Dewatering Plan and Turbidity Control Measures

The Rancho del Sol Streambank Stabilization Project has been developed to balance natural stream processes through a reach of the Scott River by improving channel morphology, sediment transport, riparian condition and instream complexity. The proposed activities will involve the installation of large woody debris features into both the river left (western) and river right (eastern) banks as well as regrading portions the lower terrace, floodplain and point bar. In order to avoid and minimize the impacts of project construction on aquatic species, the Siskiyou Resource Conservation District (SRCD) will oversee that dewatering and turbidity control measures are implemented as detailed here.

All construction activities will be completed within the seasonal low-flow period and are planned to occur between September 15th and October 15th, when the river is at base-flow conditions. According to discharge stations managed by the SRCD in previous years, flow on the Scott River at the project site is anticipated to be less that 5 cubic feet per second during this time. To protect water quality during project implementation, the SRCD proposes to phase the diversion of water in accordance with the direction of flow and the construction sequence. River diversion will involve the excavation of alternative channels through trench work and the construction of cofferdams with turbidity protection. All aspects of this procedure, including the movement of large equipment and the placement of spoils, have been formulated in order to reduce impacts to water quality. The basis of this dewatering and turbidity control plan has been proposed to the California Department of Fish and Wildlife (CDFW), and the SRCD will continue to coordinate with the Yreka Fisheries Office during the implementation of proposed measures. Additionally, CDFW Biologists will conduct fisheries surveys of the Scott River throughout the project area to inform the capture and relocation of fish and aquatic species prior to construction.

Phase 1: Dewatering of the River Left Bank

a. A road will be established through the western terrace and floodplain to the river. The road will be situated so as to minimize disturbance to riparian vegetation.
b. CDFW will complete a survey to determine the presence/absence of fish. Upon approval from CDFW Biologists, a site will be identified to cross equipment from the western terrace to the eastern gravel bar through the wetted river channel to allow for water quality protection measures to be installed.
c. Washed spawning-sized rock will be placed in the river channel to establish a hardened surface for the wetted crossing. The identified material will reduce turbidity during periods when heavy equipment is required to cross the wetted channel.
d. A trench will be dug through the eastern gravel bar which extends from a location across from the constructed toe treatment to the river meander's point of inflection (Trench 1). The trench will generally follow the curvature of the gravel bar. Trench 1 is anticipated to require the excavation of approximately 40.50 cubic yards and have a total length of approximately 500 ft. This trench will constitute the temporary diversion channel.
e. A pipe (approximately 15 to 18 inches in diameter) will be installed in the trench near the river's inflection point to provide a crossing for heavy equipment.
f. CDFW will remove fish from the river left construction area.
g. A cofferdam will be established above the project area at the upstream end of Trench 1. The cofferdam will be built from materials removed from Trench 1 and will be approximately 1.5 feet high, 2 feet wide, and as long as necessary to fully divert the river. A turbidity barrier is not required at this site as it is upstream from any potential sediment disturbance. The construction of the cofferdam will effectively transfer streamflow into the diversion channel and isolate the river left work area.
h. Flow will recede from the work area but isolated pools of water are expected to remain in the deeper areas. CDFW personnel will make a final pass through the work area to remove any remaining aquatic organisms. Upon approval by CDFW, water left within the isolated area will be pumped out of the stream channel in order to reduce the possibility of sediment being delivered downstream.
i. Once these tasks have been completed, the SRCD Project Coordinator will allow the Construction Subcontractor to proceed with construction and project implementation on river left.

Phase 2: Dewatering of the River Right Bank

a. The contractor will grade back the point bar as is consistent with the project designs, and haul spoils to the identified repository location.
b. A trench will be dug through the western gravel bar which extends from a location across from the ELJ Type B to a point opposite of Trench 1 at the river meander's point of inflection (Trench 2). Trench 2 will generally be oriented from north to south. Trench 2 is anticipated to require the excavation of approximately 15.50 cubic yards and have an approximate length of 160 ft. This trench will constitute the diversion channel.
c. Approximately 20 ft. to 40 ft. of pipe will be installed to allow for the crossing of equipment from the western bar to the construction sites on the eastern bank (river right).
d. CDFW will remove and relocate fish and aquatic species from the river right treatment area.
e. Trench 2 will connect to Trench 1 at a point slightly upstream from where Trench 1 releases water into the river channel. Heavy equipment making the connection will not be working in a wetted channel. Diverted water from Phase 1 will flow into Trench 2. Trench connection will allow for the diversion of water around both the river left and river right construction areas.
f. Flow will recede from the work area but isolated pools of water are expected to remain in the deeper areas. CDFW personnel will make a final pass through the work area to remove any remaining aquatic organisms.
g. The contractor will cross to eastern bank to construct a cofferdam and silt barrier (silt cloth or weed-free straw overlay) downstream of the project area. The cofferdam will be built from materials removed from Trench 2 and will be approximately 1.5 feet high, 2 feet wide and long enough to isolate the construction site. This will prevent sediment from entering the river during construction.
h. Once these tasks have been completed, the SRCD Project Coordinator will allow the Construction Subcontractor to proceed with construction and project implementation on river right.

Phase 3: Restoration of River Flow

a. Following construction, any turbid water inside the construction area will be allowed to settle before the cofferdams and sediment barriers are removed. The downstream river right cofferdam will be removed, smoothed over and the remaining natural materials used to construct the dam (rock, weed free straw) will be left instream to be distributed during high flows.
b. The bypass channel will be breached at the junction of Trench 1 and Trench 2, which will dewater Trench 2 and restore flow downstream of Trench 1.
c. The piping installed during Phase 2 will be removed and Trench 2 will be filled in and smoothed over.
d. Equipment will cross from the western bar to the eastern bar at the piped trench crossing near the river meander's point of inflection.
e. The cofferdam located upstream of the project site at the beginning of Trench 1 will be removed, smoothed over and the remaining natural materials used to construct the dam (rock, weed free straw) will be left instream to be distributed during high flows. This will dewater Trench 1 and restore flow to the river left construction area.
f. The piping installed during Phase 1 will be removed and Trench 1 will be filled in and smoothed over.
g. Heavy equipment will exit the river channel via the wetted channel crossing established in Phase 1.c.