longitude WGS84)					
Project Site	USGS Quadrangle	Roadway Milepost	Latitude (deg min sec)	Longitude (deg min sec)	Proposed Actions
Bear Gulch Road	La Honda	0.5 (from State Route 84)	37° 19' 56.39"	-122° 20' 53.67"	Replace Culvert
Stage Road #1	San Gregorio	300 ft north (from State Route 84)	37° 19' 41.17"	-122° 23' 12.41"	Reattach Culvert
Pomponio Watershed					
Stage Road #2	San Gregorio	3.2 south (from State Route 84)	37° 17' 50.04"	-122° 23' 2.20"	Reattach Culvert

2. Assessor’s Parcel Number and Any Applicable Planning Permit Numbers:

The project sites are located within the County of San Mateo right-of-ways for Higgins Canyon Road, Stage Road, Seaside School Road, and Bear Gulch Road and are associated with the following Assessor’s Parcel Numbers (APN):

Sites on Higgins Canyon Road: 066110010, 064370300, 065210240, 064370070.

Sites on Seaside School Road: 081023010, 081240020, 081250020, 081250030.

Sites on Bear Gulch Road: 081220060, 134291220, 081310220, 081310190.

Sites on Stage Road: 081013090, 081013120, 081040010, 087230030, 087160020, 087160010.

3. Owner/Applicant: County of San Mateo Department of Public Works
c/o Edelzar Garcia, Senior Civil Engineer, Utilities-Flood Control-Watershed Protection.

Address: 555 County Center, 5th Floor, Redwood City, CA. 94063-1665

Phone: (650) 599-1436

4. Principal Investigator: Michael Huynh, Biologist, Utilities-Flood Control-Watershed Protection.

Address: 555 County Center, 5th Floor, Redwood City, CA. 94063-1665

Phone: (650) 599-1417

Fax: (650) 361-8220

5. Report Summary:

The County of San Mateo Department of Public Works (County) proposes to replace one deteriorated corrugated metal pipe (CMP) culvert on Bear Gulch Road, repair one roadside slip-out at each of the two sites on Higgins Canyon Road and two slip-outs on Seaside School Road, and reattach one disconnected culvert at each of the two sites on Stage Road. Additionally, a flex pipe and flume will be installed onto the existing culvert at Higgins Canyon #2 project site to reduce further incision of the gully. All project sites are located in unincorporated San Mateo County. The project sites consist primarily of ruderal annual grassland, coastal scrub, and riparian habitat within the vicinity of Arroyo Leon Creek, Palmer Gulch, Clear Creek, and unnamed tributaries to San Gregorio Creek and Pomponio Creek. The potential for special status plant species to occur within the project sites is discussed in Section 10, below. Special status animal species that may potentially occur within the project sites include coho salmon (*Oncorhynchus kisutch*), steelhead (*Oncorhynchus mykiss*), San Francisco garter snake (SFGS) (*Thamnophis sirtalis tetrataenia*), pacific pond turtle (*Actinemys marmorata*), California red-legged frog (CRLF) (*Rana draytonii*), San Francisco dusky-footed woodrat (SFDW) (*Neotoma fuscipes annectens*), tidewater goby (*Eucyclogobius newberryi*), yellow warbler (*Dendritic petechial*), and saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*). However, steelhead, CRLF, and SFDW are the only species known to occur within the project sites' limits. SFDW nests were observed within close proximity to the Higgins Canyon #1 and Bear Gulch project sites as detailed below in Section 8. No other sensitive plants or animal species were observed during the site surveys.

Potential impacts to biological resources from the proposed Project have been identified, such as reduced water quality to aquatic species, disturbance of nesting birds, negative impacts on special status species, and riparian habitat impacts. Potential Project-related impacts will be minimized or avoided by implementation of best management practices (BMPs) and conservation and minimization measures. The Project includes restrictions on construction timing, pre-construction sensitive species surveys, on-site monitoring by a qualified biologist, erosion control and containment BMPs, and revegetation of disturbed areas following construction activities.

6. Projects and Property Description:

The Bear Gulch project site consists of replacing one deteriorated CMP culvert on Bear Gulch Road. The existing 60-inch CMP culvert shows extensive signs of damage including deteriorated culvert flooring, a detached section of culvert inlet, and structural contortions on the inlet and outlet. The culvert will be replaced with a CMP culvert of equal diameter and length, which will increase its water carrying capacity and prevent road failure without drastically increasing the footprint of the project site (Section 8, Results). Additionally, roadside slip-outs at the two Higgins Canyon project sites on Higgins Canyon Road will need to be repaired to ensure stabilization of the roadway and provide a usable roadway shoulder. The Higgins Canyon #2 project site will also involve the attachment of a flume and flex pipe for the purpose of routing water onto existing boulders to reduce further downcutting of the gully. Moreover, the Seaside School project site will include the repair of two roadside slip-outs along Seaside School Road, which is paralleled by an unnamed tributary to San Gregorio Creek. Slip-outs will be repaired by excavating the slipped materials and rebuilding the shoulder using imported soil, boulders, and if appropriate, bioengineering techniques such as brushlayering and live staking using willow (*Salix sp.*) and dogwood (*Cornus sp.*) cuttings. The two Stage Road project sites involve excavating and reattaching two different culverts at two locations along Stage Road. The proposed Project will not result in the expansion of the existing roadways. Culverts were sized to withstand a 100-year flood event based on watershed size and runoff estimates. The Project's roadways are maintained by the County, which proposes to undertake the Project as a "repair activity". A description and a detail of proposed work for each project site are presented below in Section

8.

Best Management Practices and Conservation Measures

Potential impacts to beneficial uses and biological resources at the project sites will be prevented by the use of the following BMPs and conservation measures:

- Project timing during the dry season (June 15 to October 15). Work shall not occur unless a zero precipitation forecast is obtained for the planned work days.
- If work is scheduled to begin prior to August 30, a qualified biologist shall conduct a pre-construction nesting bird survey.
 - If nesting birds are detected near the project sites, a 250-foot exclusion zone (1000-foot for raptors) will be established. If the exclusion zone is located within the immediate work area, construction will be delayed until the young have fledged and left the nest.
 - If a site cannot be adequately surveyed for nesting birds, work at the site will be scheduled between August 30 and October 15.
- Pre-construction surveys for special status semi-aquatic species and other wildlife by a qualified biologist.
 - If sensitive semi-aquatic species (CRLF, SFGS) are observed near the project sites, the appropriate agencies, California Department of Fish and Wildlife (CDFW) and United States Fish and Wildlife Service (USFWS), will be notified immediately.
- Pre-construction surveys for SFDW nests by a qualified biologist.
 - If SFDW nests are found in the project site area, nests shall be clearly marked/flagged and a 10-foot exclusion buffer will be designated. If nests are located within 10-feet of the active work area, a qualified biologist will be present during construction activities to ensure no SFDW nests are impacted.
 - If SFDW nests are within the immediate work area and impacts to the nest cannot be avoided, a permitted biologist will relocate the nests to a nearby area with the appropriate habitat requirements. Proximity to existing SFDW nests, food availability, and understory and canopy cover will be considered when relocating the nest(s) in order to maximize relocation success. Nest relocation would occur prior to construction and during the non-breeding season for SFWD (October 1st to January 31st). A SFDW Relocation Plan will be developed and submitted to the CDFW for approval prior to initiating relocation.
- Additional special status plant species surveys will be conducted during peak blooming periods, in order to maximize the likelihood of locating sensitive species in the immediate work areas. Special status plants will be clearly marked/flagged or temporary construction fencing will be erected to delineate the areas to be avoided (Section 9, below).
- Pre-construction briefing of all personnel involved in repair activities by a qualified biologist including sensitive species training and BMP implementation (Appendix C

Sensitive Species Information Sheets).

- On-site monitoring of repair activities by a qualified biologist.
 - The monitoring biologist shall inspect the work area for wildlife each day prior to the start of repair activities and remain on site until the work is completed.
 - Work will not take place in any area in which CRLF is present. If this species is detected within the active work area, repair activities shall stop until a permitted biologist relocates the animal or it leaves on its own.
 - Work will not take place in any area in which SFGS is present. If this species is detected within the active work area, repair activities shall stop until the animal leaves the area on its own.
 - The monitoring biologist shall inspect beneath all vehicles that have been parked for more than 15 minutes before they leave the project sites.
- All heavy equipment will be operated from the roadway or roadside shoulders.
- Fueling and maintenance of vehicles shall take place at least 65 feet away from the waterways.
- Erosion control and containment BMPs (e.g., installation of sandbags, silt fencing, and/or natural fiber tightly woven straw wattles, street sweeping, etc.) shall be installed to prevent delivery of pollutants into the waterways.
- The removal of wetland and riparian vegetation shall be minimized. When possible, wetland and riparian vegetation shall be trimmed as opposed to removed. One 3-inch diameter at breast height (DBH) arroyo willow (*Arroyo lasiolepis*) located at the Higgins Canyon Road project site #1 will require removal for proper slip-out repair. Additionally, two 12- to 13-inch DBH arroyo willows will require removal to extract the deteriorated culvert at the Bear Gulch project site (Section 8 – Site Specific Descriptions).
- Where appropriate, biotechnical designs, including the brushlayering technique, have been incorporated into the Project repairs to minimize impacts to natural habitats.
- Disturbed areas along the roadway shoulder shall be seeded with a native seed mix following culvert replacement/ reattachment and slip-out repair.
- Vegetation, sediment, debris, and trash will not be stockpiled on-site and shall be removed from the sites at the end of each workday.

Use of preventative measures such as these is an integral part of the maintenance procedures followed by the County, as outlined in the County of San Mateo Watershed Protection Program's *Maintenance Standards* (County, 2004). Incorporation of these practices into the proposed Project will prevent potential Project-related impacts and eliminates the need for mitigation measures.

7. Methodology:

The project sites were analyzed for potential impacts to biological resources including special status plant and animal species. Special status species are those which have been designated as endangered, threatened, or species of concern by federal or state regulatory agencies. The analysis consisted of a review of federal and state species-specific data, comprehensive field surveys of the sites, and an evaluation of the likeliness of special status species occurring based on survey results to determine the likelihood of impacts.

A review of special status species with the potential to occur in the Project area was conducted using a combination of state and federal agency resources. A list of special status plant and animal species known to, or believed to occur within the Project vicinity (USGS Half Moon Bay, La Honda, and Half Moon Bay 7.5' quadrangles) was generated using the Sacramento United States Fish and Wildlife Service website (USFWS, 2013). A list of California Native Plant Society (CNPS) plants listed as Rare and Endangered was queried using the CNPS Inventory website (CNPS, 2014). The California Natural Diversity Database (CNDDB) compiled by the CDFW was queried to determine if any of the special status plant or animal species from the USFWS and CNPS lists are known to occur within the Project vicinity. Additionally, the CDFW's Biogeographic Information & Observation System (BIOS) was queried for marbled murrelet (*Brachyramphus marmoratus*), coho salmon, and steelhead trout observations and habitat designations. The CNDDB and BIOS query results for each project site were further analyzed and mapped (Appendix A, Figures 3, 6, 7, & 10) to determine if any special status species have been documented to occur within 1/2 miles of the project site area. In instances where CRLF were detected within 2 miles of a project site, the analysis ring was expanded to cover a 2-mile radius. The results of these four queries have been tabulated in Section 10, Table 4. Marine species and species that do not typically occur within the plant communities and habitats that currently exist in the Project area were excluded (e.g., sperm whale, loggerhead turtle, short-tailed albatross, black abalone, etc.)

County biologists Carole Foster and Michael Huynh surveyed the project sites on December 10, 2013, December 26, 2013, December 31, 2013, February 11, 2014, March 12, 2014, and March 24, 2014 to determine potential impacts to biological resources (e.g., seasonal wetlands, nesting birds, special status species, etc.) and water quality. Qualifications of the County biologists are given in Appendix B. The surveys involved documenting the physical characteristics of the sites such as presence of water, presence of sensitive habitat, and existing sedimentation and/or erosion problems. All plant and animal species observed in the Project area were documented and are presented in Section 8 (Tables 2 and 3). Additionally, major plant communities and habitat types within and adjacent to the sites were identified in order to evaluate the suitability of the habitat for special status species.

8. Results:

Non-native annual grasslands, riparian, and coastal scrub habitat were documented within and adjacent to the Project sites. Below is a description of each habitat type as well as a description of the setting within each project site.

Non-native Annual Grasslands

Roadway shoulders along Higgins Canyon Road, Seaside School Road, Bear Gulch Road, and Stage Road contain patches of bare soil, non-native ornamental plants, and ruderal annual grassland habitat consisting of non-native annual grasses such as wild oat (*Avena fatua*), mustard (*Brassica* sp.), plantain (*Plantago lanceolata*), and bristly ox-tongue (*Picris echioides*) as the dominant plant species. Annual grassland habitat of this nature can be utilized to a very minimal degree for foraging by common species of wildlife such as Botta's pocket gopher (*Thomomys bottae*) and voles (*Microtus spp.*)

Riparian

The Higgins Canyon #1, Higgins Canyon #2, Bear Gulch, Seaside School, Stage #1, and Stage #2 project sites contain riparian habitat (see Site Specific Descriptions, below). Riparian habitat is a combination of aquatic and terrestrial habitat within stream corridors and extends to the dripline (extent of foliage) of the riparian vegetation. Within the Project area, this habitat type is dominated by red alder (*Alnus rubra*), willow (*Salix* sp.), and creek dogwood (*Cornus sericea*). Other plant species include California bay (*Umbellularia californica*), eucalyptus (*Eucalyptus* sp.), California blackberry (*Rubus ursinus*), poison oak (*Toxicodendron diversilobum*), mugwort (*Artemisia douglasiana*), western sword fern (*Polystichum munitum.*), and periwinkle (*Vinca major*). Many common aquatic and nonaquatic wildlife species such as Pacific chorus frog (*Pseudacris sierra*), mule deer (*Odocoileus hemionus*), coyote (*Canis latrans*), brush rabbits (*Sylvilagus bachmani*), red-shouldered hawks (*Buteo lineatus*), and California quail (*Callipepla californica*) seek riparian habitats for water, places to forage, and refuge from predators. As discussed in Section 10, three special status species, California red-legged frog (CRLF), San Francisco garter snake (SFGS), and San Francisco dusky-footed woodrat (SFDW) could be expected to occur within riparian habitats adjacent to or within the Project sites.

The habitats could potentially be used as a foraging area by SFGS and CRLF, which are known to feed on Pacific chorus frog (USFWS, 2006). The drainages could also be used as a potential migration corridor for CRLF and SFGS, since potential breeding ponds exist within 2 miles of the proposed project sites. SFDW nests were observed at the Higgins Canyon #1, Higgins Canyon #2, and Bear Gulch project sites and are expected to be present in the adjacent riparian and coastal scrub habitats.

Coastal Scrub

The slopes adjacent to the Higgins Canyon project sites, Stage project sites, and Seaside School project sites are vegetated with a low shrub intermixed with grassy meadow-dominated habitat containing species consistent with coastal scrub, such as coyote brush (*Baccharis pilularis*), poison oak, sticky monkey-flower (*Mimulus aurantiacus*), California blackberry, lizard's tail (*Eriophyllum stoechadifolium*), and annual native and non-native grasses (unidentified). Coastal scrub provides habitat for an abundance of wildlife species, especially for birds. Two SFDW nests were observed in the coastal scrub habitat at Higgins Canyon #2 project site but are out of the immediate construction area. The SFDW nests will be flagged for avoidance.

Site Specific Descriptions

Pilarcitos Watershed Sites

Higgins Canyon #1 – Slip-out Repair

The Higgins Canyon #1 project site is located on Higgins Canyon Road approximately 0.7 miles east of State Route 1 (Appendix A, Figures 1 & 2). An unnamed drainage and an earthen ditch drains into a 36-inch CMP culvert before joining Arroyo Leon Creek approximately 200 feet downstream from the culvert outfall. At the time of the December 2013 visits, the unnamed drainage was dry with no standing water. During the rainy season, the drainage carries runoff from its headwaters, the nearby agriculture field, and the neighboring drainage to the east. Off-channel ponds have been created on the neighboring drainage for agricultural and ranching purposes and have been diverted into the unnamed drainage existing within the project site. Based on watershed size and runoff estimates, the existing culvert is adequate for withstanding a 100-year rainfall event and will not require replacement.

A slip-out (15'L x 10'W x 10'H) has developed on the roadway shoulder immediately adjacent to the culvert outlet (Photo 1 & 2). The slip-out eroded from the edge of the pavement and into the drainage channel. When comparing photos from a visit in February 2013 to the most recent visit in December 2013, the slip-out appears to have worsened slightly (Photos 1 & 2). Approximately, 74.52 cubic yards of imported soil and 1- to 4-foot diameter rock will be used to rebuild the shoulder and provide energy dissipation for the culvert outlet. One 3-inch DBH arroyo willow (*Salix lasiolepis*) exists in the immediate work area and will need to be removed in order to excavate the bench for the placement of boulders used to form the toe of the slope, and provide energy dissipation for the culvert outlet. (Appendix A, Figures 11 & 12). The rest of the embankment will be repaired using brushlayering in conjunction with the placement of rock and imported soil. Arroyo willow stands are readily available near the culvert and can be used for harvesting stakes during the brushlayering process. The upper two feet of the revetment is considered the roadway shoulder and will be free of woody vegetation which might otherwise reduce visibility along the road.

The majority of the roadway shoulder extending beyond the slip-out and culvert has extensive signs of damage from voles (*Microtus spp.*). Following the slip-out repair, the shoulder will be seeded with native grasses and covered with an erosion control blanket. Disturbances are not expected to take place beyond the dashed lines in Photo 3. Out of the six SFDW nests detected during the December 10, 2013 survey, only one nest exists within 25 feet of the immediate work area (Appendix A, Figure 4). The SFDW nest exists at the base of an arroyo willow tree beyond 10 feet of the immediate construction area and will be marked for avoidance using high visibility flagging. The slip-out repair will take place when the site is dry and once completed, will reduce erosion contributions to Arroyo Leon Creek.



Photo 1 - Photo of slip-out dated February 26, 2013. Several shallow-rooted annual grasses visible on shoulder and in slipped area. The 36-inch culvert outlet is visible on bottom left corner of picture as indicated by the arrow.



Photo 2 - Photo of slip-out dated December 10, 2013. Most of the annual grasses have died or eroded into the drainage revealing more of the damaged shoulder. Three reflector posts have been installed to reduce the possibility of motorists inadvertently driving into drainage. Dashed lines indicate the location of the slip-out. Note the erosion has reached the edge of pavement; whereas the edge of pavement in Photo 1 is still protected by a sliver of dirt.



Photo 3 - Photo of slip-out looking east on Higgins Canyon Road. Dashed lines indicate immediate construction area. Slip-out deteriorated from the edge of pavement and eroded into the channel. Location of San Francisco dusky-footed woodrat nest location indicated by arrow.



Photo 4 - Photo of the 36-inch CMP culvert outfall and the unnamed drainage. Slip-

out is visible on lower right of the picture. The 3-inch DBH arroyo willow will need to be removed in order to excavate the bench for fill placement. Energy dissipating boulders will be placed at the toe of the slope and concrete apron.

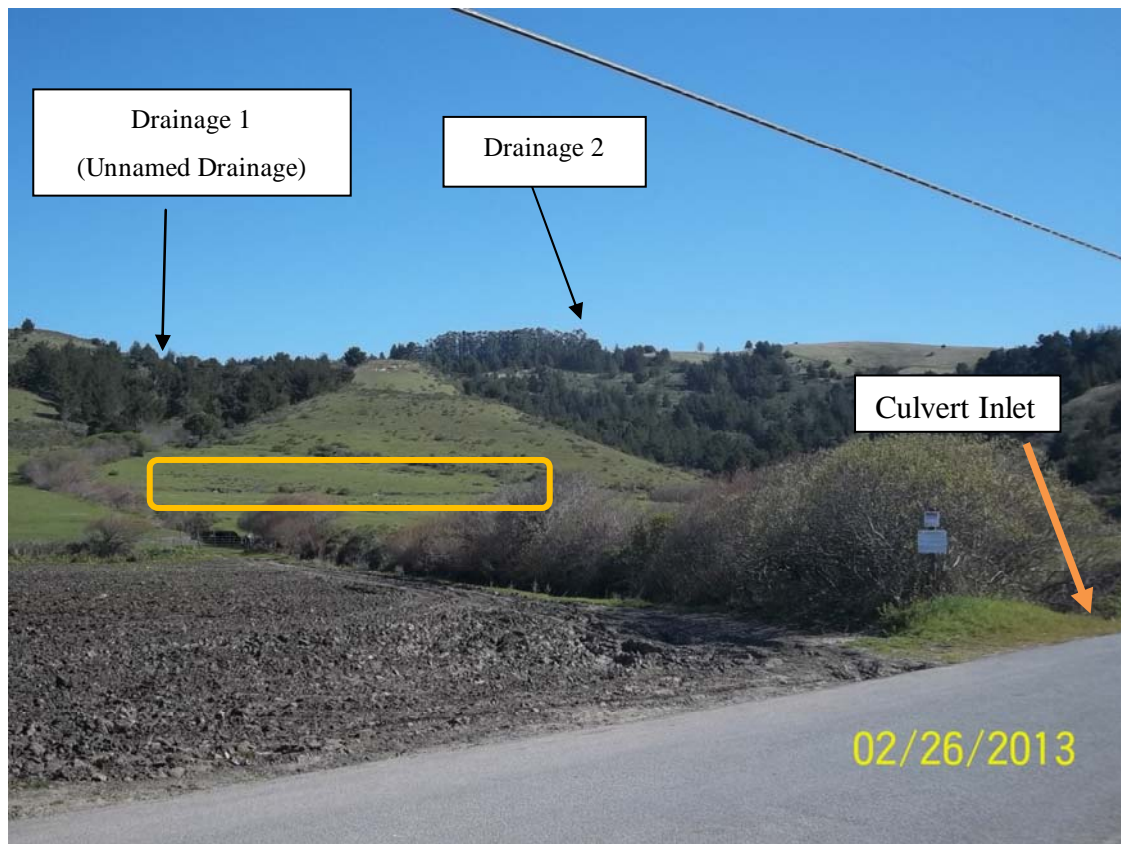


Photo 5 – Photo showing the upstream extent of the unnamed drainage. Runoff accumulates into the unnamed drainage from the surrounding agriculture and ranching operations as well as the drainage to the east (Drainage 2). Off-channel ponds have been created on the drainage to the east and flows have been diverted into the drainage as indicated by the rectangle.

Higgins Canyon #2 – Slip-out Repair and Flex Pipe Attachment

The Higgins Canyon #2 project site is located on Higgins Canyon Road approximately 1.8 miles east of State Route 1 and 700 feet south of Burleigh Murray Ranch State Park (Appendix A, Figures 1 & 2). At the site, a 15-inch CMP culvert drains an earthen ditch, producing a narrow gully surrounded by dense patches of poison oak. The gully is then drained by a driveway culvert before connecting with Arroyo Leon Creek approximately 150 feet downhill of Higgins Canyon #2 project site (Photo 7). No water was present in the gully or the associated roadside ditch during the biological assessment survey conducted in December 2013. The gully is ephemeral and contributes flow to Arroyo Leon only during rain events. Based on watershed size and runoff estimates, the existing culvert is adequate for withstanding a 100-year rainfall event and will not be replaced.

A slip-out (35’L x 15’W x 8’H) has developed along the shoulder near the 15-inch CMP outfall (Photo 6). County proposes to repair the slip-out by excavating the slipped material and keying multiple 1- to 4-foot diameter boulders into the bench (Appendix A, Figure 13). Approximately 65.98 cubic yards of native and imported soil and rock will be used to repair the slip-out. The disturbed areas will be hand seeded with

native grasses and covered with an erosion control mat.

In order to avoid further incision of the gully, a 30-foot-long flex pipe of equal diameter will be bolted onto the existing 15-inch CMP culvert. At the end of the flex pipe, a flume of equal diameter will be mounted to direct water onto existing boulders for energy dissipation. No excavation or heavy equipment will be required for the flex pipe and flume installation as it will be done by hand. Two SFDW nests were detected in the coastal scrub habitat on the upslope side of the road. Construction activities will not impact the two SFDW nests as they are outside of the work footprint. A 10-foot exclusion buffer identified using high visibility flagging will be established around all active SFDW nests near the project site. No SFDW nests were found within 10-feet of the immediate construction area. Repair work will be preceded by a preconstruction survey for special status species and construction will take place when the site is dry.



