Kootenay Business Area
Worker Field Handbook

October 2022

"HOW TO USE THE WORKER HANDBOOK"

- Before starting work, workers to get familiar contents of handbook and specifically worker expectations and responsibilities e.g. *Emergency Response, Environmental Field Procedures, working around water features, reporting req. etc.*
- Keep it handy and recommended in equipment along with maps and project plan information.
- Helpful to reference for emergency situations
- Helpful reference tool for;
  - ✓ Emergency situations,
  - ✓ *Worker tailgate training sessions,*
  - ✓ *Project pre-work & inspection/monitoring activities*
  - ✓ *Fuel handling conformance*
  - ✓ *Promoting forest stewardship & best practices*
  - ✓ *Supports BCTS clients meeting their EMS/SFM obligations*
- Contents of Worker Field Handbook is also posted on BC Timber Sales website https://www2.gov.bc.ca/gov/content/industry/forestry/bc-timber-sales/forest-certification/

For more information contact the local BCTS staff or contact Paul Rendall, Certification Standards Officer at 1-236-352-8114 or by email at Paul.Rendall@gov.bc.ca

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Worker Field Handbook
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October 2022

ENVIRONMENTAL EMERGENCY RESPONSE PLAN

For BCTS Client Use

Part A *Core Information*

Worksite Details

Project (TSL or Contract)#			
Physical location of activity:			
Latitude:		Longitude:	
Latitude:		Longitude:	
Latitude:		Longitude:	
Duration of Activities:	Date: Year Month Day		

Company Contact Information

24 hr Contact Name and Phone (s) #:
Company Name/Email:
Other Key Emergency Contact(s) #:

Environmental Emergency Contact Information

Forest Fire Reporting : **1-800-663-5555** or * **5555** on the Cantel and Telus networks
Spill Reporting and other Environmental Emergencies to Land & Water: **1-800-663-3456** Emergency Management BC (EMBC).
Natural Gas Leaks: Contact EMBC and utility company (if known): FortisBC **1-800-663-9911** (Northeast, Fraser Valley, South), Pacific Northern Gas (Northwest and Northeast) **1-800-663-1173**, Enbridge (Northeast and Fraser Valley) **1-800-663-9931**
CANUTEC (Canadian Transport Emergency Centre): **1-613-996-6666** or ***666** on cell phone
BC Timber Sales Contact: Cameron Paterson 250-551-0364, George Edney 250-354-8411, Nelson Office 250-825-1100

Part B *Supplemental Information. <u>It is the licensee, permittee and contractor's responsibility to ensure that all the phone numbers are correct.</u>*

General Contact Information

Police: 911	WorkSafeBC: 1-888-621-7233 (24 hrs/day,7 days/week)
Ambulance: 911	Joint Rescue Coordination Centre: 1-800-567-5111 or cell #727
Fire Department: 911	Hospital:
Poison Control Centre: 1-800-567-8911	Water Taxi / Ferry: **Arrow Park 250-837-8634 or 778-206-0384, Needles 250-269-7222, Galena 778-206-0384** all operated by WaterBridge Ferries Inc. **Kootenay Lake 250-354-7656** operated by Western Pacific Marine

Helicopter / Aircraft:	Wildfire Status Website: Wildfire Status
BC Wildfire Service Phone and Fax # *(Circle Fire Centre in which activities are occurring):*	
Coastal:250 951-4201 Fax:250-954-0819 / **Southeast:250 365-4001 Fax:250-365-9919** / Kamloops:250 554-7701 Fax 250-376-6549	
Cariboo:250 989-2600 Fax 250-989-2672 / Prince George:250 960-2300 Fax:250 562-6210 / Northwest:250-847-6633 Fax 250-847-2737	

Part C *Core Information*

FOREST FIRE PREPAREDNESS AND RESPONSE

Initial Fire Response

1. Stop operations and notify the rest of the crew.
2. **Report Forest Fires immediately to the BC Wildfire Service (BCWS) and BCTS.**
3. The person reporting the fire shall remain in contact to communicate details of the fire suppression activities taken and what additional activities may be required.
4. The remaining crew shall begin immediate action to control and extinguish the fire, if practicable and safe to do so, to the extent of their training and competence.
5. The person in charge of a crew taking action to control a fire is responsible for continuing fire control activities until relieved by the licensee/contractor representative or BCWS personnel.

If Alone

- Take immediate action on the fire if you believe you can safely control it yourself. Report the fire to BCWS and the licensee/contractor representative as soon as you feel that the fire can be left alone without spreading out of control.
- If the fire is beyond your ability, notify the BCWS immediately and follow their instructions. DO NOT take action on an intense fire yourself.

☑ **Complete an Incident Report Form (CHK-009 or equivalent) and submit to BCTS.**

Fire Roles and Responsibilities

Prior to Start-Up and During Operations

☑ **For All Industrial Activities**

- Determine fire response equipment for the type of operation and associated fire risk to comply with the Wildfire Regulation: http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/11_38_2005
- When conducting an industrial operation, sufficient *firefighting hand tools* must be available on site whenever the area is snow free and there is a risk of a fire starting or spreading.
- Hand tools must be a combination and type to properly equip each person who works at the site with a minimum of one firefighting hand tool per person. Tools may include shovels, mattocks, pulaskis, fire extinguishers and hand tank pumps. The BCTS general rule for assessing the adequacy of firefighting hand tools is:
  # of workers assigned to the site during normal work hours = # of hand tools on site

☑ **For High Risk Industrial Activities**

- Determine if your operations are High Risk as defined in Part 1 of the Wildfire Regulation.
- Determine the danger class, follow danger class restrictions and durations, keep sufficient *firefighting hand tools* plus an adequate *fire suppression system* at the activity site, and maintain fire watcher and communication requirements.
- A fire suppression system means a system for suppressing fire by delivering water, a suppressant, a surfactant, or any combination of these substances.

☑ **Determine Restrictions on High Risk Industrial Activities**

Acquire local weather data to comply with the Wildfire Regulation. Weather station information is available from the BCWS website at https://www2.gov.bc.ca/gov/content/safety/wildfire-status/wildfire-situation/fire-danger/fire-weather

- Danger class ratings for your site may be higher than those calculated by the BCWS. Consider local conditions when determining applicable weather station and when to restrict activities.

Note: Refer to the BCWS "Interpretative Bulletin on the Application of the Wildfire Regulation for the Forest Industry" for further guidance to the above, including a defined wildfire prevention and response system (Appendix A) at http://www.bcwildfire.ca/Industry_Stakeholders/Industry/

Fire Roles and Responsibilities continued

- ☑ **Provide 24hr Contact information**
  - Timber Sale License holders must provide an official with a 24 hour a day contact telephone number if the person proposes to carry out an industrial activity on or after March 1 and before November 1 of that year.
- ☑ **Provide copies of your training records as required.**
- ☑ **Ensure employees are trained and aware of all fire emergency responsibilities.**
- ☑ **Complete environmental Emergency Response Plan (eERP) with worksite details and company contact information.**
- ☑ **List the minimum fire equipment that will be maintained on site** for "Industrial" and "High Risk Industrial" activities during Danger Classes III, IV, and V (i.e., water tank(s), pump(s) hoses, accessories etc.)**:**

During Operations

- ☑ **Ensure employees are aware of all fire preparedness responsibilities and trained** as to their fire duties in accordance with WorkSafeBC requirements.
- ☑ **Conduct test(s) and periodic drill(s) of fire preparedness and response.** Tests are to be documented on the BCTS Environmental Emergency Response Test/Drill Report Form CHK-010, records maintained on site and copies of results forwarded to a BCTS representative. Results of drills may be documented on the CHK-010 and maintained on site.

Regularly monitor the appropriate fire weather index information using your representative weather station and determine the appropriate Fire Danger Class for the area. For Danger Class Reports go to https://www2.gov.bc.ca/gov/content/safety/wildfire-status/wildfire-situation/fire-danger

- ☑ **Restrict activities during Fire Danger Class III, IV, or V situations.** Implement fire watch, patrol, early shift, and cease activity, as required (see Schedule 3 of the Wildfire Regulation). Monitor activities and changing site/weather conditions. Do not operate solely by the Schedule 3 of the Wildfire Regulation.
- ☑ **Ensure a copy of the environmental Emergency Response Plan (eERP) is onsite.**
- ☑ **Conduct regular fire suppression equipment inspections and maintenance.**
- ☑ **Take action on a forest fire that is within 1 km of the site of the industrial activity.**
- ☑ **Complete Hazard Assessments and Abatement** at prescribed intervals in accordance with the Wildfire Regulation;
  - Keep all debris piles clean, obtain a Burn Registration Number (BRN) by calling 1-888-797-1717, complete hazard abatement and follow requirements including monitoring of burning activities

- For smoke management / venting indices call the Provincial Venting Index Hotline 1-888-281-2992 or visit the BC Environment Venting Index website; http://www.env.gov.bc.ca/epd/epdpa/venting/venting.html
- Extinguish and inspect debris piles by the date specified according to the BRN. Apply to extend the BRN if additional time is required to extinguish burned debris piles.

Part D *Core Information*

SPILL PREPAREDNESS AND RESPONSE

Initial Spill Response Activity

1. Discovery and Assessment

- ☑ Follow safety procedures and put on appropriate personal protective equipment prior to initiating response plan.
- ☑ If Safe, **STOP THE PRODUCT FLOW!** Halt activities that are causing the spill (e.g. Close valves; elevate leaking hoses, shut off pumps, etc.). **Minimize Impact of Spill.**
- ☑ Prior to taking action complete an incident assessment (spill identification /volume, assess potential safety, and environmental issues).
- ☑ **If you feel that the spill is beyond your level of training and experience to handle, seek assistance from a spill response specialist.**

2. Notification and Documentation

- ☑ Report spills in accordance with spill reporting criteria listed in Table 1 below.

3. Containment and Recovery.

- ☑ Take action within your ability using resources (hand tools, heavy equipment and spill response equipment) at hand to minimize the spread and impact of the spill until additional resources and expertise arrive.
- ☑ **Due to the hazardous nature of gasoline, volatile gases should be allowed to dissipate before attempts are made to contain or mop up a gasoline spill.**

Spills to Land

- ☑ Determine extent of spill. Contain or redirect spills away from watercourses.
- ☑ Mark the perimeter of the spill, dig recovery ditches around the perimeter and recovery pits (sumps) within the spill area.
- ☑ Monitor ditches and recovery pits to ensure the collection system is effective.
- ☑ Recover the product from the containment area, treat or dispose of appropriately.

Spill to Water

- ☑ In a ditch or stream, contain the spill using whatever surface water containment system possible.
- ☑ Divert and corral the spilled product to a spill containment system using absorbent booms or other methods.
- ☑ Continue to sweep and corral the spilled product for recovery.

For Spills less than 25 litres

- ☑ Soak up all free products with absorbent pads, booms, and other materials.
- ☑ Place used absorbent materials in a suitable container (i.e. heavy-duty plastic bag) for disposal or recycling. Mix stained soil with loose absorbents or commercial bioremediation agents.

