

STANDARD SEDIMENT AND EROSION CONTROL PLAN (SECP) FOR LOW RISK STREAM CROSSING BRIDGE CONSTRUCTION

TABLE 1 – SECP BMPs for low risk crossings

CONSTRUCTION						
TECHNIQUE	LEGEND	REF.	OBJECTIVES	BMP	LOCATION	TIMING OF INSTALLATION
LIMIT SITE DISTURBANCE		1	Ensure that site disturbance is minimized to aid in natural filtration and maintaining stream shading.	Retain riparian vegetation immediately adjacent to the site.	Within the existing road right-of-way.	Throughout construction.
		2	Protect soil from unnecessary disturbance which creates potential for erosion processes.	No grubbing outside of the road prism. When clearing vegetation within the road right-of-way, cut off (prune back) vegetation leaving root mass intact in soil. Vegetation promotes rainfall interception and infiltration. Store equipment and building materials away from existing vegetation where possible.	Within the limits of the contract.	During crossing construction.
DRAINAGE MANAGEMENT		3	Divert ditch flow to a location where it can be discharged away from the stream.	If possible, install cross drain culverts or trenches to divert ditch water to the side of the approach with the most intact vegetation buffer between the stream and the ditch termination. Protect erodible fill slopes from cross drain discharges with flumes or other erosion-resistant materials.	Where terrain allows, and as close to the stream as possible, while still diverting flows away from the stream.	As soon as ditches are constructed.
		4	Divert ditch water out of ditches, away from the stream and across vegetated forest floor to allow natural filtration.	Construct wing ditches. Disconnect all ditches from stream.	Both approaches to the crossing as terrain allows.	As soon as ditches are constructed.
		5	Divert ditch flow to a location where it can be discharged away from the stream.	Construct non-erodible ditch blocks at cross drains and wing ditches as required.	At all cross drain and wing ditch inlets.	As soon as ditches are constructed.
		6	Prevent rill/gully formation and prevent direct flow into the stream.	Crown road approaches so that surface flow drains off to the side of the road and not directly into the stream.	Both sides of stream crossing.	To be carried out prior to seeding and mulching.
EROSION CONTROL		7	Reduce the risk of streambed and streambank erosion.	When launching the bridge and/or stringers, ensure that no contact with the streambed or streambanks is made.	Streambed and streambanks immediately adjacent to the crossing.	During launching procedures.
		8	Increase the slope length to decrease the erosion potential.	Construct stable cut and fill slopes, at designed angles. Consider terracing steep cut slopes. Slopes should be constructed based on soils, aspect, moisture content and climatic conditions.	Any cut or fill slope immediately adjacent to the stream crossing which has the potential to deliver sediment-laden runoff to the stream.	Throughout road approach construction.
		9	Temporarily reduce rain splash erosion while the site is exposed during construction.	Temporarily cover exposed soils if heavy rainfall is encountered. Tarps, geotextile, hay or logging slash may be utilized.	Any exposed soils that may erode and be carried towards the stream.	If heavy rainfall is encountered during construction or anticipated overnight.
		10	Provide seeding catchment areas to aid in germination/infiltration.	Surface roughening on all cutslopes and fill slopes. Do not backblade when finishing slopes. Seed all exposed soils and cover with hay and/or slash mulch.	All exposed soils in ditches and slopes within the limits of the contract.	Immediately after slopes are finished to grade.
		11	Move waste to a stable location where it cannot erode and enter the stream.	Endhaul debris/waste immediately adjacent to the site. Seed and mulch all waste sites.	All spoil materials within the riparian management zone.	Prior to completion of the project.
SEDIMENT CONTROL		12	Provide natural filtration to prevent fines from being washed into the stream.	Reserve minimum 1m vegetation buffer between abutments/scour protection and stream edge.	Between abutments/scour protection and stream edge.	During abutments/scour protection installation.
		13	Provide areas for sediment deposition prior to flowing into the stream.	Construct settling basins if required. (note: these structures require periodic maintenance).	Install 5-10m back from the stream edge in any ditch that directly flows into the stream.	As soon as ditch lines are constructed.
		14	Slow the flow of runoff water and aid in sediment deposition prior to entering the stream.	Install silt fences if required. (note: these structures require periodic maintenance).	At the discretion of the contractor on all disturbed soils within close proximity to the stream.	Throughout project as soils are exposed and at project completion.

1.0 Objectives

The primary objective of this SECP is to provide a generic plan for **low risk** stream crossing construction projects. Sediment delivery into the stream will be minimized during stream crossing construction and during operation by: (1) limiting site disturbance, (2) drainage management, (3) erosion control and (4) sediment control (in descending priority). Low risk stream crossing projects typically include **free spanning structures which are set back from the stream edge and are located on small S3 and S4 sized streams with stable beds and banks.**

2.0 Critical Areas

Critical areas relating to the project include; all ditch lines which drain towards the stream, existing riparian vegetation and the reach immediately adjacent to the stream crossing.

