COUNTY OF SANTA CRUZ

PLANNING DEPARTMENT
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TOM BURNS, PLANNING DIRECTOR

NOTICE OF ENVIRONMENTAL REVIEW PERIOD

SANTA CRUZ COUNTY

APPLICANT: **Steve Wiesner of SC County Department of Public Works**

APPLICATION NO.: **08-0099**

APN: **N. Rodeo Gulch (Post Mile Marker 4.35)**

The Environmental Coordinator has reviewed the Initial Study for your application and made the following preliminary determination:

XX Negative Declaration
(Your project will not have a significant impact on the environment.)

XX Mitigations will be attached to the Negative Declaration.

_____ No mitigations will be attached.

_____ Environmental Impact Report
(Your project may have a significant effect on the environment. An EIR must be prepared to address the potential impacts.)

As part of the environmental review process required by the California Environmental Quality Act (CEQA), this is your opportunity to respond to the preliminary determination before it is finalized. Please contact Matt Johnston, Environmental Coordinator at (831) 454-3201, if you wish to comment on the preliminary determination. Written comments will be received until 5:00 p.m. on the last day of the review period.

Review Period Ends: **May 28, 2008**

Bob Loveland
Staff Planner

Phone: **454-3163**

Date: **April 22, 2008**

NAME : N. Rodeo Gulch 4.35
APPLICATION: 08-0099
A.P.N: County Right of Way

NEGATIVE DECLARATION MITIGATIONS

A. In order to ensure that mitigation measures B through D are communicated to the crew members responsible for constructing the project and are properly implemented, the Department of Public Works (DPW) shall organize a pre-construction meeting on the site to review the mitigation measures. The following parties shall attend: DPW project engineer, project crew supervisor, project biologists and Environmental Planning staff. The disturbance envelope will be verified, silt fence will be inspected, erosion control plan verified, dewatering and fish removal plan reviewed, and the results of pre-construction wildlife surveys will be collected at that time.

B. In order to prevent adverse impacts to California red legged frogs (*Rana aurora draytonii*) (CLRF) and foothill yellow-legged frogs (*Rana boylii*), a qualified wildlife biologist shall perform pre-construction surveys and conduct an educational session with all work crewmembers prior to disturbance. If either species of frog are present, all vegetation removal and disturbance shall only occur in the presence of a qualified biological resource monitor. If CLRF are identified in the work area during the project the monitor shall halt activity and contact the U.S. Fish and Wildlife Service for direction and recommendations to avoid take of the species.

C. In order to prevent erosion and sedimentation of the creek, prior to disturbance DPW shall implement the erosion control plan reviewed and approved by Environmental Planning staff. At the pre-construction meeting, Environmental Planning staff shall confirm that access to the work area is from the top of the bank and construction will be accomplished per the erosion control plan, confirm that the spoils storage area is away from the creek bank and protected from erosion, and confirm the silt fencing and other erosion control features are properly installed.

D. To minimize noise impacts on surrounding properties to a less than significant level during construction, construction shall be limited to the time between 8:00 A.M. and 5:00 P.M. weekdays.

Environmental Review Initial Study

Application Number: 08-0099

Date: April 3, 2008
Staff Planner: Bob Loveland

I. OVERVIEW AND ENVIRONMENTAL DETERMINATION

APPLICANT: County of Santa Cruz (DPW)

APN: N. Rodeo Gulch (Post Mile Marker 4.35)

CONTACT: Steve Wiesner (831) 454-2160

SUPERVISORAL DISTRICT: First (Janet Beautz)

LOCATION:
The project area is located on N. Rodeo Gulch Road at Post Mile-Marker 4.35.

SUMMARY PROJECT DESCRIPTION:
Winter stormwater flows within Rodeo Gulch Creek (2005 to 2006) eroded the toe of the roadway embankment causing the slope embankment and associated roadway to fail into the stream channel (FEMA DR- CA 1628). In order to restore the road embankment and associated roadway back to pre-disaster configuration, the following activities need to be completed: construct a new retaining wall; place Rock Slope Protection (RSP) at the toe of the slope; revegetate restored roadway embankment; place new asphalt pavement and install a new steel guard rail.

ALL OF THE FOLLOWING POTENTIAL ENVIRONMENTAL IMPACTS ARE EVALUATED IN THIS INITIAL STUDY. CATEGORIES THAT ARE MARKED HAVE BEEN ANALYZED IN GREATER DETAIL BASED ON PROJECT SPECIFIC INFORMATION.

____	Geology/Soils	_X_	Noise
____	Hydrology/Water Supply/Water Quality	_X_	Air Quality
_x_	Biological Resources	____	Public Services & Utilities
_x_	Energy & Natural Resources	____	Land Use, Population & Housing
____	Visual Resources & Aesthetics	____	Cumulative Impacts
____	Cultural Resources	____	Growth Inducement
____	Hazards & Hazardous Materials	_X_	Mandatory Findings of Significance
_X_	Transportation/Traffic		

DISCRETIONARY APPROVAL(S) BEING CONSIDERED

____ General Plan Amendment	____ Grading Permit
____ Land Division	__X__ Riparian Exception
____ Rezoning	____ Other:
____ Development Permit	____
____ Coastal Development Permit	____

NON-LOCAL APPROVALS

Other agencies that must issue permits or authorizations:

California Department of Fish & Game
National Marine Fisheries Service
U.S. Fish & Wildlife Service
Army Corps of Engineers

ENVIRONMENTAL REVIEW ACTION

On the basis of this Initial Study and supporting documents:

___ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

__X__ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the attached mitigation measures have been added to the project. A MITIGATED NEGATIVE DECLARATION will be prepared.

___ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

Matt Johnston

4/24/08
Date

For: Claudia Slater
Environmental Coordinator

II. BACKGROUND INFORMATION

EXISTING SITE CONDITIONS:
Parcel Size: NA
Existing Land Use: County maintained road adjacent to an established riparian corridor.
Vegetation: Slope in area affected by project: ___ 0 - 30% _X_ 31 – 100%
Nearby Watercourse: Rodeo Creek Gulch
Distance To: Road surface is approximately 45 feet above the creek channel.

ENVIRONMENTAL RESOURCES AND CONSTRAINTS

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

SERVICES

Fire Protection: Central Fire
School District: Soquel Union
Sewage Disposal: NA
Drainage District: Zone 5
Project Access: Post Mile-Marker 4.35
Water Supply: No

PLANNING POLICIES

Zone District: Residential Agriculture
General Plan: Suburban Residential
Special Designation: No

Urban Services Line: ___ Inside X Outside
Coastal Zone: ___ Inside _X_ Outside

PROJECT SETTING AND BACKGROUND:

The project area is located within the county right-of-way along N. Rodeo Gulch Road adjacent to Post Mile Marker 4.35 (Attachment 1). The topography of the site includes a low to moderate gradient stream located within a deeply incised channel and flanked by steep vegetated slopes. Although the area damaged by the slope failure has minimal vegetative cover, the surrounding slopes are covered with well established riparian vegetation: white alder (*Alnus rhombifolia*), willow (*Salix sp.*), California bay (*Umbellularia californica*), blackberry (*Rubus sp.*), Poison oak (*Toxicodenddron diversilobum*) and five-finger fern (*Adiantum aleuticum*). A biotic assessment has been completed and has identified that the project area provides suitable habitat for two federally listed species: Tidewater Goby (*Eucyclogobius newberryi*) listed as endangered and California Red-legged Frog (*Rana aurora draytonii*) listed as threatened.
During winter flood events of 2005 to 2006, heavy stormwater flows within Rodeo Gulch Creek washed out the toe of the roadway embankment causing total failure of the road embankment and half the road width and shoulder of Rodeo Gulch Road. The County of Santa Cruz requested public assistance to reconstruct the failed roadway through the Federal Emergency Management Agency (FEMA) and was approved (FEMA DR- CA 1628).

DETAILED PROJECT DESCRIPTION:

The repair work involved in reestablishing and stabilizing this section of county maintained roadway includes constructing: a steel solider pile and timber lagging retaining wall (64 linear feet); toe slope protection between the creek channel and the base of the retaining wall (placement of 426 tons of Rock Slope Protection (RSP); reconstruct roadway and shoulder and construct a metal beam guardrail (Attachment 2 Sheet 2). The construction area is approximately 150 feet long by 50 feet wide. Two construction staging areas will be located along Rodeo Gulch Road (adjacent to the limits of construction). A temporary construction access road will be installed, northwest corner of the construction area, in order to complete the necessary earthwork (620 cubic yards) for the new retaining wall, placement of the RSP and reconstructing the failed roadway and shoulder. The construction access road will be removed upon project completion and appropriate Best Management Practices (BMP's) will be implemented to stabilize areas of bare soil. A limited section of stream channel will need to be diverted and dewatered in order to properly install the RSP (Attachment 2 Sheet 5). The dewatering process will be achieved by utilizing temporary dams, diversion pipe and portable pump(s). The placement of silt fencing, straw wattles and other BMP measures will be employed during construction activities in order to safeguard water quality and federally listed species (Attachment 2 Sheet 7). The implementation of the Erosion control and Revegetation Plans will provide short-term slope stability for areas disturbed during construction activities and long-term slope stability for the roadway embankment below the new retaining wall (Attachment 2 Sheets 6 & 7).

III. ENVIRONMENTAL REVIEW CHECKLIST

A. Geology and Soils

Does the project have the potential to:

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable
1. Expose people or structures to potential adverse effects, including the risk of material loss, injury, or death involving:				
A. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or as identified by other substantial evidence?				X
B. Seismic ground shaking?			X	

The project has been engineered to minimize damage related to seismic shaking. A soils report completed by a licensed civil engineer has been completed for this project (Terra Consultants, dated 2008).

C. *Seismic-related ground failure*, including liquefaction?			X	

Refer to section "A.1B" above.

D. Landslides?			X	
2. Subject people or improvements to damage from soil instability as a result of on- or off-site landslide, lateral spreading, to subsidence, liquefaction, or structural collapse?			X	

Refer to section "A.1B" above.

3. Develop land with a slope exceeding 30%?				X

	Significant Or Potentially Significant Impact	*Less than* Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable
4. Result in soil erosion or the substantial loss of topsoil?	____	____	X	____

The streambanks and soils in the project area are prone to erosion. Appropriate soil erosion and sediment control Best Management Practices (BMP's) such as straw wattles, silt fencing, etc. are included in the project and will be used and maintained during construction. Following construction, hydroseeding of native seed, live staking of willows, and placement of biodegradable erosion control fabric will be applied to all disturbed areas including streambanks, access routes and staging areas (Attachment 2 Sheet 6).

5. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code(1994), creating substantial risks to property?	____	____	____	X
6. Place sewage disposal systems in areas dependent upon soils incapable of adequately supporting the use of septic tanks, leach fields, or alternative waste water disposal systems?	____	____	____	X
7. Result in coastal cliff erosion?	____	____	____	X

B. Hydrology, Water Supply and Water Quality

Does the project have the potential to:

1. Place development within a 100-year flood hazard area?	____	____	X	____

The project area is not mapped by the Federal Emergency Management Agency (FEMA) as being within a 100-year flood hazard area. The stream bank will be restored to its approximate pre-disturbed location.

2. Place development within the floodway resulting in impedance or redirection of flood flows?	____	____	X	____

The Rock Slope Protection (RSP) placed near the toe of the stream channel will be softened with willow staking (Attachment 2 Sheet 6).

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable
3. Be inundated by a seiche or tsunami?				X
4. Deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit, or a significant contribution to an existing net deficit in available supply, or a significant lowering of the local groundwater table?				X
5. Degrade a public or private water supply? (Including the contribution of urban contaminants, nutrient enrichments, or other agricultural chemicals or seawater intrusion).			X	

No new contaminants associated with this project.

6. Degrade septic system functioning?				X
7. Alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, in a manner that could result in flooding, erosion, or siltation on or off-site?			X	

Two temporary dams and a diversion pipe will be placed in the project area in order to dewater the stream (Attachment 2 Sheet 5) temporarily and allow for the installation of "Rock Slope Protection" (RSP) at the toe of the embankment. Upon completion of the placement of RSP, the dams and diversion pipe will be removed and the water will reoccupy the pre-construction stream alignment.

8. Create or contribute runoff that would exceed the capacity of existing or planned storm water drainage systems, or create additional source(s) of polluted runoff?			X	

No newly collected runoff is proposed as part of this project.

	Significant Or *Potentially* Significant Impact	Less than Significant *with* Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable
9. Contribute to flood levels or erosion in natural watercourses by discharges of newly collected runoff?			X	

Refer to "B. 8" above.

10. Otherwise substantially degrade water supply or quality?		X		

The direct impacts to water quality such as sedimentation and increased turbidity will be minimized by dewatering and diverting the stream during construction. An erosion/ sediment control plan has been approved that utilizes appropriate BMP's (silt fencing, straw wattles). Following construction, native seed, mulch and/or biodegradable erosion control fabric will be applied to all disturbed areas (Attachment 2 Sheet 6).

C. Biological Resources

Does the project have the potential to:

1. *Have an adverse effect on any species* identified as a candidate, sensitive, or special status species, in local or regional plans, policies, or regulations, or by the California Department of Fish and Game, or U.S. Fish and Wildlife Service?		X		

A biotic assessment was completed by Nationwide Infrastructure Support Technical Assistance Consultants (NISTAC) in May 2007. The report has identified that the project does have the potential to negatively impact two federally listed species: Tidewater Goby (Eucyclogobius newberryi), which is listed as endangered and California Red-legged Frog (Rana aurora draytonii), which is listed as threatened. According to the assessment, the Tidewater Goby is not presumed to be in the project area, due to lack of suitable habitat, but has been documented further downstream in Corcoran Lagoon. The lagoon is located approximately 3 miles downstream and provides the brackish water environment the species requires. The potential impact to the species is from degradation of water quality (release of excessive amounts of sediments due to construction activities and/or release of petroleum products (fuels,oils).The direct impacts to water quality such as sedimentation and increased turbidity will be minimized by dewatering and diverting the stream during construction. *An erosion/ sediment control plan has been developed using appropriate soil erosion* and sediment control BMPs to address these concerns. Following construction activities native seed, container stock and biodegradable erosion control fabric will be applied to all disturbed areas.