4. Follow-up, Disposal and Site Restoration

- ☑ Ensure spills have been documented and reported to agencies and BCTS as required.
- ☑ Complete clean-up and required mitigation actions. If required, contact a spill response specialist for assistance.
- ☑ **Complete an Incident Report Form (CHK-009 or equivalent) and submit to BCTS.**

Spill Roles and Responsibilities

- ☑ **Assess risk for potential spills** identify additional preventative and control measures
- ☑ **Ensure all workers understand the environmental emergency response plan** and it is available on site at all times.
- ☑ **Ensure all workers are familiar with potential spill sites, spill kit locations and spill kit requirements.**
- ☑ **Ensure workers are trained/aware** in WHMIS, TDG and Spill response
- ☑ Have available on site appropriate MSDS.
- ☑ **Conduct test(s) and periodic drill(s) of spill preparedness and response.** Tests are to be documented on the BCTS Environmental Emergency Response Test/Drill Report Form CHK-010, records maintained on site and copies of results forwarded to a BCTS representative. Results of drills may be documented on the CHK-010 and maintained on site.
- ☑ **Complete spill kits inspections and maintain spill kits** as necessary
  - For Equipment spill kit content requirements see Fuel Handling Environmental Field Procedure EFP-06.
- ☑ **Respond to all spills** in accordance with the emergency response plan.
  - If you are responsible for a spill of hazardous material, you are then responsible to take appropriate actions to minimize environmental impact.
- ☑ **Report all reportable spills** to the appropriate agencies and to BCTS.

Spill Reporting Criteria (If in Doubt Report the Spill)

- ☑ All spills that are equal to or greater than the EMBC reportable level must be reported to EMBC as soon as possible and within 24hrs.
- ☑ Any spills of deleterious substance to a watercourse must be reported to EMBC as soon as possible and within 24hrs.
- ☑ All spills that are equal to or greater than the BCTS reportable level must be reported to BCTS contact as soon as possible and within 24 hrs.

Table 1: Reportable Levels of Hazardous Materials Spills

Hazardous Material	EMBC Reportable Level (1)	BCTS Reportable Level (2)
Antifreeze	25 litres	25 litres
Diesel fuel	100 litres	25 litres
Gasoline (auto & saw)	100 litres	25 litres
Greases	100 litres	25 litres
Hydraulic Oil	100 litres	25 litres
Lubricating Oils	100 litres	25 litres
Methyl Hydrate	5 litres	5 litres
Paints & Paint Thinners	100 litres	25 litres
Solvents	100 litres	25 litres
Pesticides	1 kilogram or 1 litre	1 kilogram or 1 litre
Explosives	Any	Any

(1) as required by the BC Spill Reporting Regulation
(2) or a spill of ANY quantity that enters a surface water body (e.g.: running ditch, stream, lake)

Part E *Core Information*

LANDSLIDE & EROSION EVENT RESPONSE

Initial Response Activity

1. **Evaluate**. Follow applicable safety procedures and notify supervisor and other workers. If safe to do so, assess situation to determine if activities must be shutdown.
2. **Immediate Remedial Action**. Take steps to control further environmental impacts.
3. **Notification**. Report the erosion event to the BCTS contact within 24 hours or as soon as practical. (Refer to Reporting Criteria). It is also the LPC's responsibility to notify applicable regulatory agencies of an erosion event that may impact resource values such as fish sensitive areas, domestic watersheds, private property etc. (e.g. DFO, EMBC). Notify WorkSafeBC if the slide event relates to a safety incident.
4. **Before Leaving the Site**. Supervisors must account for all workers before leaving the site. If a shutdown is required, park all equipment in an environmentally safe location (i.e. avoid riparian management areas, steep side slopes, steep road sections, areas with excessive soil moisture, areas within reach of standing timber, etc.).
5. **If Environmental Damage Has Occurred**. The BCTS contact must review the situation with the appropriate personnel.
6. **Complete an Incident Report Form (CHK-009 or equivalent) and submit to BCTS.**

Landslide & Erosion Roles and Responsibilities

- ☑ **Verify** that operations are conducted in a manner that minimizes the risk of a landslide and major erosion event occurring.
- ☑ **Ensure all workers understand and are trained** in response procedures and the environmental emergency response plan is available on site at all times.
- ☑ **Supervisor** to ensure all employees are familiar with risk areas.
- ☑ **Conduct test(s) and periodic drill(s) of Landslide/Erosion Emergency Response.** Tests are to be documented on the BCTS Environmental Emergency Response Test/Drill Report Form CHK-010, records maintained on site and copies of results forwarded to a BCTS representative. Results of drills may be documented on the CHK-010 and maintained on site.
- ☑ **Assess** landslides and erosion events, determine reporting requirements, and report to BCTS contact immediately where applicable.
- ☑ **Respond to erosion events** in accordance with this emergency response plan.

Landslide/ Erosion Event Reporting Criteria

Landslides and major erosion events must be reported to BCTS in ANY of the following circumstances:

- Loss or imminent loss of life or property,
- Significant environmental damage,
- Situations which potentially create loss of provincial revenue or funds,
- Abnormal movement has occurred or is actively occurring at a site,
- Abnormal sedimentation,
- A volume of greater than 250 m^3 has moved or is imminent danger of movement,
- A land area greater than 0.25 hectares is disturbed,
- A road or structure is damage and requires structural repairs.

Scope and Purpose

This ERP applies to BCTS clients (Licensees, Permitees and Contractors) and their workers involved in forest practices within Kootenay BA community and domestic consumptive watersheds. The purpose of this ERP is to prevent and respond to water disruption (from sedimentation, spills, or interrupted flows) resulting from BCTS-authorized activities.

Preparedness Roles and Responsibilities

- ☑ Know the names of and contact information for water users within the area of active operations. Ensure this information is on site and available to workers (*refer to attached contact list*).
- ☑ Know the field location of applicable points of diversion (PODs) and associated infrastructure as identified on project maps, site plans, and assessments.
- ☑ Be familiar with applicable prescriptions (for example: site plans, road designs, drainage plans, riparian management prescriptions, terrain stability and soil erosion assessments, harvest plans) when working in and around drainage areas connected to PODs including protocols for changing site conditions. Review during office and field pre-work discussions. Minimize soil disturbance.
- ☑ Ensure adequate sediment control tool kit (e.g. filter fabric, hay bales, rock for armoring etc.) is available on site and workers are aware of their roles and responsibilities for sediment abatement.
- ☑ Conduct periodic emergency response drill(s) and or test(s) related to disruption of water, based on employee knowledge and experience and seasonal and site conditions.
- ☑ Monitor activities, site and weather conditions, and water turbidity for possible impacts occurring to water quality and stream conditions associated with PODs.
- ☑ Ensure potentially-affected water users and BCTS are advised of planned water interruptions or potential sediment increases as a result of activities.
- ☑ Report to BCTS any amount of unexpected soil movement or any quantity of material spill or equipment fluid leaks within the watershed area.

Initial Response (Water Disruption Events)

1. Evaluate: Assess worker safety, hazards, & determine cause of disruption.
2. Take Control: If the disruption is a result of a forest practice, **STOP WORK.**
3. Take Action: Consider removal of POD intake and/or bypassing POD. Implement sediment abatement measures (sediment control kit).
4. Notification: Contact affected water user(s) and BCTS representatives as soon as possible.
5. Document details of the incident and response measures on CHK-009 *Incident Report Form and* submit to BCTS.
6. Work Co-operatively with BCTS, other agencies, and water users to investigate incidents and to implement measures to restore disrupted water supply quickly, thereby minimizing impacts on water users.

Scope and Purpose

This ERP applies to BCTS clients (Licensees, Permitees and Contractors) and their workers involved in forest practices within Kootenay BA community and domestic consumptive watersheds. The purpose of this ERP is to prevent and respond to water disruption (from sedimentation, spills, or interrupted flows) resulting from BCTS-authorized activities.

Preparedness Roles and Responsibilities

- ☑ Know the names of and contact information for water users within the area of active operations. Ensure this information is on site and available to workers (*refer to attached contact list*).
- ☑ Know the field location of applicable points of diversion (PODs) and associated infrastructure as identified on project maps, site plans, and assessments.
- ☑ Be familiar with applicable prescriptions (for example: site plans, road designs, drainage plans, riparian management prescriptions, terrain stability and soil erosion assessments, harvest plans) when working in and around drainage areas connected to PODs including protocols for changing site conditions. Review during office and field pre-work discussions. Minimize soil disturbance.
- ☑ Ensure adequate sediment control tool kit (e.g. filter fabric, hay bales, rock for armoring etc.) is available on site and workers are aware of their roles and responsibilities for sediment abatement.
- ☑ Conduct periodic emergency response drill(s) and or test(s) related to disruption of water, based on employee knowledge and experience and seasonal and site conditions.
- ☑ Monitor activities, site and weather conditions, and water turbidity for possible impacts occurring to water quality and stream conditions associated with PODs.
- ☑ Ensure potentially-affected water users and BCTS are advised of planned water interruptions or potential sediment increases as a result of activities.
- ☑ Report to BCTS any amount of unexpected soil movement or any quantity of material spill or equipment fluid leaks within the watershed area.

Initial Response (Water Disruption Events)

1. Evaluate: Assess worker safety, hazards, & determine cause of disruption.
2. Take Control: If the disruption is a result of a forest practice, **STOP WORK.**
3. Take Action: Consider removal of POD intake and/or bypassing POD. Implement sediment abatement measures (sediment control kit).
4. Notification: Contact affected water user(s) and BCTS representatives as soon as possible.
5. Document details of the incident and response measures on CHK-009 *Incident Report Form and* submit to BCTS.
6. Work Co-operatively with BCTS, other agencies, and water users to investigate incidents and to implement measures to restore disrupted water supply quickly, thereby minimizing impacts on water users.

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ENVIRONMENTAL FIELD PROCEDURE - 01

GENERAL

Purpose and Scope

This Environmental Field Procedure (EFP) applies to all BC Timber Sales (BCTS) licensees, permittees, and contractors (LPC), including their employees, agents and subcontractors involved in field activities within the scope of the BCTS Environmental Management System (EMS). It describes procedures to reduce the risk of negative impacts on the environment. This EFP does not replace the requirements of legislation, licences, permits, and contracts.

General Procedures

1. Complete a pre-work with your supervisor and/or the BCTS representative.
   a. Obtain and review all project plan documents (e.g., harvest plan, harvest plan map, site plan supporting information, road layout and design and silvicultural treatment plans). Have them readily available during field activities.
   b. Ensure you understand your role in the project plan prior to commencing work.
   c. Know the flagging or field marking standards.
2. Look ahead and make sure that the Project Plan is workable.
   a. View the area to familiarize yourself with the project plan, map contents, and site conditions.
   b. Ensure all resource features, resource values or sensitive areas identified on the project plan documents can be located by you on the ground. Know the associated management strategies.
3. Monitor and inspect your work to ensure the work conforms to the project requirements.
   a. Conduct operations to minimize potential impacts to hazardous or sensitive areas, resource features, resource values, water quality and site productivity.
   b. Operate during favourable weather and site conditions. Know the project shutdown criteria.
   c. Report to the project supervisor any conditions which may adversely affect the environment (e.g., siltation of streams, lakes or other water bodies or deterioration of the road).
4. Know the activity shutdown criteria (e.g., rainfall shutdown, fire hazard) including operational site conditions and timing windows (fisheries windows, community watersheds, migratory birds, wildlife, blasting, stakeholders).
5. Have the project plan map available and know your location at all times.
6. Keep the site clean and be prepared for emergencies, not limited to the following:
   a. Inspect equipment regularly. Repair or maintain equipment as required.
   b. Maintain fire suppression equipment and spill kits. Replace used supplies promptly.
   c. Safely transport, store, and handle industrial waste (e.g., petroleum and chemical products, grease tubes, filters, batteries, coolant, wire rope, used spill pads).
   d. Remove industrial waste regularly and dispose only at appropriate disposal facilities.
   e. Understand the environmental Emergency Response Plan (eERP) and your responsibilities in it.