3.0 Timing

All construction will proceed in appropriate weather conditions. Once commenced, all works will be completed as soon as practicable. In addition, construction will be consistent with the appropriate timing windows stated within the *Reduced Risk Timing Windows and Measures for the Conservation of Fish and Fish Habitat for the Omineca Region*. Where salmon species may be present consult DFO for appropriate timing windows associated with specific salmon species.

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 construction of 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 forest lands 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 stream crossing applications. Refer to Table 1 for recommended BMPs. For additional information, 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 Work Access Across Stream

Work access across the stream may be required during the installation of a stream crossing structure. During any such crossing, the streambed and streambanks must be adequately protected to prevent adverse environmental impacts. No unprotected stream crossings are permitted without first receiving approval. A temporary work bridge is highly recommended to aid in the crossing (i.e. deck module, puncheon, rocks, logs, rubber mat, etc.). The temporary crossing site must be fully restored upon project completion (i.e. re-contoured, planted and mulched). Other than the approved stream crossings, machinery will work from the stream bank and stay out of the wetted perimeter at all times.

7.0 Contingency Plans

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

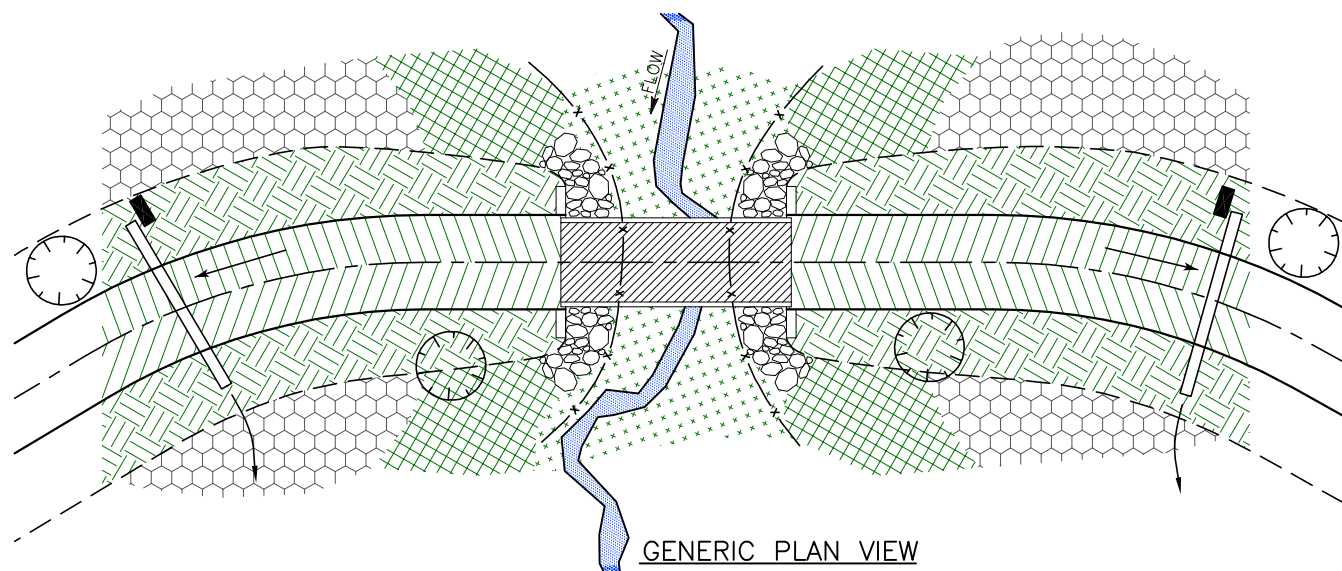
An emergency supply of sediment control materials will be available on-site which may include; silt fencing, geotextile, tarps, sandbags, seed, straw bales and volume pumps with discharge hose.

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

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

8.0 Inspection and Maintenance

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



PROJECT TITLE	BCTS-SECP-B		DESIGNED BY:	BAA, RPBio
PROJECT LOCATION(S)			CHECKED BY:	RT, BCTS E.O.
DATE	DRAWING NAME:	REV.:	02/05/06	
NAME	SIGNATURE	DATE ISSUED:	WG	
BCTS REPRESENTATIVE	DWB Forestry Services Ltd. 1A, 1750 Quinn Street Prince George, B.C. V2N 1X3 Phone: (250) 562-5541 Fax: (250) 562-5561			
CONTRACTOR				