

STANDARD SEDIMENT AND EROSION CONTROL PLAN (SECP) FOR LOW RISK STREAM CROSSING CULVERT DEACTIVATION

TABLE 1 – SECP BMPs for low risk crossings

DEACTIVATION						
TECHNIQUE	LEGEND	REF.	OBJECTIVES	BMP	LOCATION	TIMING OF INSTALLATION
LIMIT SITE DISTURBANCE		1	Protect soil from unnecessary disturbance which creates potential for erosion processes. Ensure that site disturbance is minimized to aid in natural filtration.	No grubbing outside of the deactivation location. Limited vegetation removal/excavation will decrease the amount of disturbed soils on the site. This minimizes potential for erosion/sedimentation into drainage during precipitation events. Retain as much riparian vegetation as possible.	All areas associated with the removal of the culvert (within existing road and adjacent riparian areas) where vegetation has established.	During all activities associated with the deactivation project.
DRAINAGE MANAGEMENT		2	Direct water off road surface prior to entering disturbed deactivation zone.	Install water bars/cross ditches to carry water into ditch lines and prevent accumulation of flow down deactivated road.	Install on both sides of the deactivated crossing where the road grade slopes towards the watercourse.	Prior to leaving the deactivation site.
		3	Direct increased flows out of ditches prior to entering deactivation location/watercourse.	Install wing ditches designed to remove excessive flows from within the current ditch lines prior to entering the watercourse. To be installed at the contractor's discretion based on site specific variables such as gradient within ditches, depth and velocity of flow present and type of materials present.	Install within prevalent (high flow) ditch line (if present at site location).	During road crossing deactivation procedures.
		4	Minimize erosive potential of re-established watercourse channel. Existing rock riprap left in place to minimize disturbances and provide armouring.	Armor the re-established channel with clean gravels and cobbles to prevent continuous sedimentation of downstream waters once flow is fully re-established to the restored watercourse channel.	Within the excavated section of road fills where the culvert was located and the channel was re-established.	Upon removal of CMP and re-establishment of watercourse channel.
		5	Prevent surface water from flowing down road grades and entering the stream channel.	Remove existing culverts immediately adjacent to the crossing and replace with cross drains. Construct berms and ditch blocks near the new cross drains to prevent surface flow from entering the stream channel at the deactivation site.	On both sides of the crossing near old culvert locations.	Prior to project completion.
		6	Provide seeding catchment areas to aid in germination/infiltration.	Surface roughening on all cutslopes and fill slopes. Do not backblade when finishing slopes. Seed and mulch all exposed soils.	All exposed slopes.	Prior to leaving the site.
EROSION CONTROL		7	Move waste to a stable location where it cannot erode and enter the watercourse.	Endhaul debris/waste immediately adjacent to the site. Seed and mulch all waste sites.	All exposed soils within the limits of the contract.	Prior to leaving the site.
		8	Provide protection against rain events, spring melt, etc... which may cause erosion and rill formation.	Seed and mulch all exposed soils to re-establish vegetation.	All exposed/disturbed areas associated with the deactivation.	Immediately after slopes are finished/roughened to grade.
		9	Prevent streambank materials from slumping into watercourse channel.	Pull back materials at 2:1 grade along streambank face. New streambank should be armoured with available materials (i.e. rocks, logs, slash) upon grade completion.	Both sides of watercourse channel.	After removal of CMP and prior to leaving site.
SEDIMENT CONTROL		10	Prevent detrimental impacts associated with increased sediment loads on downstream waters.	Install instream silt curtains. Instream silt curtains only function in low volume, slow moving waters. They may be constructed using non-woven geotextile draped over logs and weighted with boulders to the channel bottom. Silt curtains are used in series (typically 2-3) to filter suspended sediments.	Immediately downstream of the deactivation location where suspended sediment loads are greatest.	Prior to removal of the road fills and culvert.
		11	Provide areas for sediment deposition prior to flowing into the watercourse.	Construct settling basins as required. (note: these structures require periodic maintenance).	Install 5-10m back from the watercourse edge in any ditch that directly flows into the watercourse.	As soon as ditch lines are deactivated.

1.0 Objectives

The primary objective of this SECP is to provide a generic plan for low risk watercourse culvert deactivation projects. Sediment delivery into the aquatic environment and associated downstream reaches will be minimized during deactivation by: (1) minimizing site disturbance, (2) drainage management, (3) erosion control and (4) sediment control (in descending priority). Low risk culvert deactivations are typically crossings of non-fish bearing streams and substantial Non-Classifiable Drainages (NCDs) which are not directly connected to fish-bearing waters.