Incident Reporting

1. Document on CHK-009 and report to site supervisor and BCTS in the event of:
   a. Hazardous material spill, uncontrolled fire or erosion/landslide
   b. Potential non-compliance and significant non-conformance
   c. Safety incidents, accidents, close call or previously unidentified safety hazards

Stop Work – Contact Project Supervisor and BCTS Representative if:

- There is a hazardous material spill, uncontrolled fire or erosion/landslide event
- There is uncertainty about the project plan, the responsibilities or the location of hazardous or sensitive areas.
- A previously unidentified resource feature, resource value or sensitive area is found (e.g., species of management concern, bear den, wildlife habitat feature, culturally modified tree).
- Unfavourable weather or site conditions could cause environmental damage.
- Conditions have the potential for immediate environmental damage.
- There is reason to believe the project plan will not work.

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ENVIRONMENTAL FIELD PROCEDURE - 02

PROJECT SUPERVISION

Purpose and Scope

This Environmental Field Procedure (EFP) applies to all BC Timber Sales (BCTS) licensees, permittees and contractors (LPC), including their employees, agents and subcontractors, responsible for supervising field activities within the scope of the BCTS Environmental Management System (EMS). It describes the supervisors' responsibilities to prepare and supervise workers in such a manner as to reduce the risk of negative environmental impacts. This EFP does not replace the requirements of legislation, licences, permits and contracts.

Pre-work

1. Complete a pre-work meeting with your supervisor and/or the BCTS representative. Understand the information on the pre-work checklist. Ensure you obtain all relevant project information.
2. Prepare, complete and document a pre-work meeting with all workers involved in the project before the work commences:
   a. Review relevant project information including contract, licence, permit, map, project plan, field marking standards, prescriptions, special conditions, requirements and specifications. Review environmental field procedures, environmental emergency response plans and any resource features, resource values, sensitive areas and stop-work conditions.
   b. Provide copies of project plans and maps to workers.
   c. Emphasize to workers that they must speak with the supervisor before any changes are made to the project plans.
   d. View the site with workers to familiarize them with resource features, resource values, resource objectives, sensitive areas and special conditions, as relevant to their function and activities.
   e. Document pre-work meeting with workers and record the names of attendees. A copy of the completed BCTS Prework Report can be used for this purpose.
   f. Ensure all stakeholders are notified as required (e.g., DFO, affected water licensees or purveyors, trappers, guides, lodges, residents).
   g. Additional pre-works with workers may be required if high risk sites have been identified, a project plan has changed or following a temporary operational shut down.
3. Additional pre-work with a BCTS representative is required after temporary operational shut down (inactive for 90 calendar days or more due to season, fire, operational restrictions, economics, etc.) or as requested.

Supervising and Monitoring Project Plans

1. Have a project plan prepared by a qualified professional as appropriate.
2. Look ahead to make sure that the Project Plan is workable.
   a. Ensure resource features, resource values or sensitive areas are identified on the project plan map can be located on the ground. Communicate the associated management strategies to workers.
   b. Stop work upon discovery of a previously unidentified resource feature, resource value or sensitive area; document and identify the previously unidentified resource feature on the project plan map. Report the discovery to the BCTS representative.
3. Assess the need for changes to the project plan. Licensees and permittees must amend the project plan with a qualified professional before conducting primary forest activities in a way that is different from what is described in the plan; report to the BCTS representative.
4. Know and monitor adherence to all EFP requirements.

Supervisors Must Ensure All Workers:

1. Receive adequate training, orientation, information and instructions;
2. Have relevant EFPs available, and follow the requirements of the EFPs;

3. Have relevant project plans available, and understand their associated requirements.
4. Understand EFP stop-work procedures and incident reporting requirements (EFP-01, CHK-009).

Monitor and Inspect Work:

1. Monitor and inspect current and completed works.
   a. Review relevant items including:
      i. Conformance to the project plan, especially areas with complexity or higher risk e.g., riparian areas or special sites;
      ii. Conformance to EMS and Sustainable Forest Management requirements (e.g., EMS training completed and documented, pre-work(s) completed and documented, eERP completed, implemented and on-site, EFPs followed and onsite, etc.) and the BCTS Sustainable Forest Management Plan;
      iii. Licence, permit and/or contract conditions;
      iv. Compliance with all relevant legislation (e.g., *Forest and Range Practices Act*, *Wildfire Act*, *Forest Act*, *Transportation of Dangerous Goods Act*, *Fisheries Act*); and
      v. Safety requirements.
   b. Report any potential non-compliances to the appropriate agency and BCTS.
   c. Assign corrective and preventative actions to identified non-conformances and potential non-compliances.
   d. Follow-up on any actions identified by BCTS or the LPC inspections. Supervisor to ensure they have been carried out within the noted timelines.
2. Conduct self-inspections of the work at the frequency prescribed by BCTS pre-work or more frequently, if desired**.** The BCTS Client Self-Inspection Report can be used for this purpose.
3. Complete an inspection and notify BCTS prior to demobilization or temporary shutdown (inactive 90 calendar days or more due to seasonal, fire, operational restrictions, economics, etc). Ensure steps have been taken to protect resource features and prevent damage to the environment (e.g., ditches cleaned, culverts installed) prior to the shutdown of operations.

Manage Documentation:

1. Keep required documentation onsite:
   a. BCTS pre-work report, and records of your pre-works with workers,
   b. Project Plans and other materials provided at the pre-work,
   c. Environmental Emergency Response Plan (eERP) available to all workers,
   d. EFPs available to workers as relevant to their activities,
   e. BCTS inspection reports and LPC self-inspection reports,
   f. Completed Incident Report forms for any incidents that have occurred during the work,
   g. Training records
   h. Completed emergency response test reports.
2. Provide records for review upon request by BCTS.

In the Case of an Emergency or Environmental Damage:

1. Follow the eERP, including reporting to BCTS and external agencies.
2. Complete an Incident Report Form (CHK-009 or equivalent) and submit it to BCTS. Ensure corrective and preventative actions taken to address the incident are documented and completed.

Stop Work – Contact Project Supervisor and BCTS Representative if:

- There is a hazardous material spill, uncontrolled fire or erosion/landslide event.
- There is uncertainty about the project lan, the responsibilities or the location of hazardous or sensitive areas.
- Previously unidentified resource feature, resource value or sensitive area is found (e.g., species of management concern, bear den, wildlife habitat feature, culturally modified tree)
- Unfavourable weather or site conditions could cause environmental damage.
- Conditions have the potential for immediate environmental damage.
- There is reason to believe the project plan will not work.

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ENVIRONMENTAL FIELD PROCEDURE - 03

DEVELOPMENT & PLANNING

Purpose and Scope

This Environmental Field Procedure (EFP) applies to all BC Timber Sales (BCTS) contractors including their employees, agents, and subcontractors involved in development and planning activities within the scope of the BCTS Environmental Management System (EMS). It also applies to BCTS licensees and permittees making changes to a project plan. This EFP describes procedures to reduce the risk of negative impacts of these activities on the environment. This EFP does not replace the requirements of legislation, licences, permits, and contracts.

Preparation

1. Ensure development and planning activities are carried out by an appropriate qualified professional
2. Ensure you have copies of and are familiar with all standards, guidebooks, plans and other information relevant to the scope of work.
3. Ensure all required assessments have been identified.
4. At the pre-work meeting, discuss details of project approach, designs, layouts, or other project plan requirements including professional qualifications to develop a plan or make changes.

Field Work

1. When conducting field work, ensure you:
   a. Are familiar with relevant constraints and plans; understand how resource objectives relate to the project area;
   b. Follow field marking standards; and
   c. Note any discrepancies between the plans or objectives and the conditions in the field; notify the BCTS representative of any discrepancies.
2. Consider potential longer-term implications of the planned work such as providing future access. If you are not sure about possible longer-term requirements, ask the BCTS representative for direction.
3. Look at all options for timber development including roads, bridges, and culverts to ensure they are placed in the best location. Know when you can vary from specifications provided by BCTS, and when you must request approvals.

Plan Completion

1. Ensure the following information and requirements, as applicable, are correctly identified and incorporated into all layout and design work:
   a. Forest Stewardship Plan information, site plan content and any amendments.
   b. Applicable engineering, mapping, boundary, and field marking requirements.
   c. Any key points noted during reconnaissance.
   d. First Nations, stakeholders and other agencies commitments as communicated via BCTS.
   e. Location of streams, terrain and other important features including wildlife tree retention areas and reserves and the related retention or buffer requirements.
   f. Location of adjacent resource values.
   g. Recommendations from professional assessments (e.g., terrain stability, windthrow, soil, watershed, stream).
   h. Any measures to ensure stability of the area during extreme weather events; roads or cutblock boundary(s).

i. Location of end-haul sections, spoil sites and quarry/pits; properly classified soils/rock.
j. Right-of-way design and markings including landing size and location.
k. Any necessary trails.
l. All shut down requirements and timing restrictions.
m. The harvesting system planned to be used and the retention levels for partial cut harvest prescriptions are identified in the harvest plan.
n. Appropriate referencing (photo ties, reference points).

2. Ensure major crossing site plans are identified for, or completed by, a qualified professional.
3. Ensure water and sediment control measures are incorporated into the plan.
4. Ensure all work is in conformance with applicable requirements and standards applicable to the BCTS business area.
5. If you have any concerns about potential environmental impacts relating to this information and the associated prescriptions, contact your supervisor and the BCTS representative.

Stop Work – Contact Project Supervisor and BCTS Representative if:

- There is a hazardous material spill, uncontrolled fire, or erosion/landslide event.
- There is uncertainty about the project plan, the responsibilities, or the location of hazardous or sensitive areas.
- A previously unidentified resource feature, resource value or sensitive area is found (e.g., species of management concern, bear den, wildlife habitat feature, culturally modified tree).
- Unfavourable weather or site conditions could cause environmental damage.
- Conditions have the potential for immediate environmental damage.
- There is reason to believe the project plan will not work.

ENVIRONMENTAL FIELD PROCEDURE - 04

ROADS, BRIDGES AND CULVERTS

Purpose and Scope

This Environmental Field Procedure (EFP) applies to all BC Timber Sales (BCTS) licensees, permittees, and contractors (LPC), including their employees, agents, and subcontractors, involved in permanent and temporary road, bridge and culvert construction, maintenance, inspection, and deactivation within the scope of the BCTS Environmental Management System (EMS). It describes procedures to reduce the risk of negative impacts of these field activities on the environment. This EFP does not replace the requirements of legislation, licences, permits, and contracts.

Road, Bridge and Major Culvert Inspections

1. Understand all applicable inspection and engineering requirements. Know which sites and structures require assessments. Assessments must be done by those trained and professionally competent.
2. Review all relevant assessments prior to inspection. Understand their management implications.
3. Review or walk the project area, as well as the surrounding area of influence, to ensure all relevant field information is collected, complete, reported and mapped.
4. Understand and use the appropriate inspection form. Record all inspection results, identifying any deficiencies or additional inspection requirements and submit to the project supervisor.