Photo 6 – Photo showing the extent of the slip-out indicated by the dashed lines. Damage caused by voles is prevalent throughout the shoulder. Cause of slippage might be due to a combination of factors including but not limited to vole burrows, unnatural consolidation of water run-off, and roadside vegetation management.



Photo 7 – Photo of gully leading to private driveway culvert. Arroyo Leon Creek exists approximately 150ft below Higgins Canyon Road at this location. Arrow indicates approximate location of proposed flume and extent of flex pipe.



Photo 8 – Photo of 15-inch CMP culvert inlet along Higgins Canyon Road. The inlet drains the surrounding hillside and an earthen ditch. Parcel on upslope side of the road is part of Burleigh Murray Ranch State Park.

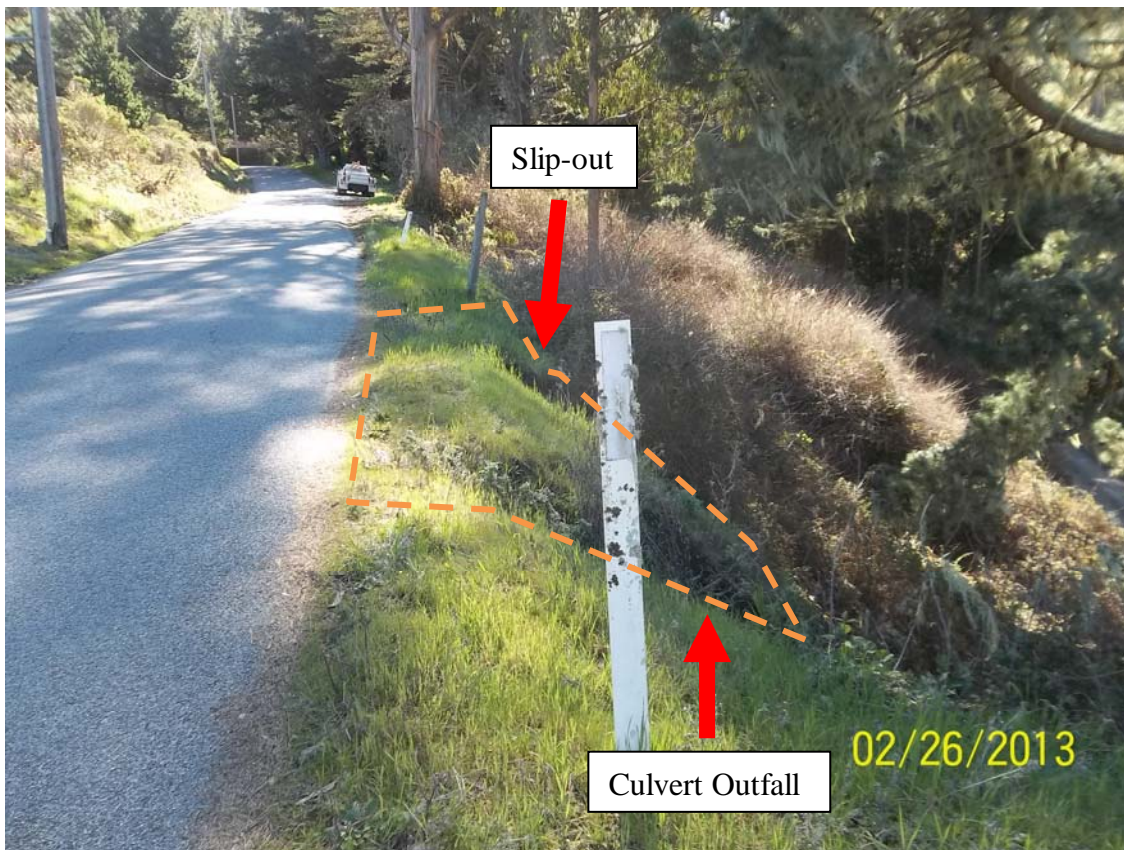


Photo 9 – Photo of work area on Higgins Canyon Road. Dashed lines indicate area of potential disturbance. Several Monterey pine (*Pinus radiata*) and eucalyptus (*Eucalyptus spp.*) trees exist in the area. No raptors or raptor nests were observed during the biological assessment survey in December 2013.

San Gregorio Watershed Sites

Seaside School – Slip-out Repairs

The Seaside School project site is located on Seaside School Road approximately 1000 feet east of the Stage Road intersection (Appendix A, Figures 1, 5, & 6). An unnamed tributary runs parallel for most of Seaside School Road before joining with San Gregorio Creek 50-feet downstream of the project site (Appendix A, Figures 1, 5, & 6). The unnamed stream is intermittent and the channel within the project site is entrenched. Dense willow (*Salix sp.*) branches exist at the confluence and act as a natural debris retainer which may result in flooding if a significant logjam forms. Moreover, a large willow tree has fallen onto the dense willow patch from the San Gregorio Creek channel. As of February 2014, a small wildfire has burned the upland vegetation immediately adjacent to the project site, leaving the ground beneath the eucalyptus trees bare (Photo 12). New growth was observed in the burn zone during the biological assessment survey on March 12, 2014. County proposes to repair two roadside slip-outs on Seaside School Road. The two slip-outs are located at the road edge of Seaside School Road approximately 5 feet above the ordinary high water mark of the unnamed stream. The proposed slip-out repairs will reduce turbidity contributions into the unnamed stream and San Gregorio Creek.

Slip-out #1

A slip-out measuring 23'L x 7'W x 6'D exists on the north side of Seaside School Road. The slipped material has been recolonized by annual herbaceous vegetation which provide poor soil stability as their roots are generally shallow and their presence is temporal (Photo 10). Willow branches extend from the opposite bank towards the slipped area. Currently, no mature trees will require removal but overhanging branches will require trimming in order to provide access and maintain visibility within the immediate construction area. The trimmings will be disposed of at a County corporation yard. The upper 6 feet of the embankment has slipped, leaving the remaining lower portion intact. The resulting bench existing 6 feet below the road will serve as the foundation for the repair (Photo 11). The proposed repair will consist of excavating the slipped materials, keying 1- to 4-foot boulders into the bench of the excavation work and rebuilding the shoulder with imported soil (Appendix A, Figure 14). Approximately 35.78 cubic yards of imported soil and rock will be used to reconstruct the slipped shoulder. Nearby willow and creek dogwood branches will be harvested and placed into the reconstructed revetment to provide additional structural support and restore riparian habitat value. Woody vegetation will not be added to the upper 2 feet of the revetment in order to reduce vegetation encroachment towards the road. Disturbed areas will be seeded with a native plant mix, covered with an erosion control mat, and mulched with sterile rice straw. The unnamed tributary will be dry during construction.



Photo 10 – Photo of slip-out looking east from Seaside School Road. Slipped soils were not observed in the channel or in the slipped area, indicating that past streamflows have transported the material downstream. Dashed lines indicate slip-out location and previous extent of shoulder.



Photo 11 – Photo of slip-out looking west from Seaside School Road. Only herbaceous vegetation (cape ivy, miner's lettuce, milk thistle, bed straw) exists in the slipped material. The overhanging vegetation will need to be thinned to provide construction access and visibility of the slipped area. Dashed lines indicate slip-out location and previous extent of

shoulder.



Photo 12 – Photo of upland area on south side of Seaside School Road immediately adjacent to the two slip-outs. Although the fire scorched most of the understory coastal scrub vegetation, most of the eucalyptus trees in the background of the picture survived.

Slip-out #2

Slip-out #2 is located on Seaside School Road approximately 50 feet east of Slip-out #1 and approximately 1000 feet east of Stage Road (Appendix A, Figures 1, 5, & 6). A slip-out redeveloped at the location of a past slip-out repair, resulting in debris deposition into the unnamed stream. County believes the cause for the slip-out was due to a combination of undesirably moist soils during construction and a dead willow tree (*Salix lasiolepis*) which fell into the channel, taking with it the boulders and soil used to repair the previous slip-out (Photo 14). When adequate flows were present, some of the slipped materials were carried downstream into San Gregorio Creek. In January 2014, County personnel removed the slipped boulders and fallen willow tree from the entrenched channel to prevent flooding and protect Seaside School Road (Photo 14). As previously mentioned, the confluence of this unnamed tributary with San Gregorio Creek has a heavy growth of willow branches which span the channel at the confluence. Any recruitment of woody debris can easily result in a wood jam at the dense willow patch which could damage the road and leave residents stranded. The removed materials were transported to a County storage yard. The existing slip-out dimensions are approximately 30'L x 5'W x 5'H. The proposed repair will consist of excavating the slipped materials and re-keying the boulders back into the bench. The remaining portion of the slip-out will be filled with approximately 27.78 cubic yards of soil and 1- to 4-foot diameter boulders (Appendix A, Figure 15). Locally harvested willow and creek dogwood stakes will be incorporated into the slip-out

repair to assist with stabilizing the revetment and discourage recruitment of invasive plant species. Disturbed areas will be seeded with a native seed mix, covered with an erosion control blanket, and mulched with sterile rice straw. Construction work will only take place when the site is dry. Disturbances are not expected to exceed beyond the boundaries shown in Photo 13.



Photo 13– Photo of slip-out location in relation to Seaside School Road. In the past, emergency repairs were completed to repair a slip-out at the same location. Recently an undermined willow tree fell from the road shoulder and caused another slip-out. Dashed lines indicate expected area of disturbance and previous extent of shoulder.



Photo 14 – Photo of slipped materials in the unnamed tributary channel. Arrows indicate location of slipped boulders and the undermined willow. The boulder and tree were removed from the entrenched channel to prevent flooding from upcoming rain events. The stream’s confluence with San Gregorio Creek is approximately 100 feet downstream of the slip-out #2 and 50 feet downstream of slip-out #1.

Bear Gulch – Culvert Replacement

The Bear Gulch project site is located on Bear Gulch Road, approximately ½ mile north of State Route 84 adjacent to the town of San Gregorio (see Appendix A, Figures 1 & 7). Clear Creek is an intermittent tributary to San Gregorio Creek and contributes surface flow exclusively during the rainy season. The tributary originates 3 miles north of the intersection of Bear Gulch Road and State Route 84 and joins San Gregorio Creek approximately ¾ mile south of the project site location. Bear Gulch Road crosses Clear Creek at two locations, both of which have culverts maintained by the County of San Mateo. County biologists observed no surface flow within the culvert or the channel on December 19, 2013 and February 3, 2014, after a storm brought ½ an inch of rain to the area on February 2, 2014. Minor surface flow was present during the March 24, 2014 visit.

At the project site, a 60-inch diameter CMP culvert is responsible for passing flows from Clear Creek through Bear Gulch Road. Since 1998, the pipe showed concerning signs of structural deterioration after the inlet of the culvert was partially collapsed due to debris from a storm event. A 20-foot long section of the culvert inlet has detached from the existing pipe, causing the road fill to sink around the pipe and creating a sinkhole in the roadside shoulder (Photo 17). The road fill is the only component holding the disconnected pipe segment in place due to its disconnection from the culvert collar (Photo 17). The culvert flooring has deteriorated from inlet to outlet with complete loss of flooring at the inlet and outlet section (Photo 15, 16, & 17). As a result, a significant amount of water flows through the roadbed, gradually

decreasing the structural integrity of the road. Although the entire stretch of Bear Gulch Road extends from State Route 84 to State Route 35, access to the section north of Ralston Road is prohibited as it is privately owned. Culvert failure would prevent several residents living on Bear Gulch Road south of the County road boundary from accessing or leaving their homes and would prevent access to essential public services. Emergency work was completed on January 28, 2010, and involved adding 1- to 4-foot diameter boulders and imported soil around the top of the deteriorated pipe to stabilize the culvert outlet and repairing a slip-out which developed adjacent to the pipe. The culvert outlet is mostly supported by the culvert collar connection and small boulders existing on one side of the outlet. Recently a sinkhole has developed at the shoulder directly above the culvert inlet (Photo 19). The sinkhole is approximately 4-feet-deep and 6-feet-wide. The sinkhole exists directly over the disconnection point of the culvert inlet and allows water to enter the culvert from the culvert ceiling (Photo 17 & 19). If left unrepaired, higher flows from a moderate to heavy storm could overload the culvert's already diminished flow carrying capacity resulting in flooding or loss of the road. Additionally, the existing conditions of the inlet are prone to blockage by substrate and woody debris. County proposes to replace the undermined 60-inch CMP culvert with a CMP culvert of equal diameter and length (Appendix A, Figures 16 & 17). An excavator will be used to extract the deteriorated culvert. A concrete headwall (approximately 12'L x 2'W x 10'H) will be installed on the culvert inlet to reduce scouring around the pipe. In order to maintain egress and ingress to residents, construction will only take place on one half of the road at all times. When one side of the culvert has been successfully replaced, construction on the remaining side will occur. There will be no change in culvert alignment. One- to four-foot diameter boulders will be added to the culvert outlet for energy dissipation. Approximately 463.74 cubic yards of fill including the new culvert, headwall, soil, and boulders, will be used in this repair. The new culvert will reduce sediment contributions to Clear Creek by eliminating undesired hydraulic scouring of the road fill. Although the pool directly below the culvert is expected to retain little to no water during the dry season, surface flow connectivity will be absent during the construction work. The pool is expected to have negligible depth during culvert replacement. Substrate within the pool is mostly sand and silt with a heavy accumulation of leaf debris. Maximum pool depth at the time of the 12/12/2013 visit was approximately 1 foot. No wildlife or fish were observed within or near the outlet pool during the biological assessment surveys. Disturbances are not expected to exceed beyond the limits shown in Photo 18. Disturbed areas will be seeded with a native seed mix, mulched with sterile rice straw, and covered with an erosion control mat. Construction will take place when the site is dry and the stream lacks surface flow.

One 12-inch DBH arroyo willow (*Salix lasiolepis*) existing on the right bank (looking upstream) and one 13-inch DBH arroyo willow (*Salix lasiolepis*) existing on the left bank (looking upstream) of the culvert inlet will require removal for culvert extraction (Photo 21). The two willows are within 5 to 10 feet of the culvert and exist directly over the proposed excavation area. Excavation for culvert extraction cannot be completed without removing the two willow trees as their trunks and roots exist directly over and adjacent to the culvert. In order to extract the culvert, the excavator must remove an additional 5 feet of road fill on each side of the culvert. Where appropriate, stakes from the removed willow trees will be included in the revegetation of the revetment at the Bear Gulch Project Site. If County personnel determine the trees do not require extraction during the course of the construction process, the proposed trees will remain in place.

Although San Gregorio Creek and many of its tributaries are habitat for steelhead and potentially Coho salmon, the two salmonids species are not expected to occur in Clear Creek. A CDFW stream survey (1973) states that Clear Creek "does not provide salmonid summer nursery habitat, and offers minimal spawning habitat" and that the creek "is not an important anadromous salmonid producing tributary for the San Gregorio Creek drainage". Salmonid habitat value within Clear Creek was marginal to poor with

limited pool habitat and a sand/silt dominated substrate (Taylor 2004). The project site culvert is the most upstream culvert for Clear Creek. Three additional culverts exist downstream of the project site, of which two are suspected fish barriers. The 60-inch diameter culvert which exists approximately 0.25 miles downstream of the Bear Gulch project site culvert is also County-maintained and was recently installed in 2002 as an emergency repair following a significant storm event. California Department of Transportation has jurisdiction over the third culvert which handles flows from Clear Creek at State Route 84. The fourth culvert is on private property; its ability to accommodate juvenile and adult salmonid passage is not known. Habitat quality and availability appears to be a major limiting factor for potential salmonids within Clear Creek.



Photo 15 – Photo of 60-inch CMP culvert inlet at the Bear Gulch Road project site. Storm events in 1998 along with natural wearing resulted in a partially crushed inlet and damages throughout the pipe. Picture was taken in January 10, 2002. Clear Creek stream flows have navigated around the inlet and flooring and have gradually dissolved the road fill material. Natural woody debris and substrate movement within the stream is greatly hindered by the condition of the existing culvert. Note the woody debris accumulation on and around the culvert.



Photo 16 – Photo of 60-inch CMP culvert outlet showing fully deteriorated culvert flooring. Dashed line indicates downstream extent of culvert flooring loss. Arrow indicates downstream extent of remaining but deteriorated culvert flooring. Culvert outlet is perched at least 3 feet from the streambed. Moreover, the deteriorated flooring and stream flow around the pipe has resulted in loss of road fill at the outlet and inlet. Surface flow was absent during the December 2013 and February 2014 visits but minor surface flow was present during the March 2014 visit. Construction will take place when surface flow is absent and the appropriate permits have been obtained.



Photo 17 – Photo of culvert inlet showing disconnection of a 20-foot section of culvert inlet from the remaining pipe. Total loss of culvert flooring within this 20-foot section has caused the pipe to fully disconnect from the remaining pipe, reducing the volume carrying capacity of the pipe and causing the fill around the pipe to sink. Dashed line indicates location of the 20-foot section of pipe. Note the light entering the culvert from the earth fill as indicated by the arrow. The sinkhole is situated on top of the fill around the disconnected section of pipe.



Photo 18 – Photo of Bear Gulch Road project site. Dashed lines indicate anticipated limits of project site activities. Traffic barricades identify sinkhole location. Roadside ditch exists on the east side of the road and drains into the culvert outlet plunge pool. Arrow indicates direction of stream flow. Construction will only take place when the site is dry and occur on one half of the road at a given time, leaving the other half of the road available for public egress and ingress.



Photo 19 – Photo of sinkhole at culvert inlet caused by culvert disconnection. The hole is approximately 4 feet deep and 6 feet wide and is identified by the blue line.



Photo 20 – Photo of culvert outlet pool and channel. The pool is expected to have negligible depth during the culvert replacement which will occur during the dry season. Substrate within the pool is mostly sand and silt with a heavy accumulation of leaf debris. No fish or wildlife were seen utilizing the pool during the site visits. Maximum pool depth at the time of the 12/12/2013 visit was approximately 1 foot.



Photo 21 – Photo of culvert inlet with the two arroyo willow trees proposed for removal. Tree diameters are approximately 12- to 13-inch at breast height. Removal of the trees is necessary to extract the failing culvert as their trunks and roots exist within directly over and adjacent to the culvert. Trees will not be removed if determined unnecessary during the construction process. Dashed lines indicate approximate location of culvert in relation to the arroyo willow trees.

Stage #1 – Culvert Reattachment

The Stage #1 project site is located on Stage Road, approximately 300 feet north of State Route 84 (see Appendix A, Figures 1 & 9). The lower section of an 18-inch diameter HDPE culvert outlet disconnected underground causing a small sink hole to form on the roadside shoulder (Photo 23). The culvert drains an earthen ditch along Stage Road. An existing HDPE flume attached to the culvert outlet drains the ditch into Palmer Gulch, approximately 50 feet downslope from the culvert outlet. No stream flow was observed in Palmer Gulch or the culvert ditch during the December 2013 biological assessment survey; stagnant pools with filamentous algae accumulations were sporadically distributed along the gulch. The confluence between Palmer Gulch and San Gregorio Creek is approximately 1000 feet south of the project site. The area receives a high amount of traffic from motorists and pedestrians.

The lower 15-foot section of pipe will be excavated from the shoulder and reattached to the upper section of culvert (Appendix A, Figure 18). The excavation area will be approximately 8’L x 15’W x 2’D and will require no removal of vegetation. The culvert exists above the ordinary high water mark and top of bank

for Palmer’s Gulch (Photo 24). The culvert outlet will be reattached to the remaining culvert section by hand. As mentioned the culvert drains surface runoff from an earthen roadside ditch and deposits it into Palmer Gulch. Following construction, the roadside shoulder will be rebuilt with native soil and, if necessary, imported rock. Disturbed areas will be seeded with a native seed mix, mulched with sterile rice straw, and covered with erosion control blankets. Construction activities will take place when the site is dry and are not anticipated to extend beyond the limits shown in Photo 22. Based on watershed size and runoff estimates, the culvert is adequately sized to handle runoff from the ditch and surrounding watershed. As such, the pipe will not require replacement. Volume of excavated section of pipe and fill will be approximately 13.33 cubic yards.



Photo 22 – Photo of Stage #1 project site. Dashed lines denote area of impact from construction activities. Excavation of culvert will begin at edge of pavement. Culvert drains neighboring property and roadside ditch into Palmer Gulch. A small sinkhole has developed at the point of culvert disconnection.



Photo 23 – Photo of traffic barricade directly over sinkhole and culvert disconnection point.



Photo 24 – Photo of Palmer Gulch adjacent to project site. Palmer Gulch joins San Gregorio Creek approximately 1000 feet south of the project location. Although CNDDDB records show steelhead and tidewater goby occurrences in San Gregorio Creek, no occurrences have been documented in Palmer Gulch and the two species are not expected to occur in Palmer Gulch due to lack of habitat. Most of the San Gregorio Watershed is designated as critical habitat for California red-legged frog. No CRLF are expected to be within the immediate construction area as there is no understory cover or suitable habitat.

Pomponio Watershed Sites

Stage #2 – Culvert Reattachment

The Stage #2 project site is located on Stage Road, approximately 3.2 miles south of State Route 84 (Appendix A, Figures 1 & 9). A small gully exists at the site and carries runoff from the nearby hillside through a 24-inch HDPE culvert. Runoff from the culvert flows down a flume and north through an undefined channel into a low gradient valley before reaching Pomponio Creek approximately 1/3 mile from the Project location (Photo 26).

Similar to the HDPE culvert mentioned in the project site description for Stage #1, the culvert for this project site was constructed under emergency conditions. The lower section of the culvert has disconnected underground allowing water to drain around the pipe and causing a (2'W x 3'H) sinkhole to form on the roadway shoulder (Photo 25 & 27). The lower 10-foot section of the culvert will be excavated from the shoulder and reattached to the upper section of pipe (Appendix A, Figure 19). Culvert alignment will remain the same. The roadside shoulder will then be rebuilt with native soil and, if necessary, imported rock. Disturbances are not expected to extend beyond the dashed lines in Photo 24. Once construction is complete, the disturbed areas will be seeded with a native seed mix, covered with erosion control blankets and mulched with sterile rice straw. Excavation area will measure approximately 10'L x 8'W x 3'D and approximately 8.89 cubic yards of fill will be required to complete the repair.

Vegetation along the shoulder of Stage Road is regularly maintained by roadside mowers for the purpose of

reducing encroachment and providing a usable shoulder for motorists to pull into. Currently, one pampas grass (*Cortaderia sp.*) exists on the roadway shoulder near the inlet of the culvert. *Cortaderia* species are ranked as highly invasive under the California Invasive Plant Council (Cal-IPC) due to their ability to quickly colonize disturbed areas. County personnel will mechanically remove the pampas grass to reduce further expansion of the species in the area (Photo 28). Construction activities will take place when the site is dry. Volume of excavated section of pipe and soil will be approximately 8.89 cubic yards.



Photo 25 – Photo of culvert disconnection point and sinkhole. Sinkhole exists approximately 2 feet from the edge of pavement. Culvert outfall has a HDPE flume which directs water into the low gradient valley.



Photo 26– Photo of low gradient valley carrying flows from the unnamed gulch to Pomponio Creek. Based on aerial imagery and observations from the road, flows from the gulch are not significant enough to create well-defined channels within the valley.



Photo 27 – Photo of culvert disconnection area and the resulting sinkhole. The hole is 2 feet wide and 3 feet deep including the depth of the culvert. Picture was taken on December 31, 2013. The surrounding area and culvert segments will be inspected for special status species prior to and during the construction activities.



Photo 28 – Photo of drainage and eucalyptus grove on culvert inlet. Pampas grass individual to the left of the white culvert marker will be removed.

Table 2 - Plant Species Observed within and Adjacent to the Coastal Culvert Replacement, Reattachment, and Slip-out Repair Project sites.

(Nomenclature follows Jepson 1993)

Common Name	Scientific Name	Present in Pilarcitos Watershed Sites	Present in San Gregorio Watershed Sites	Present in Pomponio Watershed Sites
Arroyo willow	<i>Salix lasiolepis</i>	X	X	X
Bedstraw	<i>Galium sp.</i>		X	
Bermuda buttercup*	<i>Oxalis pes-caprae</i>		X	
Bristly ox tongue*	<i>Helminthotheca echioides</i>	X	X	X
California blackberry	<i>Rubus ursinus</i>	X	X	X
California coffeeberry	<i>Rhamnus californica</i>		X	
California flannel bush	<i>Fremontodendron californicum</i>			X
California poppy	<i>Eschscholzia californica</i>		X	
Cape ivy*	<i>Delairea odorata</i>		X	
Coast live oak	<i>Quercus agrifolia</i>		X	
Coastal wood fern	<i>Dryopteris arguta</i>			X
Common yarrow	<i>Achillea millefolium</i>		X	
Coyote brush	<i>Baccharis pilularis</i>	X	X	X

Table 2 - Plant Species Observed within and Adjacent to the Coastal Culvert Replacement, Reattachment, and Slip-out Repair Project sites.

