

Gleason Beach Roadway Realignment Project Son 1 PM 15.1/15.7

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Caltrans, District 4

Highway 1 at Gleason Beach



Gleason
Beach

Highway 1

Scotty Creek

Historic Farm

Facing North

Beach at
Scotty Creek



Gleason Beach Project History



Gleason Beach Project History

An aerial photograph of Gleason Beach, California, showing significant coastal erosion. The image captures a cliffside where several houses and structures are situated. The cliff face is exposed, revealing layers of soil and rock. Some buildings appear damaged or partially collapsed, with debris scattered at the base. Blue and white tarps are visible on the cliffside, likely used for protection or construction. The ocean is in the foreground, with waves crashing against the shore. The background shows a grassy hillside with utility poles and a fence line.

California Coastal Records Project: Nov 2002

Gleason Beach Project History

An aerial photograph of a coastal cliffside. At the top, a road runs horizontally across the frame. Several houses are built along the top of the cliff, including a large, curved building with a grey roof. The cliff face is steep and rocky, with some green vegetation growing on it. At the base of the cliff, waves are crashing against a rocky shore. A concrete structure, possibly a pier or breakwater, is visible on the left side of the cliff base. The sky is clear and blue.

California Coastal Records Project: Oct 2005

Gleason Beach Project History

An aerial photograph showing a coastal project site. In the foreground, the ocean is a deep teal color with white foam from breaking waves. A rocky coastline runs along the water's edge. Above the rocks, a steep, light-brown cliffside is dotted with patches of green and brown vegetation. Several houses are built on the cliffside. One house is on the left, another in the center, and a larger, more complex structure on the right. A paved road runs horizontally across the middle ground, just above the cliff edge. Above the road, a large, flat, brownish hillside extends to the top of the frame. The sky is not visible.