Road Construction, Maintenance and Deactivation

1. Have a project plan (e.g., road layout and design, plans and profiles, deactivation, maintenance).
2. Ensure compliance with applicable timing windows and other specifications (e.g., fisheries windows, community watersheds, migratory birds, wildlife, recreation).
3. Ensure safety signage is posted on sites as required.
4. Construct and maintain the road to ensure the structural integrity of the road prism and clearing width are protected, the drainage systems are functional, and the road is safe for industrial use.
5. Report to the project supervisor any road conditions which may adversely affect the environment (e.g., siltation of streams, lakes or other water bodies, or deterioration of the road).
6. Incorporate considerations for extreme weather events and climate change to ensure functionality of roads and protection of the environment.
7. Have appropriate water control measures on roads at locations where there is a risk of erosion, impacts to water quality, classified stream or fish habitat.
8. Before equipment demobilization or prior to temporary or seasonal shutdown, and/or when precipitation is occurring in an amount causing erosion of surface material:
    a. Install back-up cross ditches at culvert locations.
    b. Establish water-bars and breach grader berms to disperse runoff.
    c. Perform site clean-up to ensure water management features (culverts, ditches) are clean of introduced logging debris and functional.
9. Maintain natural surface drainage patterns. Avoid directing water onto unstable slopes or erodible soils; direct water to stable slopes and/or armour outfalls with rock.
10. Minimize the impact on water quality and site productivity:
    a. Operate during favourable weather and site conditions. Know the project shutdown criteria.
    b. Install culverts and other drainage structures concurrently with subgrade construction.
    c. Utilize sediment control measures as required (e.g., silt fences, hay bales, rock armouring, swales, water bars or sediment ponds).
    d. Clean introduced debris from ditches, streams and culverts on an on-going basis before any impact can occur.

e. Ensure road surface drainage is directed to drainage structures and is not impeded.
f. Minimize erosion potential of exposed soil surfaces by seeding of disturbed areas.
g. Seeding must be at appropriate times and with an appropriate mix of seed to ensure effectiveness and avoid the spread of invasive species.

11. Control blasting to minimize fly-rock damage and slope instability. Adhere to blasting timing windows.
12. Know the locations of end-haul and spoil sites.
13. Do not remove gravel or other fill from Riparian Management Areas. Avoid constructing pullouts in Riparian Management Areas.
14. When re-establishing natural drainage patterns during road deactivation, the road fill should be removed down to the natural ground level. Cut and fill slopes must be left in a stable condition.
15. Prepare professional conformance and assurance statements if required for road design, construction, maintenance and deactivation.

Bridge or Culvert Installation, Maintenance and Removal

1. Have a project plan deemed appropriate by a qualified professional (e.g., installation, deactivation, maintenance).
2. Bridges and major culverts (greater than or equal to 2000mm) require a coordinating registered professional and professional of record to oversee, design, inspect and sign-off the project.
3. Comply with timing windows, legislation and other specifications (e.g., *DFO Fisheries Act* "projects near water" requirements and guidance, fisheries windows, community watersheds, migratory birds, wildlife, blasting, stakeholders).
4. Construct and maintain bridges and culverts in accordance with the project plan. Ensure bridges and culverts are structurally sound, appropriate and safe for industrial use.
5. When working on crossings, know the stream classification, management zone and associated prescription. During construction of temporary access trails, minimize the impact to water features.
6. Minimize the impact on water quality and site productivity:
   a. Install culverts and other drainage structures concurrently with subgrade construction.
   b. Utilize sediment control measures as required (e.g., silt fences, hay bales, rock armouring, swales, water bars, or sediment ponds).
   c. Clean introduced debris from ditches, streams and culverts on an on-going basis, and before any blockages can occur.
   d. Incorporate considerations for extreme weather events and climate change to ensure functionality of roads and protection of the environment.
   e. Minimize erosion potential of exposed soil surfaces by seeding of disturbed areas.
   f. Seeding must be at appropriate times and with an appropriate mix of seed to ensure effectiveness and avoid the spread of invasive species.
7. Operate during favourable weather and site conditions. Know the project shutdown criteria.
8. Temporary structures such as log bundles must be removed prior to unfavourable conditions.
9. Avoid placing erodible materials on bridge decks, in stream channels or on flood plains. Clean bridge decks and remove erodible materials.
10. Maintain natural surface drainage patterns. Avoid directing water onto unstable slopes or erodible soils; direct water onto stable slopes and/or armour outfalls with rock.
11. Armour culvert inflows, outflows and fill slopes to minimize erosion as required. It is a good practice to pre-mark inlet and outlet culvert locations to ensure appropriate road prism fit. Culvert installation should consider skew, slope and percent of embedment as designed.
12. Dispose of wood culvert/bridge debris in designated sites outside riparian management areas.
13. Ensure professional conformance and assurance statements are prepared for bridges and major culverts by the professional of record (POR).

Fire Hazard Assessment and Abatement

1. Complete hazard assessments at prescribed intervals and complete abatement in accordance with the *Wildfire Act* and Regulation. Submit assessment to BCTS upon request.
2. If burning is part of the plan for abatement, ensure required notification is made, approvals received and conditions followed. Ensure burn area is safe from escape and clear of hazardous or sensitive areas. Monitor burned sites for extinguishment.

Stop Work – Contact Your Project Supervisor and BCTS Representative if:

- There is a hazardous material spill, uncontrolled fire or erosion/landslide event.
- There is uncertainty about the project plan, the responsibilities or the location of hazardous or sensitive areas.
- A previously unidentified resource feature, resource value or sensitive area is found (e.g., species of management concern, bear den, wildlife habitat feature, culturally modified trees).
- Unfavourable weather or site conditions could cause environmental damage.
- Conditions have the potential for immediate environmental damage.
- There is reason to believe the project plan will not work.

ENVIRONMENTAL FIELD PROCEDURE - 05

HARVESTING

Purpose and Scope

This Environmental Field Procedure (EFP) applies to all BC Timber Sales (BCTS) licensees, permittees, and contractors (LPC), including their employees, agents, and subcontractors, involved in all phases of harvesting within the scope of the BCTS Environmental Management System (EMS). It describes procedures to reduce the risk of negative impacts of these field activities on the environment. This EFP does not replace the requirements of legislation, licences, permits, and contracts.

Project Plans

1. Have a project plan prepared by a qualified professional as appropriate. Ensure the project plan is applicable to the phase of operation.
    a. Choose suitable landing and yarder setting locations that are stable and away from water courses.
    b. Pre-mark or at least know existing culvert locations and classified stream locations; ensure they are functional at all times until these structures are removed.
    c. If a change of plan is needed, stop work, then notify project supervisor. Changes to a project plan must be documented, made by a qualified professional, and meet the intended results and strategies for the project area and protect environmental values.

Falling

1. Fall next to boundaries only when boundaries are clearly visible (know where they are).
2. Use extra caution when falling adjacent to boundaries and reserves in order to minimize damage to standing trees and protect resource features, resource values (e.g., cultural) and sensitive areas.
3. Follow stream prescriptions when falling, limbing and bucking adjacent to watercourses.
4. Know which streams and gullies require cleaning of introduced debris.
5. Know leave-tree, stubbing and retention requirements, and monitor your progress to ensure the requirements are met.

Yarding, Skidding, Forwarding, Loading, Processing and Hauling

1. If yarding or skidding in steep or gullied terrain, ensure you implement yarding/skidding strategies to minimize impacts to soil productivity and water quality.
2. Use appropriate methods to minimize damage to reserve trees (e.g., dispersed retention trees, retention tree patches, etc.).
3. Know the applicable soil disturbance limits and use appropriate methods to avoid excessive soil disturbance (e.g., temporary access structures, gouges, ruts, scalps and compacted areas).
4. Minimize the impact on water quality and site productivity:
    a. Take actions to mitigate potential erosion and/or sedimentation from temporary access trails.
    b. Utilize sediment control measures as required (e.g., silt fences, hay bales or sediments ponds).
    c. Clean introduced debris from ditches, streams, and culverts on an on-going basis, and before any blockages can occur.
5. Operate during favourable weather and site conditions. Know the project shutdown criteria.
6. Know the project shutdown criteria including operational site conditions and timing windows (e.g., fisheries windows, community watersheds, migratory birds, wildlife, blasting, recreation).
7. Know the stream classifications and implement riparian management area requirements (e.g., machine free zones, riparian reserve zones, stream cleaning, etc.) for the watercourses identified in the project plan.
8. Rehabilitate excavated and bladed temporary access trails, temporary roads, landings, etc., as required. Ensure rehabilitation activities maintain natural drainage patterns.
9. Temporary structures such as log bundles must be removed prior to unfavourable conditions.

10. Avoid decking wood, processing wood, and piling wood debris in riparian management areas.
11. Minimize decked wood and debris pile impacts to standing timber and reforested areas.
12. Report to the project supervisor any road conditions which may adversely affect the environment (e.g., siltation of streams, lakes or other water bodies or deterioration of the road).
13. Before equipment demobilization or prior to temporary or seasonal shutdown, perform site clean-up to ensure water management features (culverts, ditches) are clean of introduced logging debris and functional.

Fire Hazard Assessment and Abatement

1. Complete hazard assessments at prescribed intervals and complete abatement in accordance with the *Wildfire Act* and Regulation. Submit assessment to BCTS upon request.
2. If burning is part of the plan for abatement, ensure required notification is made, approvals are received, and conditions are followed. Ensure burn area is safe from escape and clear of hazardous or sensitive areas. Monitor burned sites for extinguishment.

Stop Work – Contact Project Supervisor and BCTS Representative if:

- There is a hazardous material spill, uncontrolled fire or erosion/landslide event.
- There is uncertainty about the project plan, the responsibilities, or the location of hazardous or sensitive areas.
- Previously unidentified resource feature, resource value or sensitive area is found (e.g., species of management concern, bear den, wildlife habitat feature, culturally modified tree)
- Unfavourable weather or site conditions could cause environmental damage.
- Conditions have the potential for immediate environmental damage.
- There is reason to believe the project plan will not work.

Purpose and Scope

This Environmental Field Procedure (EFP) applies to all BCTS clients (Licensee, Permittee and Contractor workers) and BCTS staff who are responsible for fuel handling within the scope of BCTS EMS program. The purpose of this document is to bring together legislative requirements, industrial standards and best management practices as it relates to fuel handling, storage and transportation. The primary fuel used within the forest industry is diesel fuel (UN1202) found under Class 3, Flammable Liquids. This EFP is intended to help promote good fuel management, and is not intended to supersede legislative requirements or criteria. Applicable Acts and Regulations include: Transportation of Dangerous Goods Act and Regulations, BC Motor Vehicle Act and Regulations, Environmental Management Act and Regulations, Hazardous Products Act and Regulation, Contaminated Sites Act and Regulations, Workers' Compensation Act and OHS Regulations.