(Nomenclature follows Jepson 1993)

Common Name	Scientific Name	Present in Pilarcitos Watershed Sites	Present in San Gregorio Watershed Sites	Present in Pomponio Watershed Sites
Creek dogwood	<i>Cornus sericea</i>		X	
Dune goldenrod	<i>Solidago spathulata</i>			X
Eucalyptus *	<i>Eucalyptus sp.</i>		X	
Fennel*	<i>Foeniculum vulgare</i>		X	
Himalayan blackberry*	<i>Rubus armeniacus</i>		X	
Horsetail	<i>Equisetum sp.</i>			X
June grass	<i>Koeleria sp.</i>		X	
Lizard tail	<i>Eriophyllum stoechadifolium</i>	X		X
Milk thistle*	<i>Silybum marianum</i>		X	X
Miner's lettuce	<i>Claytonia perfoliata</i>		X	
Monterey cypress*	<i>Hesperocyparis macrocarpa</i>		X	
Monterey pine*	<i>Pinus radiata</i>	X		
Oregon ash	<i>Fraxinus latifolia</i>		X	
Pampas grass*	<i>Cortaderia sp.</i>	X	X	X
Periwinkle*	<i>Vinca major</i>		X	
Plantain	<i>Plantago lanceolata</i>	X	X	X
Poison oak	<i>Toxicodendron diversilobum</i>	X	X	X
Poison hemlock*	<i>Conium maculatum</i>		X	
Red alder	<i>Alnus rubra</i>		X	
Sticky monkey flower	<i>Mimulus aurantiacus</i>		X	
Stinging nettle	<i>Urtica dioica</i>		X	
Twinberry	<i>Lonicera sp.</i>		X	
Western sword fern	<i>Polystichum munitum</i>	X	X	X
Wild oat*	<i>Avena fatua</i>	X	X	

Note: * Denotes a non-native or naturalized species.

Table 3 - Animal Species Observed within and Adjacent to the Coastal Culvert Replacement, Reattachment, and Slip-out Repair Project sites.

Common Name	Scientific Name	Present in Pilarcitos Watershed Sites	Present in San Gregorio Watershed Sites	Present in Pomponio Watershed Sites
American crow	<i>Corvus brachyrhynchos</i>	X		X

Bushtit	<i>Psaltriparus minimus</i>		X	
California towhee	<i>Melospiza crissalis</i>		X	
Common raven	<i>Corvus corax</i>	X	X	
Golden-crowned sparrow	<i>Zonotrichia atricapilla</i>		X	
Red-tailed hawk	<i>Buteo jamaicensis</i>	X		
Western scrub-jay	<i>Aphelocoma californica</i>		X	
White-crowned sparrow	<i>Zonotrichia leucophrys</i>	X	X	
San Francisco dusky-footed woodrat	<i>Neotoma fuscipes annectens</i>	X	X	
Swainson's thrush	<i>Catharus ustulatus</i>		X	
Note: * Denotes a non-native or naturalized species.				

9. Direct and Indirect Impacts to Biological Resources:

Potential impacts to biological resources within the project sites can be categorized into two classes, preventable and unavoidable. The proposed Project has been designed to ensure that potential impacts can be avoided through appropriate prevention measures as indicated below.

The following is a discussion of the potential impacts to biological resources and the preventative conservation measures and best management practices that will be undertaken by the County to ensure no significant impact to these biological resources.

Water Quality Impacts to Aquatic Species

As discussed in Section 10, steelhead is a special status species which inhabits Arroyo Leon Creek, San Gregorio Creek, and Pomponio Creek. In the absence of appropriate BMPs and protective measures, there is a potential for impacts to water quality. Water quality impacts to aquatic species will be prevented by project timing and the use of erosion control and containment BMPs. The Project will be conducted between July 15 and October 15, when stream channel flows are typically low or absent and rainfall is scarce. The use of erosion control and containment BMPs will eliminate the potential introduction of harmful pollutants into Arroyo Leon Creek, San Gregorio Creek, Pomponio Creek, and their tributaries. The goals of the Project will also serve to reduce future sediment inputs into the creeks by reducing erosion potential at culvert outlets and roadside slip-outs. Additionally, all personnel involved in repair activities will be briefed by a qualified biologist on appropriate BMP selection and implementation, as well as other standard conservation measures outlined in the County of San Mateo Watershed Protection Program's *Maintenance Standards* (County, 2004).

Nesting Birds

Nesting birds (common and special status species), their eggs, and nests are protected by California Fish and Game code (Section 3503, 3503.5, and 3513) and by the Migratory Bird Treaty Act of 1918, enforced by the USFWS. Potential nesting sites for many common and special status species of birds (e.g., California quail, bushtit, yellow warbler.) occur in the grassland, coastal scrub, and riparian habitats within and adjacent to the project sites. To prevent potential impacts to nesting birds, Project-related activities will be scheduled outside of the typical nesting season (Feb 1 through Aug 30) or will be preceded by a nesting bird survey by a qualified biologist. If nesting birds are detected near the project sites, a 250-foot exclusion zone (1000-foot for raptors) will be established for protection. If the exclusion zone is located within the immediate work area, construction will be delayed until the young have fledged and left the nest. If a project site cannot be adequately surveyed for nesting birds (e.g. dense vegetation, poison oak, etc.), then work will not commence until after August 30.

Special Status Semi-Aquatic Animals

Special status semi-aquatic animals are species which have been designated as endangered, threatened, or a species of special concern and inhabit permanent or seasonal aquatic habitats or upland habitat, such as SFGS and CRLF. SFGS is a special status species which has been observed adjacent to Pilarcitos Creek, the main stem of which Arroyo Leon Creek is a tributary to (Appendix A, Figure 3). Additionally, CRLF is a special status species reported to be present within ½ mile of the Bear Gulch, Seaside School, and Stage project sites (CNDDDB, 2014) (Appendix A, Figure 6, 7, 10). As discussed in Section 10, some of the project sites are adjacent to stream channels which serve as migratory pathways and/or habitat for special status semi-aquatic animals. In addition, several ponds occur on private land within the Project vicinity, and could be potential breeding sites for SFGS and CRLF.

Potential Project-related impacts to SFGS and CRLF and their habitat will be prevented by project timing, the use of erosion control and containment BMPs, preconstruction surveys, construction monitoring and personnel training, as outlined in the County of San Mateo Watershed Protection Program's *Maintenance Standards* (County, 2004). The Project will be conducted between July 15 and October 15, during the dry season when these semi-aquatic animals are less likely to be found in the vicinity of the project sites. Erosion control and containment BMPs will be used to eliminate the potential introduction of pollutants into dry channel beds, which could degrade the aquatic habitat when flows resume.

Wildlife

Potential Project-related impacts to wildlife include physical harm from equipment, excessive sound from construction activities, and visual disturbance. Prior to the start of construction activities, a qualified biologist will brief crews on permit requirements, sensitive species identification, and appropriate BMPs and avoidance and minimization measures. The biologist will also conduct pre-construction wildlife surveys and closely monitor all repair activities to ensure that wildlife are not negatively impacted by the Project.

Vegetation Disturbance

Temporary disturbance of ruderal vegetation along the roadway shoulders and riparian vegetation in the immediate work areas to provide access during construction are unavoidable. However, the removal of vegetation will be reduced to the maximum extent possible, and disturbed vegetation is anticipated to grow back within the season. A qualified biologist will be present during all repair activities to ensure that impacts to vegetation are minimized. When possible, vegetation will be trimmed as opposed to removed. As stated in Section 6 above, one 3-inch dbh arroyo willow located at the Higgins Canyon Rd #1 project site is at the base of a slip-out and will require removal in order to properly rebuild the shoulder (Appendix A, Figures 11 and 12). As stated in Section 6, two 12-inch and 13-inch arroyo willow trees will require removal to extract a failing culvert from the Bear Gulch site. The two trees exist directly over the immediate construction area and access to the culvert cannot be achieved without undermining the trees. It is not anticipated that any other mature trees will be removed, but may be trimmed as needed to provide access to the channel. All heavy equipment will be operated from the roadways and shoulders to minimize impacts to vegetation and avoid impacts to the channels. Any disturbed areas along the shoulder of the roadways will be seeded with native plants and covered with an erosion control mat to promote the growth of native vegetation and prevent erosion.

Special Status Plant Species

No sensitive plants were observed near the project sites during the biological assessment surveys. To prevent impacts to special status plants, additional surveys will be conducted during peak blooming periods when special status plants are more easily identifiable, in order to maximize the likelihood of locating special status plant species¹. Any special status plant species detected during subsequent surveys will be reported to the appropriate permitting agencies, and work in detected areas will not commence until it is determined that special status plants will not be impacted. Prior to construction activities, special status plants will be clearly marked/flagged or temporary construction fencing will be erected to designate the work area and delineate the areas to be avoided.

Riparian Habitat

As previously discussed in this Section and again in Section 10, the riparian habitat located within Palmer

¹ California Department of Fish and Game. 2009. Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities.

Gulch, Arroyo Leon Creek, Clear Creek, San Gregorio Creek and its tributaries are potentially used by many common and sensitive species. While the banks of the creek do not contain emergent wetlands, the channel and the banks are considered to be “Waters of the United States” and as such are regulated by the United States Army Corps of Engineers (USACE), CDFW, and the Regional Water Quality Control Board (RWQCB). The California Coastal Commission regulates activities within riparian buffer zones, which includes the riparian habitat present within the project sites.

Minimization and avoidance measures will be taken to prevent impacts to the riparian habitat and wildlife that may utilize this habitat. A biologist will be on-site during repair activities to supervise BMP implementation and to ensure that the habitat is not significantly impacted. The Project will be conducted in late summer and fall during the dry season when CRLF and SFGS are least likely to be present. Erosion control and containment BMPs (i.e. installation of silt fencing, natural fiber tightly woven straw rolls, straw bales, and street sweeping) will be implemented to prevent water quality impacts. When possible, riparian vegetation will be trimmed as opposed to removed. As stated in Section 6 above, one 3-inch DBH arroyo willow located at the Higgins Canyon #1 project site is at the base of a slip-out and will require removal in order to rebuild the roadway shoulder (Appendix A, Figures 11 and 12). As stated in Section 6, two 12-inch and 13-inch arroyo willow trees will require removal to extract a failing culvert from the Bear Gulch project site. The two trees exist directly over the immediate construction area and access to the culvert cannot be achieved without undermining the trees (Appendix A, Figures 16 & 17). It is not anticipated that any other mature riparian trees will be removed, but may be trimmed as needed to provide access to the channels. All heavy equipment will be operated from the roadways or roadside shoulders to minimize impacts to riparian vegetation and wildlife.

10. Special Status Species:

Table 4, below, lists the special status species that have been known to or have a potential to occur within the project sites' vicinities. Additionally, presence of each species within ½ mile of the sites and the likelihood of potential occurrence for each species based on the proposed Project are given. Special status species that are more likely to occur at the project sites are described below Table 4. Impacts to special status plant species are not anticipated as there were no occurrences reported within ½ mile of the project sites, none were observed during site surveys, and additional surveys will be conducted during peak blooming periods in order to maximize the likelihood of locating any within the immediate work areas.

Table 4 - Special Status Species Known to or Have a Potential to Occur within the Project Vicinity, Their Presence within ½ Mile of Project Sites, and Their Potential for Occurrence within the Project Sites.							
Common Name Scientific Name	Federal Status	State Status	CNPS Status ²	Habitat Description	Species Observed on Project Sites (Y/N)	CNDDDB ² or BIOS ³ Occurrence within ½ Mile of Project Sites (Y/N)	Potential for Occurrence within Project Sites
<i>Fish</i>							
Coho Salmon, Central California Coast ESU <i>Oncorhynchus kisutch</i>	E, X	E	N/A	Anadromous - Historically found in short low gradient coastal drainages.	N	N	Very Low – See Discussion
Steelhead, Central California Coast ESU <i>O. mykiss</i>	T, X	None	N/A	Anadromous - Found in coastal and inland streams.	N	Y, Critical Habitat.	Low – See Discussion
Tidewater Goby <i>Eucyclogobius newberryi</i>	E, X	E	N/A	Lagoons, estuaries, and streams. Prefers sandy substrate for reproduction.	N	Y, Critical Habitat	Low – See Discussion

Table 4 - Special Status Species Known to or Have a Potential to Occur within the Project Vicinity, Their Presence within ½ Mile of Project Sites, and Their Potential for Occurrence within the Project Sites.

Common Name <i>Scientific Name</i>	Federal Status	State Status	CNPS Status ²	Habitat Description	Species Observed on Project Sites (Y/N)	CNDDDB ² or BIOS ³ Occurrence within ½ Mile of Project Sites (Y/N)	Potential for Occurrence within Project Sites
Amphibians							
California red-legged frog <i>Rana draytonii</i>	T, X	CDFW:SSC	N/A	Marshes, ponds, and slow water sections of streams. Breeding Nov-Apr.	N	Y, Critical Habitat.	Low – See Discussion
Reptiles							
Pacific pond turtle <i>Actinemys marmorata</i>	None	CDFW:SSC	N/A	Slow moving streams or ponds; reproduce in nearby upland areas.	N	N	Low – See Discussion
San Francisco garter snake <i>Thamnophis sirtalis tetrataenia</i>	E	E, CDFW: Fully Protected	N/A	Forages on land or in quiet pools, prefers small mammal burrows at night. Breeding spring to fall. May overwinter in upland areas away from water.	N	N	Low – See Discussion
Birds							
Bank swallow <i>Riparia riparia</i>	None	T	N/A	Colonial nesting in steep stream banks or cliffs near riparian habitat. Dependent on open grassland, shrubland, or open riparian areas for foraging.	N	N	None – Stream banks near Project sites are not of adequate height and do not contain the appropriate soils for nest building.

Table 4 - Special Status Species Known to or Have a Potential to Occur within the Project Vicinity, Their Presence within ½ Mile of Project Sites, and Their Potential for Occurrence within the Project Sites.

Common Name <i>Scientific Name</i>	Federal Status	State Status	CNPS Status ²	Habitat Description	Species Observed on Project Sites (Y/N)	CNDDDB ² or BIOS ³ Occurrence within ½ Mile of Project Sites (Y/N)	Potential for Occurrence within Project Sites
Marbled murrelet <i>Brachyramphus marmoratus</i>	T, X	E	N/A	Typically nest in old-growth redwood stands. Breeding season Apr-Sep15.	N	N	None – No habitat available within project sites.
Saltmarsh common yellowthroat <i>Geothlypis trichas sinuosa</i>	None	CDFW:SSC	N/A	Breeds in freshwater marsh, brackish marsh, and wooded swamp habitat. Winters in salt marsh habitat. Breeding season Mar-Jul.	N	N	Very Low – See Discussion.
Snowy Plover	T	CDFW:SSC	N/A	Beaches, dry salt ponds, and occasionally river gravel bars.	N	N	None – No habitat available within project site.
Yellow warbler <i>Dendroica petechia</i>	None	CDFW:SSC	N/A	Typically breeds in riparian habitat. Winters in a variety of habitats including scrub, woodlands, riparian, agricultural fields, and pastures	N	N	Low – see discussion.
Mammals							
San Francisco dusky-footed woodrat <i>Neotoma fuscipes annectens</i>	None	CDFW:SSC	N/A	Typically nest in coastal scrub, chaparral, oak woodland, and riparian habitats. Build mounded stick lodges up to 8-feet tall.	Y	N	Moderate – See Discussion

Table 4 - Special Status Species Known to or Have a Potential to Occur within the Project Vicinity, Their Presence within ½ Mile of Project Sites, and Their Potential for Occurrence within the Project Sites.

Common Name <i>Scientific Name</i>	Federal Status	State Status	CNPS Status ²	Habitat Description	Species Observed on Project Sites (Y/N)	CNDDDB ² or BIOS ³ Occurrence within ½ Mile of Project Sites (Y/N)	Potential for Occurrence within Project Sites
<i>Plants</i>							
Santa Cruz Manzanita <i>Arctostaphylos andersonii</i>	None	None	1B	Found in broadleaved upland forest, chaparral, and north coast coniferous forest often associated with openings and edges. Blooms Nov-May.	N	N	None – No habitat available within project sites.
Kings Mountain manzanita <i>Arctostaphylos regismontana</i>	None	None	1B	Found in broadleaved upland forest, chaparral, and coniferous forest. Blooms Jan-Apr.	N	N	None – No habitat available within project sites.
Coastal marsh milk-vetch <i>Astragalus pycnostachyus</i> var. <i>pycnostachyus</i>	None	None	1B	Found in coastal dunes, coastal scrub, and marshes and swamps (coastal salt, streamsides). Blooms Apr-Oct.	N	N	None – Coastal marsh milk-vetch not observed in the immediate work area and the adjacent coastal scrub habitat will not be disturbed.
Western leatherwood <i>Dirca occidentalis</i>	None	None	1B	Found in chaparral, broadleaf upland forests, coniferous forests, riparian forests, and riparian woodlands. Blooms Jan-Mar.	N	N	None – Western leatherwood not observed in the immediate work area and the adjacent riparian habitat will not be disturbed.

Table 4 - Special Status Species Known to or Have a Potential to Occur within the Project Vicinity, Their Presence within ½ Mile of Project Sites, and Their Potential for Occurrence within the Project Sites.

Common Name <i>Scientific Name</i>	Federal Status	State Status	CNPS Status ²	Habitat Description	Species Observed on Project Sites (Y/N)	CNDDDB ² or BIOS ³ Occurrence within ½ Mile of Project Sites (Y/N)	Potential for Occurrence within Project Sites
San Mateo woolly sunflower <i>Eriophyllum latilobum</i>	E	E	1B	Found in cismontane woodland often on serpentinite, on road cuts. Blooms May-Jun.	N	N	None – San Mateo woolly sunflower not observed in the immediate work area and the adjacent habitat will not be disturbed.
Round-leaved filaree <i>Erodium macrophyllum</i>	None	None	1B	Found in cismontane woodland and valley and foothill grasslands. Blooms Mar-May.	N	N	None – Round leaved filaree not observed in the immediate work area and the adjacent grassland habitat will not be disturbed.
Fragrant fritillary <i>Fritillaria liliacea</i>	None	None	1B	Found in cismontane woodland, coastal prairie, coastal scrub, and grasslands often in serpentinite. Blooms Feb-Apr.	N	N	None – Fragrant fritillary not observed in the immediate work area and the adjacent coastal scrub and grassland habitats will not be disturbed.
San Francisco gumplant <i>Grindelia hirsutula var. maritima</i>	None	None	1B	Found in coastal bluff scrub, chaparral, coastal scrub, cismontane woodland, riparian woodland, and grasslands. Blooms Jun-Sep.	N	N	None – San Francisco gumplant not observed in the immediate work area and the adjacent coastal scrub, riparian, and grassland habitats will not be disturbed.
Kellogg's horkelia <i>Horkelia cuneata ssp. sericea</i>	None	None	1B	Found in closed-cone coniferous forest, chaparral (maritime), and coastal scrub. Blooms Apr-Sep.	N	N	None – Kellogg's horkelia not observed in the immediate work area and the adjacent coastal scrub habitat will not be disturbed.

Table 4 - Special Status Species Known to or Have a Potential to Occur within the Project Vicinity, Their Presence within ½ Mile of Project Sites, and Their Potential for Occurrence within the Project Sites.

Common Name <i>Scientific Name</i>	Federal Status	State Status	CNPS Status ²	Habitat Description	Species Observed on Project Sites (Y/N)	CNDDDB ² or BIOS ³ Occurrence within ½ Mile of Project Sites (Y/N)	Potential for Occurrence within Project Sites
Rose leptosiphon <i>Leptosiphon rosaceus</i>	None	None	1B	Found in scrub habitat on coastal bluffs. Blooms Apr-Jul.	N	N	None – No habitat available within project sites.
Arcuate bush mallow <i>Malacothamnus arcuatus</i>	None	None	1B	Found in chaparral and cismontane woodland. Blooms Apr-Sep.	N	N	None – Arcuate bush mallow not observed in immediate work area. Adjacent chaparral habitat will not be disturbed.
Marsh microseris <i>Microseris paludosa</i>	None	None	1B	Found within coniferous forests, cismontane woodlands, coastal scrub, and moist annual grasslands. Blooms Apr-Jun.	N	N	None – Marsh microseris not observed in the immediate work area and the adjacent coastal scrub and grassland habitats will not be disturbed.
Choris's popcorn-flower <i>Plagiobothrys chorisianus</i> var. <i>chorisianus</i>	None	None	1B	Found in chaparral, coastal scrub and coastal prairie habitats. Blooms Mar-Jun.	N	N	None – Choris's popcorn flower not observed in the immediate work area and the adjacent coastal scrub habitat will not be disturbed.
Oregon polemonium <i>Polemonium carneum</i>	None	None	2.2	Found in coastal scrub, coastal prairie, and lower montane coniferous forests. Blooms Apr-Sep.	N	N	None – Oregon polemonium not observed in the immediate work area and the adjacent coastal scrub habitat will not be disturbed.

Table 4 - Special Status Species Known to or Have a Potential to Occur within the Project Vicinity, Their Presence within ½ Mile of Project Sites, and Their Potential for Occurrence within the Project Sites.

Common Name <i>Scientific Name</i>	Federal Status	State Status	CNPS Status ²	Habitat Description	Species Observed on Project Sites (Y/N)	CNDDB ² or BIOS ³ Occurrence within ½ Mile of Project Sites (Y/N)	Potential for Occurrence within Project Sites
Coastal iris <i>Iris longipetala</i>	None	None	4.2	Inhabits coastal prairie, lower montane coniferous forests, meadows, and seeps. Blooms March-May	N	N	None – No habitat available within project sites.
Perennial goldfields <i>Lasthenia macrantha ssp. macrantha</i>	None	None	1B	Found in coastal bluff scrub, coastal dunes, and coastal scrub. Blooms Jan-Nov.	N	N	None – No habitat available within project site. Adjacent coastal scrub site will not be disturbed.
San Mateo tree lupine <i>Lupinus arboreus var. eximius</i>	None	None	3.2	Found in chaparral and coastal scrub. Blooms Apr-Jul.	N	N	None – No habitat available within project site. Adjacent coastal scrub and chaparral will not be disturbed.

Notes:

¹ California Natural Diversity Database (CNDDB), Wildlife & Habitat Data Analysis Branch, Department of Fish and Wildlife, Government Version - Information dated February 1, 2014.

² California Native Plant Society (CNPS). 2010. Inventory of Rare and Endangered Plants (online edition, v7-10dec 12-02-10). California Native Plant Society. Sacramento, CA. Accessed on December 8, 2010 from <http://www.cnps.org/inventory>

³ Biogeographic Information & Observation System (BIOS). 2011. California Department of Fish and Wildlife. Accessed on January 20, 2014 from <http://www.dfg.ca.gov/biogeodata/bios/>

Species Status Abbreviations:

(E) Endangered

(T) Threatened

(P) Proposed

(CA) Listed by the State of California, but not the US Fish and Wildlife Service

(X) Critical Habitat designated for this species

(PX) Proposed Critical Habitat

(CDFW: SSC) California Species of Special Concern

CNPS Status Abbreviations:

1B Rare, threatened, or endangered in California and elsewhere.