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable

California Red-legged Frogs have not been formally documented within the project area, but have been approximately 4.5 miles west of the area. Since there is suitable habitat present within the project area and documentation of the species within its range has been recorded, presence is assumed. The mitigations contained within "Section Four" (Avoidance & Minimization Measures) of the biotic assessment (Attachment 3) will be implemented in order to provide an acceptable level of protection to each of the two listed species.

2.	Have an adverse effect on a sensitive biotic community (riparian corridor), wetland, native grassland, special forests, intertidal zone, etc.)?	____	____	X	____

The project site is within the riparian corridor and sensitive habitat as defined in the Santa Cruz County Code Sections 16.30 and 16.32, respectively; and within the jurisdiction of the California Department of Fish and Game's Stream and Lake Bed Alteration Program (Section 1600). The proposed project will result in a temporary disturbance of riparian and aquatic habitat by heavy equipment accessing and working within the project area. Riparian and sensitive habitat disturbed during construction will be revegetated with locally appropriate native species. The project proposes to remove one eucalyptus tree (non-native). Hydroseeding of native grass species, and installation of biodegradable erosion control fabric will be applied to all disturbed areas (Attachment 2 Sheet 6).

3.	Interfere with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native or migratory wildlife nursery sites?	____	____	X	____

The proposed project will require the temporary dewatering of the stream. Dewatering is necessary to complete various aspects of construction and to minimize potential impacts from release of sediment and other materials that may be deleterious to the stream environment. The biological assessment completed by Nationwide Infrastructure Support Technical Assistance Consultants (NISTAC), has determined that Tidewater Gobies are not present in this reach of the stream due to lack of adequate habitat. The presence of California Red-legged Frogs has been assumed because of adequate habitat and recorded sitings of the species within the project area. The implementation of the mitigations contained within the biotic assessment will reduce potential impacts to less than significant.

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable
4. Produce nighttime lighting that will illuminate animal habitats?			X	

Construction activities are limited to daytime hours only so nighttime lighting will not be required.

5. Make a significant contribution to the reduction of the number of species of plants or animals?			X	

The placement of approved Best Management Practices (BMP's) and implementation of identified mitigations will reduce potential impacts to less than significant.

6. Conflict with any local policies or ordinances protecting biological resources (such as the Significant Tree Protection Ordinance, Sensitive Habitat Ordinance, provisions of the Design Review ordinance protecting trees with trunk sizes of 6 inch diameters or greater)?			X	

The project sites are within the riparian corridor and sensitive habitat as defined in the Santa Cruz County Code Sections 16.30 and 16.32, respectively; and within the jurisdiction of the California Department of Fish and Game's Stream and Lake Bed Alteration Program (Section 1600). The proposed project will result in temporary disturbance of riparian and aquatic habitat by heavy equipment accessing and working in the project area. Riparian and sensitive habitat disturbed during construction will be treated with appropriate Best Management Practices (BMP's) and revegetated with locally appropriate native species (Attachment 2 Sheets 6 & 7).

7. Conflict with the provisions of an adopted Habitat Conservation Plan, Biotic Conservation Easement, or other approved local, regional, or state habitat conservation plan?				X

D. Energy and Natural Resources

Does the project have the potential to:

1. Affect or be affected by land designated as "Timber Resources" by the General Plan?				X

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable
2. Affect or be affected by lands currently utilized for agriculture, or designated in the General Plan for agricultural use?				X
3. Encourage activities that result in the use of large amounts of fuel, water, or energy, or use of these in a wasteful manner?				X
4. Have a substantial effect on the potential use, extraction, or depletion of a natural resource (i.e., minerals or energy resources)?				X

E. Visual Resources and Aesthetics

Does the project have the potential to:

1. Have an adverse effect on a scenic resource, including visual obstruction of that resource?				X

Neither the stream nor the road is designated a scenic resource area.

2. Substantially damage scenic resources, within a designated scenic corridor or public view shed area including, but not limited to, trees, rock outcroppings, and historic buildings?				X

Neither the stream nor the road is designated a scenic resource area.

3. Degrade the existing visual character or quality of the site and its surroundings, including substantial change in topography or ground surface relief features, and/or development on a ridge line?			X	

Heavy equipment will be operating in and around the riparian zone and streambed for approximately 90 days. The effect on aesthetics will be temporary and will be visible from the County right-of-way on North Rodeo Gulch Road. Soils disturbed by equipment access and/or construction will be revegetated with native grass species

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable

and container stock. The planting of willows through the rock slope protection and additional revegetation work completed on the reconstructed roadway embankment will assist in masking the presence of artificial surfaces once established (Attachment 2 Sheet 6 & 7).

4.	Create a new source of light or glare which would adversely affect day or nighttime views in the area?	____	____	____	X
5.	Destroy, cover, or modify any unique geologic or physical feature?	____	____	____	X

F. Cultural Resources

Does the project have the potential to:

1.	Cause an adverse change in the significance of a historical resource as defined in CEQA Guidelines 15064.5?	____	____	____	X

Not mapped or expected.

2.	Cause an adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines 15064.5?	____	____	____	X

Not mapped or expected.

3.	Disturb any human remains, including those interred outside of formal cemeteries?	____	____	____	X
4.	Directly or indirectly destroy a unique paleontological resource or site?	____	____	____	X

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable

G. Hazards and Hazardous Materials

Does the project have the potential to:

1. Create a significant hazard to the public or the environment as a result of the routine transport, storage, use, or disposal of hazardous materials, not including gasoline or other motor fuels?			X	

Implementing the project will require use of heavy equipment in the riparian area and equipment will operate in the bed and banks of the stream channel. To reduce the potential of an accidental release of hazardous materials (fuel, hydraulic fluids) a Spill Prevention & Response Plan will be implemented to prepare for the unlikely event of a fuel or oil spill (Attachment 4).

2. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				X
3. Create a safety hazard for people residing or working in the project area as a result of dangers from aircraft using a public or private airport located within two miles of the project site?				X
4. Expose people to electro-magnetic fields associated with electrical transmission lines?				X
5. Create a potential fire hazard?				X
6. Release bio-engineered organisms or chemicals into the air outside of project buildings?				X

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable

H. Transportation/Traffic

Does the project have the potential to:

1. Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?			X	

The results of the project itself will not cause a foreseeable increase in traffic substantial to the existing traffic load and capacity of Rodeo Gulch Road. Temporary additional use by construction workers and haul trucks will occur. This impact is considered less than significant.

2. Cause an increase in parking demand which cannot be accommodated by existing parking facilities?				X
3. Increase hazards to motorists, bicyclists, or pedestrians?			X	

The proposed project will comply with current road requirements to prevent potential hazards to motorists, bicyclists, and/or pedestrians. Temporary traffic control will decrease potential hazards for the duration of the project (Attachment 5).

4. Exceed, either individually (the project alone) or cumulatively (the project combined with other development), a level of service standard established by the county congestion management agency for designated intersections, roads or highways?			X	

I. Noise

Does the project have the potential to:

1. Generate a permanent increase in ambient noise levels in the project vicinity above levels existing without the project?			X	

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable
2. Expose people to noise levels in excess of standards established in the General Plan, or applicable standards of other agencies?	____	X	____	____

There will be a temporary increase in noise in the project vicinity due to construction activities (e.g., operation of heavy equipment) that may exceed the County General Plan threshold of an hourly average of 50 Leq during the day. This impact will be mitigated by restricting the hours of operation to 8 AM through 5 PM, Monday through Friday when residents are frequently absent. Noise generated during construction will increase the ambient noise levels for adjoining areas. Given the limited duration of construction this impact it is considered to be less than significant.

3. Generate a temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	____	X	____	____

Refer to I. 2. above.

J. Air Quality

Does the project have the potential to:

1. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	____	____	X	____

The North Central Coast Air Basin does not meet state standards for ozone and inhalable particulate matter (PM_{10}) (MBUAPCD, 2006). The regional pollutants of concern that would be emitted by the project are ozone precursors (Volatile Organic Compounds [VOCs] and nitrogen oxides [NOx]) and fugitive dust (PM_{10}). Ozone precursors and PM_{10} would be emitted by onsite construction equipment and haul trucks delivering and removing materials from the project sites. Construction projects using typical construction equipment such as dump trucks, scrappers, bulldozers, compactors and front-end loaders which temporarily emit precursors of ozone [volatile organic compounds (VOC) or oxides of nitrogen (NOx)], are accommodated in the emission inventories of State-and federally-required air plans and would not have a significant impact on the attainment and maintenance of ozone standards. Project construction may result in a short-term, localized decrease in air quality due to generation of small amounts of dust. Standard dust control BMPs (e.g., periodic watering) are incorporated into the project, so air quality impacts associated with construction will be at a less than significant level.

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable
2. Conflict with or obstruct implementation of an adopted air quality plan?	____	____	X	____

Refer to J. 1. above.

3. Expose sensitive receptors to substantial pollutant concentrations?	____	____	X	____

Construction may result in a short-term, localized decrease in air quality due to generation of dust. Standard dust control BMPs are also incorporated into the project, so air quality impacts associated with construction will be at a less than significant level.

4. Create objectionable odors affecting a substantial number of people?	____	____	X	____

The project would have less than significant impacts for the construction period, and would not create long-term objectionable odors.

K. Public Services and Utilities

Does the project have the potential to:

1. Result in the need for new or physically altered public facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
a. Fire protection?	____	____	____	X
b. Police protection?	____	____	____	X
c. Schools?	____	____	____	X
d. Parks or other recreational activities?	____	____	____	X

	Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable
e. Other public facilities; including the maintenance of roads?				X
2. Result in the need for construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				X
3. Result in the need for construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				X
4. Cause a violation of wastewater treatment standards of the Regional Water Quality Control Board?				X
5. Create a situation in which water supplies are inadequate to serve the project or provide fire protection?				X
6. Result in inadequate access for fire protection?				X
7. Make a significant contribution to a cumulative reduction of landfill capacity or ability to properly dispose of refuse?			X	

The material excavated from the project area will be reused on site so there will be no material removed to the county landfill.

8. Result in a breach of federal, state, and local statutes and regulations related to solid waste management?				X

L. Land Use, Population, and Housing

Does the project have the potential to:

		Significant Or Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Or No Impact	Not Applicable
1.	Conflict with any policy of the County adopted for the purpose of avoiding or mitigating an environmental effect?			X	
2.	Conflict with any County Code regulation adopted for the purpose of avoiding or mitigating an environmental effect?			X	
3.	Physically divide an established community?				X
4.	Have a potentially significant growth inducing effect, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				X
5.	Displace substantial numbers of people, or amount of existing housing, necessitating the construction of replacement housing elsewhere?				X

M. Non-Local Approvals

Does the project require approval of federal, state, or regional agencies? Yes X No ____

N. Mandatory Findings of Significance

1. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant, animal, or natural community, or eliminate important examples of the major periods of California history or prehistory? Yes ____ No X

2. Does the project have the potential to achieve short term, to the disadvantage of long term environmental goals? (A short term impact on the environment is one which occurs in a relatively brief, definitive period of time while long term impacts endure well into the future) Yes ____ No X

3. Does the project have impacts that are individually limited, but cumulatively considerable ("cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, and the effects of reasonably foreseeable future projects which have entered the Environmental Review stage)? Yes ____ No X

4. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? Yes ____ No X

TECHNICAL REVIEW CHECKLIST

	REQUIRED	COMPLETED*	N/A
Agricultural Policy Advisory Commission (APAC) Review			X
Archaeological Review			X
Biotic Report/Assessment		X	
Geologic Hazards Assessment (GHA)			X
Geologic Report			X
Geotechnical (Soils) Report Terra Consultants Inc. (2008)		X	
Riparian Pre-Site			X
Septic Lot Check			X
Other:			

Attachments:

1. Location Map
2. Project Plans (Sheets 1-7)
3. Avoidance and Minimization Measures (Section Four) contained within the biotic assessment.
4. Spill Prevention Control & Countermeasure Plan
5. Traffic Control Requirements

Other technical reports or information sources used in preparation of this Initial Study

1. Biotic Assessment completed by Nationwide Infrastructure Support Technical Assistance Consultants (NISTAC), dated May 2007. The document is on review at the Santa Cruz County Planning Department.
2. Biological Opinion completed by the U.S. Fish & Wildlife Service (USFWS) dated March 10, 2008. The document is on review at the County of Santa Cruz Planning Department.

Environmental Review Inital Study

ATTACHMENT
APPLICATION 08-0090

Location Map

Legend

Streams

<all other values>

STREAMTYPE

PERENNIAL

INTERMITTENT

SWALE

N

210 105 0 210 420 630 840

Feet

THE COUNTY OF SANTA CRUZ · 1850 ·

Map Created by
Santa Cruz County Planning Dept
April 2008

DIST	COUNTY	ROUTE	POST MILE TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	SCr	24045		1	7

INDEX OF SHEETS

GENERAL NOTES

1. ALL CONSTRUCTION SHALL CONFORM TO THE COUNTY OF SANTA CRUZ DESIGN CRITERIA, THE STATE STANDARD PLANS AND THE APPLICABLE PROVISIONS OF THE STATE STANDARD SPECIFICATIONS.
2. THERE SHALL BE NO CHANGES IN THE APPROVED IMPROVEMENT PLANS WITHOUT PRIOR APPROVAL BY THE SANTA CRUZ COUNTY DEPARTMENT OF PUBLIC WORKS.
3. PLEASE CALL "UNDERGROUND SERVICE ALERT" (U.S.A.) AT 800-642-2444 BEFORE DIGGING.
4. THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE APPROVED BY TRANSPORTATION ENGINEERING.
5. THE CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY, AND HOLD DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF DESIGN PROFESSIONAL.