TABLE #1 SMALL FUEL CONTAINERS (Volumes <230L) Drums, Jerry Cans, Pails, Canisters

Legend
■ Legal Requirement
☑ BCTS Requirement

TYPE	CONDITION, DESIGN & MAINTENANCE	STORING & SECURING	DISPENSING	TRANSPORT (see column 2 for securing details)	PREVENTION & RESPONSE
SMALL FUEL CONTAINERS (Volumes < 230L)	■ Must be designed, constructed, filled, closed, secured and maintained so under normal conditions of handling and transport there will be no accidental release of dangerous goods that would endanger public or worker safety. ☑ Containers must be in good condition – not damaged, rusting or leaking. **Construction Standard** ☑ Containers must be specifically designed for the product. ■ Containers less than 30 liters are exempt from TDG requirements but are still governed under WHMIS. **Inspections** ☑ Licensees/ Contractors must self inspect containers on a regular basis. (plastic containers usually every 5 years). Immediately replace containers that are leaking.	☑ Do not store small containers in Riparian Management areas or Marine Environments wherever practicable ☑ Do not smoke where fuel is stored or dispensed **Labeling** ■ Any container over 30 liters must have appropriate safety marks: • Label or Placard as required, • UN number and • Shipping Name ■ TDG safety marks on the outside of an enclosed unit must be visible if containers are stored within an enclosed unit. ■ WHMIS labeling or appropriate Product Identification is required when storing hazardous products **Securing** ■ As per manufacture's recommendations, containers must be secured and kept level to prevent shifting, swaying, damage, escape from the vehicle and accidental release of product. ■ Tie down straps must have safe combined working load ratings *greater* than the secured load.	■ Maintain current MSDS in a location available to worker ☑ Do not dispense fuel in Riparian Management areas or Marine Environments wherever practicable. ☑ Dispense all flammable and combustible substances only from drums in an upright position ☑ Do not fill containers beyond their safe filling level *(approximate safe level – 90%)* ☑ Store the hose above the pump (and drum) to avoid siphoning.	■ Drums must be properly arranged by: • Stacking in an upright, vertical position • Separating and Protecting through use of boards, stakes or sides on the vehicle to protect the load from moving ■ If multiple containers of diesel and/ or gasoline are transported and the combined capacity exceeds 2000L, the following conditions apply: • A shipping document must be completed for the goods hauled • The operator must have TDG training and possess a certificate • The load must have placards on all visible sides ■ Empty drum transport are exempt from TDG Regs provided: • Drum residue <10% • If more than 10 drums then DANGER Placards are required on all four sides and include a shipping document outlining: the primary class, 'residue drums' and number of drums.	■ Take reasonable measures to prevent leaks & spills ■ Respond to all fuel spills ☑ Where dispensing and storing fuel in higher risk areas consider utilizing additional Spill Control and Prevention Measures (see Table #6). **Fire Control and Response** ☑ Maintain and self-inspect one suitable B:C-rated fire extinguisher ensuring it's: • not actuated or tampered with • shows no obvious physical damage, (i.e. corrosion, leakage, or clogged nozzle) to prevent its operation • pressure gauge reading or indicator is in operable range • safety seal or pin in place; • product id/WHMIS label in place • located in appropriate location, and • document self-inspections ☑ Maintain a spill kit of suitable size (See Table #7)

TABLE #2 SMALL MOBILE (TRUCK BOX) TANKS (Volumes: ≤450L)

Legend
■ Legal Requirement
☑ BCTS Requirement

TYPE	CONDITION, DESIGN, & MAINTENANCE	STORING & SECURING	DISPENSING	TRANSPORT (see column 2 for securing details)	PREVENTION & RESPONSE
SMALL MOBILE (TRUCK BOX) TANKS (Volumes: <450L)	■ Must be designed, constructed, filled, closed, secured and maintained so under normal conditions of handling and transport there will be no accidental release of dangerous goods that would endanger public or worker safety. ☑ Containers must be in good condition – not damaged, rusting, or leaking **Construction Standard** ■ **Diesel:** a spec or non-spec tank may be used. This tank capacity (450L or less) is exempt from the specifications standards under the TDG regulation. ■ **Gasoline:** a spec tank is required and must show the spec plate of the design standard. ■ Spec tanks may include: • UN Standard IBC UN 31A and UN31B IBC Portable Tanks as per CAN/CGSB 43.146 (2002) • ULC/ORD 142.13 ■ All Gasoline spec tanks must be tested and inspected by a Transport Canada (TC) Registered facility every 5 years. Proof that tests and inspections were conducted by a TC Registered facility within the last 5 years must be available upon request. **Inspections** ☑ Licensees/ Contractors must self inspect tanks on a regular basis. Immediately replace containers that are leaking.	■ Use a pressure relief cap that meets manufacturers design specifications ☑ Do not store small mobile tanks in riparian management areas or marine environments wherever practicable ☑ Do not smoke where fuel is stored or dispensed **Securing** ■ As per manufacture's recommendations, tanks must be appropriately secured and kept level to prevent shifting, swaying, damage, escape from the vehicle and accidental release of product. ■ Tie down straps must have safe combined working load ratings *greater* than the secured load	■ Use dispensing pumps designed for the products being handled ■ Use an appropriate hose and nozzle (in accordance with ULC standards) for dispensing fuel ■ Make sure there is suitable bonding (i.e. wire lined hose) to prevent static charges when dispensing gasoline. ■ Maintain current MSDS in a location available to workers ☑ Hoses and nozzles must be maintained and not leak. ☑ Do not dispense fuel in riparian management areas or marine environments wherever practicable. ☑ Operators must stay with the nozzle at all times while dispensing fuel ☑ Nozzles must be secured in drip containment after use or in an upright position so that it's above the tank. ☑ Close valves when finished dispensing ☑ Store hose in a safe manner to prevent damage and leaks (i.e. coiled on top of tank) ☑ Do not fill tanks beyond their safe filling level *(approximate safe level – 90%)* ☑ Keep fuel and equipment on level ground	■ If multiple tanks of diesel and/or gasoline are carried on the vehicle and the combined capacity exceeds 2000 liters, the following conditions apply: • A shipping document must be completed for the goods hauled • The operator must have a TDG training and possess a valid certificate • The load must be placarded on all visible sides **Safety Labeling & Spec Plates** ■ WHMIS labeling or appropriate Product Identification is required when storing hazardous products ■ Maintain visible safety marks: • Label or placard • UN number and • Shipping name ■ TDG safety marks must be visible on the tank or any enclosed storage unit ■ Spec plates, decals or associated documentation--(ensuring paperwork is linked to the specific tank) must identify the following: • Container Type & Standard • Manufacturer and Date • Re-certification Date and TC Registered Facility	■ Take reasonable measures to prevent leaks & spills ■ Respond to all fuel spills ☑ Where dispensing and storing fuel in higher risk areas consider utilizing additional Spill Control and Prevention Measures (see Table #6). ☑ Where tanks are stored on the ground, collision protection is required. (see Table #6) **Fire Control and Response** ☑ Maintain and self-inspect one suitable B:C-rated fire extinguisher ensuring it's: • not actuated or tampered with • shows no obvious physical damage, (i.e. corrosion, leakage, or clogged nozzle) to prevent its operation • pressure gauge reading or indicator is in operable range • safety seal or pin in place; • product id/WHMIS label in place • located in appropriate location, and • document self-inspections ☑ Maintain a spill kit of suitable size (See Table #7)

TABLE #3 LARGE MOBILE TANKS (Volumes: >450L – ≤3000L)

Legend
■ Legal Requirement
☑ BCTS Requirement

TYPE	CONDITION, DESIGN, & MAINTENANCE	STORING AND SECURING	DISPENSING	TRANSPORT (see column 2 for securing details)	PREVENTION & RESPONSE
LARGE MOBILE TANKS (Volumes: >450L – 3000L)	■ Must be designed, constructed, filled, closed, secured and maintained so under normal conditions of handling and transport there will be no accidental release of dangerous goods that would endanger public or worker safety. ☑ Containers must be in good condition – not damaged, rusting, or leaking **Construction Standard** ■ **All Tanks:** used to transport fuel (regardless of volume) must be designed, and constructed to a mobile tank standard and display a spec plate. ■ **Spec Tanks:** used for diesel and gasoline may have one of the following spec plates: • UN Standard IBC UN 31A and UN31B IBC Portable Tanks as per CAN/CGSB 43.146 (2002) • ULC/ORD 142.13 ■ Non-Spec Tanks may no longer be used. Any tank without a spec plate is non-spec. **Inspections** ■ All Spec tanks (listed above) must be tested and inspected by a Transport Canada (TC) Registered facility every 5 years. Proof that tests and inspections were conducted by a TC Registered facility within the last 5 years must be available upon request. ☑ Licensees/ Contractors must self inspect tanks on a regular basis. Immediately replace containers that are leaking.	■ Use a pressure relief cap that meets manufacturers design specifications ☑ Do not leave vehicles carrying auxiliary fuel in riparian management areas or marine environments wherever practicable. ☑ Do not smoke where fuel is stored or dispensed **Securing** ■ As per manufacture's recommendations, tanks must be appropriately-secured and kept level to prevent shifting, swaying, damage, escape from the vehicle or trailer and accidental release of product. ■ Tie down straps must have safe combined working load ratings *greater* than the secured load to ensure the tank is integrally mounted	■ Use an appropriate hose and nozzle (in accordance with ULC Standards) for dispensing fuel ■ Use dispensing pumps designed for the products being handled. ■ Make sure there is suitable bonding (i.e. wire lined hose) to prevent static charges when dispensing gasoline ■ Maintain current MSDS in a location available to workers ☑ Hoses and nozzles must be maintained and not leak ☑ Do not dispense fuel in riparian management areas or marine environments wherever practicable. ☑ Operators must stay with the nozzle at all times while dispensing fuel ☑ Nozzles must be secured in drip containment after use or in an upright position so that it's above the tank. ☑ Keep fuel and equipment on level ground ☑ Close valves when finished dispensing ☑ Store hose in a safe manner to prevent damage and leaks (i.e. coiled on top of tank) ☑ Do not fill tanks beyond their safe filling level *(approximate safe level – 90%)*	■ If multiple tanks of diesel and/or gasoline are carried on the vehicle and the combined capacity exceeds 2000 liters, the following conditions apply: • A shipping document must be completed for the goods hauled • The operator must have a TDG training and possess a certificate • The load must be placarded on all visible sides. ■ If large mobile tanks are transported on a trailer, the trailer must meet Motor Vehicle Requirements, (GVW, brakes, lights and axels etc.). **Safety Labeling & Spec Plates** ■ Maintain visible safety marks: • Label or placard, (placard if exceeding 500 kg) • UN number and • Shipping name ■ TDG Placards must be visible ■ Spec plates, decals or associated documentation--(ensuring paperwork is linked to the specific tank) must identify the following: • Container Type & Standard • Manufacturer and Date • Re-certification Date and TC Registered Facility **Labeling** ■ WHMIS labeling or appropriate Product Identification is required when storing hazardous products	■ Take reasonable measures to prevent leaks & spills ■ Respond to all fuel spills ☑ Where dispensing and storing fuel in higher risk areas consider utilizing additional Spill Control and Prevention Measures (see Table #6). ☑ Where tanks are stored on the ground, collision protection is required. (see Table #6) **Fire Control and Response** ☑ Maintain and self-inspect one suitable B:C- rated fire extinguisher ensuring it's: • not actuated or tampered with • shows no obvious physical damage, (i.e. corrosion, leakage, or clogged nozzle) to prevent its operation • pressure gauge reading or indicator is in operable range • safety seal or pin in place; • product id/WHMIS label in place • located in appropriate location, and • document self-inspections ☑ Maintain a spill kit of suitable size (See Table #7)