2 Rare, threatened, or endangered in California, but more common elsewhere

Coho Salmon and Steelhead

Coho salmon and steelhead are two listed species of salmonids which historically inhabited many of the coastal streams in San Mateo County. The steelhead Central California Coast Evolutionarily Significant Unit (ESU) is listed as a Threatened species under the Federal Endangered Species Act (FESA), and the Coho salmon Central California Coast ESU is listed as an Endangered species under the FESA and the California Endangered Species Act (CESA). Arroyo Leon Creek, San Gregorio Creek, and Pomponio Creek (west of Stage Road) are listed as critical habitat for steelhead (BIOS, 2014) (Appendix A, Figures 3, 6, 7, & 10). While the drainages within the project sites do not contain habitat for either species, Higgins Canyon #1, Higgins Canyon #2, Seaside School, Stage #1 and Stage #2 project sites drain intermittent, unnamed tributaries to Arroyo Leon Creek and San Gregorio Creek. As stated above in the Site Specific Descriptions section, the Bear Gulch project site is comprised of replacing a deteriorated culvert on Clear Creek, a tributary to San Gregorio Creek. A CDFW stream survey (1973) states that Clear Creek “does not provide salmonid summer nursery habitat, and offers minimal spawning habitat” and that the creek “is not an important anadromous salmonid producing tributary for the San Gregorio Creek drainage”. Moreover, salmonid habitat value within Clear Creek was marginal to poor with limited pool habitat and a sand/silt dominated substrate (Taylor 2004). There are three culverts downstream of the project site culvert of which two are suspected fish barriers; one culvert exists on private property while the other two culverts are under California Department of Transportation and San Mateo County jurisdiction. Any Project-related water quality impacts in the absence of BMPs could potentially impact these listed species and their critical habitat.

Pacific Pond Turtle

Pacific pond turtles are listed as a species of special concern by the CDFW. These turtles typically inhabit ponds, lakes, and slow moving sections of streams. After copulation, females leave the water and migrate upland, seeking potential egg laying sites. Similarly, both sexes of pacific pond turtles will vacate their aquatic habitat and travel upland to avoid excessive stream flows or to aestivate when the aquatic habitat

County of San Mateo Department of Public Works

Coastal Culvert Replacement, Reattachment, and Slip-out Repair Project

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disappears such as those in intermittent streams and ponds. Nesting and aestivating pacific pond turtles can be unearthed and harmed by construction activities. In addition, pacific pond turtles in the process of migrating can be harmed by vehicles when traveling on roads. There are no CNDDDB records of pacific pond turtles within 4 miles of the project sites (CNDDDB 2014). However, Mid-Peninsula Regional Open Space District (MROSD) identified pacific pond turtle presence at several stock ponds in close proximity to Harrington Creek, a tributary to San Gregorio Creek. Also, several stock ponds exist on private property which might support pacific pond turtle populations. Although the stream channel sections below the project sites lack the slow stream flow and open canopy conditions preferred by pacific pond turtles, the channels could be used as migration corridors. No pacific pond turtles were observed during the biological assessment surveys.

San Francisco Garter Snake

The SFGS is listed as an Endangered species under the FESA and the CESA. Additionally, the species has been designated as a Fully Protected species by the CDFW. These semi-aquatic garter snakes are often found hunting in ponds and slow moving streams and living in abandoned rodent burrows (USFWS, 2006). The CNDDDB cites multiple occurrences of SFGS within the Half Moon Bay, San Gregorio, and La Honda quadrangles, with the nearest occurrence being approximately 1.5 miles northwest of the Higgins Canyon #1 project site adjacent to Pilarcitos Creek (CNDDDB, 2014) (Appendix A, Figure 3). The stream channels within the project sites could be potential migrational corridors between areas where SFGS could occur. Although no SFGS have been reported in the CNDDDB within ½ mile of the project sites, several ponds occur on private land within the Projects' vicinities and could be potential habitat for SFGS. No SFGS were observed within the project sites during the surveys.

California Red-Legged Frog

The CRLF is listed as Threatened under FESA and as a Species of Special Concern by the CDFW. CRLFs typically inhabit ponds and slow moving streams with a well-developed riparian canopy (CDFW, 1988). The Bear Gulch, Seaside School, and the two Stage sites are within USFWS designated CRLF critical habitat (Appendix A, Figures 6, 7, & 10). The CNDDDB cites multiple occurrences of CRLFs within the Half Moon Bay, San Gregorio, and La Honda quadrangles. Three of those CRLF occurrences are within 2 miles of the Higgins Canyon #1 project site but are west of State Route 1 (CNDDDB, 2014) (Appendix A, Figure 3). The Bear Gulch project site has two CNDDDB occurrences for CRLF that are both approximately 1 mile away but occur on separate drainages (Appendix A, Figure 7). Additionally, two California red-legged frogs were observed in the Clear Creek channel associated with the second County-maintained culvert approximately 0.25 miles south of the Bear Gulch Site (Taylor 2004). No CRLF were observed at the Bear Gulch Site or within the outlet pool during any of the biological assessment surveys completed on 12/12/2013, 12/19/2013, 02/03/2014, 02/11/2014, and 03/24/2014. One CRLF occurrence was documented at an irrigation pond approximately ½ mile from the Seaside School and Stage #1 project sites (Appendix A, Figures 6 & 10). Although the project sites do not contain suitable rearing or breeding habitat for CRLF, the stream channels within the project sites' vicinities may be utilized by CRLF. Several ponds occur on private land within the Project vicinity, and could be potential breeding sites for CRLF. No California red-legged frogs were observed within the project sites during the biological assessment surveys.

San Francisco Dusky-footed Woodrat

The SFDW is a medium-sized rodent listed as a Species of Special Concern by the CDFW, and is a subspecies of the dusky-footed woodrat. Woodrats are mostly nocturnal and occupy stick houses (up to 8

feet tall) situated on the ground and in shrubs and trees. Their nests occur within the stick houses, and their breeding season extends from December to September (CDFW, 2009). SFDW is widely distributed in San Mateo County and is expected to occur in the coastal scrub and riparian habitats within the Project vicinity. As a precaution, BMPs and conservation measures including high visibility flagging and avoidance of known woodrat houses, on-site monitoring by a qualified biologist, and minimized removal and trimming of riparian and vegetation will be implemented to ensure that the species is not impacted by the proposed project.

Yellow Warbler

The yellow warbler is listed as a Species of Special Concern by the CDFW. The yellow warbler is a seasonal resident of California, typically April through October, and breeds in coastal riparian woodlands (CDFW, 2005). The CNDDDB does not report any occurrences of yellow warblers within ½ mile of the project sites (CNDDDB, 2014). Work will be scheduled to take place outside of the typical breeding season or will be preceded by a nesting bird survey by a qualified biologist. Therefore, impacts to yellow warblers are not anticipated. As a precaution, BMPs and conservation measures including project timing, a preconstruction nesting bird survey, and minimized removal and trimming of riparian and wetland vegetation will be implemented to ensure that the species and its habitat are not impacted by the proposed Project. If nesting yellow warblers are detected, a 250-foot exclusion zone will be established for protection. If the exclusion zone is located within the immediate work area, construction will be delayed until the young have fledged and left the nest. No yellow warblers were observed within the project sites during the surveys.

Saltmarsh Common Yellowthroat

The saltmarsh common yellowthroat is a small warbler listed as a Species of Special Concern by the CDFW, and is a subspecies of the common yellowthroat. The saltmarsh common yellowthroat will utilize moist to upland habitats, including isolated patches of habitat such as swales and seeps. Known to breed in both brackish and freshwater marshes from mid-March to late July, yellowthroats typically build nests near the ground in grasses, herbaceous vegetation, cattails, tules, and some shrubs (Evens, 2008). The CNDDDB cites one possible occurrence of saltmarsh common yellowthroat at the mouth of San Gregorio Creek, approximately 0.7 miles from the Stage #1 project site and Seaside School project site (CNDDDB, 2014) (Appendix A, Figures 6 & 10). This species has the potential to occur within the riparian and coastal scrub habitats found within the Project vicinity. Work will be scheduled to take place outside of the typical breeding season or will be preceded by a nesting bird survey by a qualified biologist. Therefore, impacts to saltmarsh common yellowthroat are not anticipated. As a precaution, BMPs and conservation measures including project timing, a pre-construction nesting bird survey, and minimized removal and trimming of riparian and wetland vegetation will be implemented to ensure that the species and its habitat are not impacted by the proposed Project. If nesting saltmarsh common yellowthroat are detected, a 250-foot exclusion zone will be established for protection. If the exclusion zone is located within the immediate work area, construction will be delayed until the young have fledged and left the nest. No saltmarsh common yellowthroats were observed within the project sites during the surveys.

Tidewater Goby


Tidewater gobies are small benthic fish which favor sandy substrates in lagoons and coastal streams. A California endemic, tidewater goby populations are distributed sparsely along the coast from Del Norte County to San Diego County. It is tolerant of tidal water only for a short period of time and prefers

County to San Diego County. It is tolerant of tidal water only for a short period of time and prefers brackish to fresh water. Backwater habitats provide refuge for tidewater gobies during high flows which would otherwise displace them into the harsh marine environment. Aquatic vegetation provide cover for tidewater goby and serve as a food source for tidewater goby prey. Reproduction can occur year-round but seems to peak from April to May. When surface flow is present, the unnamed tributary within the Seaside School project site is accessible to tidewater goby in lower San Gregorio Creek where a CNDDDB occurrence for the species is located (CNDDDB 2014) (Appendix A, Figure 6). As a precaution, BMPs and conservation measures including project timing, erosion control, and a dry-site requirement will be utilized in order to avoid impacts to tidewater goby and their habitat. No tidewater gobies were observed within the project sites during the surveys.

11. **CERTIFICATION:**

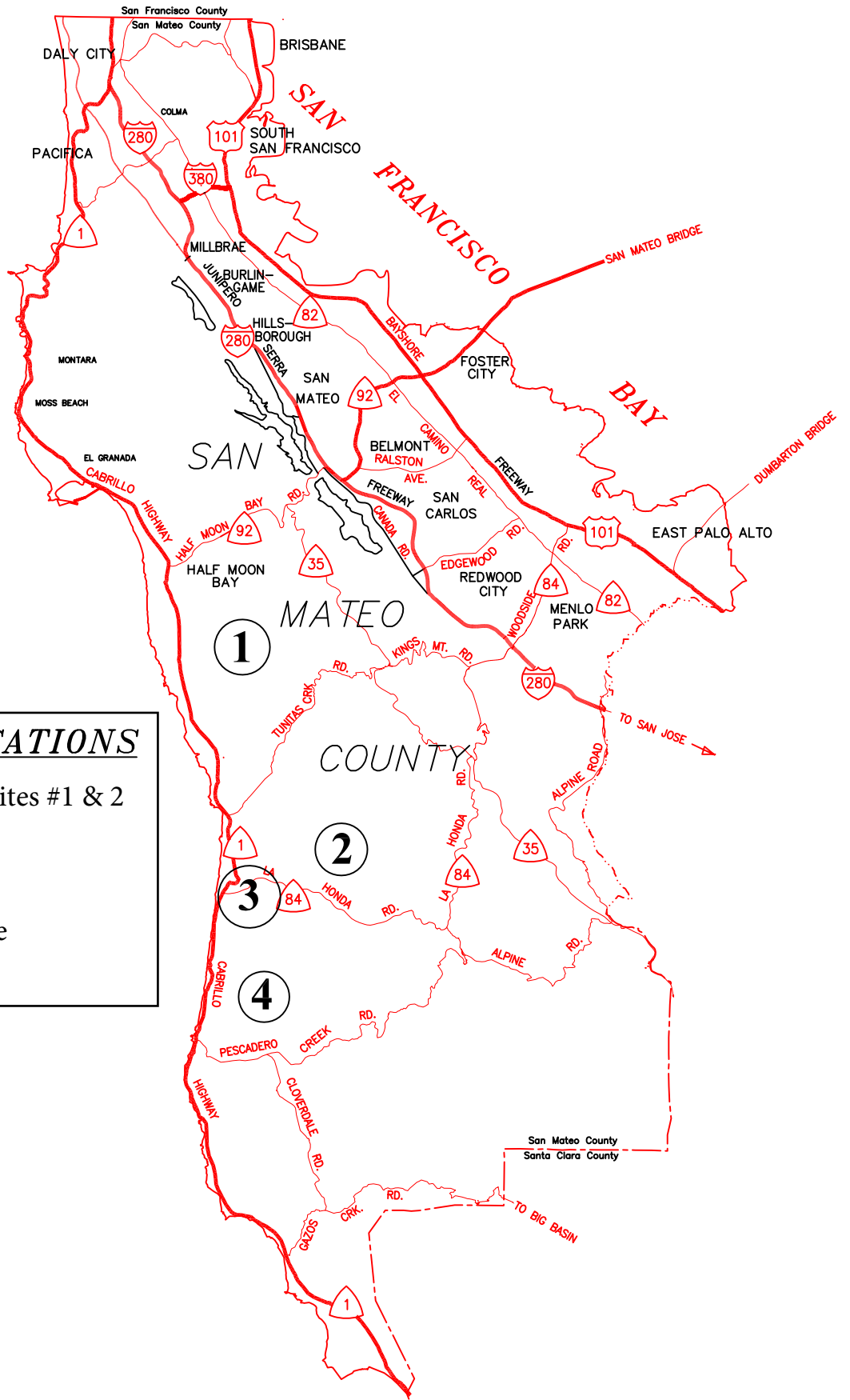
I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this biological evaluation to the best of my ability, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

DATE: June 2, 2014

SIGNED: 
(Michael Hryniak)

Appendix A – Figures

PACIFIC OCEAN



PROJECT LOCATIONS

- ① Higgins Canyon Sites #1 & 2
- ② Bear Gulch Site
- ③ Stage #1 Site and Seaside School Site
- ④ Stage #2 Site



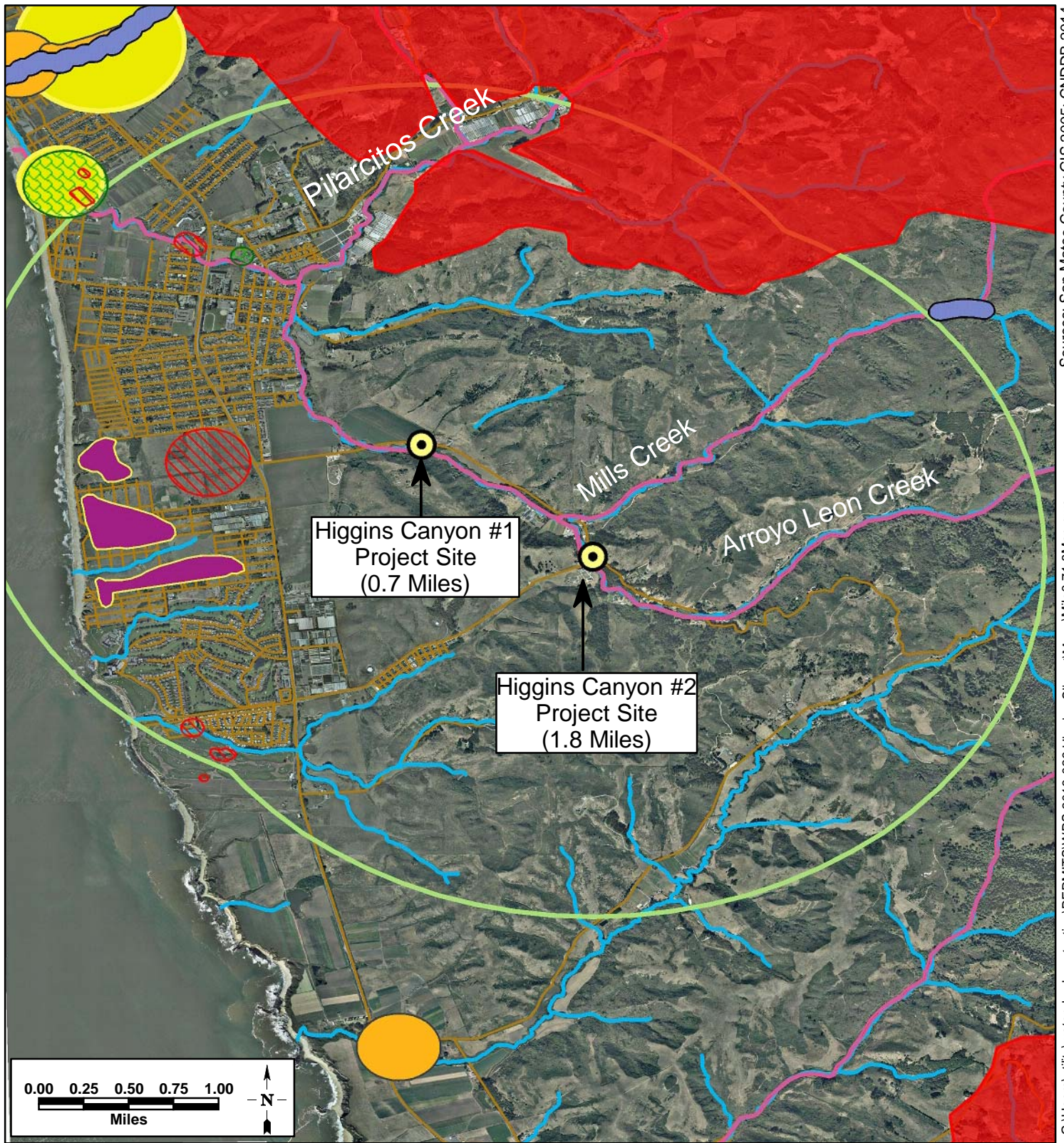
DESIGNED BY:
 CHECKED BY: EG
 DRAWN BY: MH

**FIGURE 1. COASTAL CULVERT REPLACEMENT,
 REATTACHMENT, AND SLIP-OUT REPAIRS PROJECT
 VICINITY MAP**

SCALE: NONE
 DATE: JAN 2014
 FILE NO: 1/XXXX

JAMES C. PORTER, DIRECTOR OF PUBLIC WORKS
 SAN MATEO COUNTY

555 COUNTY CENTER, 5TH FLOOR
 REDWOOD CITY, CALIFORNIA 94063-1665















Sources: San Mateo County GIS 2005; CNDDDB 2014

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Higgins Canyon #1 and #2 Project Sites - Slip-out Repair

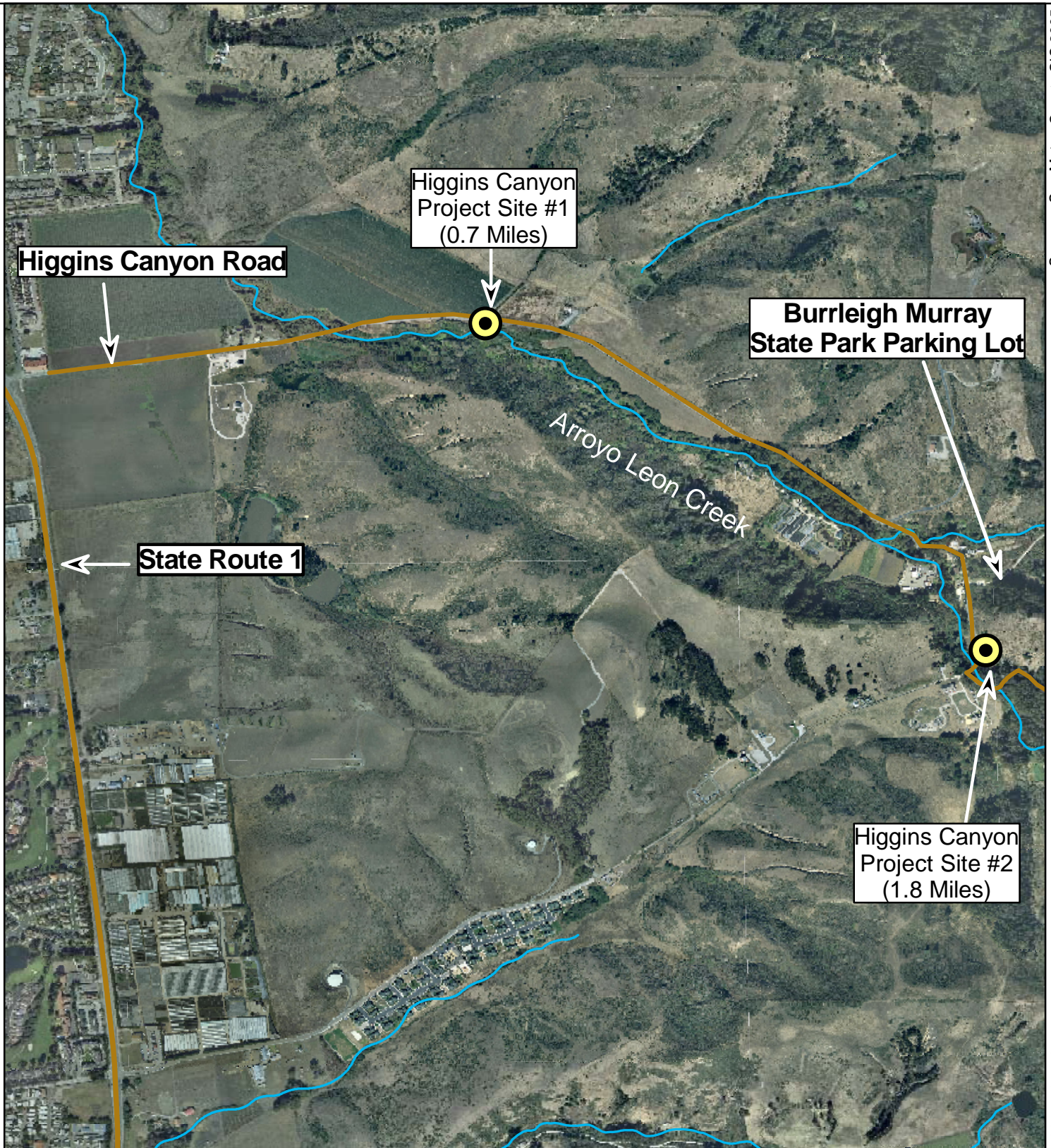
Figure 3 - Locations of Special Status Species Occurances

- | | | | | | |
|---|-----------------|---|---|---|-------------------------------|
|  | Slip-outs |  | Steelhead Critical Habitat |  | Monarch butterfly |
|  | Streams |  | California Red-legged Frog Critical Habitat |  | Choris" popcornflower |
|  | Streets |  | California red-legged frog |  | San Francisco garter snake |
|  | Two Mile Buffer |  | Steelhead |  | Saltmarsh common yellowthroat |






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NOTE: Mileages correspond to distance from State Route 1





Higgins Canyon #1 and #2 Project Sites- Slip-out Repair Project

Figure 2 - Project Site Locations Map

 Slip-outs
 Streets
 Streams

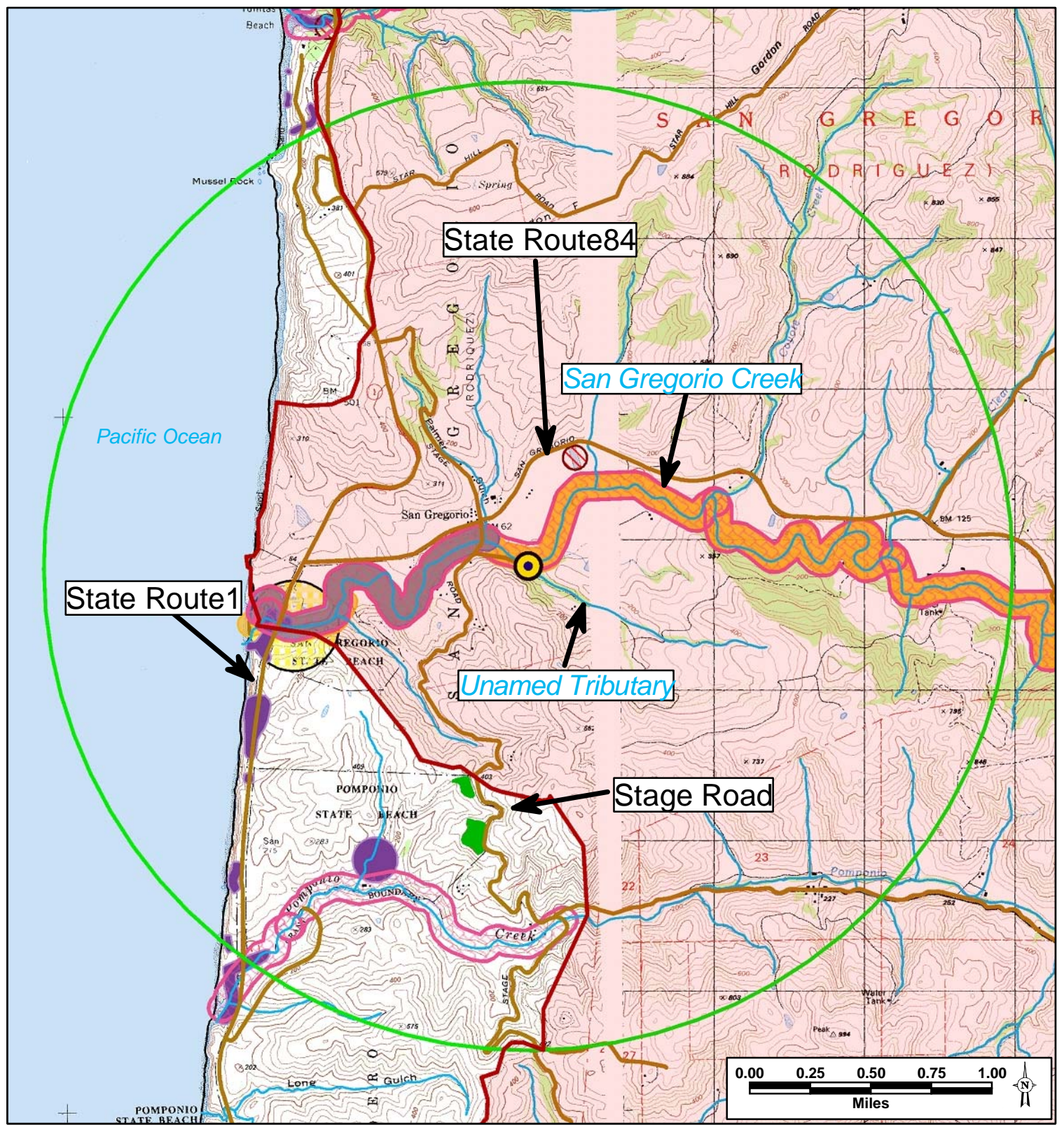
NOTE: Mileage is distance from project site to State Route 1