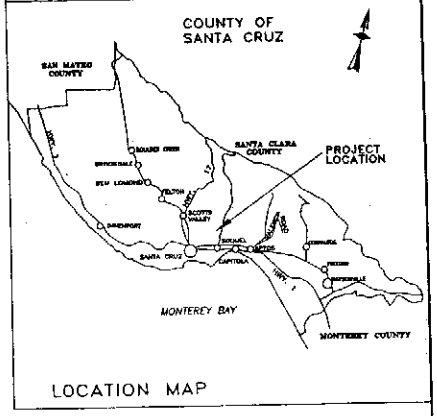
ABBREVIATIONS

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

COUNTY OF SANTA CRUZ
DEPARTMENT OF PUBLIC WORKS

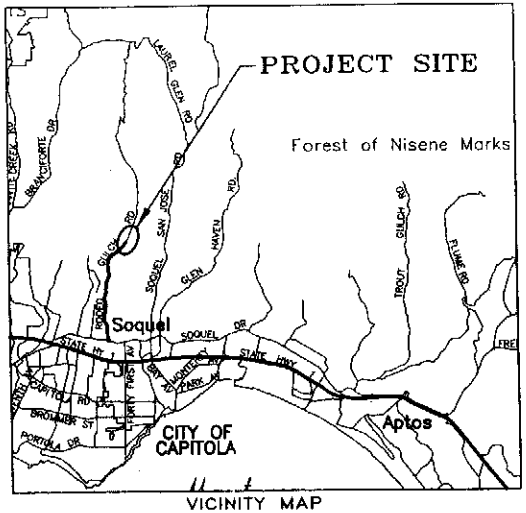
PROJECT PLANS FOR CONSTRUCTION ON

NORTH RODEO GULCH ROAD PM 4.35
STORM DAMAGE REPAIR PROJECT



LOCATION MAP

To be supplemented by Standard Plans dated May 2006



VICINITY MAP
NOT TO SCALE

Design Engineer
Registered Civil Engineer

Senior Design Engineer
Registered Civil Engineer

Assistant Director of Public Works
Transportation Engineering Division
Registered Civil Engineer

Director of Public Works
Registered Civil Engineer

June 24, 2008
Approved by Board of Supervisors

Environmental Review Initial Study
ATTACHMENT 2, 1 of 7
APPLICATION 05-0099

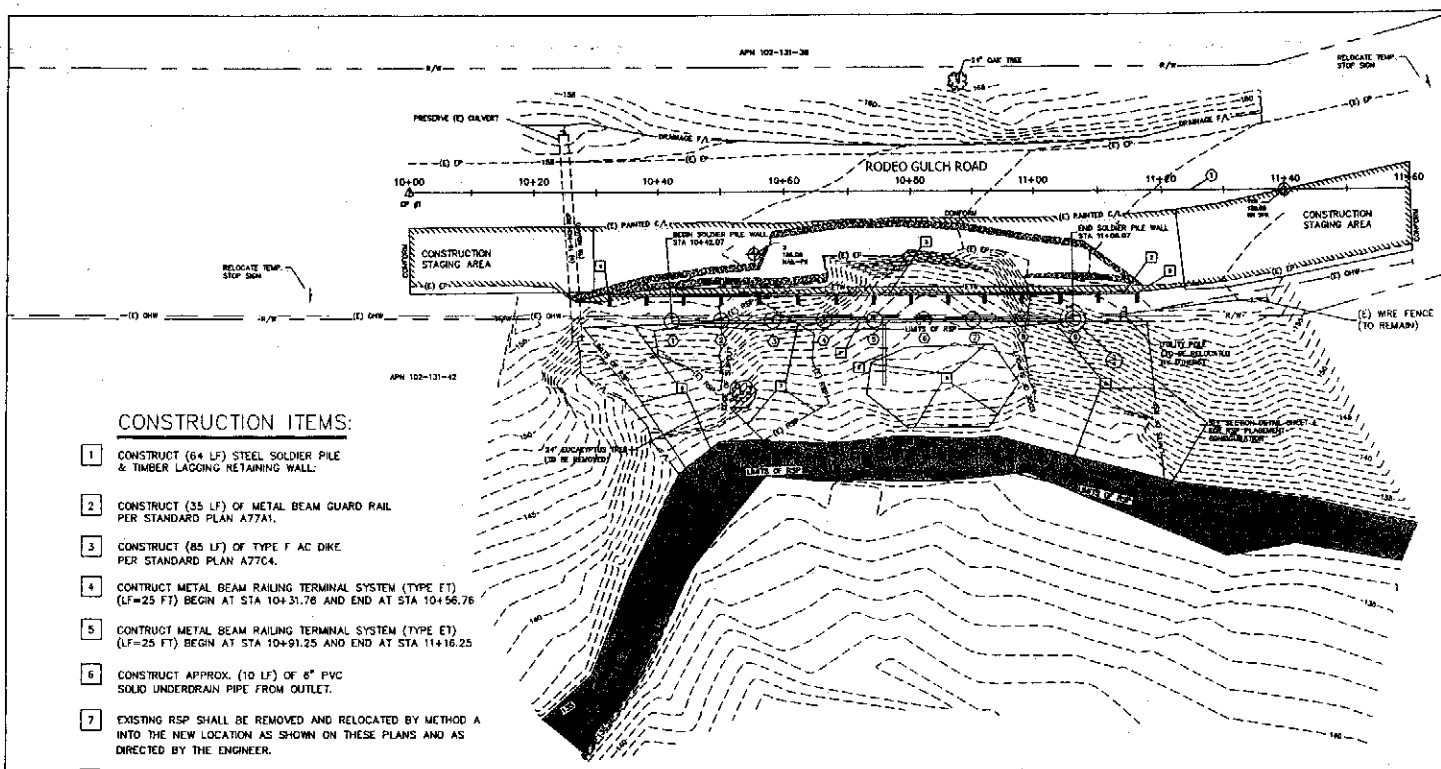
ALL PAVEMENT STRIPING SHALL BE DONE BY COUNTY CREWS

THE CONTRACTOR SHALL POSSESS A CLASS "A" LICENSE AT THE TIME THE CONTRACT IS AWARDED.

County Job No.	76052

Reviewed by: Sheldon Hicks, Construction Engineer
Reviewed by: Terry Reynolds, Road Superintendent
Reviewed by: Jack Sohriakoff, P.E., Traffic Engineer

f:\dpw\road\2008 FEMA Storm Damage Projects Jan 1 Event\09 - N Rodeo Gulch Rd PM 4.35 (76052)\CIVIL 3D\N RODEO GULCH PM 4.35 C3d V1.0.dwg



PLAN
1" = 10'

CONSTRUCTION ITEMS:

1. CONSTRUCT (64 LF) STEEL SOLDIER PILE & TIMBER LAGGING RETAINING WALL.
2. CONSTRUCT (35 LF) OF METAL BEAM GUARD RAIL PER STANDARD PLAN A77A1.
3. CONSTRUCT (85 LF) OF TYPE F AC DIKE PER STANDARD PLAN A77C4.
4. CONTRUCT METAL BEAM RAILING TERMINAL SYSTEM (TYPE ET) (LF=25 FT) BEGIN AT STA 104+31.76 AND END AT STA 104+56.76
5. CONTRUCT METAL BEAM RAILING TERMINAL SYSTEM (TYPE ET) (LF=25 FT) BEGIN AT STA 104+91.25 AND END AT STA 114+16.25
6. CONSTRUCT APPROX. (10 LF) OF 6" PVC SOLID UNDERDRAIN PIPE FROM OUTLET.
7. EXISTING RSP SHALL BE REMOVED AND RELOCATED BY METHOD A INTO THE NEW LOCATION AS SHOWN ON THESE PLANS AND AS DIRECTED BY THE ENGINEER.
8. CONSTRUCT CHANNEL PROTECTION OF 1/2 TON RSP BY METHOD A PLACEMENT WITH 3" OF BACKING NO. 1 BY METHOD B PLACEMENT AND RSP FABRIC NON WOVEN TYPE B.
9. REMOVE EXISTING ROAD DEBRIS.

Environmental Review Inital Study
ATTACHMENT 2, 2 of 7
APPLICATION 05-0099

GENERAL CONSTRUCTION NOTES:

1. THE WORK HEREIN SHALL BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS & PLANS DATED MAY 2006 OF THE STATE OF CALIFORNIA AS THEY MAY APPLY TO THE CONTRACT PLANS AND SPECIAL PROVISIONS.
2. DIMENSIONS OF THE STRUCTURAL ITEMS ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS AND THE MANUFACTURER(S) RECOMMENDATIONS.
3. REFER TO THE STANDARD SPECIFICATIONS & SPECIAL PROVISIONS FOR THE STRUCTURE BACKFILL REQUIREMENTS FOR THE PILE WALL.
4. THE NORTHBOUND TRAVEL LANE OF NORTH RODEO GULCH ROAD SHALL BE KEPT OPEN TO TRAFFIC FOR THE DURATION OF THE CONSTRUCTION OPERATIONS.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND REPAIR OF ANY DAMAGE(S) TO PRIVATE PROPERTY & ANY UTILITIES IN NORTH RODEO GULCH ROAD. THE EXACT LOCATION(S) OF EXIST. UTILITIES IS NOT KNOWN.
6. THE CONTRACTOR IS REFERRED TO THE GEOTECHNICAL REPORT BY BUTANO GEOTECHNICAL ENGINEERING, INC. DATED APRIL 2008 ON FILE AT THE PUBLIC WORKS DEPT.
7. ALL CLEARING, GRADING AND EROSION CONTROL MEASURES SHALL BE COMPLETED NO LATER THAN NOV 15, 2008.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VISITING THE SITE TO REVIEW THE WORK AND ACCESS LIMITATIONS. VERIFY CONDITIONS, AND UNDERSTAND THE PROJECT BEFORE SUBMITTING A BID FOR THE WORK. THERE IS NO PRE-BID SITE MEETING FOR THIS PROJECT.

LEGEND:

- CP #1 — CONTROL LINE POINT (TYP.)
- SURVEY POINT
- TRAFFIC SIGN
- APPROXIMATE LIMITS OF A.C. PAVING ALL PAVEMENT CUTS SHALL BE SAWCUT

CENTER STEEL SOLDIER PILE LOCATION COORDINATES

①	10098.12	9982.01
②	10090.13	9981.82
③	10082.13	9981.64
④	10074.13	9981.45
⑤	10066.13	9981.26
⑥	10058.13	9981.07
⑦	10050.14	9980.88
⑧	10042.14	9980.69
⑨	10034.14	9980.50

SURVEY CONTROL DATA

								10,139.71	10,000.00	CP #1
①	10+00	11+40			180.00	N1°25'0"E		9,979.72	9,999.50	CP #2
SURVEY POINT #120								10,000.00	10,000.00	
SURVEY TIE	SURVEY POINT #120 (NP SPIKE)	11+40 (CP #2)			20.27	N1°25'0"E				

BASIS OF BEARINGS: (SURVEY PT. #120 TO PT. #2) - N1°25'00"E, 432.78

ELEVATION BENCH MARK: SURVEY PT. #2 = 157.11 FT.