TABLE #4 HIGHWAY & TC PORTABLE TANKS
(Fuel Trucks & Pup-Trailers with Volumes > 3000L)

Legend
■ Legal Requirement
☑ BCTS Requirement

TYPE	CONDITION, DESIGN & MAINTENANCE	STORING AND SECURING	DISPENSING	TRANSPORT (see column 2 for securing details)	PREVENTION & RESPONSE
HIGHWAY & TC PORTABLE TANKS (Volume > 3000L)	■ Must be designed, constructed, filled, closed, secured and maintained so under normal conditions of handling and transport there will be no accidental release of dangerous goods that would endanger public or worker safety. **Construction Standard** ■ **All Tanks:** used to transport fuel and sometimes to store and dispense fuel. Tanks must be designed, constructed and/or tested to a design standard specification and display a visible and legible spec plate to that standard. ● TC44 Portable Tanks as per CSA B626-13 ● UN Standardized Portable Tanks as per CSA B625-13 Standard ■ Fuel Trucks must meet the following: ● CSA B620-03 Highway and Portable Tanks for TDG ● Spec tank built after 2003 may transport diesel or gasoline ■ Non-Spec Tanks may no longer be used. Any tank without a spec plate is non-spec. **Inspections** ■ All Highway and Transport Canada (TC), Portable Tanks must be tested and inspected by a TC Registered facility every five years. Proof that tank tests and inspections were conducted by a TC Registered Facility must be available upon request. ☑ Licensees/ Contractors must self inspect tanks on a regular basis. Immediately replace containers that are leaking.	■ Use a pressure relief hatch that meets manufacturers design specifications ☑ Do not leave fuel truck or pup trailer in riparian management areas or marine environments wherever practicable. ☑ Do not smoke where fuel is stored or dispensed **Securing** ■ Fuel truck tanks must be integrally mounted to the unit. ☑ Ensure tank is secure, stable and remains level to prevent accidental release of product. **Labeling** ■ Product identification is an acceptable substitute for supplier or workplace labels and may be affixed to the sides of the tank compartments and piping.	■ Use an appropriate hose and nozzle (in accordance with ULC standards) for dispensing fuel ■ Use dispensing pumps designed for the products being handled ■ Make sure there is suitable bonding (i.e. wire lined hose) to prevent static charges when dispensing gasoline ■ Maintain current MSDS in a location available to workers ☑ Do not dispense fuel in riparian management areas or marine environments wherever practicable. ☑ Hoses and nozzles must be maintained and not leak ☑ Dispensing **gasoline** fuel directly from a fuel truck into the equipment is **NOT** permitted ☑ Close valves when finished dispensing ☑ Operators must stay with the nozzle at all times while dispensing fuel ☑ Store hose in a safe manner to prevent damage and leaks (i.e. coiled on top of tank) ☑ Do not fill containers beyond their safe filling level *(approximate safe level – 90%)* ☑ Keep fuel and equipment on level ground	■ Fuel trucks and pup-trailers used to transport products on public roads must meet Motor Vehicle requirements (i.e. GVW, brakes, lights, axles, etc.) and TDG requirements (Placards & Documentation) ■ When the total capacity of a fuel tank exceeds 2000 liters, the shipper/driver is required to: ● Complete a shipping document for the goods hauled or residue last contained ● Maintain a valid TDG training certificate ● Visible spec plate ● Placard the load on all four sides ■ Non-Spec tanks may no longer be used. **Safety Labeling & Spec Plates** ■ Maintain visible safety marks: ● Label or placard and, ● UN number and ● Shipping name ■ TDG Placards must be visible on all four sides ■ Spec plates, decals or associated documentation--(ensuring paperwork is linked to the specific tank) must identify the following: ● Container Type & Standard ● Manufacturer and Date ● Re-certification Date and TC Registered Facility	■ Take reasonable measures to prevent leaks & spills ■ Respond to all fuel spills ☑ Where dispensing and storing fuel in higher risk areas consider utilizing additional Spill Control and Prevention Measures (see Table #6). **Fire Control and Response** ☑ Maintain and self-inspect one suitable B:C-rated fire extinguisher ensuring it's: ● not actuated or tampered with ● shows no obvious physical damage, (i.e. corrosion, leakage, or clogged nozzle) to prevent its operation ● pressure gauge reading or indicator is in operable range ● safety seal or pin in place ● product id/WHMIS label in place ● located in appropriate location, and ● document self-inspections ☑ Maintain a spill kit of suitable size (See Table #7)

TABLE #5 LARGE STATIONARY SKID TANKS (Generally Volumes > than >3000L)

Legend
■ Legal Requirement
☑ BCTS Requirement

TYPE	CONDITION, DESIGN & MAINTENANCE	STORING AND SECURING	DISPENSING	TRANSPORT (see column 2 for securing details)	PREVENTION & RESPONSE
LARGE STATIONARY SKID TANKS (Volume >3000L)	■ Must be designed, constructed, filled, closed, secured and maintained so under normal conditions of handling and transport there will be no accidental release of dangerous goods that would endanger public or worker safety. ■ **Spec Tanks:** used for diesel or gas and will generally have one of the following markings: • ULC-S601 Utility Tanks • ULC-S653 AST Steel Tanks • ULC-S602 AST Steel Tanks • ULC-S630 AST Vertical Tanks • CAN//ULC-S643-M • ULC-C142.18 Rectangular Steel Tank • ULC-C142.17 Vertical Steel Tank. ■ **Non-Spec Tanks:** All non-spec tanks must be taken out of operation. Any tank without a spec plate is non-spec. All tanks must be constructed and maintained to conform to a ULC specification for stationary above ground tanks. ☑ All tanks must be designed, constructed to a design standard specification and must bear a visible and legible specification plate to that standard. ☑ Stationary Tanks are not designed as mobile tanks. Prior to moving, the tank (usually a ULC-S601 spec tank) must be emptied to the maximum extent and in accordance with the Equivalent Level of Safety Permit (see table # 6 for details). **Inspections** ☑ Licensees/ Contractors must self inspect tanks on a regular basis. Immediately replace containers that are leaking.	■ All stationary tanks must have secondary containment. Options include: • Tank-in-tank (vacuum monitored, visible access port or visible access hatch). ■ Use a pressure relief cap that meets manufacturers design specifications ☑ Store nozzle & hose in a safe manner to prevent damage and leaks (i.e. on a retractor, hose reel or coiled) ☑ Do not place stationary skid tanks in riparian management areas or marine environments, unless no other area is practicable. ☑ Do not smoke where fuel is stored or dispensed **Storage** ☑ Large stationary skid tanks must be: • Above ground, doubled wall with a positive containment monitoring leak protection feature, (vacuum gauge, visual port or dipstick); **Securing** ■ As per manufacture's recommendations, tanks must be appropriately secured to the skid and kept level to prevent shifting, swaying, damage escape and accidental release of product. ■ Tanks must be mounted to a fire-resistant cradle and skid.	■ Use dispensing pumps designed for the products being handled ■ Use an appropriate hose and nozzle (in accordance with ULC standards) for dispensing fuel ■ Make sure there is suitable bonding to prevent static charges when dispensing gasoline ■ Maintain current MSDS in a location available to workers ☑ Hoses and nozzles must be maintained and not leak ☑ Do not dispense fuel in riparian management areas or marine environments wherever practicable. ☑ Operators must stay with the nozzle at all times while dispensing fuel ☑ Store nozzle & hose in a safe manner to prevent damage and leaks (i.e. on a retractor, hose reel, coiled or above the tank to prevent siphoning) ☑ Close valves when finished dispensing ☑ Do not fill tanks beyond their safe filling level *(approximate safe level – 90%* ☑ Keep fuel and equipment on level ground	■ When moving a skid tank (with or without fuel) having a total capacity of diesel greater than 2000 liters you must follow TDG Regulations • Complete a shipping document for the goods hauled or remaining in the tank • Maintain a valid TDG training certificate • Ensure that all conditions of the Equivalent Level of Safety Permit are met.(see table #6) ■ All Skid-type tanks are considered stationary tanks (i.e. non-mobile tanks) and must: • Be emptied (5% or less) prior to moving • Be moved only from point to point in accordance with the Equivalent Level of Safety Permit (see table #6 for details). **Labeling** ■ Maintain visible safety marks: • Label or placard, • UN number and • Shipping name ■ TDG Placards must visible on all fours sides ■ WHMIS labeling or appropriate Product Identification is required when storing hazardous products	■ Take reasonable measures to prevent leaks & spills ■ Respond to all fuel spills ☑ Where dispensing and storing fuel in higher risk areas consider utilizing additional Spill Control and Prevention Measures (see Table #6). ☑ Where tanks are stored on the ground, collision protection is required. (see Table #6) **Fire Control and Response** ☑ Maintain and self-inspect one suitable B.C-rated fire extinguisher ensuring it's: • not actuated or tampered with • shows no obvious physical damage, (i.e. corrosion, leakage, or clogged nozzle) to prevent its operation • pressure gauge reading or indicator is in operable range • safety seal or pin in place; • product id/WHMIS label in place • located in appropriate location, and • document self-inspections ☑ Maintain a spill kit of suitable size (See Table #7)

Table #6 Definition of Terms

Additional Spill Control Prevention	• Re-assess the environmental risk and implement additional control measures • Review the BCTS Fuel Handling Environmental Field Procedure 06 to ensure procedures address the risk factors • Review Spill Response awareness and preparedness, conduct a spill drill and increase monitoring of dispensing area locations • Enhance minimum Spill Kit requirements as outlined in Table #7 • Move the fuel storage to a lower risk location • Add secondary containment or double-walled containers • Breakaway valves on hoses • Collision Protection e.g. guard logs • Tanks located more than 6 meters from a building • Tarps for containment • Materials to block culverts when needed • Sandbags and PVC pipe for underflow containment • Sandbags for diversions and upstream eddy containment
B:C Fire Extinguisher	The number represents the size of fire the extinguisher will put out under normal use (non-expert) • An 80 rated fire extinguisher will cover 15.25 square meters • A 40 rated fire extinguisher will cover 9.15 square meters. Therefore two 40 rated fire extinguishers will cover the same area as one 80 rated fire extinguisher • The B:C represents the type of fires: "B" fire is for flammable liquids, while a "C" fire is for electrical
Bioremediation Product	Any form of nutrients, bacteria or enzymes that when added and mixed with the soil, will enhance the biological breakdown of petroleum hydrocarbon contaminated soil. This product is intended for small leaks, drips and spills that are below the reportable quantities and not impacting surface water or groundwater.
Breakaway valve	An in-line device containing a flutter valve that, upon accidental separation of the hose, will automatically close and prevent fuel from being discharged
Collision Protection	A barrier sufficient to alert the operator and prevent accidental damage to the container and release of the product.
Enclosed space	Any structure enclosed by three sides
Equivalent Spill Response Equipment	In an attempt to provide some flexibility in the minimum requirements of a spill kit, the following equivalent standards are listed. The intention of this equivalent list is to provide alternatives where conditions might be warranted: ○ 5 Absorbent pads (for petroleum hydrocarbons) = 2L of Sphag Sorb (peat moss) ○ 5 Absorbent pads (for antifreeze) = 2L of Sphag Sorb (peat moss) ○ 5 Absorbent pads (for solvents) = 2L of Sphag Sorb (peat moss) ○ Plug-N-Dike = Bentonite clay or "drillers clay" ○ One large heavy duty plastic bag = One five (5) gallon pail ○ Containment boom = log boom with tarp "skirt"