0.00 0.25 0.50 0.75

 Miles





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 County of San Mateo
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Sources: San Mateo County GIS, CNDDB 2014

Seaside School Project Site - Slip-out Repairs

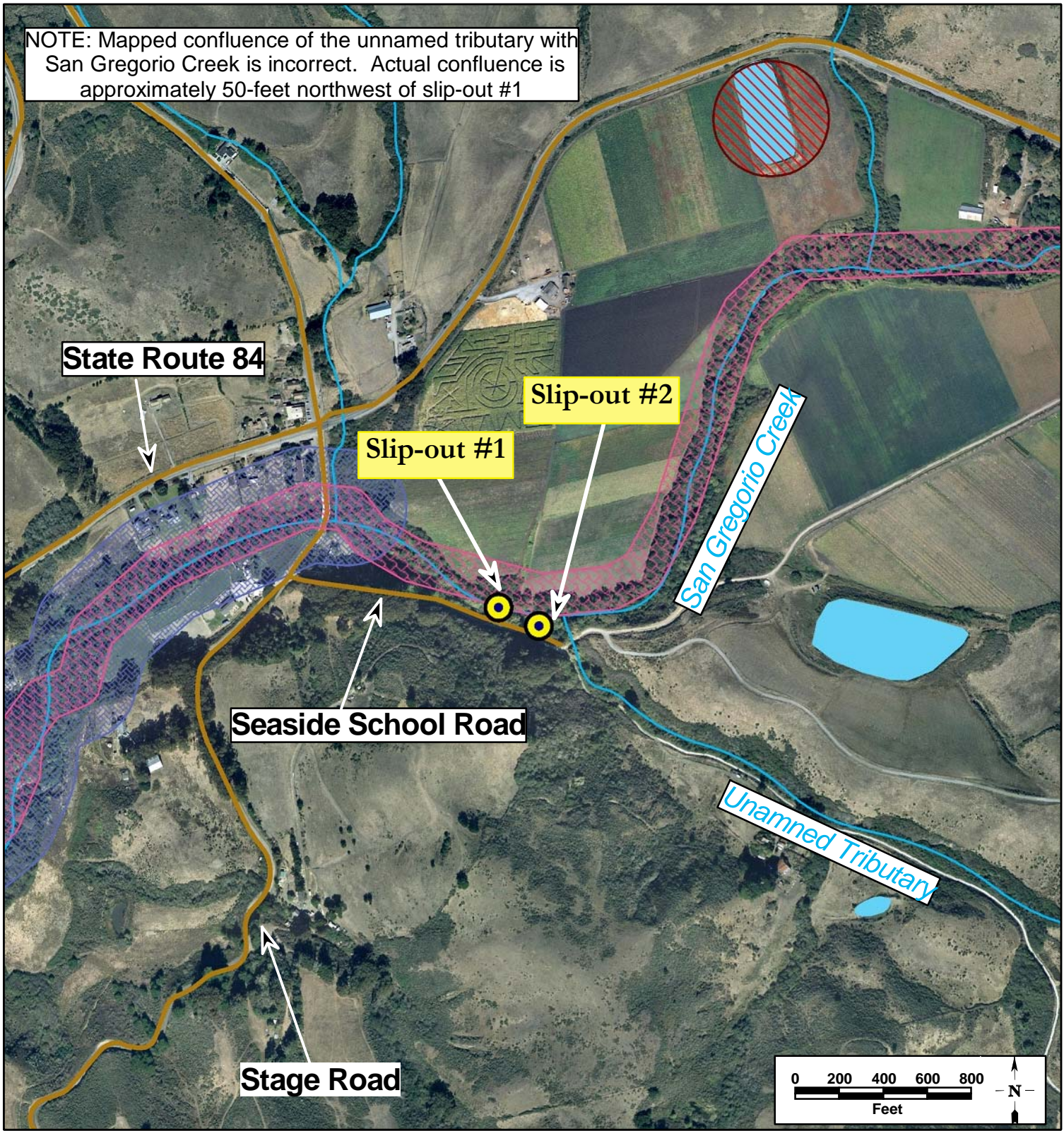
Figure 6. Location of Special Status Species Occurrences and Critical Habitat

- | | | | | | |
|--|-----------------|--|-------------------------------|--|---|
| | Project Site | | Steelhead Critical Habitat | | California Red-legged Frog Critical Habitat |
| | Streets | | Steelhead | | California red-legged frog |
| | Streams | | Tidewater goby | | Coastal marsh milk-vetch |
| | Two Mile Buffer | | Saltmarsh common yellowthroat | | Valley needlegrass grassland |



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NOTE: Mapped confluence of the unnamed tributary with San Gregorio Creek is incorrect. Actual confluence is approximately 50-feet northwest of slip-out #1



Seaside School Project Site - Slip-out Repairs

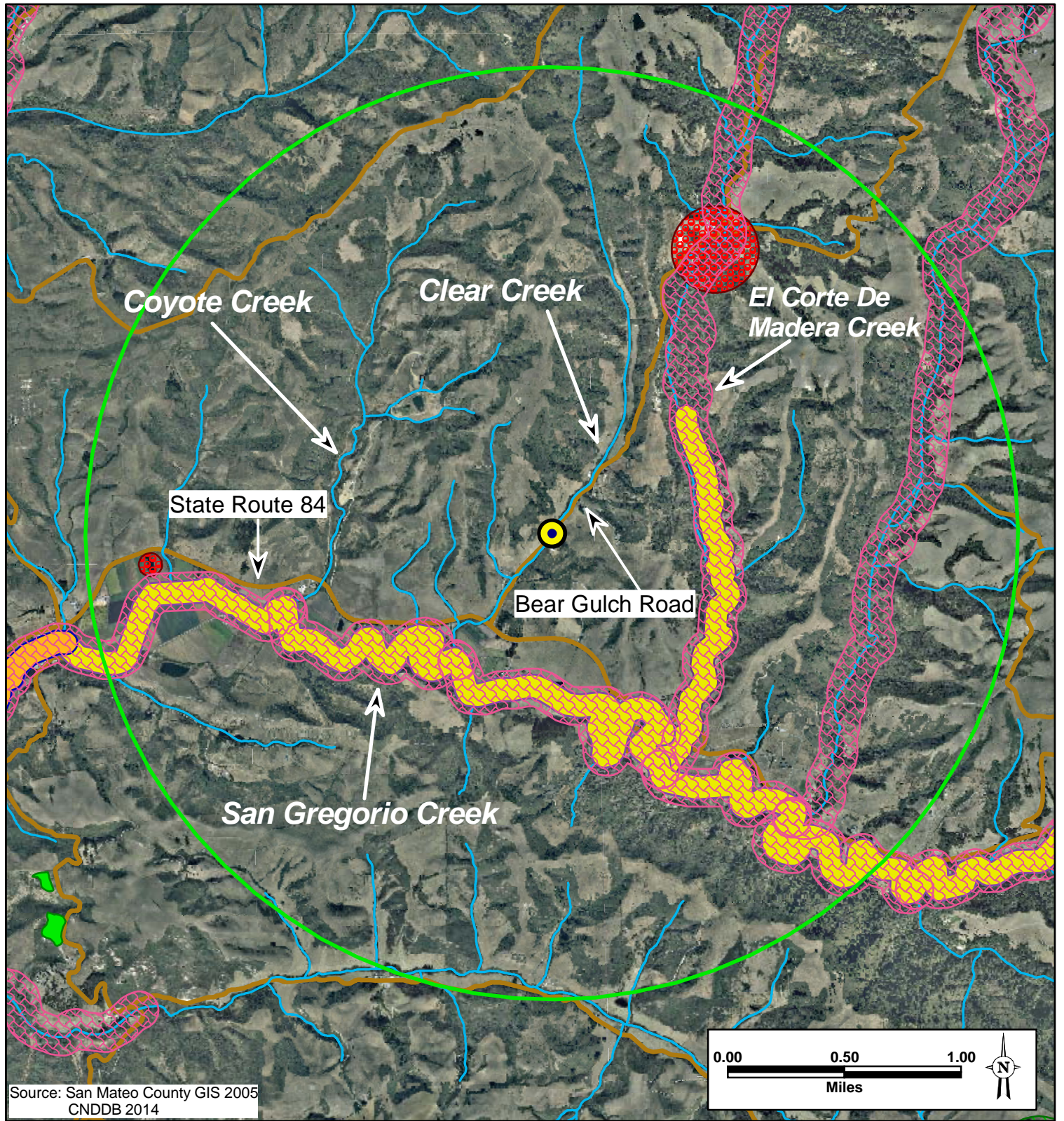
Sources: San Mateo County GIS, CNDDB 2014

Figure 5. Slip-out Location and Special Status Species Occurrences Map

-  Slip-out
-  Steelhead Critical Habitat
-  Tidewater goby
-  California red-legged frog
-  Streets
-  Tidewater goby
-  Streams
-  Pond

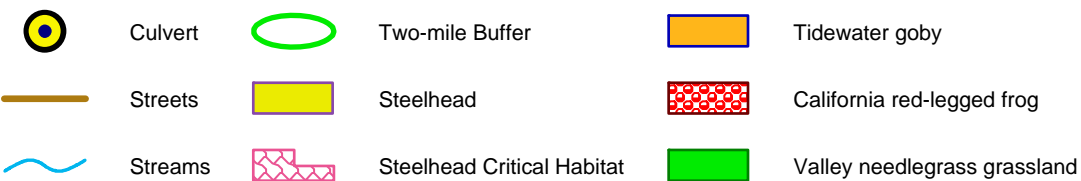


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Bear Gulch Project Site - Culvert Replacement

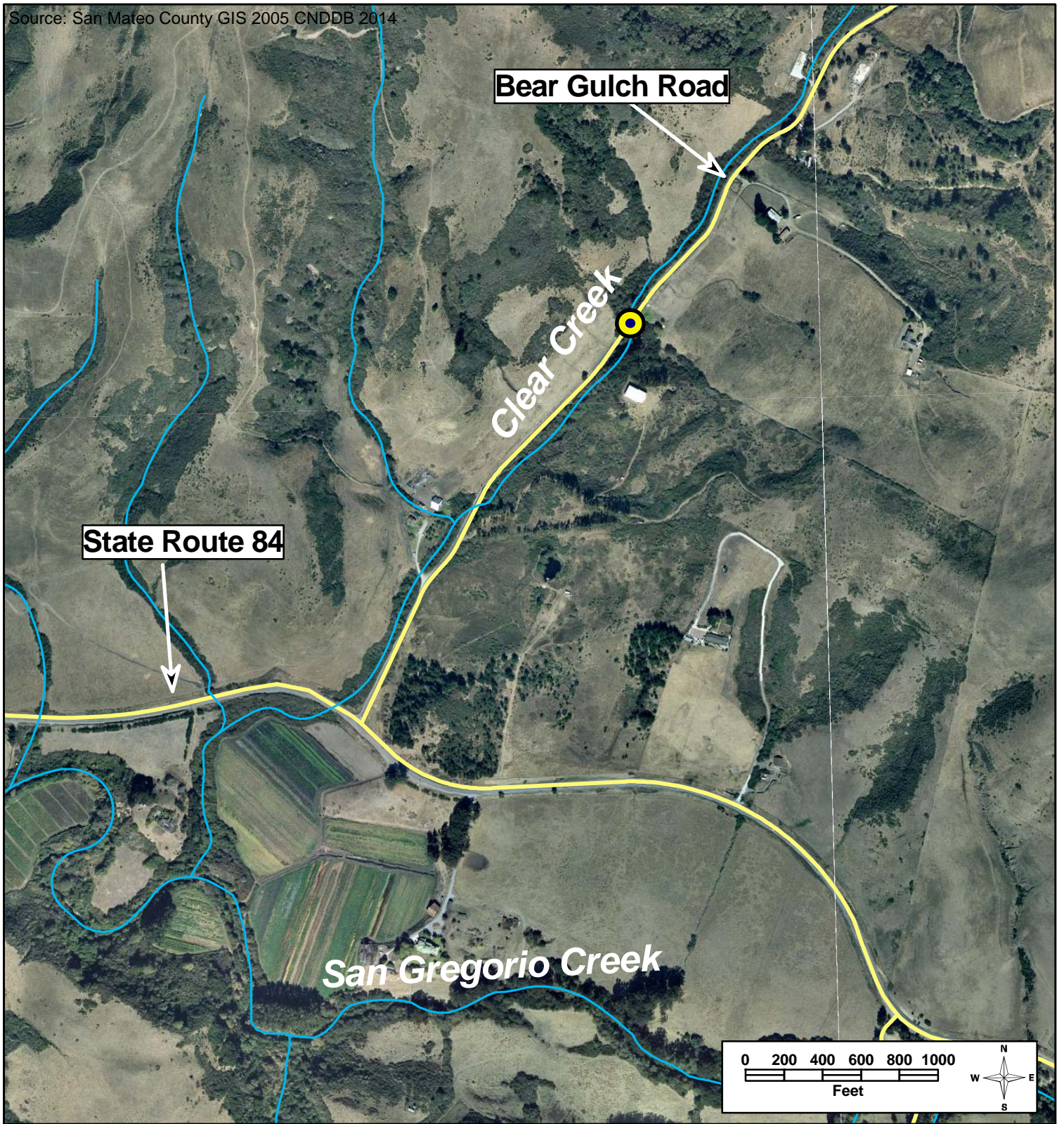
Figure 7 - Location of Special Status Species Occurrences and Critical Habitat



Note: Mapped area falls under California red-legged frog critical habitat.



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Bear Gulch Project Site - Culvert Replacement

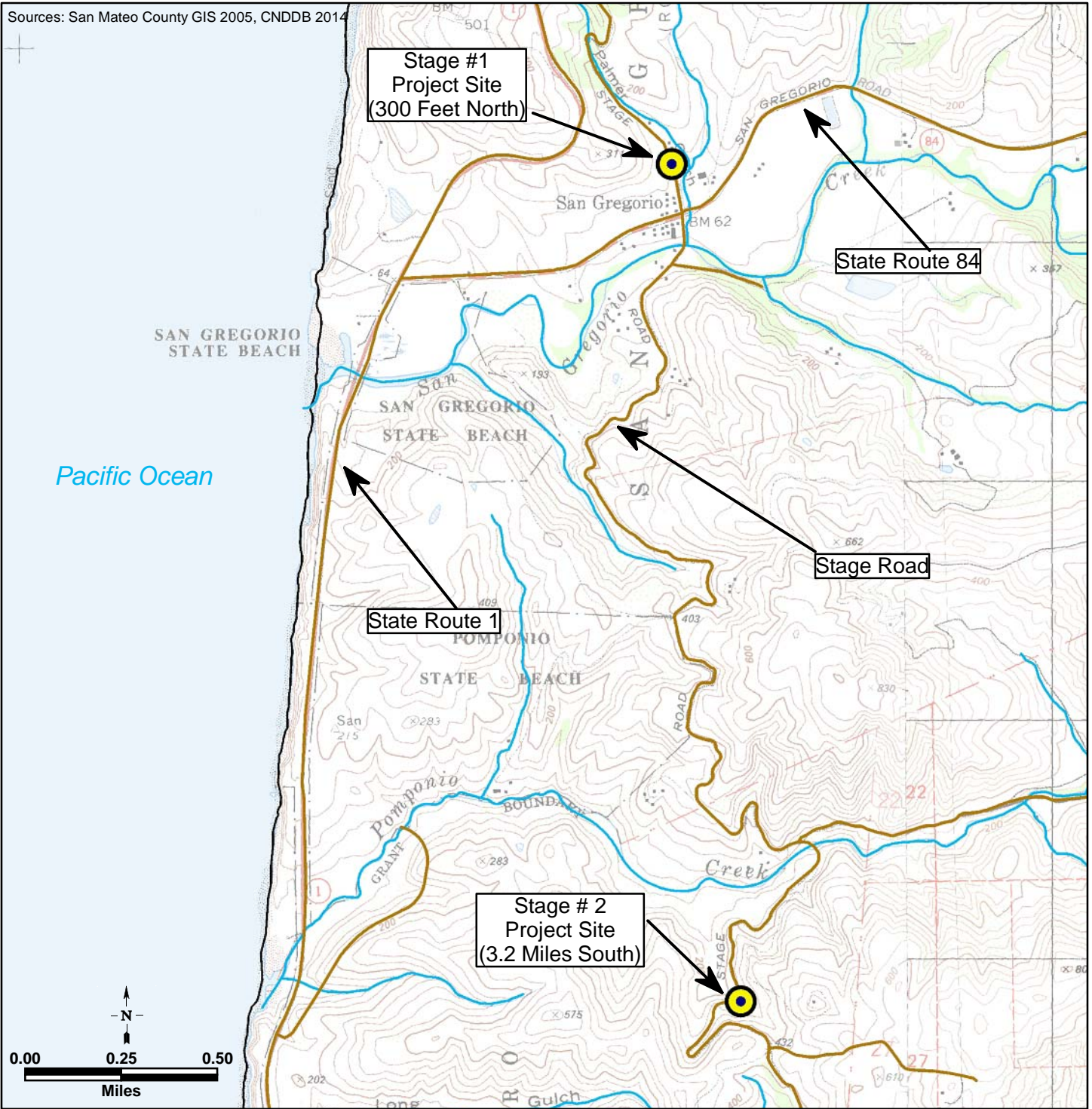
Figure 8 - Project Site Location Map

-  Project Site
-  Roads
-  Streams

Note: Map Extent is in California
Red-legged Frog Critical Habitat







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Stage #1 and #2 Project Sites - Culvert Reattachment

Figure 9 Project Site Locations Map

	Project Sites	Mileages Correspond to Distance from State Route 84	
	Streets		
	Streams		

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County of San Mateo
Department of Public Works

Pacific Ocean

Stage #1
Project Site
(300 Feet North)

Stage #2
Project Site
(3.2 Miles South)

Palmer Gulch

San Gregorio Creek

Pomponio Creek

Stage #1 and #2 Project Sites Culvert Reattachment

Figure 10 - Locations of Special Status Species and Critical Habitat

-  Culverts
-  Two-mile Buffer
-  Streams
-  Streets
-  Steelhead Critical Habitat
-  CRLF Critical Habitat
-  Steelhead
-  Tidewater goby
-  California red-legged frog
-  Bank swallow
-  Coastal marsh milk-vetch
-  Saltmarsh common yellowthroat
-  Valley needlegrass grassland

*Distances are in relation to State Route 84

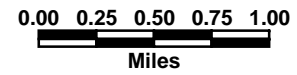
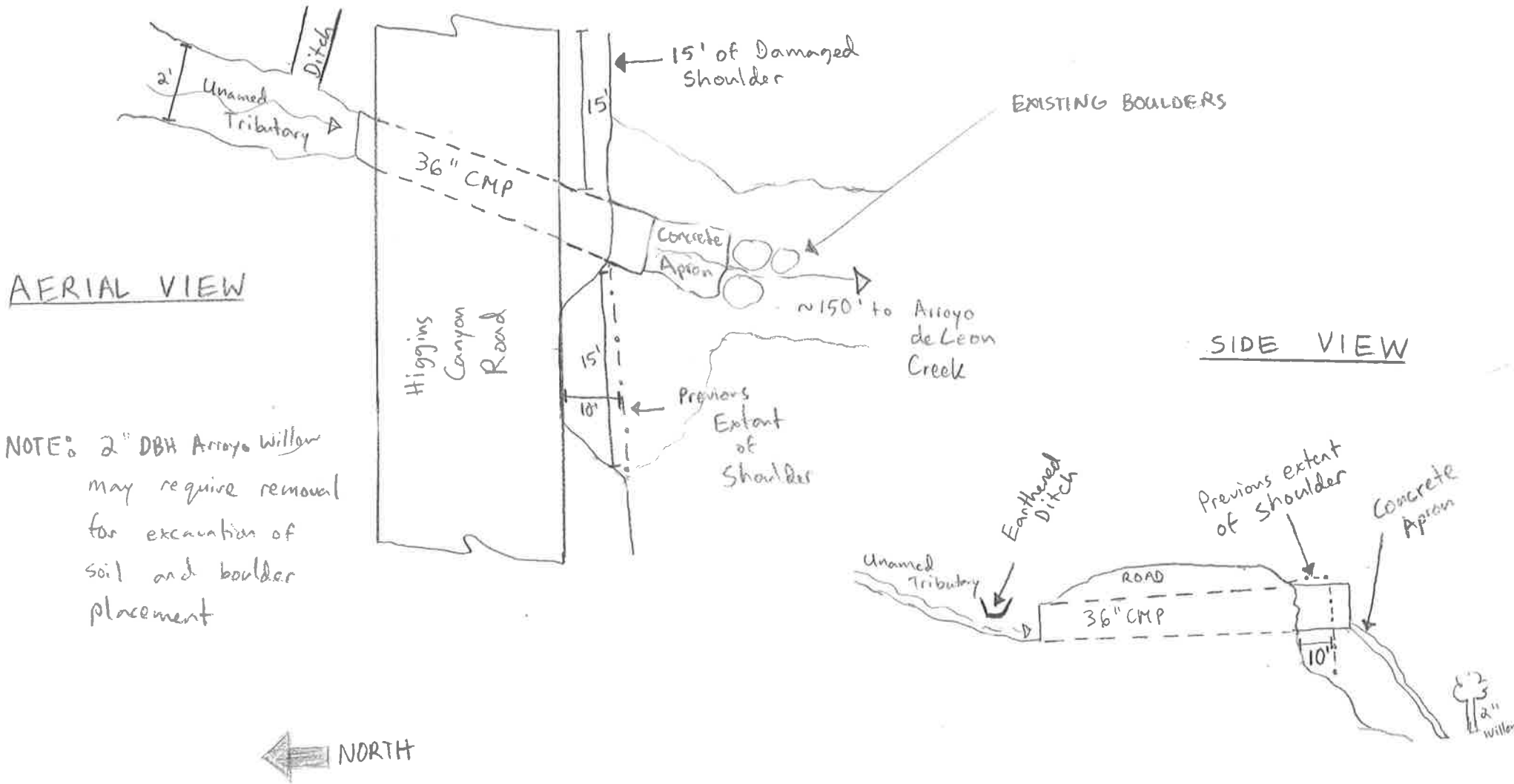


Figure 11. HIGGINS CANYON #1 PROJECT SITE - SLIP-OUT REPAIR
(0.7 MILES EAST OF HIGHWAY 1)