PLAN

SHEET NAME: DRAWING NAME:

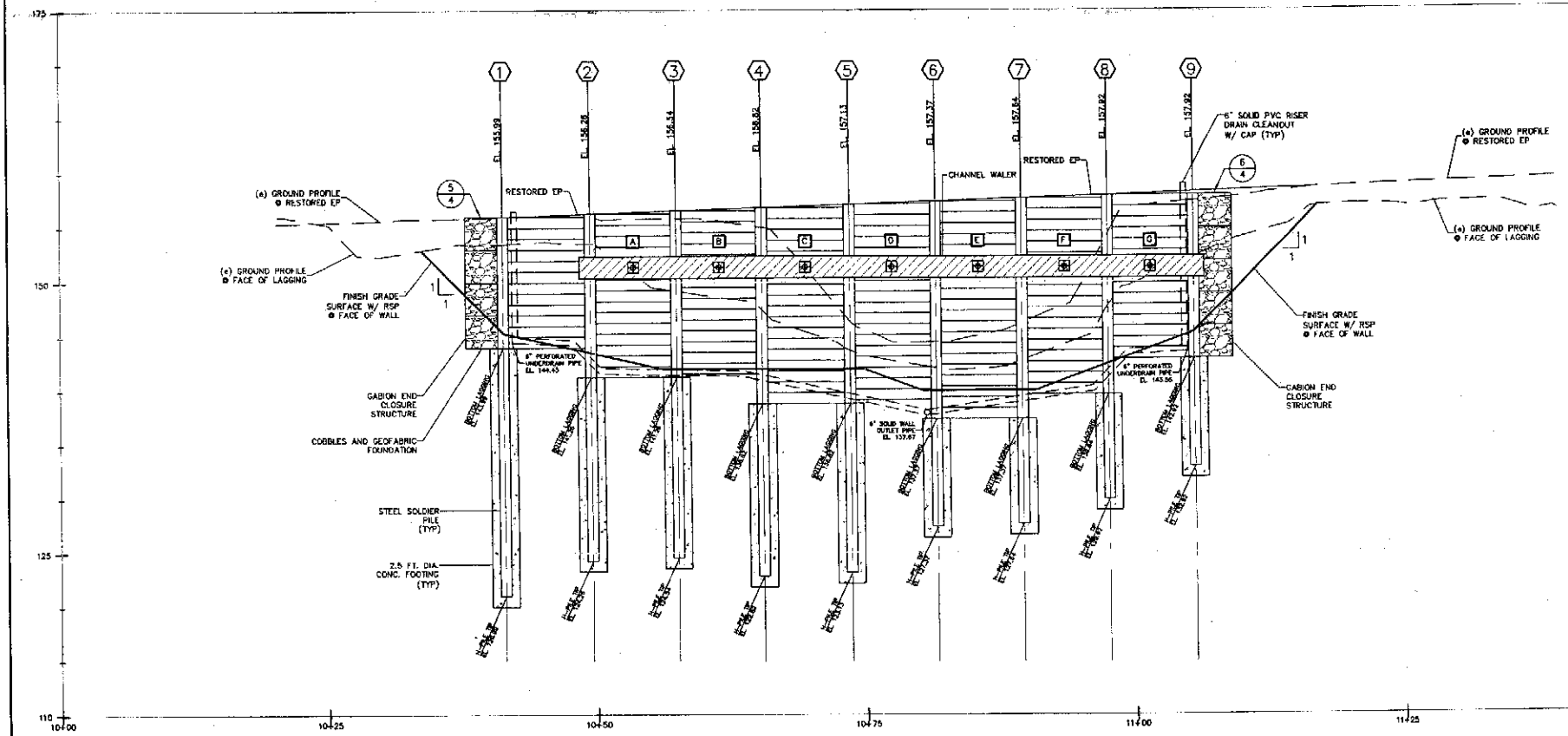
BY	
REVISION	
DATE	

COUNTY OF SANTA CRUZ - DEPARTMENT OF PUBLIC WORKS

PROJECT ENGINEER: RUSSELL CHEN

NORTH RODEO GULCH PM 4.35
STORM DAMAGE REPAIR PROJECT

DRAWN:	RJC
CHECKED:	SBW
DATE:	3/5/08
SCALE:	
JOB NO.	
SHEET	2 OF 7



WORKING STRESS DESIGN

REINF. CONC.	f'_c =	3,000 PSI
	f_c =	1,350 PSI
STRUCTURAL STEEL & BAR REINF. STEEL	F_y =	60,000 PSI
	F_s =	34,000 PSI
TREATED TIMBER DOUGLAS FIR #1 (MINIMUM)	F_v =	1,750 PSI

Environmental Review Inital Study
ATTACHMENT 2, 3 of 7
APPLICATION 08-0099

NOTES:

1. H-PILE TIP ELEVATIONS ARE TO BOTTOM OF STEEL PILE. THE CONC. FTG SHALL EXTEND AN ADD'L ONE FOOT BELOW THE END OF PILE.
2. ALL RIGHT ANGLE BENDS IN 6" DIA PERF. PVC UNDERDRAIN PIPE ARE TO BE FABRICATED FROM TWO 45° ANGLE PIPE FITTINGS
3. ALL CONCRETE AND BAR REINF. STEEL CONST. SHALL CONFORM TO THE PROVISIONS OF THE CURRENT AMERICAN CONCRETE INST. CODE (ACI). ALL STEEL CONSTRUCTION SHALL CONFORM TO AMERICAN INSTITUTE OF STEEL CONST. (AISC)

PROFILE

1" = 5'

DOUBLE CHANNEL STEEL WALER

[A] TIEBACK

TIEBACK GROUTING SCHEDULE*

CABLE/ROD DIA.	MIN. UNBONDED LENGTH	*EST. BONDED LENGTH (6" DIA GROUT)	*EST. BONDED LENGTH (8" DIA GROUT)
1 INCH**	30 FT.	25 FT.	20 FT.

* NOTE: THE ABOVE SPECIFIED TIEBACK BONDED LENGTHS HAVE BEEN CALCULATED AND ARE THE ESTIMATED MINIMUM LENGTHS. ACTUAL BONDED LENGTHS WILL BE BASED ON PULL-OUT TEST RESULTS AT THE SITE DURING INSTALLATION. TIEBACK DESIGN TENSION IS 98 KIPS. EACH TIEBACK SHALL BE FIELD TESTED TO 118 KIPS. FINAL LOCKOFF TENSION SHALL BE A MINIMUM OF 80 KIPS. MAXIMUM ALLOWABLE VERTICAL AND HORIZONTAL TIEROD DEFLECTION SHALL BE ≤ 2.5' FROM THE DESIGN ALIGNMENT OF TIEBACK TO FACE OF WALL. UNDER A PEFORMANCE TEST, CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR DETERMINING BONDED ZONE AND REQUIRED BONDED LENGTH. THE CO. DESIGN ENGR. SHALL BE NOTIFIED 24 HRS IN ADVANCE AND BE ON SITE DURING TIEBACK PEFORMANCE TESTING.

** AS DETERMINED BY INSTALLER/MFGR.

TIEBACK CONNECTION ELEV. @ FACE OF WALL

TIEBACK	ELEV.
A	151.37
B	151.37
C	151.37
D	151.37
E	151.37
F	151.37
G	151.37

WALL PROFILE

SHEET NAME: DRAWING NAME:

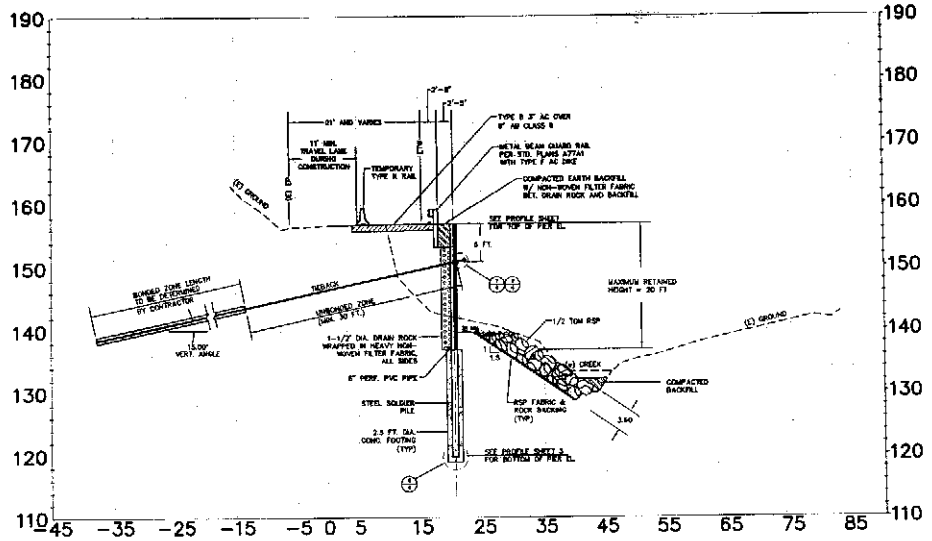
BY	DATE	REVISION

COUNTY OF SANTA CRUZ - DEPARTMENT OF PUBLIC WORKS

PROJECT ENGINEER: RUSSELL CHEN

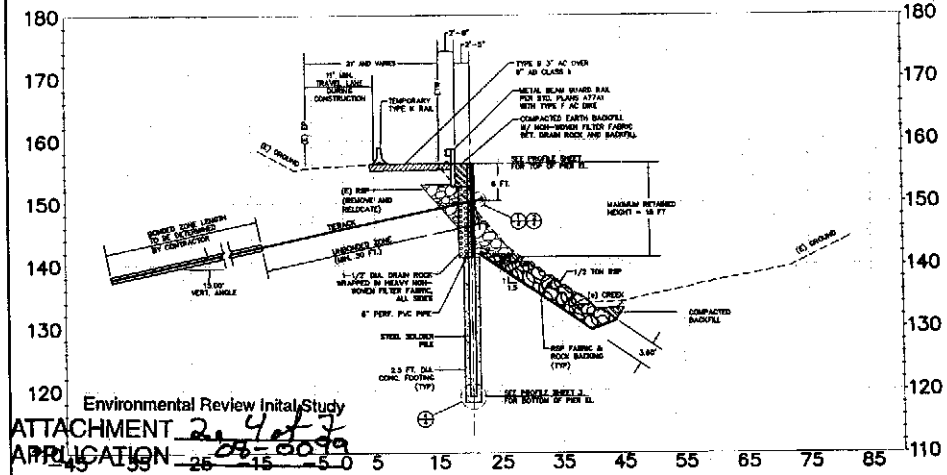
NORTH RODEO GULCH PM 4.35
STORM DAMAGE REPAIR PROJECT

DRAWN: RJC
CHECKED: SBW
DATE: 3/5/08
SCALE:
JOB NO.
SHEET 3 OF 7



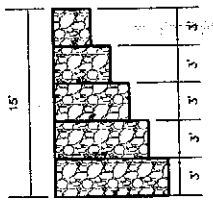
SECTION AT 10+82.07

1" = 10'

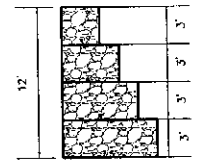


SECTION AT 10+58.07

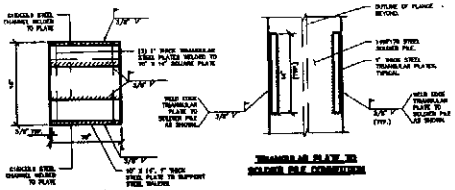
1" = 10'



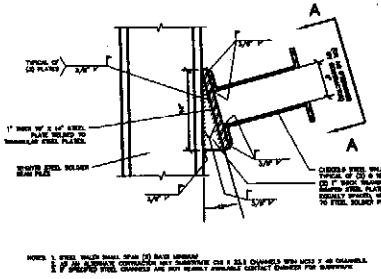
5/3 GABION STRUCTURE ELEV.



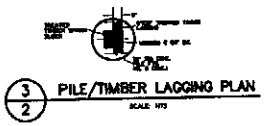
6/3 GABION STRUCTURE ELEV.



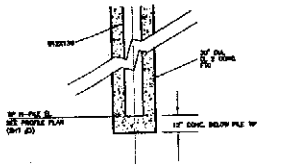
PLAN VIEW A–A



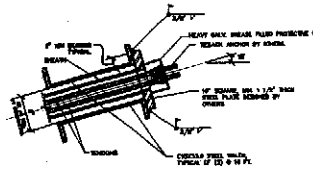
1/4 STEEL WALER TO SOLDIER PILE CONNECTION



3/2 PILE/TIMBER LAGGING PLAN



4/4 PILE CONCRETE FOOTING ELEV.



2/4 TIE BACK CONNECTION TO STEEL WALER

STRUCTURAL STEEL

1. ALL WORK DONE UNDER THIS SECTION SHALL CONFORM TO THE REQUIREMENTS OF THE AISC SPECIFICATIONS AND THE CODE OF STANDARD PRACTICE, OR THE PWA SPECIFICATIONS FOR WELDING (VOL 2&3-79)
2. STRUCTURAL STEEL PLATES AND BARS SHALL CONFORM TO ASTM A441 & A572
3. ALL STRUCTURAL STEEL MEMBERS UNLESS SHOWN FASTENERS SHALL BE PAINTED WITH A ZINC RICH PAINT MEETING PRIMER SUCH A PAINT BRAND TNEMEC-ZINC OR THE EQUIVALENT
4. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND FIELD CONDITIONS PRIOR TO FABRICATING THE STEEL MEMBERS. IN THE EVENT OF A DISCREPANCY, NOTIFY THE ENGINEER PRIOR TO PROCEEDING
5. ALL STRUCTURAL STEEL WELDING SHALL BE STRUCK PERFORMED BY A SHOP BY AN APPROVED FABRICATOR, OR SHALL BE DONE WITH SPECIAL INSPECTION PER SECTION 1704 OF THE 1997 UBC.
   A. APPROVED FABRICATORS. SPECIAL INSPECTIONS REQUIRED BY SECTION 1701 MAY BE WAIVED IF THE WORK IS PERFORMED ON THE PREMISES OF A WELDER REGISTERED AND APPROVED BY THE COUNTY OF SANTA CRUZ BUILDING DEPARTMENT. THE APPROVED FABRICATOR SHALL SUBMIT A CERTIFICATE OF COMPLIANCE THAT THE WORK WAS PERFORMED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS TO THE BUILDING DEPARTMENT AND THE OWNER OF RECORD.
   B. WHERE WELDING ARE SPECIAL INSPECTION, IF THE WELDING IS TO BE PERFORMED ON SITE, OR BY FIRMS OTHER THAN AN APPROVED FABRICATOR, THE WORK SHALL BE PERFORMED WITH SPECIAL INSPECTION. THE CONTRACTOR SHALL OBTAIN THE NECESSARY FORMS FROM THE COUNTY OF SANTA CRUZ BUILDING DEPARTMENT. FIRMS TO PERFORMING ANY WELDING THERE FORMS SHALL INCLUDE THE INFORMATION REGARDING THE INSPECTION AGENCY AS WELL AS THE SIGNATURE OF THE ENGINEER OF RECORD. THESE FORMS SHALL THEN BE SUBMITTED TO THE INSPECTOR ENGINEER FOR APPROVAL.

NOTES REGARDING SPECIAL INSPECTION:

1. SPECIAL INSPECTION IS REQUIRED FOR SHOP AND FIELD STRUCTURAL WELDING, UBC 1701.5.5
2. THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR SPECIAL INSPECTIONS BY A COUNTY APPROVED INSPECTOR AND PROVIDE THE REQUIRED DOCUMENTATION TO THE SATISFACTION OF THE COUNTY PUBLIC WORKS DEPARTMENT.