Table #6 Definition of Terms

<table>
<tr><td>Equivalent Level of Safety (Permit) issued by Transport Canada</td><td>
Permit No.: SH7544 (Ren 5)
Permit Holder: The valid members of The Forest Products Association of Canada
Mode of Transport: Road
Issue Date:
Expiry Date:
CONDITIONS
<table>
<tr><td>This Permit for Equivalent Level of Safety authorizes the valid members of The Forest Products Association of Canada to handle, offer for transport and transport and authorizes any person to handle or transport on behalf of the permit holder, by road vehicle, dangerous goods that are Class 3, Packing Group II or Packing Group III in means of containment that do not comply with Part 5 of the Transportation of Dangerous Goods (TDG) Regulations if:</td></tr>
<tr><td>(a) The means of containment:
(i) is not intended for the transportation of dangerous goods and the presence of dangerous goods is due only to the use of the means of containment for the processing, storage, or use of the dangerous goods at fixed locations;</td></tr>
<tr><td>(ii) prior to moving, is emptied to the maximum extent possible, and the residual amount of the dangerous goods never exceeds the lesser of the following volume in content when in transport:
(A) 500 liters or
(B) 5% of the capacity of the means of containment,</td></tr>
<tr><td>(iii) is designed, constructed, closed, secured and maintained so that under normal conditions of transport, including handling, there will be no accidental release of dangerous goods that could endanger public safety; and,
(iv) when inverted, will not release dangerous goods;</td></tr>
<tr><td>(b) The means of containment is loaded and secured on the means of transport in such a way as to prevent, under normal conditions of transport, damage to the means of containment or to the means of transport that could lead to an accidental release of the dangerous goods;</td></tr>
<tr><td>(c) The permanent shipping document that accompanies the dangerous goods includes the following information legibly and indelibly printed:
“Dangerous Goods Permit No. by road vehicle or its French equivalent;</td></tr>
<tr><td>(d) Equipment used to heat and circulate production fluids such as petroleum crude oil, in oilfield applications are excluded from the application of this permit.</td></tr>
<tr><td>Note: The issuance of this Permit for Equivalent Level of Safety in no way reduces the permit holder's responsibility to comply with any other requirements of the Transportation of Dangerous Goods Regulations not specifically addressed in this Permit.</td></tr>
</table>
</td></tr>
<tr><td>Fuel Storage Facility</td><td>Any location where fuel in excess of 500 litres is stored on a BCTS tenure</td></tr>
<tr><td>Large Means of Containment</td><td>A means of containment with a capacity greater than 450 litres. For example, a highway cargo tank, large slip tank etc.</td></tr>
</table>

Table #6 Definition of Terms

Material Safety Data Sheets (MSDS)	MSDS--are summary documents that provide information about the hazards of a product and advice about safety precautions under the Workplace Hazardous Materials Information System (WHMIS).
Plug-N-Dike	Commercial product name for bentonite clay also known as "drillers clay". It is not the intention for BCTS to endorse a single product name over other products of a similar and equal nature.
Small Means of Containment	A means of containment with a capacity less than or equal to <230 litres. For example, a drum, jerry cans, or intermediate bulk container.
Spec Tank	A "Spec Tank" or "Specification Tank" is a means of containment that complies with one of the specifications set out in one of the Safety Standards referred to in Part 5 of the TDG regulations. An example of a "spec tank" would be a TC406 highway tank meeting all of the TC406 specification requirements described in CSA Standard B620-03 *Highway Tanks and Portable Tanks for the Transportation of Dangerous Goods*.
TC	Transport Canada: Federal Agency that oversees the transportation of dangerous goods on land, sea and air
TDG	Transportation of Dangerous Goods Regulation
ULC	Underwriters Laboratory of Canada (Engineering Standards) Mobile tanks built to ULC Standards (142.13) have been replaced by the Canadian General Standards Board (CGSB) Standard (43.146)
UN Number	United Nations Number: Used to identify a specific dangerous good. Diesel: UN 1202; Gasoline UN 1203

Workplace Hazardous Materials Information System (WHMIS) Labelling & product identification	Hazardous products in the workplace must be identified through one of the following means:
	• Supplier label
	• Workplace Label (attached when no supplier label was provided or the supplier label is lost or removed)
	  ○ Name of the product
	  ○ Safety precautions
	  ○ Reference to SDS
	• Product Identifier (name of the product, color coding, etc.)

TRANSPORT CANADA CONTACT INFORMATION

Transport Canada welcomes your questions, comments and suggestions. You can contact them by e-mail, mail or telephone and they will address your concerns as quickly as possible. See website link below for details!
http://www.tc.gc.ca/eng/contact-us.htm

Leak Test and Inspection Facilities for Highway and TC Portable Tanks, (Registered per Standard CSA B620) can be found at the Transport Canada website link below!
http://wwwapps.tc.gc.ca/saf-sec-sur/3/fdr-rici/highway/tanks.aspx

Table #7

SPILL KIT (Minimum Requirements)		

In Equipment / Machinery (excavators, skidders)
Spill kits must be present on equipment, (appropriate for type and potential size of spill).
• Spill kits must include:
  ○ One large heavy duty plastic bag or other suitable container
  ○ Absorbent pads (or equivalent absorbent material), appropriate for the type of spill,
• Personal protective safety gear as required for the type of spill
	Vehicles carrying auxiliary fuel (e.g. pick-up truck box tanks or multiple small containers)
	Spill kits must be present in vehicles transporting and dispensing fuels
	• Spill kits must include a minimum of:
	  ○ 3 - Heavy duty plastic bags or suitable container(s),
	  ○ 10 - absorbent pads (or equivalent absorbent material) appropriate for the type of spill,
	  ○ 3 – 3"x 48" absorbent booms/ socks,
	  ○ bioremediation product,
	  ○ One shovel
	  ○ A container of emergency tank sealant (i.e. Plug-N-Dike, Seal-it or equivalent)
	• Personal protective safety gear as required for the type of spill
		Stationary or Mobile Fuel Storage & dispensing (tanks or multiple-drum caches)
		Spill kits must be present at points where fuel is dispensed.
		• Spill kits must include a minimum of:
		  ○ Five large heavy duty plastic bags, or one open topped containment drum (or equivalent),
		  ○ 20 absorbent pads (or equivalent absorbent material) appropriate for the type of spill,
		  ○ 6 – 3"x 48" absorbent booms/ socks,
		  ○ Two 10' linkable marine booms (if near marine operations),
		  ○ bioremediation product,
		  ○ One container of emergency tank sealant (i.e. Plug-N-Dike or equivalent),
		  ○ One shovel
		• Personal protective safety gear as required for the type of spill

STOP WORK

and contact your project supervisor and the BCTS representative if:

- You are uncertain of the project plan, your responsibilities, or the location of hazardous/sensitive areas.
- A previously unidentified resource feature, resource value (e.g. cultural) or sensitive area is found.
- You experience unfavorable weather or site conditions that could cause environmental damage.
- You observe conditions that have the potential for immediate environmental damage.
  You believe the project plan will not work.

Key Sections of EFP-06

- Truck Box (Slip Tanks) and other large portable tanks--230 to 3000 liters (EFP-06 Table #2 and #3)

  -non-specification tanks can only be used for diesel in the 230L to 450L volume range and;

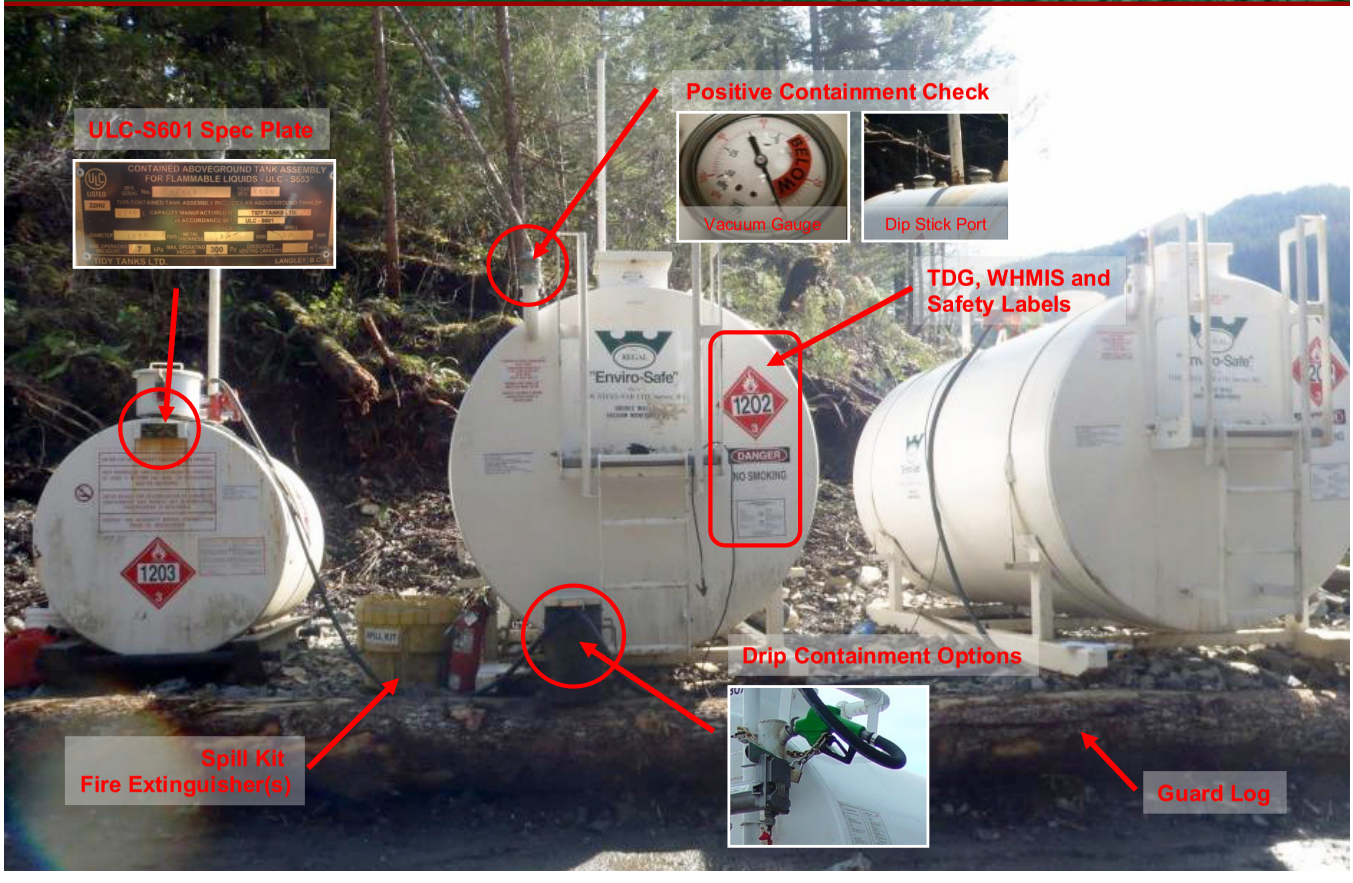
  -tanks for diesel and gasoline in the >450L to 3000L volume range must be specification containers and tested by a Transport Canada Registered Facility every 5 years;

- Large (double walled) Stationary Skid Tanks
  -EFP-06 Table #5

- Spill Kits
  -EFP-06 Table #7

Truck Box Slip Tanks

Large Double Walled Stationary Skid Tanks



BCTS BC Timber Sales Kootenay	**Kootenay Business Area** **Species of Management Concern** **Licencees, Permittees & Contractors (LPC)** **General Guidance** **Updated August 2016**

Introduction

Species of Management Concern are identified as potential environmental impacts associated with various Kootenay Business Area activities under its Environmental Management System (EMS). In addition certification under the Sustainable Forestry Initiative standard requires a program to promote biological diversity such as species at risk.