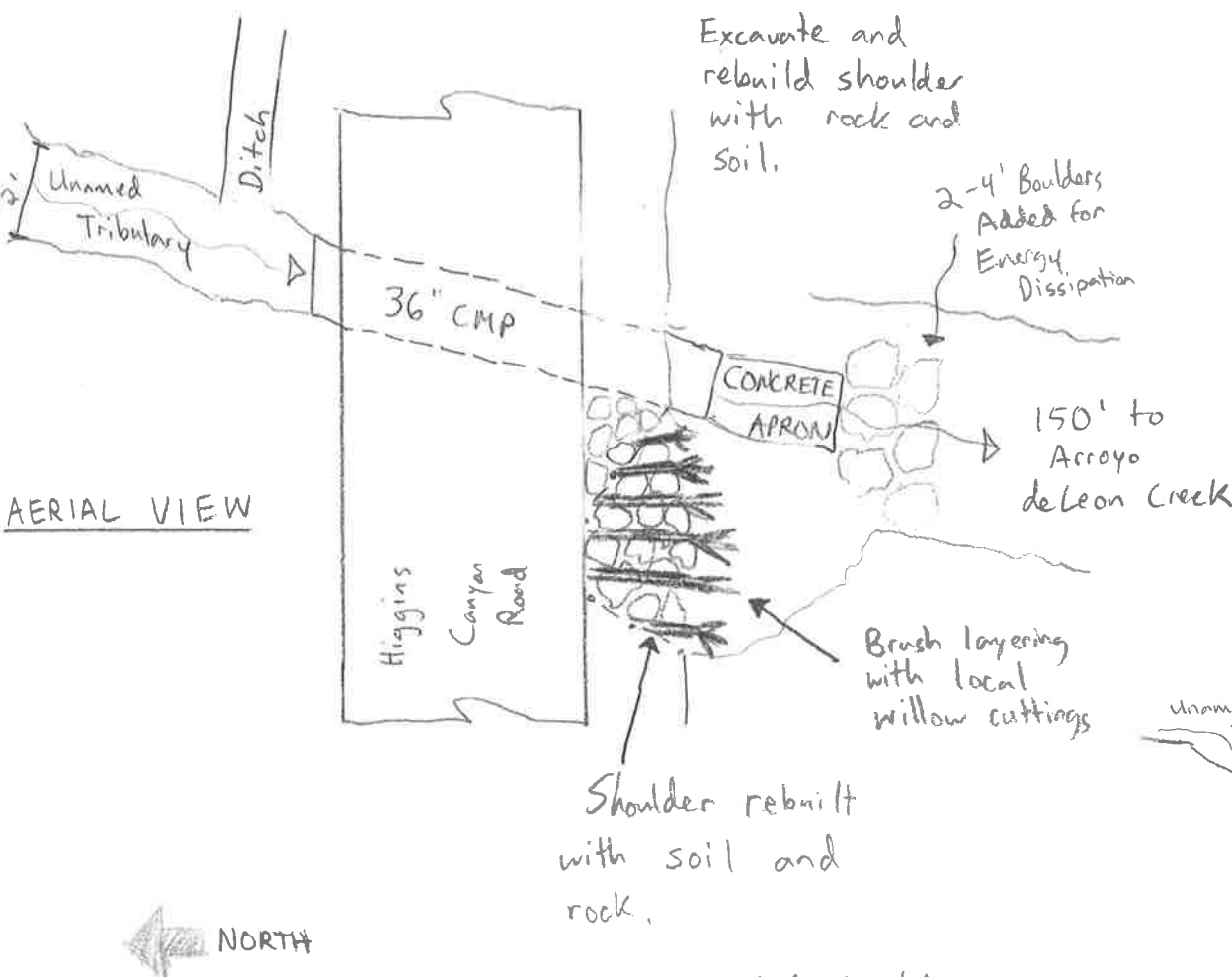
EXISTING CONDITIONS



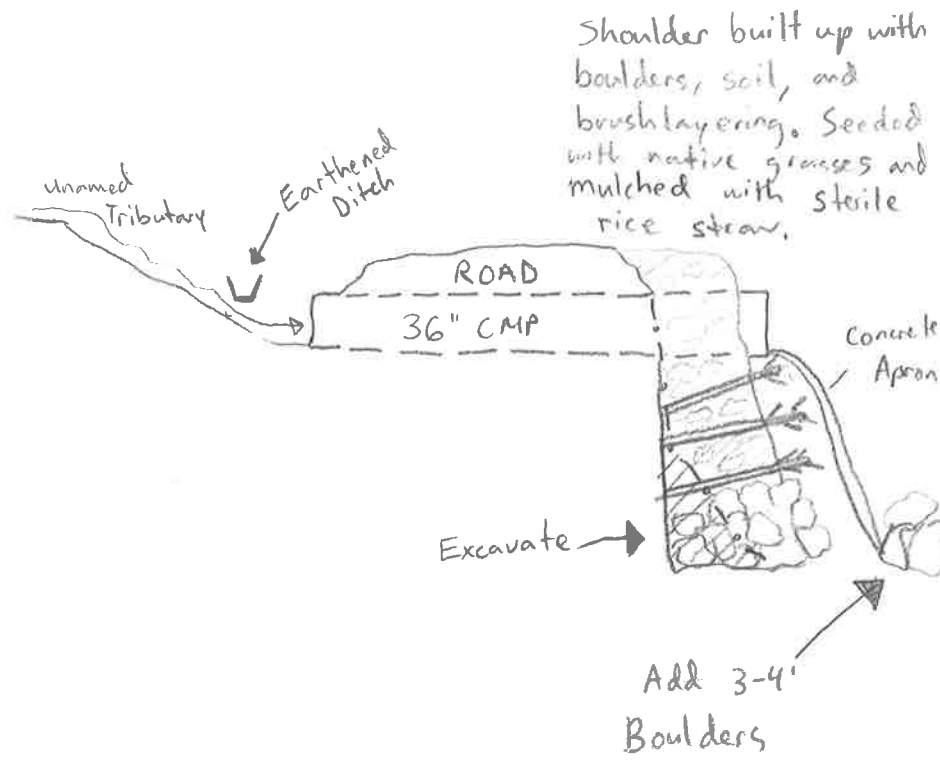
NOT TO SCALE

Figure 12. HIGGINS CANYON #1 PROJECT SITE - SLIP-OUT REPAIR
(0.7 MILES EAST OF HIGHWAY 1)

PROPOSED REPAIRS



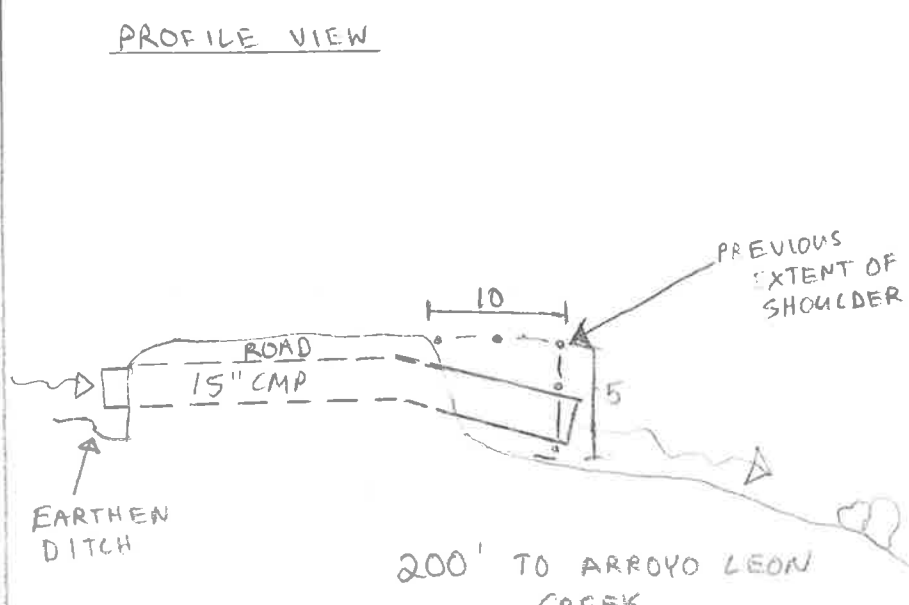
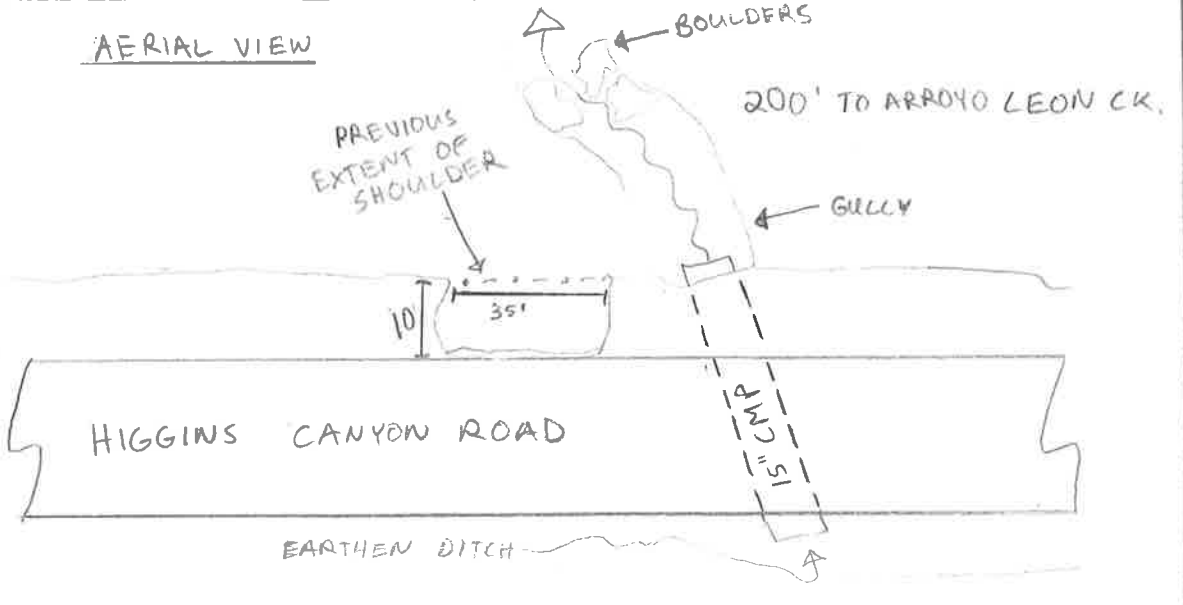
SIDE VIEW



Note: Excavated shoulders will be seeded with native grasses and mulched with sterile rice straw.

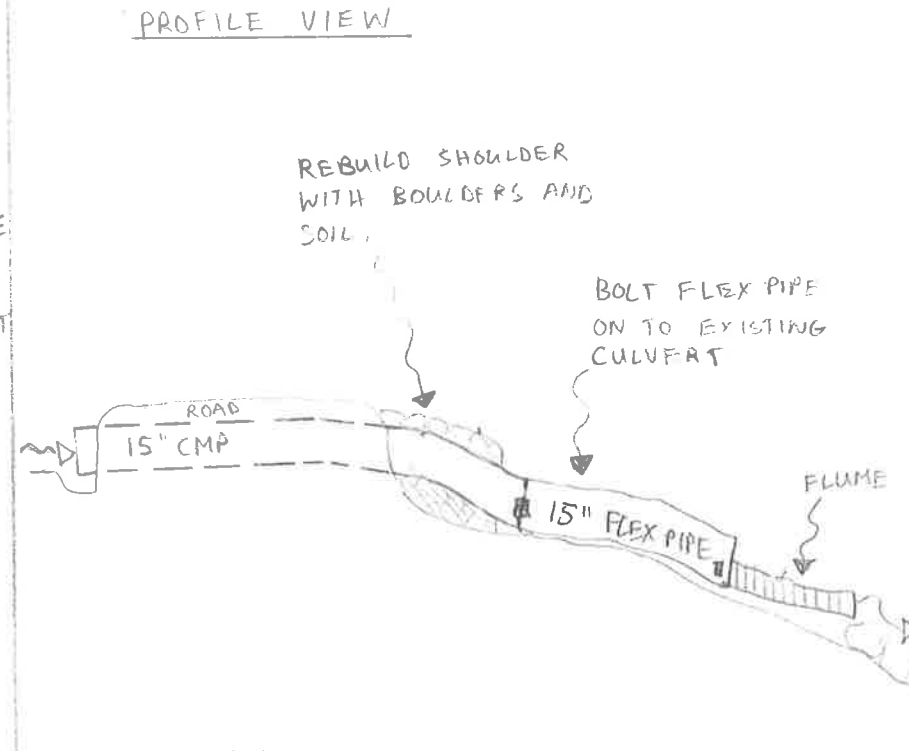
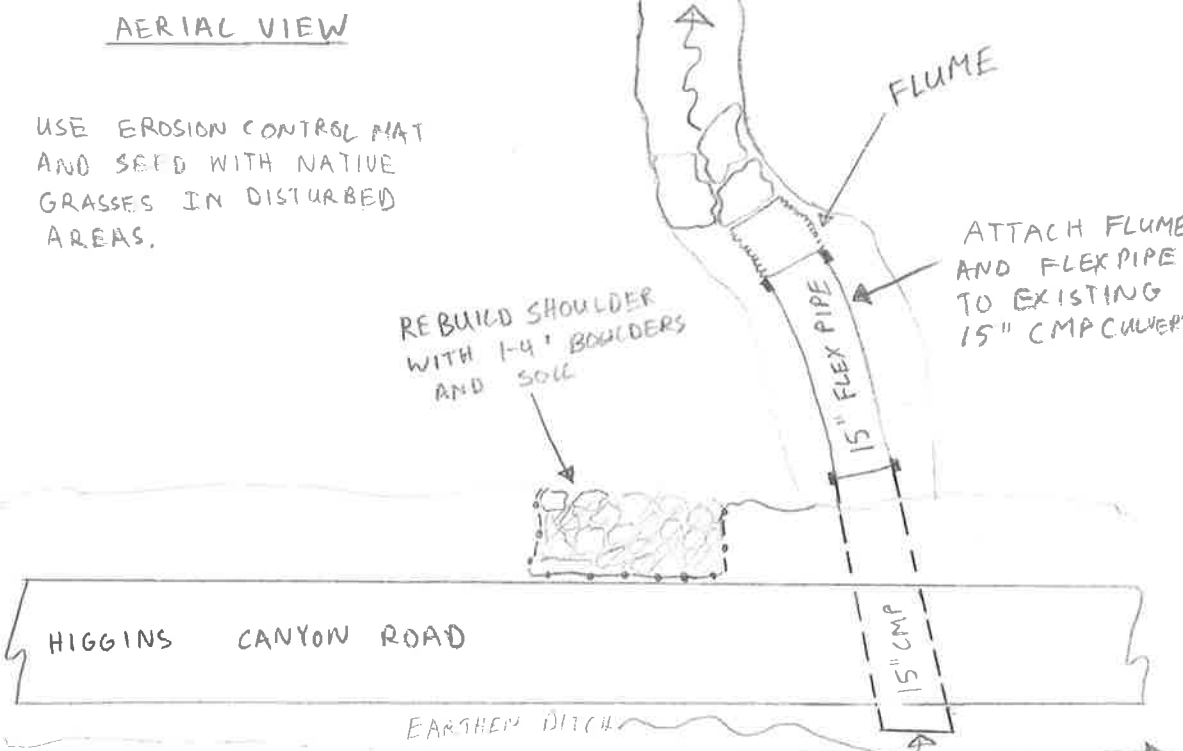
FIGURE 3. HIGGINS CANYON #2 PROJECT SITE - SLIP-OUT REPAIR AND FLEX PIPE ATTACHMENT (1.8 MILES EAST OF HIGHWAY 1)

EXISTING CONDITIONS



NORTH →

PROPOSED REPAIRS



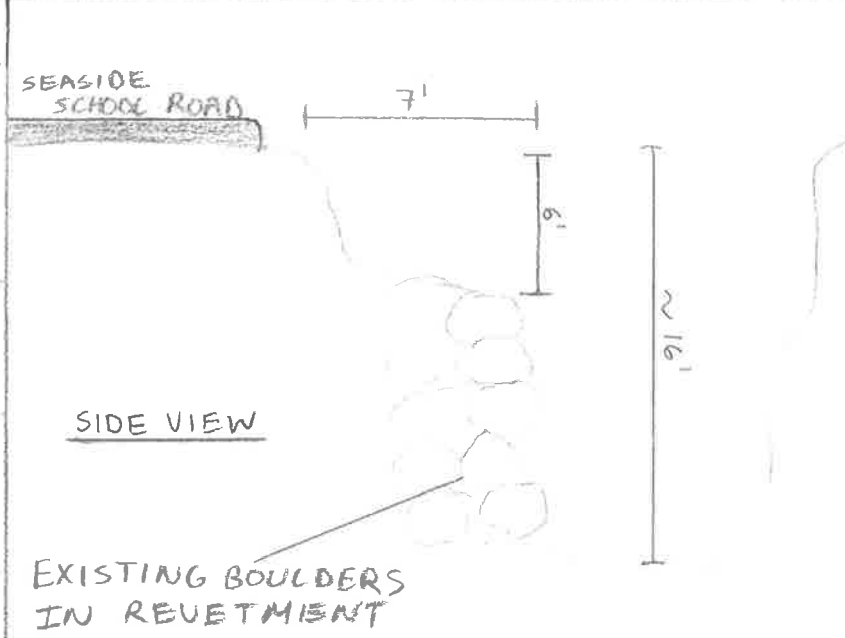
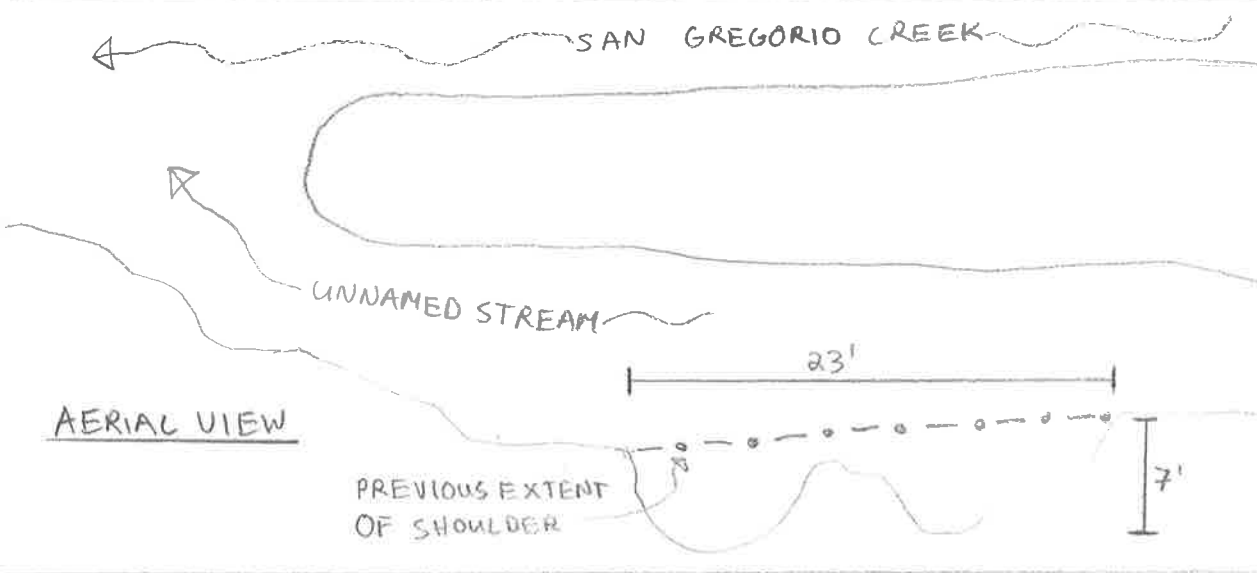
NORTH →

NOT TO SCALE

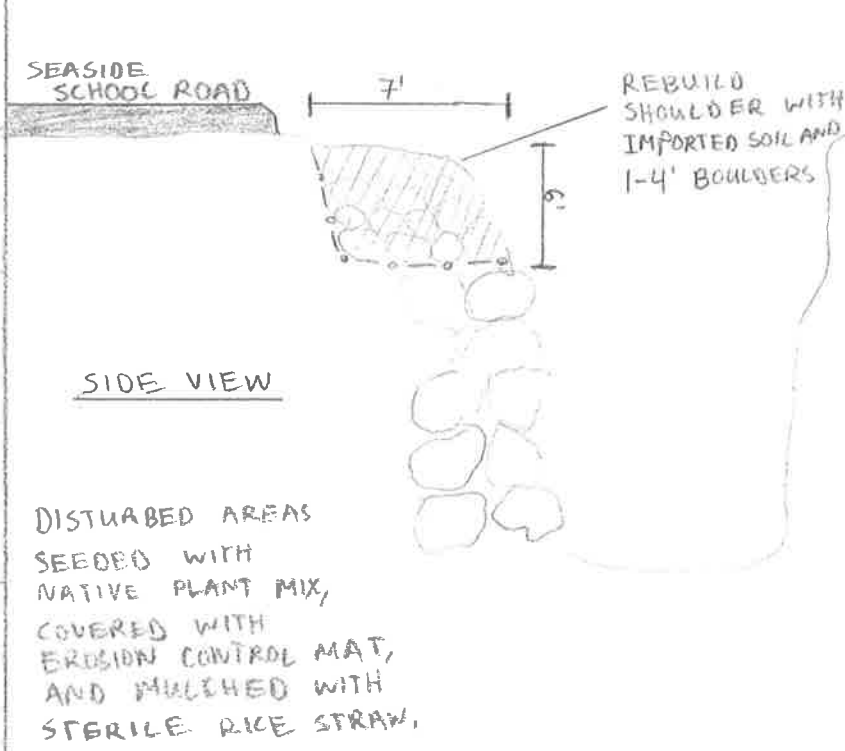
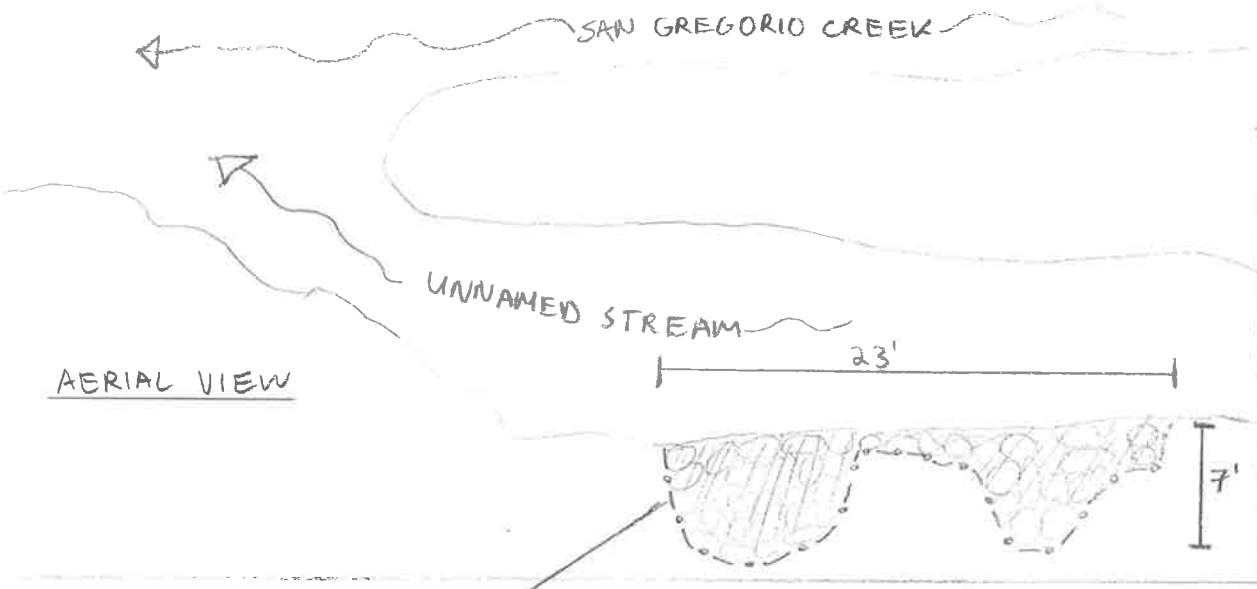
NOT TO SCALE