California Coastal Records Project: Oct 2009

Gleason Beach Project History



LA Times Article: Nov 2020

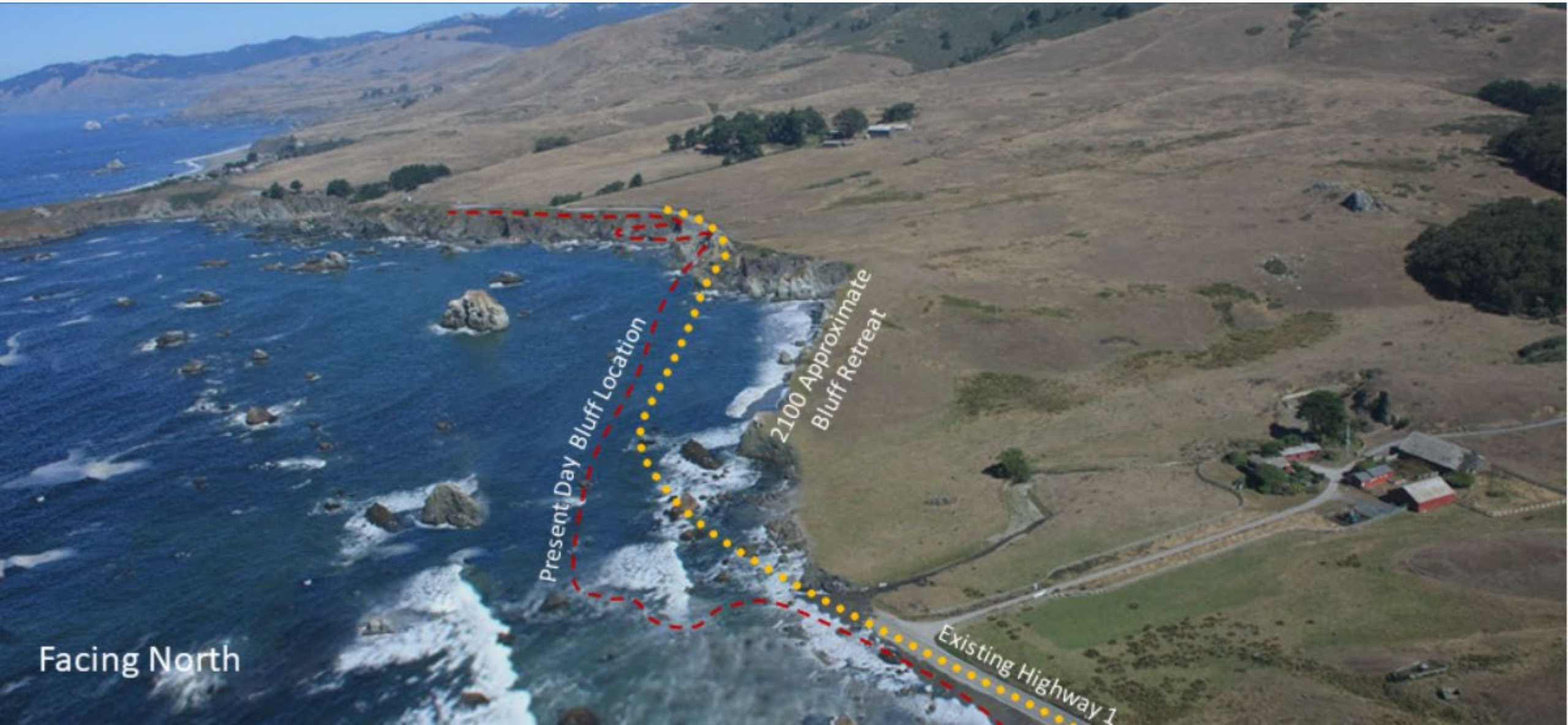
Sea Level Rise, Coastal Erosion



Sea Level Rise, HWY-1 Flooding



Projected Bluff Retreat out to 2100



Facing North

Gleason Beach Environmental Process

- Emergency work began in 2004
- 2008: Roadway realignment project development started
- 2016-2017: other emergency work
- 2016: FED approved, project approval
- 2016 – 2020: Permitting
- 2021 -- 2023: Construction

Gleason Beach Environmental Process

- Topography
- Land use
- Visual impacts
- Biological and cultural resources
- Public access
- Geology
- Sea level rise
- Coastal erosion..
- ...and more