Environmental Review Inital Study
ATTACHMENT 2, 4 of 7
APPLICATION 08-0099

SECTIONS AND DETAILS

SHEET NAME: DRAWING NAME:

BY	
REVISION	
DATE	

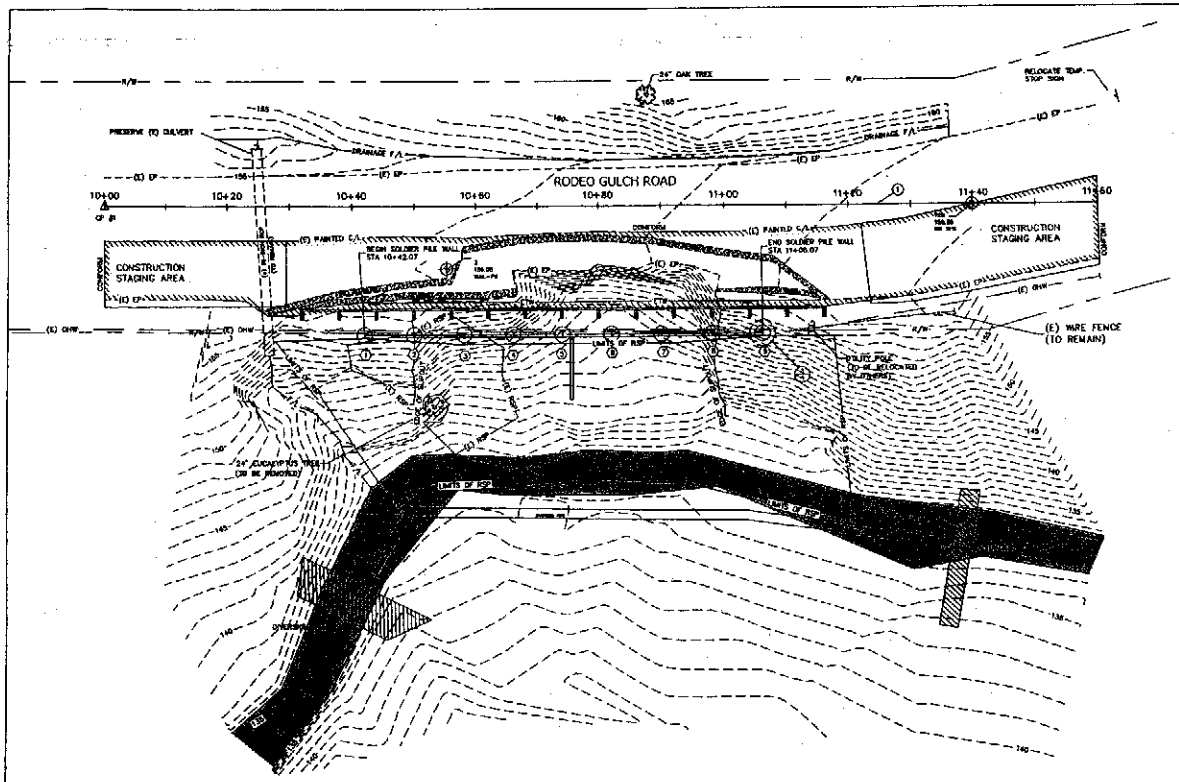
PROFESSIONAL ENGINEER — RUSSELL CHEN — No. 28184 — CIVIL — STATE OF CALIFORNIA

PROJECT ENGINEER: RUSSELL CHEN

COUNTY OF SANTA CRUZ – DEPARTMENT OF PUBLIC WORKS

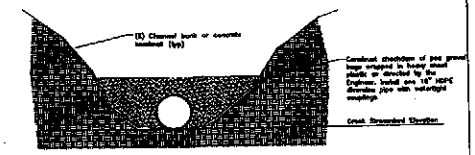
NORTH RODEO GULCH PM 4.35
STORM DAMAGE REPAIR PROJECT

DRAWN: RJC
CHECKED: SBW
DATE: 3/5/08
SCALE:
JOB NO.
SHEET 4 OF 7



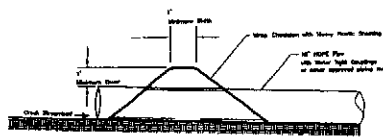
DIVERSION PLAN

1" = 10'



STREAM DIVERSION DETAIL

NOT TO SCALE



STREAM DIVERSION CROSS SECTION DETAIL

NOT TO SCALE

General Notes:

1. This Dewatering Plan is to be implemented by the Contractor when water is flowing in the Creek between July 1st and October 31st; these are the basic requirements necessary for the Contractor's Site Dewatering Plan as specified in the Special Provisions.

2. Contractor shall submit to the Engineer for approval at least three weeks prior to the start of construction his Site Dewatering Plan for this project as required by the Special Provisions. The Contractor's Site Dewatering Plan shall detail exactly how the Contractor intends to dewater the construction area, including all water pumps to be utilized and how the sump discharge site shall be revegetated. The diversion plan shall be sufficient to handle actual flows during the construction period. The Contractor may elect to temporarily install a pressure driven diversion system to artificially bypass the area.

3. Details of the proposed stream diversion shall be approved by the California Department of Fish and Game(CDFG). Prior to construction of the diversion a qualified County hired fish biologist, who has been authorized by National Marine Fisheries Service(NMFS) to handle protected fish. A letter from the County consulting biologist with the results of the survey and description of rescue operation shall be submitted to Environmental Planning staff.

4. All water pumps to be utilized by the Contractor will require a sump discharge site. The planned sump discharge site must be approved by the Engineer and shall require a method of depositing all water pumped from the creek into the sump. At a minimum, the sump discharge site shall require filter fabric containment facilities. Discharge site shall be determined by the Engineer.

5. The sump discharge site shall be revegetated in accordance with the Contractor's approved Site Dewatering Plan and as directed by the Engineer.

6. Limit in-stream work and dewatering of project segment of the Creek to the period between July 1 and Oct. 15.

7. Remove stream diversion dams at the end of the project and restore stream channel to preconstruction conditions.

DIVERSION DETAILS

NTS

Environmental Review Initial Study
ATTACHMENT 2, Sht 7
APPLICATION 08-0099

SITE DEWATERING AND STREAM BYPASS

SHEET NAME: DRAWING NAME:

BY	REVISION	DATE

COUNTY OF SANTA CRUZ – DEPARTMENT OF PUBLIC WORKS

PROJECT ENGINEER: RUSSELL CHEN

NORTH RODEO GULCH PM 4.35
STORM DAMAGE REPAIR PROJECT

DRAWN:	RJC
CHECKED:	SBW
DATE:	3/5/08
SCALE:	
JOB NO.	
SHEET	5 OF 7

PLANT LEGEND

All areas disturbed by proposed improvements shall be hydroseeded with approved seed mixture and revegetated as follows:

SYM.	(QUANITY)	SIZE	BOTANICAL NAME – COMMON NAME / SPACING
	(20)	Stake Cuttings	Salix Lasiolepis – Arroyo Willow
RU	(12)	1 Gallon	Rubus Ursinus – California Blackberry / 6' o.c.
⊕	(60)	Pole Cuttings	Salix Lasiolepis – Arroyo Willow (Sona-Tubes)

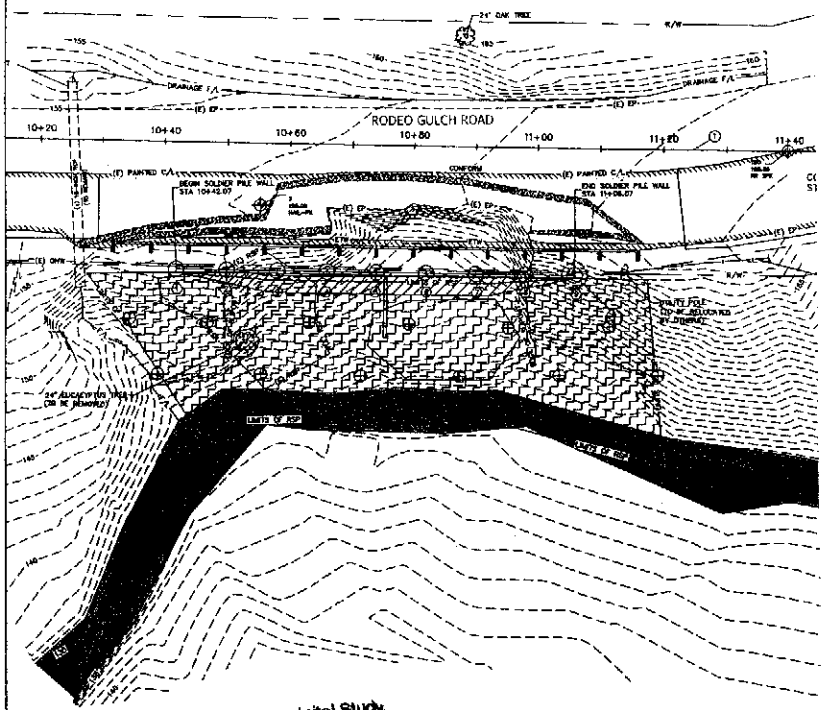
BLACKBERRY
Install 6" of topsoil in the top upper reaches of RSP Plant with the Rubus Ursinus - California Blackberry (RU) and Salix Lasiolepis - Arroyo Willow stake cuttings

SONA-TUBE IN ROCK SLOPE PROTECTION (RSP)
Install 24" Sona-Tubes in RSP and install willow pole cuttings in soil slurry.
Salix Lasiolepis - Arroyo Willow /80 pole cuttings
(12 - Sona-Tubes / 5 cuttings per Sona-Tube)

HYDROSEEDING
All areas disturbed by the construction project will be hydroseeded.

EROSION CONTROL SEED MIXTURE (lbs./acre)

10 lbs. Elymus glaucus – Blue Wildrye
10 lbs. Bromus carinatus – California Brome
15 lbs. Hordeum branchyantherum – Meadow Barley
10 lbs. Festuca californica – California Fescue
5 lbs. Lupinus bicolor – Bicolor Lupine (Legume seed-pellet inoculated)
3 lbs. Eschscholtzia californica – California Poppy



Environmental Review Initial Study
ATTACHMENT 2, 6 of 7
APPLICATION 05-0099

PLAN
1" = 10'

POLE CUTTINGS

HARVESTING:
LIVE WILLOW POLE CUTTINGS SHALL BE INSTALLED IN SONA-TUBES AND IN CONJUNCTION WITH THE CONSTRUCTION OF THE ROCK SLOPE PROTECTION (RSP). THIS WORK SHALL BE COORDINATED WITH THE REVEGETATION SUBCONTRACTOR.

LIVE CUTTINGS SHALL BE HARVESTED AND SUBMERSED IN WATER IMMEDIATELY. CUTTINGS SHALL BE SOAKED IN WATER A MINIMUM OF 24 HOURS.

MAKE CLEAN CUTS WITH UNSPLIT ENDS. TRIM BRANCHES FROM CUTTING AS CLOSE AS POSSIBLE. THE BUTT END OF THE CUTTING SHALL BE POINTED OR ANGLED AND THE TOP END SHALL BE CUT SQUARE.

DIAMETER:
POLE CUTTINGS SHALL BE 2-3.5 INCHES (51-80mm) IN DIAMETER.

LENGTH:
POLE CUTTINGS SHALL BE 8-10 FEET (2.5-3m) IN LENGTH.

POLES SHALL BE CUT SO THAT A TERMINAL BUD SCAR IS WITHIN 1-4 INCHES OF THE TOP. AT LEAST 2 BUDS AND/OR BUD SCARS SHALL BE ABOVE THE RSP AFTER PLANTING.

INSTALLATION:

WHEN THE LIVE CUTTINGS ARE REMOVED FROM SOAKING IN WATER, THEY SHOULD BE IMMEDIATELY TRANSPORTED TO THE SITE. DO NOT LEAVE THEM EXPOSED TO DIRECT SUNLIGHT. CUTTINGS MUST BE KEPT MOIST AND COVERED WITH WET BURLAP SACKS DURING TRANSPORT. AT THE CONSTRUCTION SITE CUTTINGS SHALL BE IMMEDIATELY STORED WITH THE BUTT-END IN WATER AND PLACED IN A COOL, HUMID, DARK PLACE UNTIL READY TO PLANT.

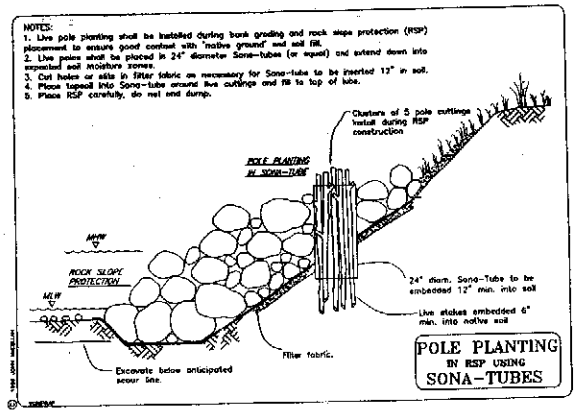
PLANT LIVE CUTTINGS AS SHOWN IN DETAILS AND ON PLANTING PLAN.