FIGURE 14. SEASIDE SCHOOL PROJECT SITE - SLIP-OUT #1 REPAIR

EXISTING CONDITIONS



PROPOSED REPAIRS

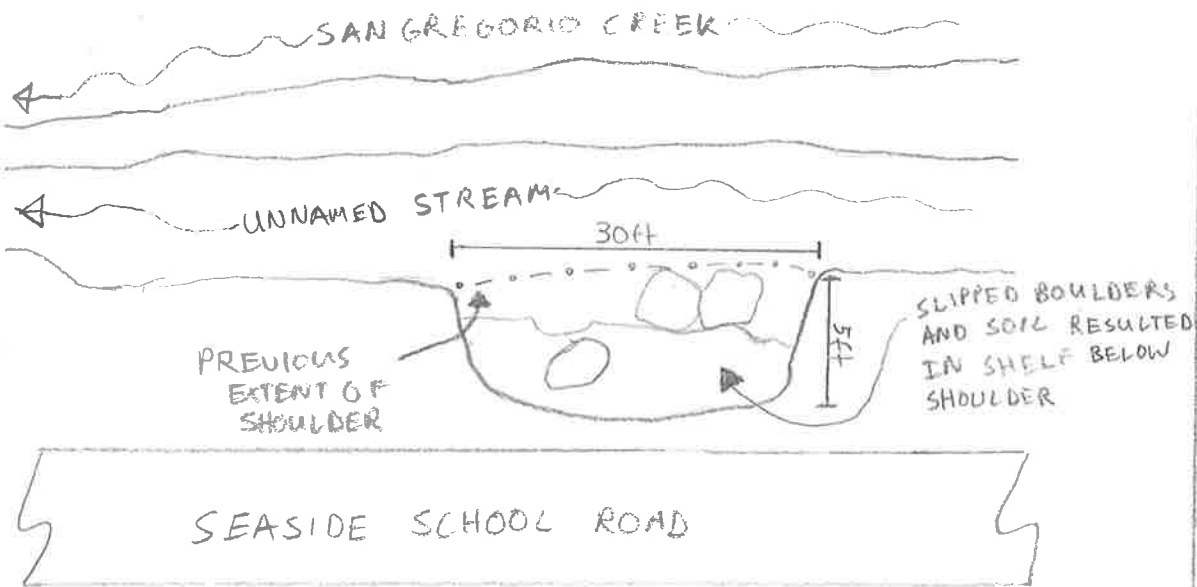


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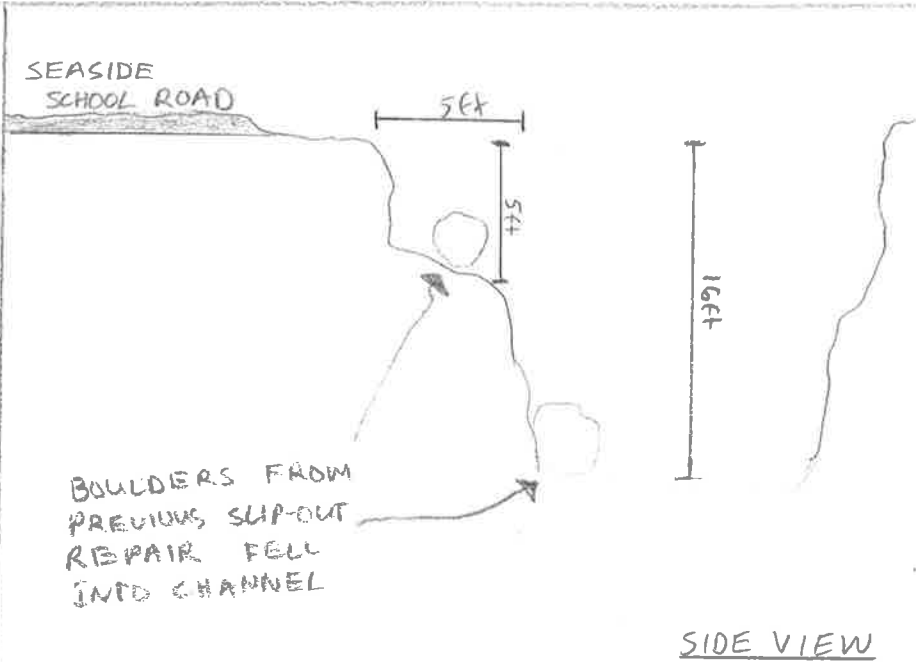
NOT TO SCALE

FIGURE 15, SEASIDE SCHOOL PROJECT SITE - SLIP-OUT #2 REPAIR

EXISTING CONDITIONS

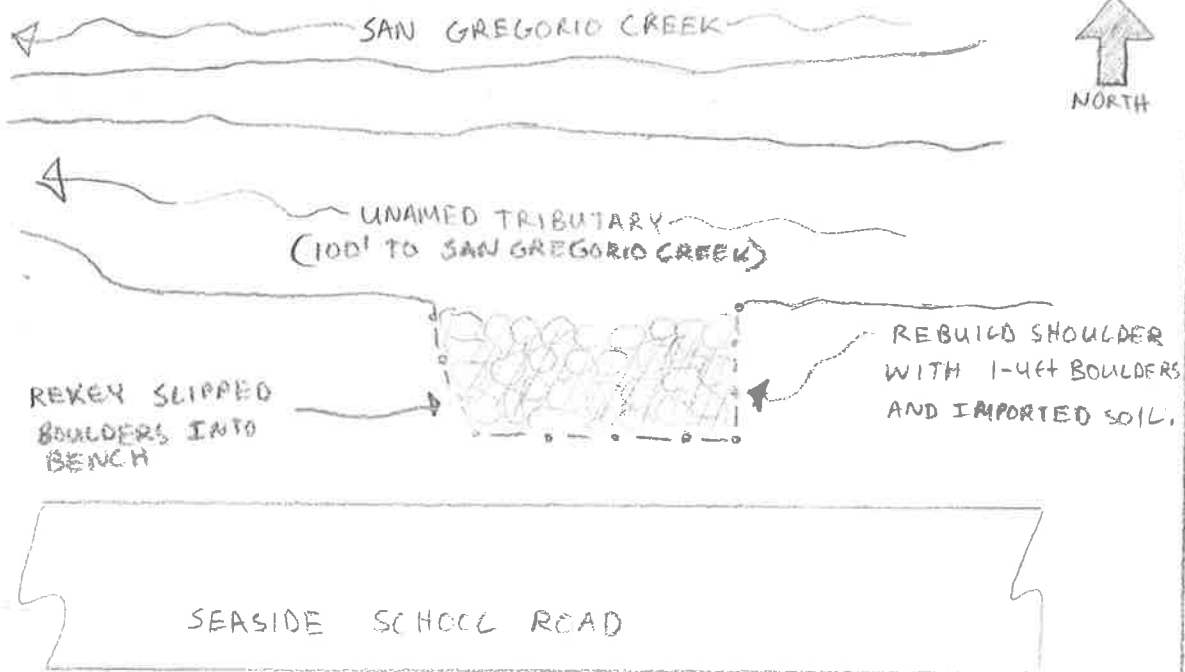


AERIAL VIEW

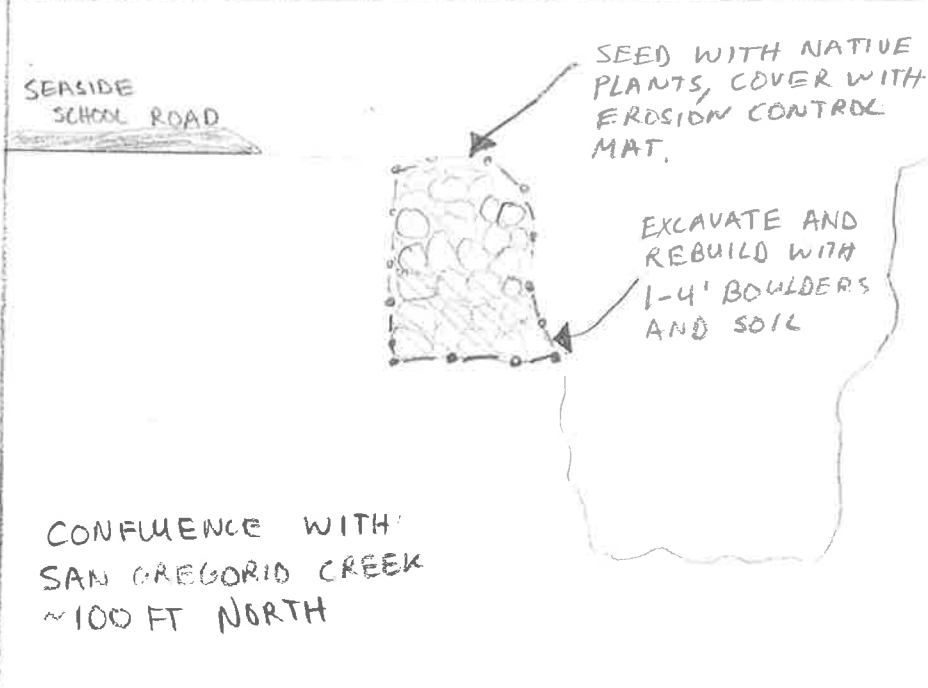


SIDE VIEW

PROPOSED REPAIRS



AERIAL VIEW



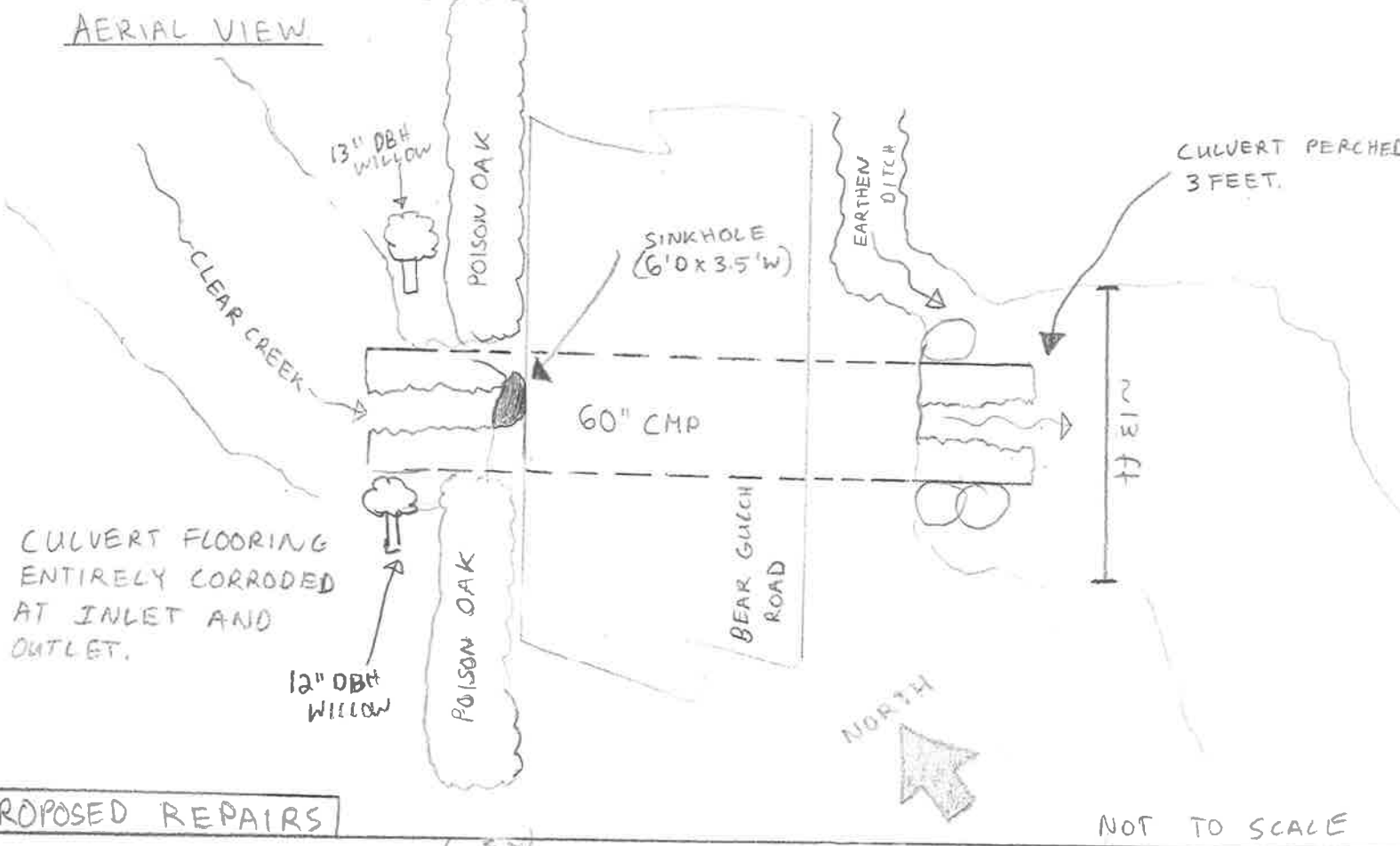
SIDE VIEW

NOT TO SCALE

NOT TO SCALE

FIGURE 16. BEAR GULCH PROJECT SITE - CULVERT REPLACEMENT

EXISTING CONDITIONS



PROPOSED REPAIRS

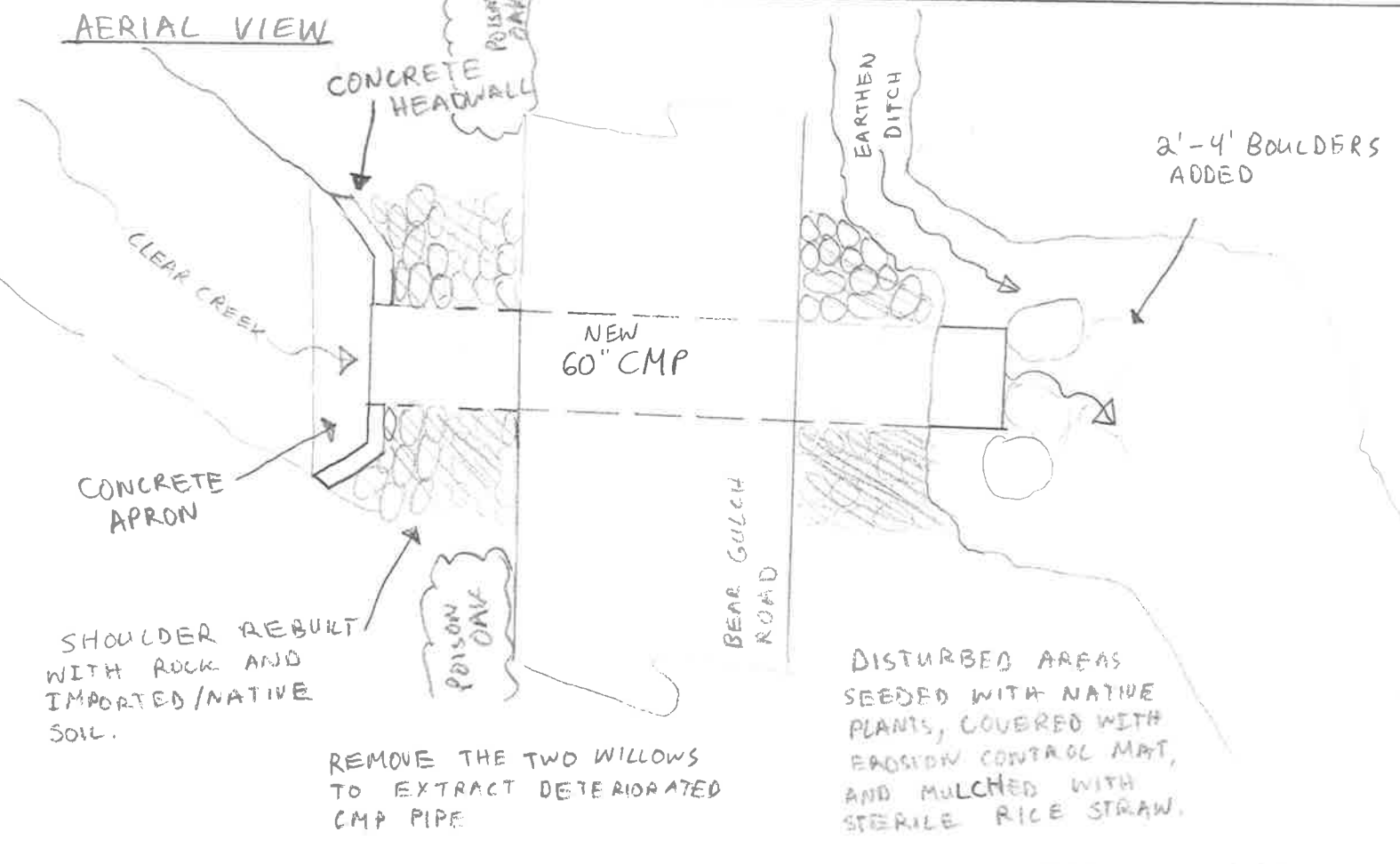
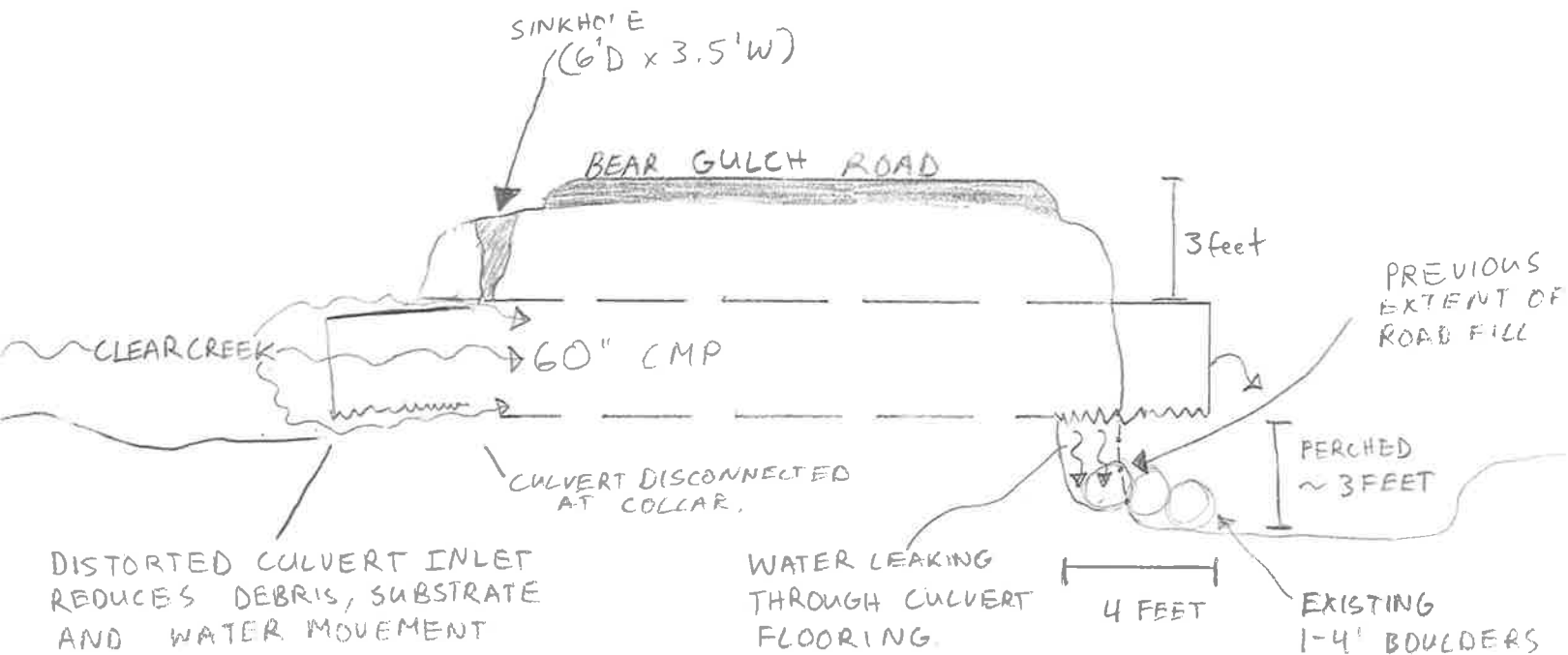


FIGURE 17. BEAR GULCH PROJECT SITE - CULVERT REPLACEMENT

EXISTING CONDITIONS

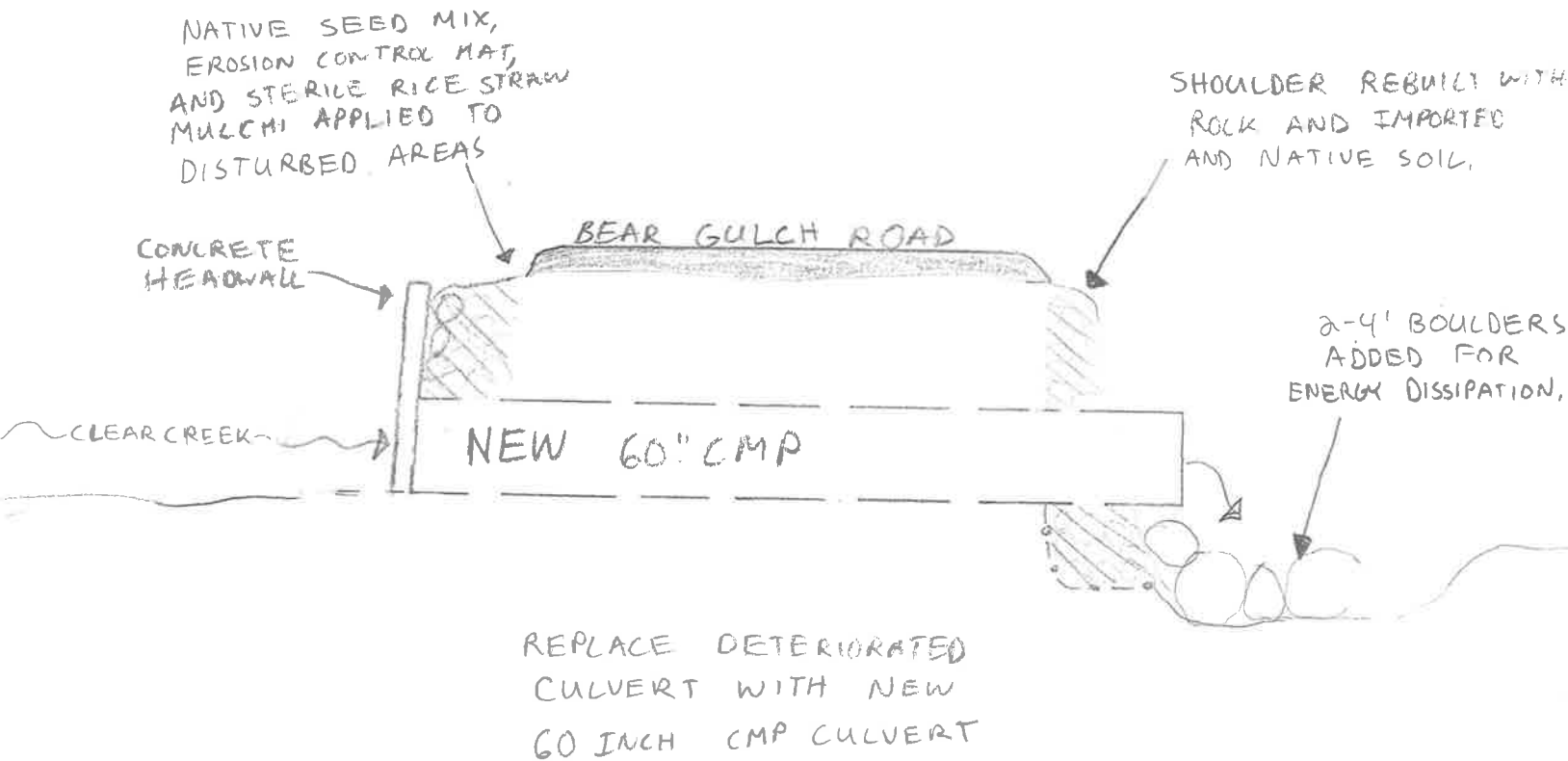
SIDE VIEW



PROPOSED REPAIRS

NOT TO SCALE

SIDE VIEW

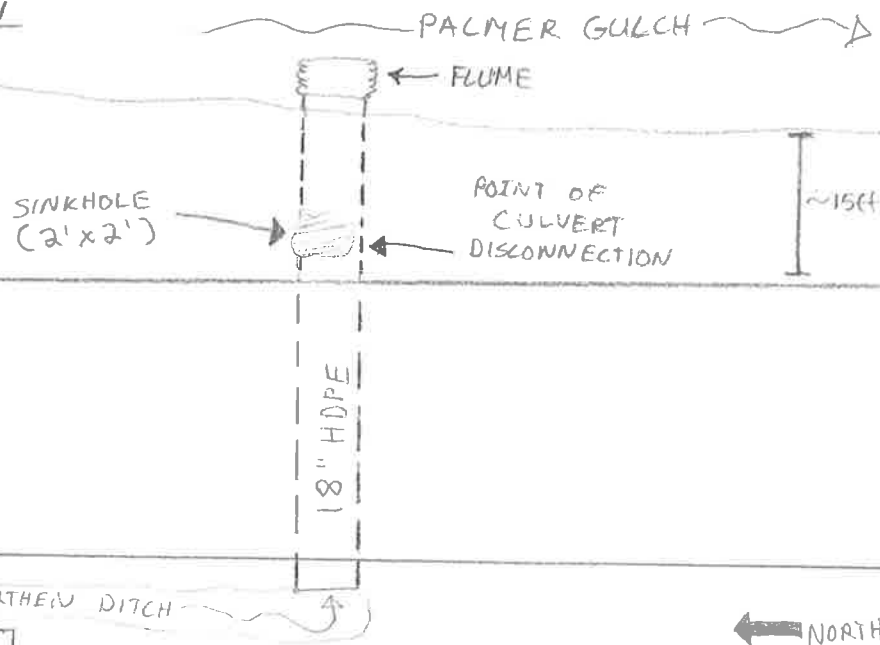


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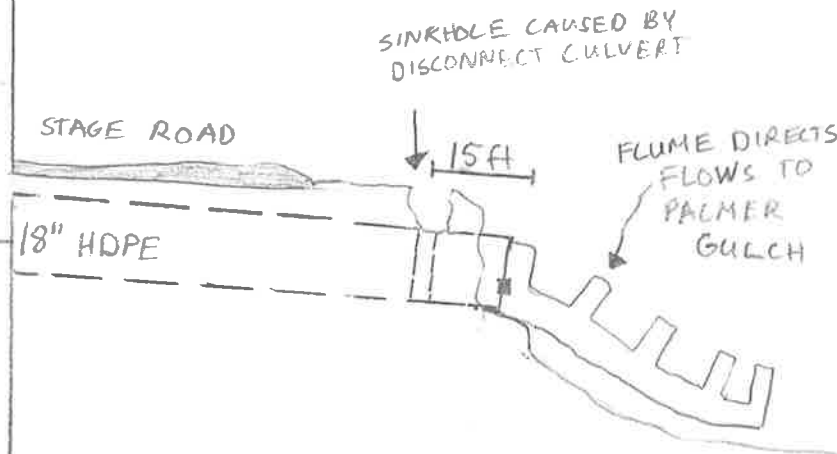
FIGURE 18. STAGE #1 PROJECT SITE - CULVERT REATTACHMENT
(300ft NORTH OF HIGHWAY 84)