Listed Species



Central CA Coast Coho Salmon



Myrtle's silverspot butterfly

Listed Species



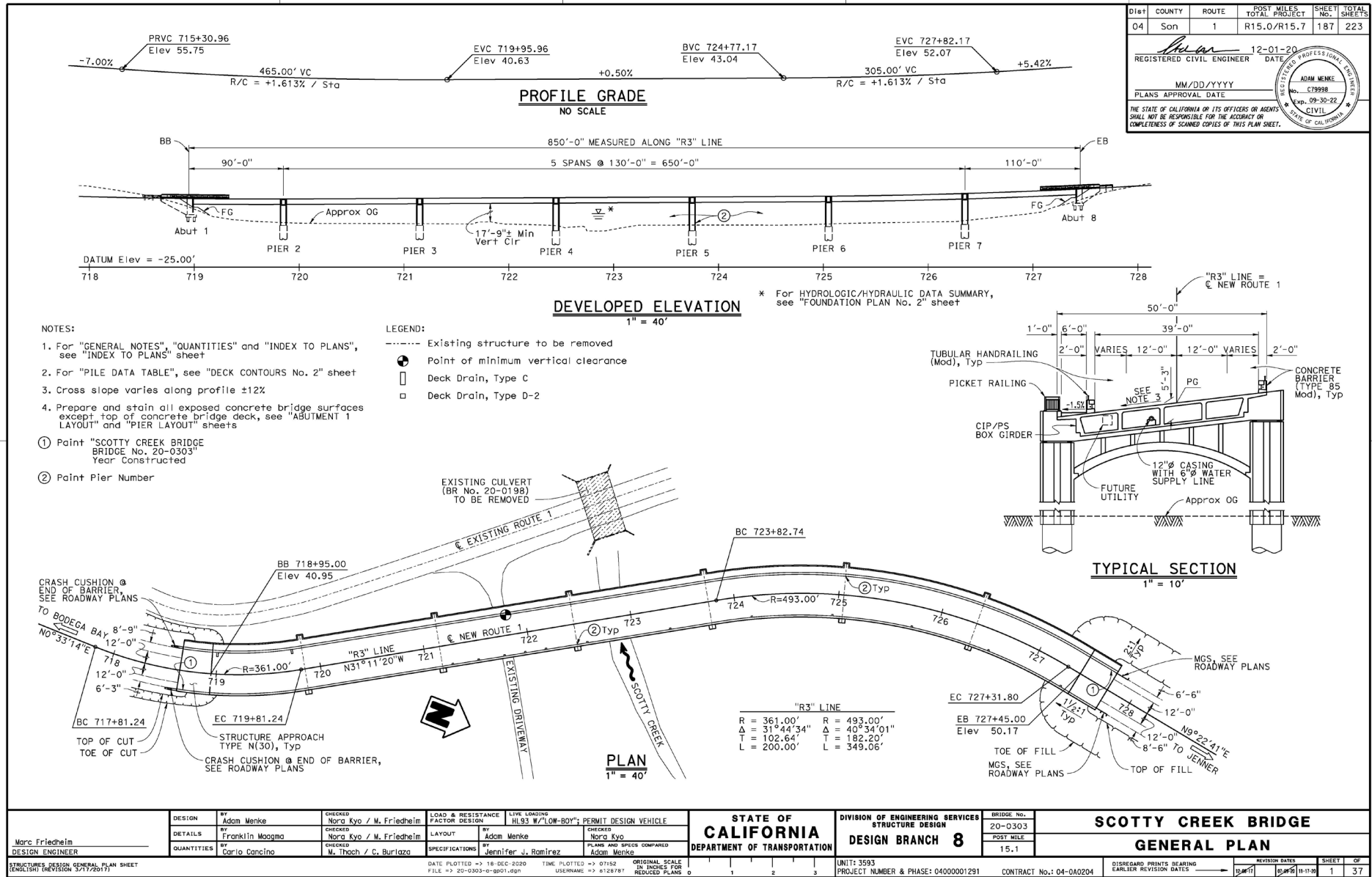
CA red legged frog egg mass and adults



Permitting Overview

- **USACE 404 Nationwide: Wetlands and Other Waters (3 amendments in construction)**
- **RWQCB 401 Certification: Waters of the State (3 amendments in construction)**
- **USFWS BO: CA red-legged frog (breeding and upland); Mrytle's silverspot butterfly (foraging and larval) (3 amendments in construction)**
- **NMFS PBO: Coho salmon and steelhead**
- **CDFW LSAA: Scotty Creek bed, bank and channel (2 amendments in construction)**
- **CDFW ITP: Coho salmon**
- **CCC CDP: Coastal terrace prairie, Northern coastal bluff scrub, coastal wetlands**
- **Two consulting Tribes (Federated Indians of Graton Rancheria and Kashia Band of Pomo Indians)**

Final Bridge Design



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Son	1	R15.0/R15.7	187	223
			12-01-20		
REGISTERED CIVIL ENGINEER			DATE		
MM/DD/YYYY			PLANS APPROVAL DATE		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

Marc Friedheim DESIGN ENGINEER <small>STRUCTURES DIVISION GENERAL PLAN SHEET (ENGLISH) (REVISION 3/17/2017)</small>	DESIGN	BY Adam Menke	CHECKED Nora Kyo / M. Friedheim	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING HL93 W/"LOW-BY"; PERMIT DESIGN VEHICLE	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 8	BRIDGE No. 20-0303	SCOTTY CREEK BRIDGE	
	DETAILS	BY Franklin Maagma	CHECKED Nora Kyo / M. Friedheim	LAYOUT	BY Adam Menke		CHECKED Nora Kyo	POST MILE 15.1	GENERAL PLAN
QUANTITIES	BY Carlo Cancino	CHECKED M. Thach / C. Burlaza	SPECIFICATIONS	BY Demifor J. Ramirez	PLANS AND SPICES COMPARED	AS SHOWN	REVISION DATES	SHEET 1	OF 37
DATE PLOTTED -> 18 DEC 2020 TIME PLOTTED -> 01:52 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3 FILE -> 20-0303-a-gp01.dgn USERNAME -> 6126787						UNIT: 3593 PROJECT NUMBER & PHASE: 04000001291 CONTRACT No.: 04-0A0204	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 12/01/20 11/17/20	SHEET 1 OF 37