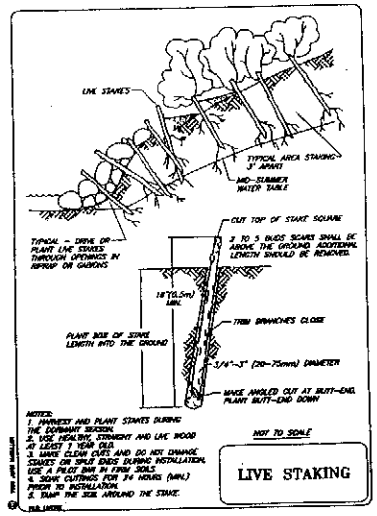
INSTALL THE LIVE CUTTINGS IN SONA-TUBES AND DURING THE RSP PLACEMENT SUCH THAT THE CUTTINGS ARE DEEPLY INSERTED INTO NATIVE SOIL AND EXTEND UPWARD THROUGH THE RSP. CUTTINGS MUST BE PLANTED WITH BUTT-ENDS INTO THE GROUND. LEAF BUD SCARS OR EMERGING BUDS SHOULD ALWAYS POINT UP. DO NOT DAMAGE THE BUDS, STRIP THE BARK OR SPLIT THE CUTTING DURING INSTALLATION. ALTHOUGH SOME DAMAGE IS TO BE EXPECTED, SPLIT OR EXTREMELY DAMAGED POLES SHALL BE REMOVED AND REPLACED.

CUTTINGS THAT ARE INSTALLED BEFORE THE RAIN HAS MOISTENED THE GROUND TO A MINIMUM DEPTH OF 14" MUST BE WATERED IMMEDIATELY. FILL THE PLANTING HOLE WITH WATER FROM A WATERING TRUCK, 2 GALLONS PER CUTTING. ALLOW WATER TO SOAK IN BEFORE INSERTING CUTTINGS.

CUTTINGS SHALL BE LONG ENOUGH TO REACH INTO THE MIDSUMMER GROUND WATER TABLE, OR A MINIMUM OF 12 INCHES INTO NATIVE SOIL.

IT IS ESSENTIAL TO HAVE GOOD CONTACT BETWEEN THE CUTTING AND SOIL FOR ROOTS TO SPROUT. TAMP THE SOIL AROUND THE CUTTING.





LIVE STAKING

Construction Specifications:
Harvesting:
- Stakes shall be harvested and planted when the willows, or other chosen species, are dormant. This period is generally from late fall to early spring, or before the buds start to break.
- When harvesting cuttings, select healthy, live wood that is reasonably straight.
- Use live wood at least 1 year old or older. Avoid suckers of current years growth as they lack sufficient stored energy reserves to sprout consistently. The best wood is 2-5 years old with smooth bark that is not deeply furrowed.
- Make clean cuts with unsplit ends. Trim branches from cutting as close as possible. The butt end of the cutting shall be pointed or angled and the top end shall be cut square.
- Identification of the top and bottom of cutting as accomplished by angle cutting the butt end. The top, square cut, can be painted and sealed by dipping the top 1-2 inches (25-51 mm) into a 50-50 mix of light colored latex paint and water. Sealing the top of stake will reduce the possibility of desiccation and disease caused mortality, assure the stakes are planted with the top up, and makes the stakes more visible for subsequent planting evaluations.

Diameter:
- Cuttings should generally be 3/4 inch (19 mm) or larger depending on the species. Highest survival rates are obtained from using cuttings 2-3 inches (51-76 mm) in diameter. Larger diameter cuttings are needed for planting into rock riprap.

Length:
- Cuttings of small diameter (up to 1-1/2 inches (38 mm)) shall be 18 inches (0.5 m) long minimum. Thicker cuttings should be longer. Cuttings should be long enough to reach into the midsummer water table, if possible.
- No less than 1/2 total length must be into the ground. - Stakes should be cut so that a terminal bud scar is within 1-4 inches (25-101 mm) of the top. At least 2 buds and/or bud scars shall be above the ground after planting.

Installation:
- Stakes must be planted with butt-ends into the ground. Leaf bud scars or emerging buds should always point up.
- Stakes must not be allowed to dry out. All cuttings should be soaked in water for a minimum of 24 hours. Soaking significantly increases the survival rate of the cuttings, however they may be planted the same day they are harvested.
- Plant stakes 0.61 m (3 feet) on center.
- Set the stake as deep as possible into the soil, preferably with 80 percent of its length into the soil and in contact with midsummer water table.
- It is essential to have good contact between the stake and soil for roots to sprout. Tamp the soil around the cutting.
- Do not damage the buds, strip the bark or split the stake during installation.
- Split or damaged stakes shall be removed and replaced. Inspection and Maintenance:
- Periodic inspection repair and maintenance will be required during the first two years or until the vegetation is established.

EROSION CONTROL AND REVEGETATION

SHEET NAME: DRAWING NAME:

BY	DATE	REVISION

PROJECT ENGINEER
RUSSELL CHEN

COUNTY OF SANTA CRUZ – DEPARTMENT OF PUBLIC WORKS

NORTH RODEO GULCH PM 4.35
STORM DAMAGE REPAIR PROJECT

DRAWN: RJC
CHECKED: SBW
DATE: 3/5/08
SCALE:
JOB NO.
SHEET 6 OF 7

TEMPORARY EROSION CONTROL NOTES

Temporary erosion control shall consist of, but not to be limited to, constructing such facilities and taking such measures as are necessary to prevent, control, and abate water, siltation and mud, and erosion damage to public and private property resulting during the construction of this project. Appropriate measures shall be taken as are necessary to prevent siltation. Only clean water runoff will be allowed to enter the waters of Rodeo Creek. Surface runoff resulting shall be routed away from or around the work site and eroded or graded areas during all construction activities. Any erosion and siltation problems that arise during construction, such as rilling and gully erosion shall be brought to the Engineers attention and mitigated immediately.

The requirements in said Section 7 - 1.01G of the Caltrans Standard Specifications shall apply during the implementation of temporary and permanent erosion control work. The contractor is responsible for submitting a Storm Water Pollution Prevention Plan for temporary erosion control measures for all phases of the work and shall conform to the provisions in CalTrans Std Specifications in Section 7-1.01G, "Water Pollution,". The contractor shall submit plans for temporary erosion control measures 24 hours prior to the preconstruction meeting. Plans for temporary erosion control measures must be approved by the County Resource Planner and Engineer prior to construction.

Planning Dept. approved winter erosion control measures shall be fully implemented and put in place for construction work being undertaken after October 15, for the duration of the contract. Applicable and adequate materials (plastic tarps, coir rolls and sand bags) shall be on site. The exposed work area shall be completely covered and secured in advance of all pending rain storms and precipitation. A Planning Dept. authorized inspector shall field review the work site and erosion control work after October 15 and during the course of the all remaining construction work.

BLACK PLASTIC

The active work area shall be minimized in terms of exposed soil during winter season (October 15 – April 15) and shall be temporarily covered with black plastic during winter rains or as directed by the engineer. Black plastic sheeting shall have a minimum thickness of 6 mil and shall be keyed in at the top of the slope and firmly held in place with sandbags or other weights placed no more than 10 ft apart. Seams shall be taped or weighted down their entire length, and there shall be at least a 24 inches overlap of all seams. Edges shall be embedded a minimum of 6inches in soil. Additional sandbag weights shall be tied to ropes at 10 ft apart and anchored at the top (with a 6' long steel post or equal) to hold the plastic sheeting in place on the slope. All sheeting shall be inspected periodically after installation and after significant rainstorms to check for erosion, undermining, and anchorage failure. Any failures shall be repaired immediately. If washout or breakages occurs, the material shall be re-installed after repairing the damage to the slope.

Contractor shall have plastic sheeting, sand bag weights, rope and pole anchoring system stored at the project site at all times to temporarily protect the slope during winter rains (October 15 – April 15). Plastic shall be installed before a storm event or as directed by the engineer. Plastic will concentrate runoff and shall be directed to a drain pipe or to the bottom of the slope to a sediment barrier. The sediment barrier shall include silt fence and straw rolls or equal and installed as specified in the special provisions or as directed by the engineer. Permanent erosion control measures shall be installed as soon as the active construction zone area work is completed.

Exposed soil areas outside the active construction zone shall be hydroseeded, and slopes 3:1 or greater will be covered with erosion control blanket as specified in the special provisions or as directed by the engineer and installed by October 15.

EROSION CONTROL BLANKET INSTALLATION

CONSTRUCTION SPECIFICATIONS:

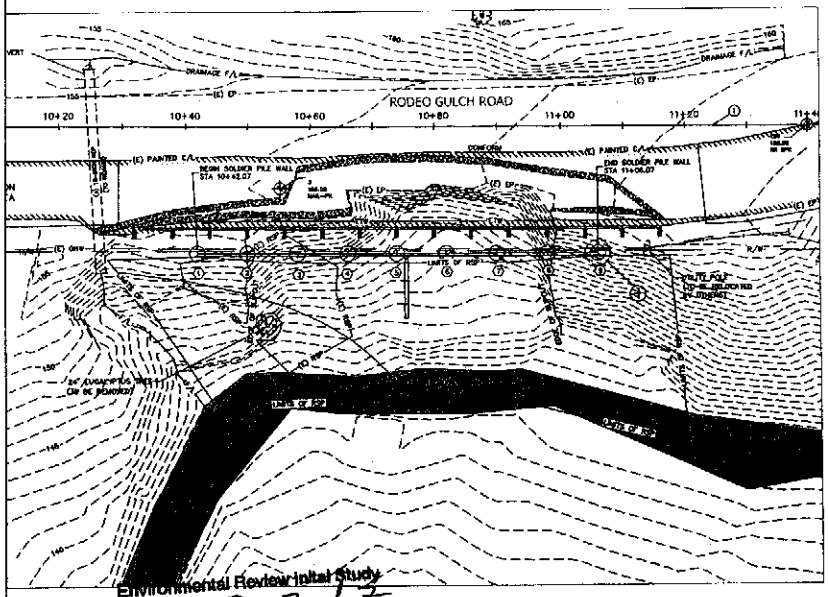
Site Preparation
- Proper site preparation is essential to ensure complete contact of the protection matting with the finished or native soil surface.
- Grade and shape area of installation.
- Remove all rocks, clods, vegetative or other obstructions so that the installed blankets or mats will have direct contact with the soil.
- Prepare seedbed by loosening 2-3 inches (50.8-76.2 mm) of topsoil above final grade.

Seeding
- Seed area before blanket installation for erosion control and re-vegetation. All areas disturbed during the installation must be reseeded by hand.

Anchoring
- U-shaped wire staples, metal geotextile stake pins, or triangular wooden stakes can be used to anchor mats to the ground surface. Wire staples should be a minimum of 11 gauge. Metal stake pins should be 3/16 inch (4.8 mm) diameter steel with a 1 1/2 inch (38.1 mm) steel washer at the head of the pin. Wire staples and metal stakes should be driven flush to the soil surface. All anchors should be 6-8 inches (0.2-0.5 m) long and have sufficient ground penetration to resist pullout. Longer anchors may be required for loose soils.

Installation on Slopes
- Begin at the top of the slope and anchor its blanket in a 6 inch (0.2 m) deep x 6 inch (0.2 m) wide trench. Backfill trench and tamp earth firmly.
- Unroll blanket downslope in the direction of the creek or streambed.
- The edges of adjacent parallel rolls must be overlapped 2-3 inches (51-76 mm) and be stapled every 3 feet (0.9 m).
- When blankets must be spliced, place blankets end over end (shingle style) with 6 inch (0.2 m) overlap. Staple through overlapped area, approximately 12 inches (0.3 m) apart.
- Lay blankets loosely and maintain direct contact with the soil – do not stretch.
- Blankets shall be stapled sufficiently to anchor blanket and maintain contact with the soil. Staples shall be placed down the center and staggered with the staples placed along the edges. Steep slopes, 1:1 to 2:1, require 2 staples per square yard. Moderate slopes, 2:1 to 3:1, require 1 - 2 staples per square yard (1 staple 3' o.c.). Gentle slopes require 1 staple per square yard.

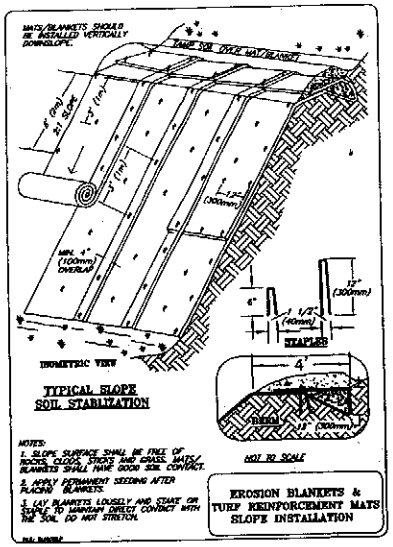
Installation in channels:
- Dig initial anchor trench 12 inches (0.3 m) deep and 6 inches (0.2 m) wide across the channel at the lower end of the project area.



