Lower Sycamore Creek
Diversion and Dewatering Plan
Updated February 2011

The Lower Sycamore Creek Project (Project) will require diversion and dewatering of Sycamore creek before and during construction activities. This Diversion and Dewatering Plan is conceptual and shall be used by the regulatory agencies for permitting. The construction contractor shall implement a diversion and dewatering plan that meets the intent of this conceptual plan and it shall be used in the field during project construction.

Diversion System

The project area will be isolated by use of diversion dams both up and downstream of the area under construction. Diversion dams shall be placed such that two are upstream and one is downstream, thus ensuring an isolated project area. The creek will be diverted by use of a diversion culvert that maintains pre-construction streamflow downstream throughout the project. The diversion system shall be installed with minimal disturbance of the creek bed.

A biological monitor shall be present throughout the dewatering and diversion operations with the authority to halt work if injury or mortality of Tidewater Goby, Steelhead or Southwestern Pond Turtles is observed. The biological monitor shall inspect the dewatered area daily to ensure that the diversion remains intact and that no Tidewater Gobies, Steelhead, Southwestern Pond Turtles or other sensitive species have entered the area. The Contractor shall also inspect and maintain the diversion and dewatering system 7 days a week while in operation.

All material used shall be clean and made of inert materials that will not cause turbidity or release toxic materials into the water. It is anticipated that the diversion dams will be constructed with a combination of sandbags and plastic sheathing. Sandbags must be filled outside of the stream corridor.

The diversion culvert must be constructed in its entirety prior to constructing the diversion dam. Once culvert construction is complete, the primary upstream diversion dam will be constructed and streamflow will be directed to the diversion culvert. The secondary and downstream diversion dams will be constructed, thereby isolating the project area.

Dewatering

In addition to the diversion system described above, additional measures may be needed to ensure an isolated project area. A sump pump may be needed to catch streamflow escaping the primary diversion dam.

Sump pump(s) will generally be located at a low point between the primary and secondary diversion dams, so that water can be pumped directly into the diversion culvert. Small pits shall be excavated in the creek bed as needed to collect seepage into the dewatered area so that it can be pumped out. These pits and any other ponded water within the project area shall be inspected at least daily (at the beginning of construction activities) by the biological monitor for the presence of any native wildlife.

Any fish or aquatic species (including those not listed as special status) found shall be captured and relocated outside of the work area by a qualified biologist.

Sump pumps may also be used to pump sub-surface flow to settling basin at an upland bank location. The basin will be sized to allow sediment to settle out sufficiently to achieve normal levels. The water will then be spread out and allowed to filter out through a vegetated bank prior to re-entering the creek downstream of the isolated project area. Sump pumps may be relocated throughout construction to keep up with subsurface flow.

All pump intakes shall be screened with 1/8 inch mesh that is securely fastened. Screening with the same mesh shall also be placed at a distance where water velocity caused by the pump is below the level that could suck fish against the screen. All pumped water with visible turbidity (relative to the undisturbed water in the creek) shall be either settled or filtered prior to discharge into the creek downstream of the work area.

The biological monitor shall inspect all intake screens daily (when in use) to ensure that the screens are intact and functioning properly. Deficient screens shall be repaired or replaced immediately by the Contractor.

The pump outlet will be relocated as needed to limit bank saturation and provide for proper sediment filtration prior to entering Sycamore Creek.

Fish Removal and Relocation

Within one week prior to the start of construction activities, an initial survey for the Tidewater Goby, Steelhead, and Southwestern Pond Turtle shall be completed. If these species are found within the project area, the area to be dewatered shall be isolated using fish block nets (1/8 inch mesh) in flowing water or silt fence in stagnant water.

All fish within the project area will be captured by a NOAA Fisheries approved biologist by hand or by nets, specifically Tidewater Goby, Steelhead, Southwestern Pond Turtle or any other special status species. The fish will be relocated to appropriate downstream locations by use of 5 gallon buckets. Fish that are captured and relocated will be counted and classified into the appropriate age class.

In the event a Tidewater Goby or Steelhead is killed, NOAA Fisheries will be immediately contacted, and the Goby or Steelhead will be removed from the project site and stored in a freezer until further direction from NOAA.

Diversion Removal

Once construction activities are complete, the diversion system will be removed. The downstream dam will be removed first, then the diversion culvert (one section at a time) thereby allowing water to flow out of the culvert prior to removal from the channel. Lastly, the upstream dams will be removed, including all sandbags and plastic sheathing.