Creek Channel Design

Included as a Construction Contract Change Order

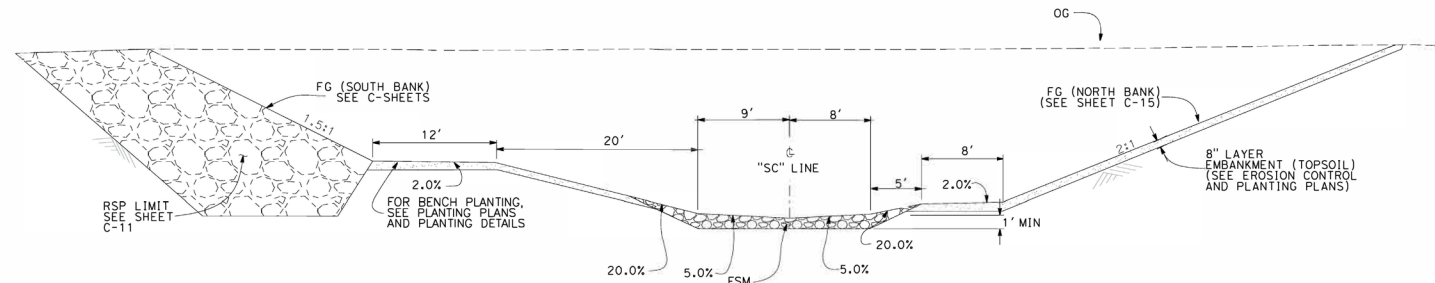
NOTES:

- SEE SHEET DD-3 FOR NOTES AND ABBREVIATIONS
- TYPICAL SECTION DOES NOT SHOW ROOTWAD REVEITEMT (SEE DETAILS FOR ROOTWAD REVEITEMT ON DD-3, DD-5, AND DD-6)
- PLACE ENGINEERED STREAMBED MATERIAL IN LIFTS OF 0.5 FT PER LIFT (TYP)

DRAINAGE QUANTITIES

SHEET No.	CHANNEL EXCAVATION	ENGINEERED STREAMBED MATERIAL	LOG SPUR WITH ROOTWAD
	CY	CY	EA
DD-3	400	260	2
TOTAL	400	260	2

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET TOTAL
04	Son	1	R15.0/R15.7	No. SHEETS
REGISTERED CIVIL ENGINEER			DATE	10/28/22
JENNIFER ABRAMS			No.	C77782
PLANS APPROVAL DATE			Exp. 6/30/23	
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.				
WRECO 1243 ALPINE ROAD SUITE 108 WALNUT CREEK, CA 94596			CALTRANS DISTRICT 4 111 GRAND AVE, OAKLAND, CA 94612	