EROSION CONTROL NOTES

1. ALL OPERATIONS SHALL CONFORM TO REQUIREMENTS OF THE COUNTY EROSION CONTROL ORDINANCE. THE DESIRED END RESULT OF THE PROPOSED MEASURE IS TO CONTROL SITE EROSION AND TO PREVENT SEDIMENT TRANSPORT OFF THE SITE INTO THE WATERSHED. IT IS THE CONTRACTORS RESPONSIBILITY TO INSTALL AND MAINTAIN TEMPORARY EROSION CONTROL MEASURES TO MEET THIS GOAL AND TO PREVENT EROSION.
2. DISTURBANCE TO NATURAL VEGETATION SHALL BE MINIMIZED WITHIN AREA BELOW COUNTY R/W LINE.
3. BETWEEN OCTOBER 15 AND APRIL 15, EXPOSED SOIL SHALL BE PROTECTED FROM EROSION AT ALL TIMES. DURING CONSTRUCTION SUCH PROTECTION SHALL CONSIST OF MULCHING AND/OR PLANTING OF NATIVE VEGETATION OF ADEQUATE DENSITY. BEFORE COMPLETION OF PROJECT ANY EXPOSED SOIL ON DISTURBED SLOPES SHALL BE PERMANENTLY PROTECTED FROM EROSION.
4. SLOPE STABILIZATION SHALL CONSIST OF:
   1) REMOVAL OF ALL DEBRIS FROM SLOPE INCLUDING ASPHALT & CONCRETE.
   2) HANDRAKING TO SMOOTH OUT THE DIRT SURFACE OF THE SLOPE.
   3) SEEDING THE ENTIRE SLOPE WITH AN APPROVED GRASS SEED MIXTURE.
   4) PLACING EROSION CONTROL BLANKET OVER THE SEEDED AREA. ALL BLANKET SHALL BE SECURED WITH HEAVY GAUGE WIRE STAPLES.
5. ANY EXCESS MATERIAL SHALL BE DISPOSED OF OFF-SITE OR STOCKPILED IN A MANNER TO AVOID RUNOFF ONTO ADJOINING PROPERTIES AND RODEO CREEK.
6. ANY MATERIAL STOCKPILED DURING CONSTRUCTION SHALL BE COVERED WITH PLASTIC.
7. CONTRACTOR SHALL NOTIFY THE COUNTY OF SANTA CRUZ PLANNING DEPT. (454-3168) AT LEAST 48 HOURS BEFORE ANY EARTHWORK IS COMMENCED.
8. EARTHWORK BETWEEN OCTOBER 15 AND APRIL 15 IS NOT PERMITTED UNLESS AUTHORIZED BY COUNTY OF SANTA CRUZ PLANNING DEPARTMENT.

NOTE:
TEMPORARY STOCK PILING OF SUITABLE MATERIAL FROM EXCAVATION MAY OCCUR IN THE ROADWAY RIGHT-OF-WAY AREA AS DIRECTED BY ENGINEER. ALL UNSUITABLE EXCAVATED MATERIAL SHALL BE DISPOSED OF ON A DAILY BASIS AS DIRECTED BY THE ENGINEER.



Environmental Review Initial Study
ATTACHMENT 2, 7 of 7
APPLICATION 08-0611 PLAN

1" = 10'

EROSION CONTROL DURING CONSTRUCTION

SHEET NAME: DRAWING NAME:

BY	DATE	REVISION

COUNTY OF SANTA CRUZ – DEPARTMENT OF PUBLIC WORKS
PROJECT ENGINEER: RUSSELL CHEN

NORTH RODEO GULCH PM 4.35
STORM DAMAGE REPAIR PROJECT

DRAWN: RJC
CHECKED: SBW
DATE: 3/5/08
SCALE:
JOB NO.
SHEET 7 OF 7

This section evaluates the potential effects of the proposed action to the tidewater goby and the California red-legged frog and proposes measures to avoid and minimize potential adverse effects.

4.1 POTENTIAL ADVERSE EFFECTS TO THE TIDEWATER GOBY

No habitat suitable to support the tidewater goby is present in the immediate action area. The tidewater goby inhabits brackish shallow lagoons with salinity levels from zero to 10 ppt. This habitat type does not occur in the action area. The proposed action is located approximately 2 miles upstream from the northern boundary of proposed critical habitat for the tidewater goby (USFWS 2006c). The proposed action is approximately 3 miles upstream of the Corcoran Lagoon where Rodeo Creek Gulch flows into the Pacific Ocean. Tidewater gobies were observed in 2000 in this lagoon (USFWS 2005b). The area currently proposed as critical habitat for the tidewater goby includes Corcoran Lagoon and up to 1 mile upstream of the lagoon in the Rodeo Creek Gulch drainage (USFWS 2006c). The channel of Rodeo Creek Gulch in the action area is above the elevation influenced by tides. Although direct effects to the tidewater goby would not occur, indirect effects to the tidewater goby are possible, as explained below.

4.1.1 Erosion and Sedimentation

The proposed action consisting of construction of a retaining wall along the riparian corridor of Rodeo Creek Gulch where no structure previously existed may contribute to an increase in stormwater entering Rodeo Creek Gulch. There is potential for increased erosion and sedimentation due to the loss of natural substrate for riparian vegetation. The retaining wall will have an underdrain system including filter fabric to help prevent erosion beneath it. The sediment from Rodeo Creek Gulch during construction could degrade the water quality in the area proposed as critical habitat for the tidewater goby located between 2-3 miles downstream. Therefore, avoidance and minimization measures would be implemented during project construction and implementation as described in Section 4.2.

4.1.2 Hydrology

The proposed action would not substantially change the hydrology of Rodeo Creek Gulch. Storm water runoff from the action area currently discharges into Rodeo Creek Gulch. The new retaining wall would contain an underdrain system with filter fabric to help prevent erosion beneath it, and riprap protection at the base of the retaining wall would act as energy dissipaters reducing the speed of the water into the creek. Therefore, no adverse effects are anticipated on tidewater goby habitat further downstream of the proposed action as a result of hydrologic changes.

4.2 AVOIDANCE AND MINIMIZATION MEASURES FOR THE TIDEWATER GOBY

To reduce potential erosion and discharge of sediment into Rodeo Creek Gulch and eventually into the lagoon, the following measures are proposed for work conducted in the riparian zone.

4.2.1 Erosion and Sedimentation Prevention Measures

The County would implement standard BMPs and erosion control measures during construction to minimize possible discharge of sediment into aquatic habitats. These measures include, but are not limited to, installing and maintaining silt fences immediately downgradient of disturbed areas and installing and maintaining erosion control blankets on all disturbed ground.

Construction vehicles and equipment would be maintained to prevent contamination of soil or water (from external grease and oil or from leaking hydraulic fluid, fuel, oil, and grease). Equipment would be refueled and serviced at designated construction staging areas at least 100 feet from the riparian zone. The County would prepare a plan for the emergency clean up of any spills of fuel or other material and would make this plan available on site for inspection during construction.

4.2.2 Summary of Potential Adverse Effects to the Tidewater Goby

There is no habitat suitable for the tidewater goby in the immediate action area. The proposed action would not remove habitat or cause displacement, mortality, or direct injury of tidewater gobies during construction and implementation of the proposed action. Implementation of the erosion control measures and BMPs described above during construction would avoid indirect adverse effect on tidewater gobies or degradation of habitats downstream of the action area utilized by this species. For all these reasons, the proposed action is not likely to adversely affect the tidewater goby.

4.3 POTENTIAL ADVERSE EFFECTS TO THE CALIFORNIA RED-LEGGED FROG

Suitable habitat for California red-legged frogs exists within the action area, although the nearest occurrence of a California red-legged frog is approximately 4.5 miles west of the action area in an adjacent watershed (CDFG 2006b). Twenty four California red-legged frog occurrences have been recorded to the north, east and west of the action area within a 10-mile radius (CDFG 2006b). The CNDDB recorded occurrences for California red-legged frogs may be limited from the action area due to dispersal requirements. Dispersal habitat is described as accessible upland or riparian dispersal units between occupied locations within 1 mile of each other that allows for movement between such sites (USFWS 2005a). The dispersal of California red-legged frogs from these known occurrences to the area surrounding the action area may be limited by watershed connectivity and urban development. However, it is not known if Rodeo Creek Gulch has been surveyed for California red-legged frogs, and the absence of a CNDDB record does not indicate the absence of the species. Due to the number and proximity of California red-legged frog occurrences surrounding the action area and the quality of red-legged frog habitat found in Rodeo Creek Gulch, the action area is considered to provide suitable habitat for California red-legged frogs.

Suitable breeding habitat in the action area for California red-legged frog includes areas of slow moving water and abundant streambank vegetation to provide shelter and predator avoidance (USFWS 2006b). Rodeo Creek Gulch has a well-shaded riparian corridor with scattered pools, undercut banks, large woody debris, and overhanging creekbank vegetation. The riparian vegetation along Rodeo Creek Gulch is continuous above and below the action area for several miles. Upland habitat is described as upland areas within 200 feet of the edge of the riparian

vegetation comprised of various vegetational series such as grasslands, woodlands, and/or wetland/riparian plant species that provides the frog shelter, forage, and predator avoidance (USFWS 2006b). The action area has dense riparian vegetation as well as adjacent grasslands and woodlands.

4.3.1 Take and Disturbance

California red-legged frog habitat occurs in Rodeo Creek Gulch and there is potential for the species to occur in the action area. Therefore, construction activities within the riparian zone could result in disturbance, injury, and/or mortality. During construction of the retaining wall and roadway embankment, incidental take of adult and juvenile frogs could occur. Construction noise may also disturb frogs in the vicinity of the action area. Adverse effects would be most likely to occur within riparian habitat where the proposed retaining wall would be anchored on the creekbank located at the toe of the slope of the roadway embankment adjacent to Rodeo Creek Gulch. Upland areas may provide dispersal and aestivation habitat for red-legged frogs.

4.3.2 Erosion and Sedimentation

Red-legged frogs could be indirectly affected by potential erosion and sedimentation during and after construction activities. There is potential for increased erosion and sedimentation due to the loss of natural substrate for riparian vegetation. Erosion control measures would be implemented along the bank of Rodeo Creek Gulch downslope of the retaining wall during construction.

4.3.3 Adverse Effects on Habitat

Permanent loss of substrate for riparian vegetation on the east side of Rodeo Creek Gulch due to the proposed action could also affect the habitat for California red-legged frog. The construction of a new retaining wall structure where no structure previously existed will result in a loss of potential substrate for riparian vegetation. Riparian habitat in the action area potentially provides foraging, breeding, and dispersal habitat for red-legged frogs.

No riparian vegetation on the east side of Rodeo Creek Gulch would be disturbed to construct the retaining wall, because there was none remaining in the damaged area after the failure of the roadway embankment. The loss of vegetation due to the erosion of the embankment has created an opening in the overstory and understory along the creek in the action area. Therefore, no measures are recommended on this topic.

4.4 AVOIDANCE AND MINIMIZATION MEASURES FOR THE CALIFORNIA RED-LEGGED FROG

The County is responsible for implementing the following measures to avoid and reduce adverse effects to California red-legged frogs and their habitat.

4.4.1 Take and Disturbance

- Construction activities in Rodeo Creek Gulch and the riparian habitat would be timed to occur during the latter part of the dry season (non-breeding season for red-legged frogs) (April 15 to October 15) to minimize take of dispersing frogs.

- A qualified biologist would conduct preconstruction surveys of all ground disturbance areas within riparian habitats to determine if California red-legged frogs are present prior to the start of construction. These surveys would be conducted less than 2 days prior to start of construction activities in the riparian zone. If California red-legged frogs are found during any preconstruction surveys, the USFWS-approved biologist would contact the USFWS to determine if moving them is appropriate. If the USFWS gives approval for relocation, the USFWS-approved biologist would be allowed sufficient time to move the California red-legged frogs from the work site before activities begin.
- A USFWS-approved biologist would monitor construction activities that involve retaining wall construction and installation of rock slope protection along the channel bank. If California red-legged frogs are found that are likely to be killed or injured by work activities, the USFWS-approved biologist would be allowed sufficient time to move them from the site before work activities resume. The USFWS-approved biologist would relocate the California red-legged frogs the shortest distance possible to suitable habitat that would not be affected by activities associated with the proposed action. Only California red-legged frogs that are at risk of injury or death by project activities may be moved.
- Only USFWS-approved biologists would participate in activities associated with capture, handling, and monitoring of California red-legged frogs. The County would request and receive the USFWS' approval of any other biologist it wishes to employ to conduct activities with California red-legged frogs.
- If more than two (2) California red-legged frogs are found dead or injured within a 12-month period, the County would contact the USFWS immediately so the USFWS can review the project activities to determine if additional protective measures are needed.
- Exclusion fences comprised of silt fence material would be installed at the margins of the work area to prevent workers from encroaching into adjacent habitat and to prevent California red-legged frogs from entering the construction area. The fence would be monitored periodically. A fine (less than 1 centimeter) mesh would be used to avoid entrapment of amphibians in the silt fence. The silt fence would be monitored periodically during construction to evaluate its effectiveness. All fencing in this area would be maintained for the duration of construction and removed on project completion.
- To avoid attracting predators, food-related trash would be kept in closed containers and removed regularly from the action area.
- To avoid transferring disease or pathogens, the USFWS-approved biologist would follow the Declining Amphibian Populations Task Force Fieldwork Code of Practice (USFWS 2005a).
- Prior to construction, a qualified biologist would conduct training sessions to familiarize all construction personnel with the following: identification of California red-legged frogs, their habitat, general provisions and protections afforded by the ESA, measures implemented to protect the species, and a review of the project boundaries. This training would also be provided within 30 days of the arrival of any new worker.
- If an injured California red-legged frog is found, the contractor will have a USFWS-approved biologist determine the extent of the injury. If the injury is minor and the frog is likely to survive without treatment, the biologist will document the injury and release the frog in an

appropriate location previously designated by the USFWS. However, if the injured frog would require professional treatment to survive, the biologist will transport the frog to the location where a qualified professional can provide the needed treatment. The location of a qualified professional to assist the frog would have been documented prior to the start of construction. The treated frog will be released at an appropriate location as soon as its recovery will allow. Within three working days, the injured frog incident will be reported to the USFWS and reported information will include date of injury, extent of injury, and action(s) taken. If a frog were to die while being treated or a dead frog was to be located within the action area, the USFWS will be contacted within three working days. At that time, the USFWS would also provide instructions regarding the deposition of the frog.

