

## 14. Controlling in-Channel Excavation (PRACTICE: 2-14)

- a. **Objective:** To minimize waterway disturbance and sediment production when constructing, reconstructing or maintaining temporary and permanent structures.
- b. **Explanation:** Forest activities often occur in areas with waterways that put water quality at risk. Most activities are usually short-lived, such as temporary stream crossings during timber harvest and haul, and channel diversion during construction of permanent crossing structures (bridges, culverts, fords, boat ramps for launching), but have the potential for longer term negative impacts than intended. Design of permanent structures is not a BMP, as the structures themselves are intended to reduce or eliminate water quality impacts at the waterway.

Construction, reconstruction, and maintenance of structures in and near waterways, usually requiring heavy equipment, can significantly contribute to sedimentation, and has potential for introduction of contaminants.

- c. **Implementation:** Channel excavation associated with roads follows FP-03 Edition of Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects (FP-03), Section 208 – Structure Excavation and Backfill for Selected Major Structures, and Section 209 – Structure Excavation and Backfill. Specifications address preparation for excavation, preservation of channel, cofferdams, foundation seals, dewatering, foundation preparation, backfill and compaction. These specifications address minimum requirements for water quality protection, and are general as written. Projects may require supplemental specifications, depending on site characteristics.

**Comment [DB1]:** Clear. Channel excavations will follow cited reference specs.

Project drawings, and specifications if required, clearly display limits of allowed disturbance. Limits of disturbance weigh consideration of operational characteristics of construction equipment and economic feasibility with the scale of potential for impacts to water quality. Compromised worker safety due to restrictive disturbance limits is not an option.

Disturbance of channel or waterway bottom, if determined to be necessary and approved by COR or ER, is closely monitored. Material from foundation excavation is diverted to settling areas, and not directly discharged into waterways.

**Comment [DB2]:** Fish and other aquatic organism passage is a growing concern. Hydromodifications need to consider maximizing native channel and floodplain width when possible and preserving or replacing bed and bank with native materials.

Design includes treatment of exposed surfaces as a result of excavation. Soil characteristics, slope, and project activities dictate particular methods of treatment. Treatment methods may include revegetation, retaining structures, or mechanical stabilization materials.

Exposed finished cut and fill slopes, and excavated materials not incorporated into the project follow Practice 2-4: Stabilization of Road Slope Surfaces and Spoil Disposal Areas. Allowable disposal areas are identified on maps. Material is not allowed to be deposited into waterways, nor in areas where it could reach waterways.

Erosion Control Plan is developed jointly with engineers, hydrologists, and fish biologists for non-contract work. It is included in all work and activities, and implementation of the plan is ensured by COR, ER, Permit or Sale Administrator, crew supervisor, and project manager, depending on type of project. Hydrologists are encouraged to observe in-channel excavation activities, and work constructively on the ground Forest Service personnel (construction project supervisor, COR, ER, Permit or Sale Administrator) to confirm compliance.

For road construction and reconstruction contracts, Contractors prepare and submit Erosion Control Plan in compliance with FP-03 – Soil Erosion Control.

**Comment [DB3]:** Section 157

BMP Implementation is considered as a pay item in contracts, rather than incidental to construction and maintenance. For all projects, contract and otherwise, BMP implementation is evaluated with multi-disciplinary team, and with Line Officer, to understand practices that were successful as well as to learn from those that were less than successful and to make improvements for future implementation.

**Comment [DB4]:** This process should be formalized in monitoring with set standards and time intervals.

R5 Draft  
Revision