EXISTING CONDITIONS

AERIAL VIEW



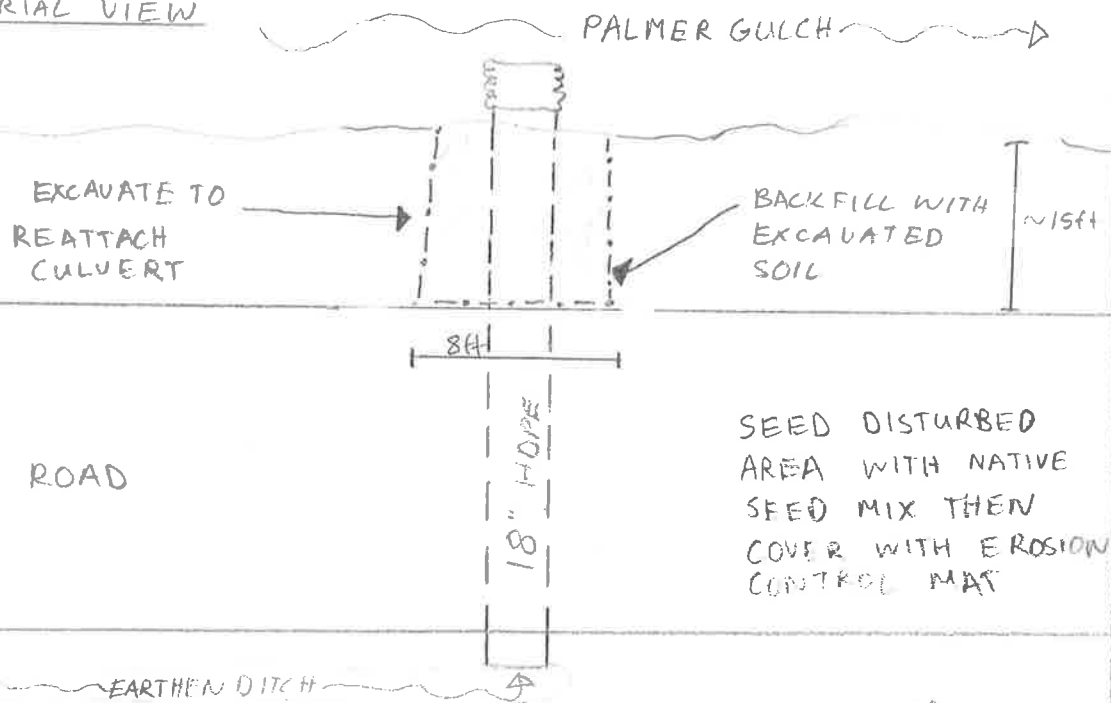
SIDE VIEW



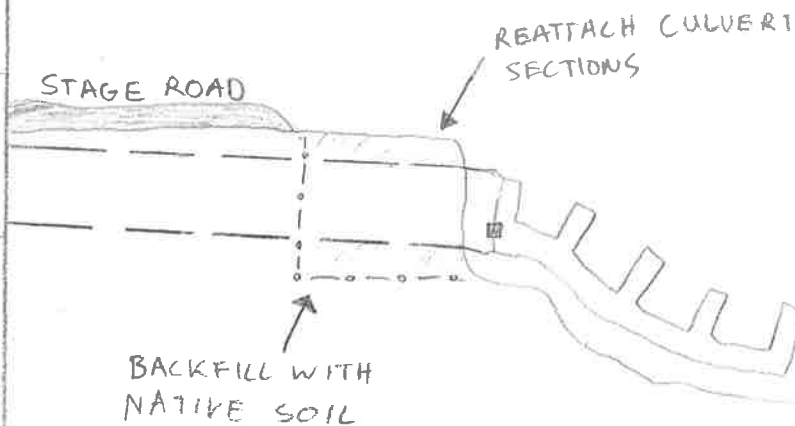
STAGE ROAD

PROPOSED REPAIRS

AERIAL VIEW



SIDE VIEW



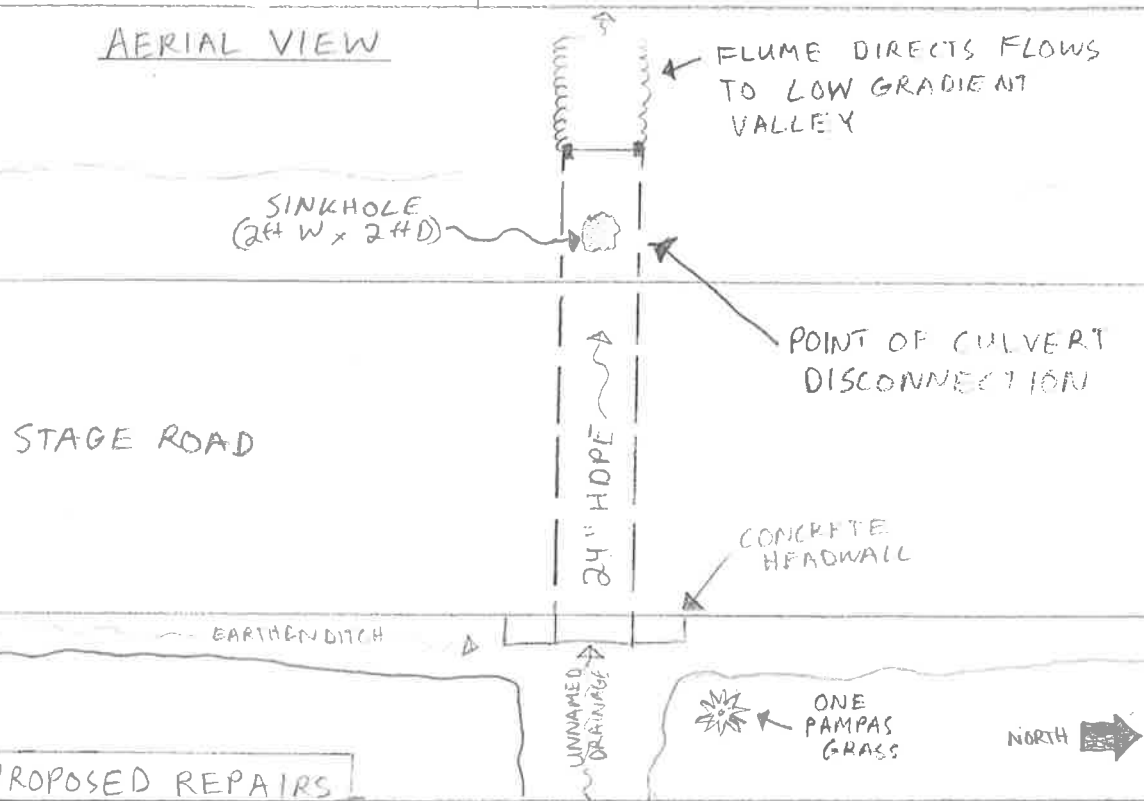
STAGE ROAD

NOT TO SCALE

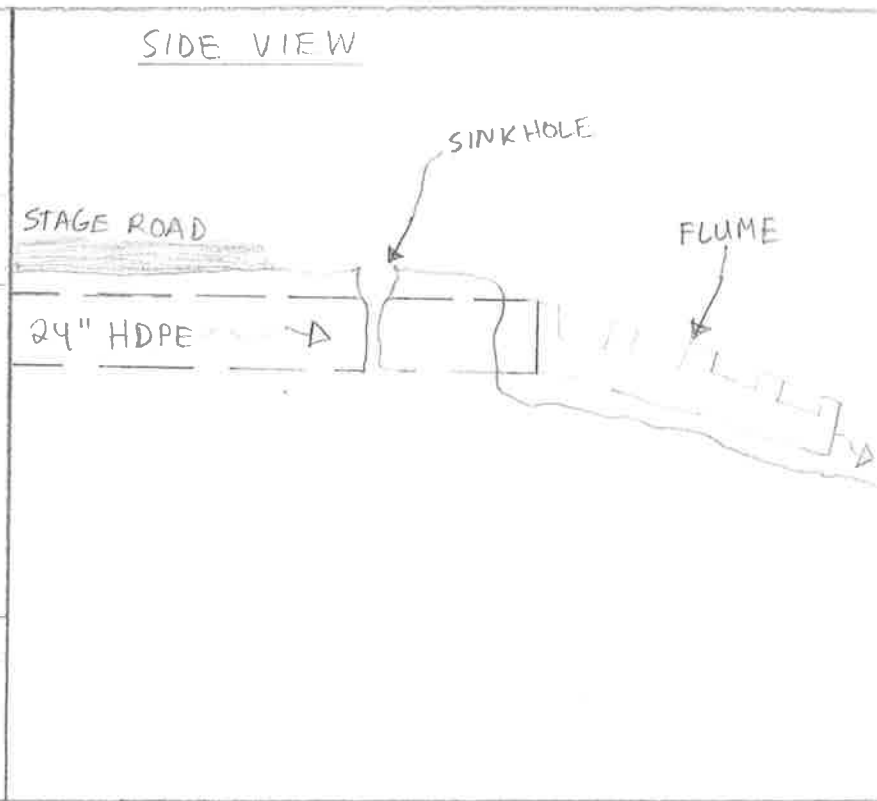
FIGURE 19. STAGE #2 PROJECT SITE - CULVERT REATTACHMENT
(3 MILES SOUTH OF HIGHWAY 84)

EXISTING CONDITIONS

AERIAL VIEW

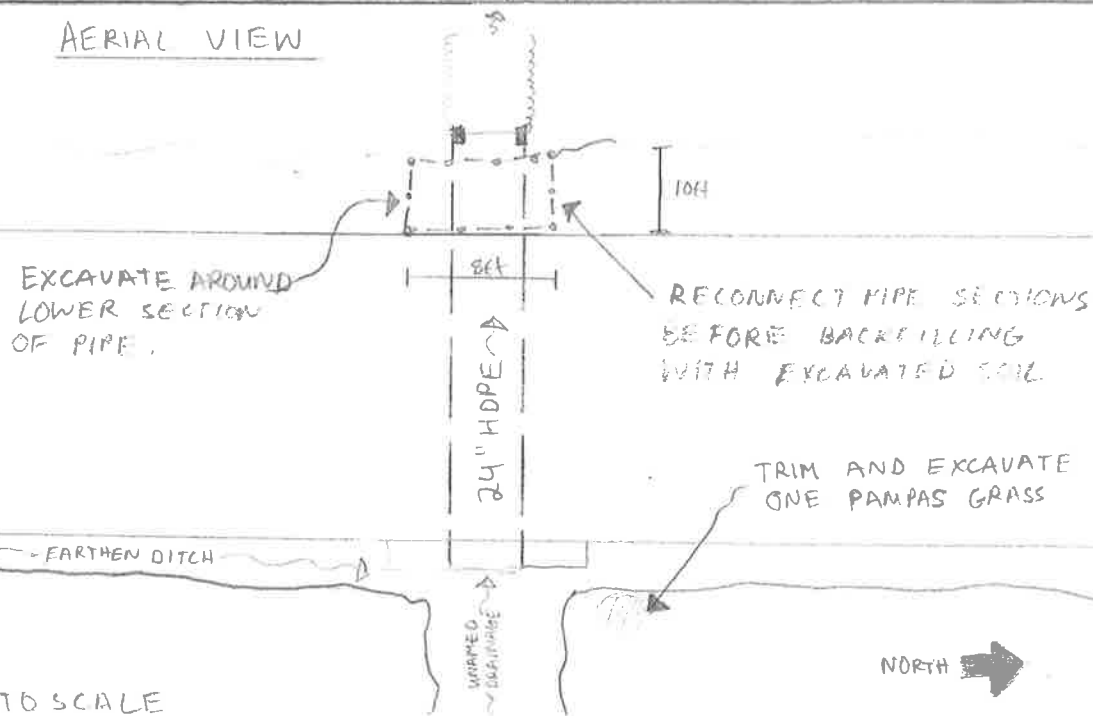


SIDE VIEW

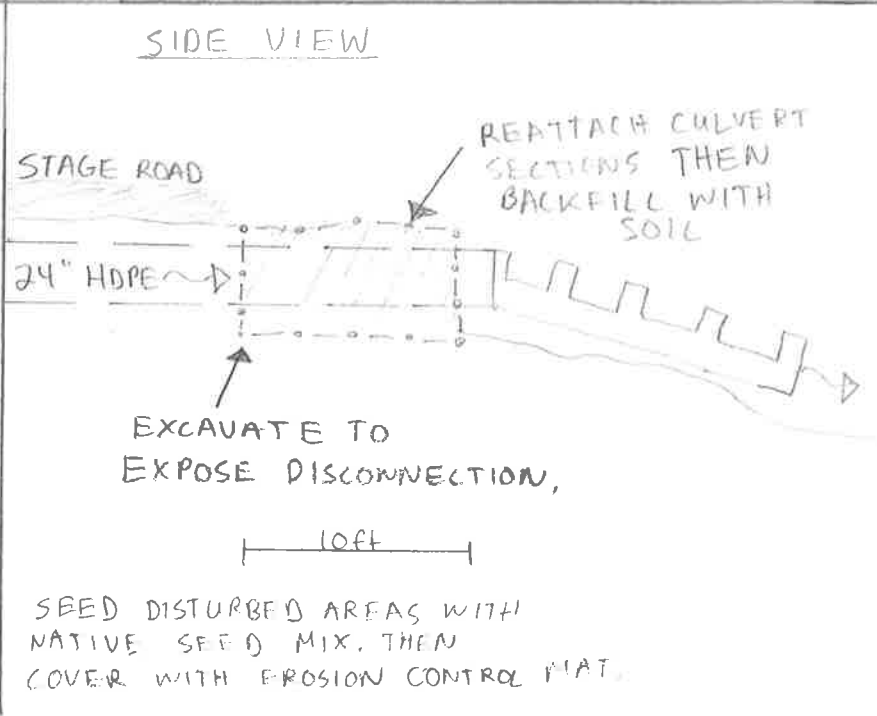


PROPOSED REPAIRS

AERIAL VIEW



SIDE VIEW



NOT TO SCALE

Appendix B - Summary of Qualifications

Michael Huynh, Biologist
San Mateo County, Department of Public Works
Utilities-Flood Control-Watershed Protection
555 County Center, 5th Floor
Redwood City, Ca. 94063-1665

Mr. Huynh obtained a Bachelor of Science degree in Conservation and Organismal Biology from San Jose State University (SJSU) (May 2012). He has over 3 years of water quality monitoring, sensitive plant surveys, fisheries and wildlife-related professional work experience as a biologist while working for the Santa Clara Valley Water District (SCVWD) and the United States Forest Service (USFS). Other biologists whom have worked with Michael and are familiar with his plant and wildlife experience include Dr. Jerry Smith (SJSU), Becky Rogers (USFS), Delilah Brigham (USFS), Nina Merrill (SCVWD), and Joel Casagrande (NMFS).

Fisheries projects that Michael has worked on include steelhead and coho research on various creeks in San Mateo, Santa Cruz, and Santa Clara Counties. Moreover, Michael has worked as a fisheries technician for the USFS in Tongass National Forest where his duties included channel typing, identifying fish barriers, and salmonid sampling. As a wildlife technician for the USFS in Eldorado and Shasta Trinity National Forests, Michael performed USFWS protocol-level surveys for Northern and California spotted owls, northern goshawks, bald eagles, and peregrine falcons. While working at the SCVWD, Michael assisted in multiple fish relocation projects and sampled stream and reservoir fisheries using backpack and boat-mounted electrofishing equipment. Additionally, he has served as a biological monitor and performed preconstruction surveys for special status species including CRLF, SFGS, SFDW, California tiger salamander, least bell's vireo, western burrowing owl, and San Joaquin kit fox. In addition, Michael has experience in surveying for special status plant species such as Halls bush mallow, smooth lessingia, coyote ceanothus, and San Joaquin spearscale. Coursework in plant identification and biology include ecology, botany, California plant communities, and plant physiological ecology.

While working as a field assistant for graduate students and his undergraduate advisor at San Jose State University, Michael has sampled for steelhead, coho salmon, California red-legged frog, and pacific pond turtle using a variety of methods including backpack electrofishing, seining, radio telemetry, and PIT tagging. Additionally, Michael has attended a Rare Pond Species Survey workshop for California tiger salamander, California red-legged frog, and pacific pond turtle, which covered identification at the different life stages, general ecology, approved CDFW and USFWS survey protocols, and handling procedures. As part of the workshop, Michael sampled for California tiger salamander and California red-legged frog larvae and adults using dip net and hand capture methods in vernal pools and mitigation ponds.

Carole Foster, Biologist
San Mateo County, Department of Public Works
Utilities-Flood Control-Watershed Protection
555 County Center, 5th Floor
Redwood City, Ca. 94063-1665

Ms. Foster holds a Bachelor of Science degree in Conservation and Organismal Biology from San Jose State University (SJSU) (December 2007). Carole is currently completing a Master of Science degree in Biological Sciences with an emphasis in fisheries and aquatic ecology. Carole has over 6 years of water quality monitoring, sensitive plant surveys, fisheries, and wildlife related professional work experience as a biologist while working for the Santa Clara Valley Water District (SCVWD) and the County of San Mateo Department of Public Works (County). Other biologists whom have worked with Carole and are familiar with her plant and wildlife experience include Dr. Jerry Smith (SJSU), Jae Abel (SCVWD), Nina Merrill (SCVWD), and Julie Casagrande (County).

Fisheries projects that Carole has worked on include steelhead and coho research of various creeks in San Mateo, Santa Cruz, and Santa Clara Counties, as well as current steelhead and aquatic macroinvertebrate research in the Uvas Creek and Stevens Creek Watersheds. Wildlife experience includes surveys for special status species such as CRLF, SFGS, California tiger salamander and San Francisco dusky-footed woodrat, nesting bird surveys, rodent burrow surveys, and salt marsh harvest mouse trapping. Carole has conducted sensitive plant surveys since 2007 at both SCVWD and the County. Coursework in plant identification and biology include botany, ecology, plant taxonomy, and California plant communities.

As a field assistant for her graduate advisor at San Jose State University, Carole has sampled special status species such as steelhead, coho, California red-legged frog, and Western pond turtle using a variety of methods such as backpack electrofishing, seining, and PIT tagging.

Appendix C – Sensitive Species Information Sheets



Watershed Protection Services

Sensitive Species Information Sheet

California Red-legged Frog



Habitat:

California red-legged frogs (CRLF) are listed as federally threatened under the Endangered Species Act. CRLF reproduce in marshes or ponds with vegetation along the margins. Breeding typically occurs from November and March. CRLF are often found feeding and basking in areas with deeper water (such as pools and backwater areas) and vegetation (such as willows, cattails or logjams) for cover. Please watch for frogs when working near creeks or ponds.

San Mateo County Known Locations:

CRLF have been documented in following watersheds and locations: Cupid Row (San Bruno), San Francisquito Creek, Crystal Springs Reservoir, Mori Point (Pacifica), San Pedro Creek watershed, near Devil's slide, Pillar Point marsh, Denniston Creek watershed, El Granada Creek watershed, Frenchman's Creek watershed, Pilarcitos Creek watershed, Tunitas Creek watershed, San Gregorio Creek watershed, Pescadero Creek watershed, Arroyo de los Frijoles (Lake Lucerne), Butano Creek watershed (near Cloverdale Road), along Pigeon Point Road, and in the Gazos Creek watershed.

Contacts:

If CRLF are seen on a work site, stop work immediately and contact a County biologist.

Carole Foster – (650) 599-1448

Michael Huynh - (650) 599-1417

Julie Casagrande – (650) 599-1457

Identification Tips:



California Red-legged Frog

- Pronounced lateral folds on back
- Often reddish (hind legs, abdomen, and/or back)



Pacific Chorus Frog

- Black eye stripe
- Pronounced toe pads
- Smaller than RLF and BF



Bullfrog

- No pronounced lateral folds on back
- Fold around eardrum that is usually green

***California
Red-legged
Frog***





Watershed Protection Services

Sensitive Species Information Sheet

San Francisco Garter Snake



Habitat:

San Francisco Garter Snakes (SFGS) are listed as federally endangered under the Endangered Species Act. Mating typically occurs in spring and live young are born in summer or fall. They are often found feeding in pond and creek habitats with abundant vegetation (such as willows or cattails) for cover. SFGS feed on California red-legged frogs and Pacific treefrogs. They often use upland areas for basking (banks and roads) and use rodent burrows for cover and overwintering (grasslands). Please watch for SFGS when working near creeks, ponds, and marshes.

San Mateo County Known Locations:

SFGS have been documented in following watersheds and locations: Cupid Row (San Bruno), San Francisquito Creek watershed near Searsville Lake, Crystal Springs Reservoir, Mori Point (Pacifica), Denniston Creek watershed, Pilarcitos Creek watershed, upper San Gregorio Creek watershed, upper Pomponio Creek watershed, Pescadero Creek watershed, Arroyo de los Frijoles watershed, Butano Creek watershed, Ano Nuevo, Whitehouse Creek watershed, and the Cascade Creek watershed.

Contacts:

If SFGS are seen on a work site, stop work immediately and contact a County biologist.

Carole Foster – (650) 599-1448

Michael Huynh - (650) 599-1417

Julie Casagrande – (650) 599-1457

Identification Tips:



SF Garter Snake

- Red head
- Solid red stripe along dorsal and bordered by black on top & bottom
- Lateral stripes and belly often greenish blue



CA Red-sided Garter Snake

- Red head
- Red dots along dorsal not continuous



Coast Garter Snake

- Dark head
- Red spotting on side

San Francisco Garter Snake





Watershed Protection Services
Sensitive Species Information Sheet



*Other Sensitive
Species*



Steelhead & Coho Salmon



Western Pond Turtle



Watershed Protection Services Sensitive Species Information Sheet



Birds



Marbled Murrelet

Photo source: <http://www.ec.gc.ca/EnviroZine>



Yellow Warbler

Photo source: <http://www.prbo.org>



Tricolored Blackbird

Photo source: <http://www.yoloconservationplan.org>



Saltmarsh Common Yellowthroat

Photo source: <http://web1.audubon.org>

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