- The County would provide the USFWS a report on the results of biological surveys and sighting records, and also document the following: the number of California red-legged frogs relocated from the action area or killed or injured during the proposed action; the dates and times of capture, mortality, or injury; specific locations of capture, mortality, or injury; approximate size and age of individuals; and a description of relocation sites.

4.4.2 Erosion and Sedimentation

- Standard BMPs and erosion control measures would be implemented during construction to minimize possible discharge of sediment into aquatic habitats. These measures include, but are not limited to, installing and maintaining silt fences immediately downgradient of disturbed areas and installing and maintaining erosion control blankets on all disturbed ground.

4.4.3 Adverse Effects on Habitat

Since no riparian vegetation on the east side of Rodeo Creek Gulch would be disturbed to construct the retaining wall, no measures are recommended on this topic.

In sum, the total impacts of the proposed action on California red-legged frogs and their habitat would be minor and restricted to a small portion of the Rodeo Creek Gulch watershed. The small amount of bank and riparian habitat to be removed by this project alone would not affect the ability of the species to persist in Rodeo Creek Gulch. California red-legged frogs are known to occur in adjacent drainages to the east and west of the action area and in 247 other streams or drainages throughout its range (USFWS 2005a). Consequently, the proposed action would not appreciably reduce the quality of red-legged frog habitat in Rodeo Creek Gulch to support the survival and recovery of California red-legged frogs (USFWS 2005a).

4.4.4 Summary of Potential Adverse Effects to the California Red-legged Frog

FEMA has determined that with the implementation of the avoidance and minimization measures identified above, the proposed action may affect the California red-legged frog.

Environmental Review Inital Study
ATTACHMENT 3, 5 of 5
APPLICATION 08-0099

SPILL PREVENTION CONTROL AND COUNTERMEASURE PLAN

WATER POLLUTION.

Attention is directed to the provisions of Section 7-1.01G, "Water Pollution," of the Standard Specifications.

Prior to beginning any construction work, the Contractor shall submit a water pollution control plan in conformance with the provisions of Section 7-1.01G for approval by the Engineer that details all methods and facilities to be implemented for control of surface, underground waters related to the Contractors construction activities. No soils nor silt laden or polluted waters generated from the Contractor's construction activities shall be allowed to be released untreated into Rodeo Creek.

Full compensation for conforming to the provisions of this section, not otherwise provided for, shall be considered as included in prices paid for the various contract items of work involved and no separate payment will be made therefor.

CONTRACTOR RESPONSIBILITY FOR CONTAMINATION.

If, as a result of working on this project, any land, waterway, or stream becomes contaminated, including any land, waterway, or stream that contains an endangered or threatened species, the Contractor shall immediately contact the County inspector on the job and immediately act to mitigate and limit the reason for the contamination. The Contractor shall also notify the following agencies as soon as possible of the discharge or spill: The California Office of Emergency Services, National Oceanic and Atmospheric Administration, Department of Fish and Game, and Regional Water Quality Control Board. It will be the responsibility of the Contractor to remedy the situation and monitor all cleanup activities, including all efforts to mitigate the resultant damage. In addition the contractor shall limit further damage. The Contractor shall develop a response and mitigation plan and coordinate all cleanup and remediation efforts with the appropriate regulatory agencies by acquiring all permits, clearances and consents necessary to facilitate the remediation effort. The Contractor shall supply the equipment and personnel needed to implement the response and mitigation plan.

The Contractor shall assume full responsibility for and immediately undertake the cleanup and mitigation described above even if the Contractor claims the contamination was a result of differing site conditions or any other cause for which the Contractor may dispute its liability.

Full compensation for any costs occasioned by compliance with this section shall be considered included in the contract price and no separate payment shall be made therefor unless the Contractor establishes entitlement for reimbursement pursuant to a Claim made in accordance with the provisions of this Contract.

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TRAFFIC CONTROL REQUIREMENTS

ORDER OF WORK.

Order of work shall conform to the provisions of Section 5-1.05, "Order of Work," of the Caltrans Standard Specifications and these special provisions. Attention is directed to "Maintaining Traffic" of these special provisions.

A minimum of one eleven foot wide north bound lane on North Rodeo Gulch at the construction site shall be kept open to public traffic at all times.

Before a lane closure will take place, warning signs for road closure shall be installed at road intersections identified elsewhere in these special provisions, with the specific locations determined by the Engineer. Coordination with the County Traffic Engineer is mandatory at least 72 hours in advance of all road closures.

The installation of temporary railings shall be complete at each required location before existing facilities are disturbed or before excavation or other work is begun. Temporary railings shall consist of Type 'K' rails per Section 12-3.08 of the Standard Specifications and shall be placed along the full length of the construction site including the staging area on North Rodeo Gulch. Temporary railings shall not be removed until such hazards no longer exist and until such removal is approved by the Engineer.

CONSTRUCTION AREA SIGNS.

Construction area signs shall be furnished, installed, maintained, and removed when no longer required in accordance with the provisions of Section 12, "Construction Area Traffic Control Devices," of the Standard Specifications and these special provisions.

Full compensation for furnishing, installing, maintaining and removing Construction Area Signs, shall be considered as included in the contract price paid for Traffic Control System and no separate payment will be made therefor.

MAINTAINING TRAFFIC.

Attention is directed to Sections 7-1.08, "Public Convenience," 7-1.09, "Public Safety," 12-2.02, "Portable Delineators," of the Standard Specifications and these special provisions.

Lane closures shall conform to the provisions in the section of these special provisions entitled "Traffic Control System".

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Personal vehicles of the Contractor's employees shall not be parked on the traveled way at any time, including any section closed to public traffic.

The Contractor shall notify local authorities of the intended date when work is to commence at least one week before work is begun. The Contractor shall cooperate with local authorities relative to handling traffic through the area and shall make arrangements relative to keeping the working area clear of parked vehicles.

The provisions in this section may be modified or altered if, in the opinion of the Engineer, public traffic will be better served and work expedited. Said modifications or alterations shall not be adopted until approved in writing by the Engineer.

The Contractor shall be responsible for installing and maintaining adequate temporary traffic control per the California MUTCD (lane markers, pavement markings and temporary traffic signs to replace existing traffic control devices removed by construction).

TRAFFIC CONTROL SYSTEM.

The traffic control system shall consist of closing the south bound traffic lane only and controlling traffic in the remaining north bound lane continuously for the full term of the construction contract in accordance with the details shown on the plans, the provisions of Section 12, "Construction Area Traffic Control Devices," of the Standard Specifications, the provisions under Section 10-1.05, "Maintaining Traffic," of these special provisions, these special provisions and an approved Traffic Control Plan.

Existing traffic control signing that is in place prior to the award of this contract shall be the full responsibility of the Contractor.

Signs for traffic control system shall conform to the provisions under Section 10-1.03, "Construction Area Signs," of these special provisions.

24 hour traffic control for the duration of the construction work is mandatory.

Stop signs or photo voltaic powered signal system may be used at either end of the construction site to provide 24 hour traffic control. If relocated stop signs are utilized, then flaggers shall be required when the line of sight from the relocated south bound stop sign to relocated north bound stop sign will be obstructed.

The provisions of this section will not relieve the Contractor from his responsibility to provide such additional devices or take such measures as may

be necessary to comply with the provisions of Section 7-1.09, "Public Safety," of the Standard Specifications.

The Contractor shall immediately repair or replace any component in the traffic control system that is damaged, displaced, or ceases to operate or function as specified.

Upon completion of the work requiring lane closure, all components of the traffic control system that are the responsibility of the Contractor to install and maintain shall be removed from the site of the work and shall become the property of the Contractor.

The contract lump sum price paid for Traffic Control System shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in placing, removing, storing, maintaining, repairing, moving to new locations, replacing and disposing of the components of the traffic control system as shown on the plans, including temporary 'K' rail, photo voltaic powered traffic control signal system, in accordance with the provisions of the Standard Specifications and these special provisions, and as directed by the Engineer, and no additional compensation will be allowed therefor.

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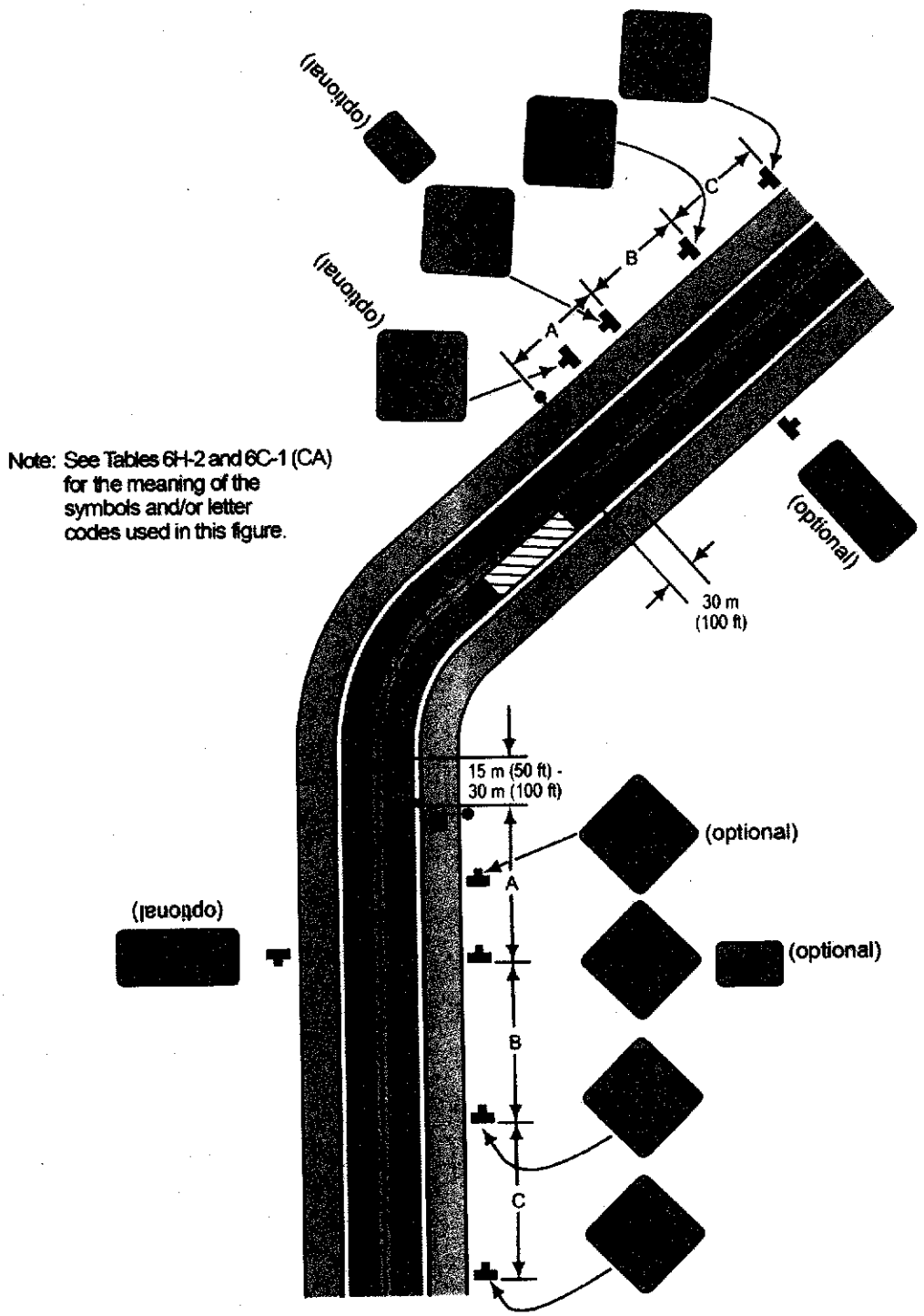
Figure 6H-10 (CA). Lane Closure on Two-Lane Road Using Flaggers (TA-10)



Typical Application 10

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Table 6H-2. Meaning of Symbols on Typical Application Diagrams


Arrow panel


Arrow panel support or trailer (shown facing down)


Changeable message sign or support trailer


Channelizing device


Crash Cushion


Direction of temporary traffic detour


Direction of traffic


Flagger


High level warning device (Flag tree)


Luminaire


Pavement markings that should be removed for a long term project


Sign (shown facing left)


Surveyor


Temporary barrier


Temporary barrier with warning lights


Traffic or Pedestrian signal


Truck mounted attenuator


Type III Barricade


Warning lights


Work space


Work vehicle

Table 6H-3. Meaning of Letter Codes on Typical Application Diagrams

Road Type	Distance Between Signs**		
	A	B	C
Urban (low speed)*	30 (100)	30 (100)	30 (100)
Urban (high speed)*	100 (350)	100 (350)	100 (350)
Rural	150 (500)	150 (500)	150 (500)
Expressway / Freeway	300 (1,000)	450 (1,500)	800 (2,640)

* Speed category to be determined by highway agency

** Distances are shown in meters (feet). The column headings A, B, and C are the dimensions shown in Figures 6H-1 through 6H-46. The A dimension is the distance from the transition or point of restriction to the first sign. The B dimension is the distance between the first and second signs. The C dimension is the distance between the second and third signs. (The third sign is the first one in a three-sign series encountered by a driver approaching a TTC zone.)

Table 6H-4. Formulas for Determining Taper Lengths

Speed Limit (S)	Taper Length (L) Meters
60 km/h or less	$L = \frac{WS^2}{155}$
70 km/h or more	$L = \frac{WS}{1.6}$

Speed Limit (S)	Taper Length (L) Feet
40 mph or less	$L = \frac{WS^2}{60}$
45 mph or more	L = WS

Where: L = taper length in meters (feet)

W = width of offset in meters (feet)

S = posted speed limit, or off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in km/h (mph)

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