TYPICAL SECTION
LINE "SC" STATION 1+02.06 TO 2+30.76

MARK	DATE	DESCRIPTIONS	REV	CHK	CCO No.
△	10-28-22	SCOTTY CREEK IMPROVEMENTS	HK	JA	1
REVISIONS					

CONTRACT CHANGE ORDER No. 35
SHEET 3 OF 5

1

DRAINAGE DETAILS
NO SCALE
DD-4

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

REVISOR: HANNAH KARLSSON, JENNIFER ABRAMS
DESIGNER: HAN-BIN LIANG
CHECKER: HAN-BIN LIANG

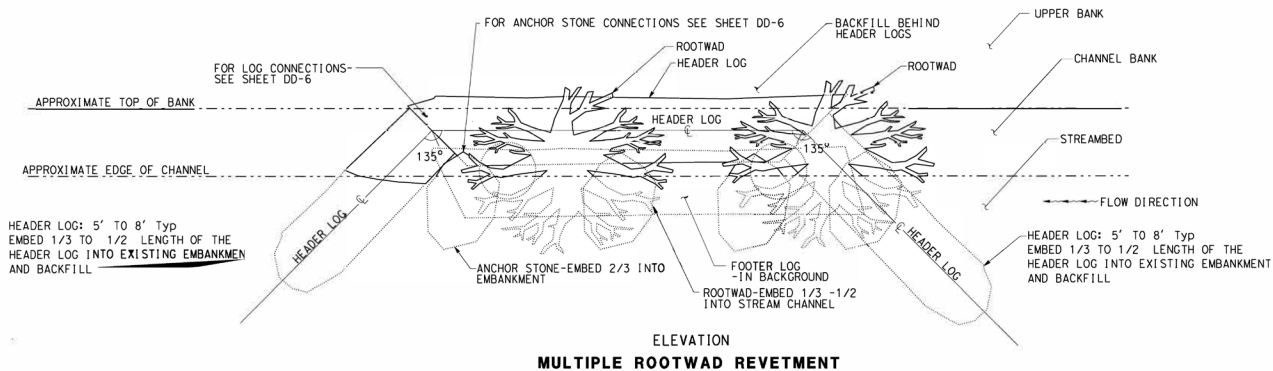
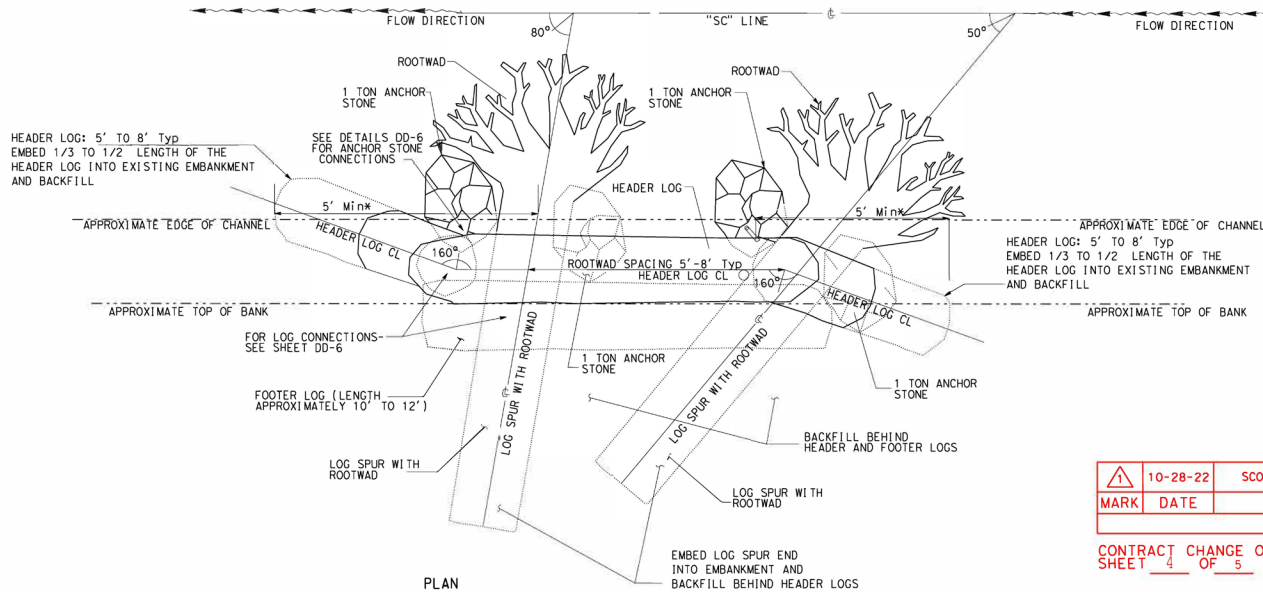
Creek Channel Design

Included as a Construction Contract Change Order

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

NOTES:

- EXCAVATE AND STOCKPILE SELECTED MATERIAL (NATIVE MATERIAL) FROM LIMITS OF EXCAVATION FOR PLACEMENT OF ROOTWAD REVETMENT.
- USE MIX OF NATIVE CREEK BANK PLANTING MIX OR IMPORTED TOPSOIL AND CLASS II RSP FOR BACKFILL BEHIND ROOTWAD REVETMENT.
- COVER TOP OF BACKFILL WITH 8 INCHES OF NATIVE CREEK BANK PLANTING MIX OR IMPORTED TOPSOIL.
- FILL HOLE IN ANCHOR STONES APPROXIMATELY 2/3 FULL WITH EPOXY AND INSERT CABLE INTO HOLE UNTIL IT REACHES BOTTOM.
- CUT NOTCHES AT THE LOCATION WHERE THE HEADER AND FOOTER LOGS AND LOG SPURS WITH ROOTWAD OVERLAP TO ENSURE A STABLE JOINT.



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10-28-22	SCOTTY CREEK IMPROVEMENT	HK	JA	1
MARK	DATE	DESCRIPTIONS	REV	CHK
REVISIONS				

CONTRACT CHANGE ORDER No. 35
 SHEET 4 OF 5

1
DRAINAGE DETAILS
 NO SCALE
DD-5

DATE PLOTTED => 10/28/2022 11:40:30 AM

Pre-Construction Culvert Conditions



Pre-Construction Culvert Conditions



Pre-Construction Creek Conditions



Pre-Construction Creek Conditions



Construction



Construction



Construction



Temporary Creek Diversion System



Culvert Removal



Fish Passage Construction



Fish Passage Construction



Final Scotty Creek Conditions



December 2023

Final Restored Creek Conditions 2023



Post-Construction – August 2024



Post-Construction – August 2024



Post-Construction – July 2025



Winter King Tide Conditions