2.0 Critical Areas

Critical areas relating to the project include; all ditch lines which drain towards the watercourse, areas of excavation, existing riparian vegetation, the existing road, associated fills surrounding the culvert and the reach immediately downstream of the crossing location.

3.0 Timing

All deactivation activities will proceed in appropriate weather conditions. Although no specified timing window exists for culvert deactivations on non-fish bearing watercourses, it is recommended that works be carried out during low flows. Once commenced, all works will proceed to completion as soon as practicable.

4.0 Accountability

It is the responsibility of the contractor to ensure that this SECP, in conjunction with the BC Timber Sales Prince George Business Area Environmental Management System, are followed in their entirety.

Should an emergency occur (i.e. significant sediment release into the aquatic environment due to deactivation/forestry related activities), the event must be dealt with in accordance with the BC Timber Sales Environmental Management System, including site specific Emergency Response Plans and the Emergency Response Manual. Contact numbers and instruction for documentation of the incident are available in these plans.

5.0 Best Management Practices (BMPs)

While it is impossible to prevent sediment from leaving disturbed deactivation sites due to rainfall and snow melt, significant reductions can be realized. This plan does not address all possible mitigation measures that are available to implement; however, information has been incorporated to increase the effectiveness of the most common BMPs found in forestry watercourse crossing applications. Refer to Table 1 for recommended BMPs. For additional information and specifications, refer to the *BC Timber Sales Environmental Field Procedures, the Stream Crossing Guidebook* and the *Forest Road Engineering Guidebook*. All BMPs will be installed as per specifications in the *BC Timber Sales Sediment and Erosion Control Field Guide*.

6.0 Contingency Plans

Contingency plans are additional mitigation measures that will be employed if unforeseen environmental concerns are encountered during deactivation. These plans include having extra sediment/erosion control materials on-site and halting operations if heavy or persistent rainfall is encountered.

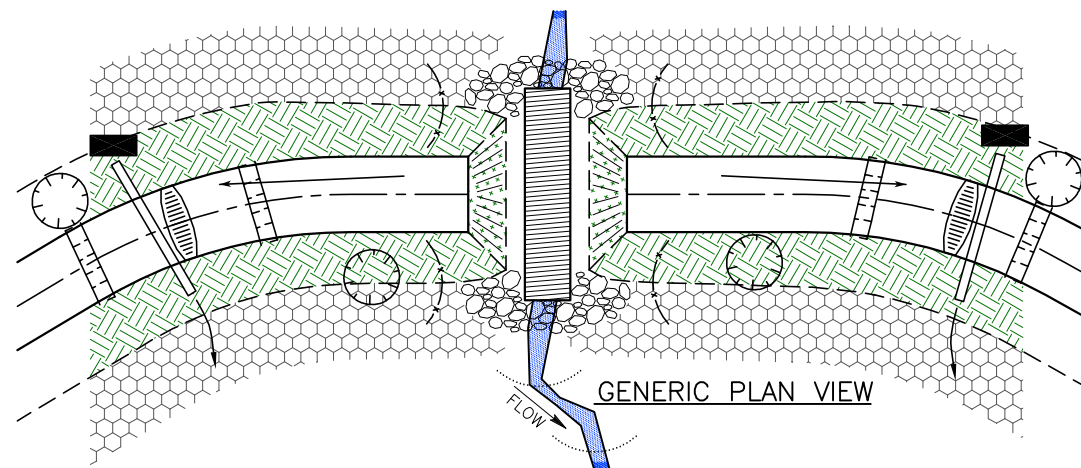
An emergency supply of sediment control materials must be available on-site which may include; silt fencing, geotextile, tarps, sandbags, seed, straw bales and volume pumps with discharge hose.

If works are temporarily suspended due to heavy precipitation, the site must be monitored during the shutdown period to ensure environmental concerns are adequately addressed.

Should unanticipated site conditions or unseasonably wet weather be encountered during deactivation, the BC Timber Sales representative must be immediately contacted to reassess the project. If increased environmental risk is perceived, site specific plans/measures may be required.

7.0 Inspection and Maintenance

During deactivation, regular inspections of the BMPs must be made, especially after heavy precipitation events. If any measure is not functioning as intended, it must be immediately repaired/replaced. All inspections and actions shall be documented.



PROJECT TITLE	BCTS-SECP-C		DESIGNED BY:	BAA, RPBio
PROJECT LOCATION(S)			REV.:	RT, BCTS E.O.
DATE	DRAWING NAME:	08/06/06	CHECKED BY:	WG
NAME	SIGNATURE	DATE ISSUED:	DRAWN BY:	
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CONTRACTOR				