

Self-Screening Registration Criteria

T08: Technical Environmental Monitoring

Mandatory Knowledge Requirements

The Ministry of Forests and Range may contract with technical services consultants to provide technical environmental monitoring services for Forest Service road, bridge and major culvert projects (including construction, maintenance, and deactivation). The primary objective of this service is to provide guidance to site works contractors or equipment operators for establishment of effective erosion and sediment control measures during implementation of these projects. Consultants providing this service must:

1. have appropriate education, training and experience in erosion and sediment control measures, including a thorough understanding of the erosion process and the role soil type plays in the erosion process, the purpose of specific erosion and sediment control practices, and the proper installation and benefits of these practices that are congruent with the environmental monitoring services required by the ministry;
2. have considerable recognized specialization in the development and implementation of erosion and sediment control management plans (also known as “sediment drainage management plans”) for forest road, bridge and major culvert projects, in the proper handling of lubricants and fuels, and in emergency spill response;
3. be thoroughly familiar with stream crossing requirements and procedures of the Department of Fisheries and Oceans Canada (DFO) and the British Columbia Ministry of Environment (MOE), and knowledgeable about Federal legislation such as the *Fisheries Act* and about Provincial legislation such as the *Forest Practices Code of British Columbia Act* and *Forest and Range Practices Act*, and associated regulations under those acts, including the Forest Road Regulation, and the Forest Planning and Practices Regulation, among other legislation associated with the specific project, including the specific details of any granted variances, conditions, and approvals;
4. be thoroughly familiar with: equipment operations and techniques for forest road, bridge and major culvert construction, maintenance, and deactivation; construction techniques and procedures for work in and around stream crossings, lakes and wetlands; erosion and sediment control practices, techniques and products; soil erosion and stream channel disturbance avoidance, mitigation and remediation; the use of coffer dams such as aqua-dams, sand bags, concrete blocks, or other appropriate designs to separate the in-channel work site from flowing water; and revegetation techniques;
5. have a comprehensive working knowledge and understanding of the principles and best management practices provided in the following government publications, among others as required:
 - Forest Practices Code of BC Forest Road Engineering Guidebook (June 2002)
 - Forest Practices Code of BC Fish-stream Crossing Guidebook (March 2002)
 - Forest Practices Code of BC Riparian Management Area Guidebook
 - Forest Practices Code of BC Fish-stream Identification Guidebook
 - Forest Practices Code of BC Soil Rehabilitation Guidebook
 - Best Management Practices Handbook: Hillslope Restoration in British Columbia (November 2001)

6. in the case of projects that come under the control and administration of BC Timber Sales (BCTS) you must:
 - be familiar with the BCTS document called *Environmental Management System (EMS)* available at http://www.for.gov.bc.ca/bcts/areas/tch_certification.htm, including BCTS's *environmental field procedures (EFPs)* and *Checklists* for road, bridge and major culvert construction, maintenance, and deactivation activities, and the *Emergency Response Manual*;
 - obtain BCTS Environmental Management System (EMS) Level 3 training prior to commencing work on any BCTS Worksite.

Mandatory Experience Requirements

Consultants providing services for environmental monitoring require a minimum of 5 years of demonstrated relevant environmental field monitoring experience directly related to road, bridge and major culvert construction, maintenance and deactivation projects in forestry or related resource industries in British Columbia. This experience on past projects must have included evaluation of the adequacy of erosion and sediment control practices and the proper use of equipment and fuel handling in sensitive areas or near watercourses, and the development of recommendations for corrective / preventative actions and an appropriate action plan.

The duties of the Environmental Monitor will likely vary from project to project depending on the type and complexity of the work, the forest resources at risk of damage or loss, and the site specific conditions of project approval specified by regulatory agencies. Subject to conditions, the Environmental Monitor should expect to be given the authority to modify or stop operations in the case of non-compliance with approved plans, designs, or prescriptions or where unforeseen circumstances cause or may cause environmental damage.

Consultants must have specific work experience in all the following types of environmental monitoring activities:

1. Reviewed and evaluated engineering drawings and proposed construction work plans, specifications, and works schedule for a road, or bridge or major culvert project (construction, maintenance, deactivation) from an erosion and sediment control perspective, and provided recommendations for an erosion and sediment control management plan to minimize the likelihood of sediment entering into watercourses.
2. Installed or coordinated and supervised the correct installation of site specific measures for the control of runoff and drainage during implementation of works, including measures for control of instream work, construction and diversion on watercourses, and prevention of deleterious materials entering into watercourses.
3. Installed or coordinated and supervised the correct installation of appropriate erosion and sediment control practices, including a wide variety of revegetation techniques.
4. Evaluated the adequacy of on-site emergency spill kits and the suitability of on-site equipment maintenance procedures in sensitive areas or near watercourses.
5. Provided practical and appropriate mitigation options and recommendations to protect or minimize harmful effects to fish and fish habitat or other forest resources if changes to the work occurred due to unforeseen circumstances.
6. Observed, recorded, and photographed site conditions and work procedures, and provided reports with recommendations and cost estimates for proposed mitigation works.