Apart from the certification programs, BCTS and its Timber Sale Licensees, Permittees and Contractors are required to meet various federal and provincial legislative requirements, such as the Canadian *Species at Risk Act*, BC *Wildlife Act* and *Forest and Range Practices Act*, which relate to the management of wildlife and ecosystems. This document provides guidance to LPCs in managing the species of management concern.

Procedures

Pre-work (BCTS staff and LPC personnel)

- Review any operational requirements/constraints specific to the activity/location as identified in the Site Plan.
- Review wildlife (bird, mammal & amphibian) species listed in the 2014 *Species of Management Concern in the Kootenay Business Area* field guide. (It was decided to focus identification and management on only wildlife species at the operational level as these are the species more likely to be observed by forest workers.)
- Review notification requirements under the Notification section.

Inspections (BCTS Field Team staff)

- Were any Species of Management Concern identified during operations? If yes, follow procedures under Notification.
- Check client awareness/conformance to specific operational requirements/constraints.

Notification of sightings of wildlife species of concern (all staff and LPC personnel)

Where a Species of Management Concern is sighted in the field:

- Notify BCTS Project Supervisor ASAP.
- For observations, note (at the minimum):
  - Location (gps coordinates or sufficient information to locate on a map) of observation
  - Date of observation
  - Species
  - Number of individuals seen or heard.
- Other information that is useful is:
  - Name and contact (phone/email) information of observer
  - Habitat (plant or special features of observation location),
  - Land status of observation (e.g. crown, federal, private)
  - Adjacent landscape (e.g. disturbance, roads)
  - Condition of habitat (measure of the quality of habitat of observation)
  - Health of species (e.g. live, dead, injured/sick). If possible take a picture of the species and make field notes.
- This information is then forwarded to BCTS Project Supervisor.
- BCTS Project supervisor and Field Team/Planning staff will recommend appropriate site level measures, which may involve engaging a Qualified Professional to assess and indicate a course of action.

BCTS Project Supervisor will submit the information collected to the BC Conservation Data Centre through the following website: www.env.gov.bc.ca/wildlife/wsi/incidental_obs.htm. Please print a copy of the report pages, scan to .pdf with the date (e.g. Western Toad_Aug8-2016.pdf) and file it into the following directory for our records: K:\TSO\Forest_Certification\Certification_General\SAR\Wildlife Incidental Observation Forms.

Purpose and Scope

This EFP applies to BCTS Kootenay Business Area Staff, Licensee, Permittee and Contractor workers involved in forest practices within the scope of the BCTS EMS. It describes specific requirements to prevent the introduction or spread of invasive plants. This EFP does not replace the requirements of legislation, licences, permits and contracts.

Identification and Reporting:

Be familiar with the INVASIVE PLANT INFORMATION PACKAGE provided, this includes;

- ✓ Understanding how to use Kootenay BCTS Invasive Plant Field Book and the identification of what to report in your operating area
- ✓ Location of applicable known infestation areas and any specified measures that apply.

Reportable invasive plants are those listed in the *Kootenay BCTS Field Book.*
Invasive plants in the Kootenay BCTS Field Book are to be reported within 30 days of discovery by any of the following options:

- ✓ Use a Smartphone Report-A-Weed BC applications (download either the iPhone app or the Android app), or
- ✓ Go to BC Government invasive plant online reporting website https://www.for.gov.bc.ca/HRA/invasive-species/reportInvasives.htm

Inspecting and Cleaning:

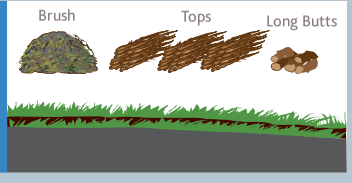
- ✓ In areas of infestation, inspect vehicles, mechanized equipment, culverts, bridges and cattle-guards for presence of soil or plant material prior to being transported to or from work sites and, if present, plant and soil materials are to be removed.
- ✓ Inspections are to be documented.

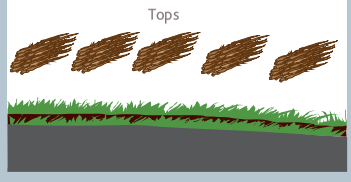
Grass Seeding:

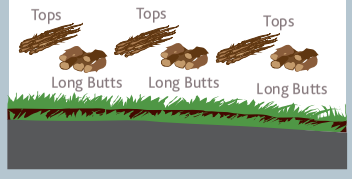
- ✓ Application of grass seeding is required to exposed soils in areas that include; cut and fill slopes of newly constructed roads, constructed or used landings, deactivated roads and any rehabilitated areas. Rehabilitated areas maybe exempt if the rehabilitated areas are to be re-vegetated through the planting of trees.
- ✓ Grass seeding is to occur during the first available spring or fall and not more than 12 months following the time of mineral soil exposure.
- ✓ Seed used is to be Canada Common#1 Forage Mix or better or a mix recommended by MFLNRORD range specialist.
- ✓ If utilizing a dry grass seeding method, seed shall be applied at a rate of 30 to 50 kilograms per hectare.

Roadside Residue Handling

PILE FORMATION







ROAD GRADE

ROAD GRADE	PILING INSTRUCTIONS
<10%	Pile for grinding (above)
10-15%	Pile with secondary harvester agreement only.
>15%	Pile for burning if 15% pitches are longer than 50 metres

ROAD GRADE	PILING INSTRUCTIONS
<10%	Pile for in-woods chipping (above)
10-15%	Pile with secondary harvest agreement only.
>15%	Pile for burning if 15% pitches are longer than 50 metres

ROAD GRADE	PILING INSTRUCTIONS
<10%	Pile for unprocessed collection (above)
10-15%	Pile with secondary harvest agreement only.
>15%	Pile for burning if 15% pitches are longer than 50 metres

CUTSLOPE HEIGHT

CUTSLOPE HEIGHT	PILING INSTRUCTIONS
<3 metres	Pile for grinding (above)
3 to 5 metres	Pile with secondary harvester agreement only.
>5 metres	Pile for burning

CUTSLOPE HEIGHT	PILING INSTRUCTIONS
<3 metres	Pile for in-woods chipping (above)
3 to 5 metres	Pile with secondary harvest agreement only.
>5 metres	Pile for burning

CUTSLOPE HEIGHT	PILING INSTRUCTIONS
<5 metres	Pile for unprocessed collection (above)
>5 metres	Pile for burning

FPInnovations

Best Piling Practises

FPInnovations

TOPS

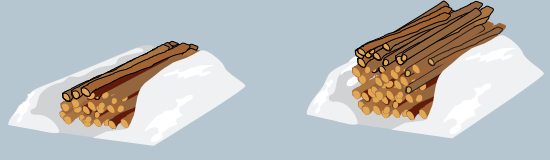
LONG BUTTS

BRUSH

AVOID CREATING PILE CONTAMINATION

Dirt and sand | Rock | Metal | Snow

PILE RESIDUES HIGHER IF SECONDARY HARVEST TO OCCUR IN WINTER



BCTS
BC Timber Sales
Kootenay Business Area

Standard Operating Procedure
Bird Nest Encounters

July 7, 2017

APPLICATION:

This SOP applies to all BCTS Licensees, Permittees and Contractors, including their employees, agents and subcontractors, involved in timber harvesting, road construction, road maintenance and silviculture projects.

BACKGROUND:

The Federal Migratory Birds Convention Act protects migratory birds and prohibits the disturbance or destruction of migratory bird nests and eggs. Section 34 of the BC Wildlife Act prohibits the injuring, molesting or destruction of a bird, its egg or a nest occupied or the nests (active or vacant) of an eagle, peregrine falcon, gyrfalcon, osprey, heron or burrowing owl. Large stick nests may be re-used by birds from year to year and are to be protected, even if they are not currently occupied. An active bird nest is one with eggs or live young in it. Signs you may be near an active nest include birds swooping at you or machinery, birds flying in to tree cavities, or cheeping coming from tree cavities, trees or shrubs.

PROCEDURE:

If you encounter an active bird nest or a large stick nest, STOP WORK in the vicinity and immediately report the nest to the Project Supervisor and BCTS. BCTS staff will provide additional guidance or direction consistent with applicable licence, permit or contract provisions.

Establish a NO WORK ZONE that will ensure no further disturbance to the nest. Recommended best practices are to cease disturbances in the nesting area until the young have permanently left the nest (which could range from a few days to a few weeks, depending on the species and stage of development). The nest should be protected with a buffer zone (NO WORK ZONE) appropriate to the species, the level of disturbance and the landscape context. Example buffer distances that may be considered range from:

- 10 - 50 meters or more for songbirds and other small bird nests, exception is when brushing- leave a 5-m no-cut zone in the direction you have not cut yet, and if others need to work in the area, flag a 10m no-work zone around the nest
- 25-50 meters or more for swallow colonies
- 100 to 200 meters for a pileated woodpecker,

Additional information is available from Environment Canada or qualified professionals.

Operations can continue outside of the NO WORK ZONE

2

Kootenay Business Area Wildlife Habitat Features

On May 29, 2018 the Minister of Environment & Climate Change Strategy signed an Order identifying ***fourteen*** wildlife habitat features in the Kootenay Boundary region, as listed in the table below.

LIST OF WILDLIFE HABITAT FEATURES – KOOTENAY BOUNDARY REGION	
1. a nest of a Bald Eagle	8. an American Badger burrow
2. a nest of an Osprey	9. a Grizzly Bear den
3. a nest of a Flammulated Owl	10. a significant mineral lick
4. a nest of a Western Screech-Owl *macfarlanei* subspecies	11. a significant wallow
5. a nest of a Great Blue Heron	12. a bat hibernaculum
6. a nest of a Lewis's Woodpecker	13. a bat nursery roost
7. a nest of a Williamson's Sapsucker	14. a hot spring or thermal spring

The order defines a "**wildlife habitat feature**" as a feature used by one or more wildlife species to meet their life history requirements where special management is necessary to ensure that these features are protected and remain functional.

It is important that Licensees, Permittees, and Contractors (LPC) carrying out forest or range activities not damage or render ineffective a *wildlife habitat feature*.

- ***Where measures to protect a wildlife habitat feature have been specified within a project plan, the holder of an agreement or contract will conduct primary forest activities and other related activities in accordance with the measures specified in the project plan.***

- ***Where an LPC encounters a wildlife habitat feature, not previously identified and accommodated for in an existing project plan, the LPC must…***

AND CONTACT YOUR PROJECT SUPERVISOR & BCTS REPRESENTATIVE

Upon reporting of an unidentified wildlife habitat feature, an LPC shall discuss a course of action with a BCTS representative to prevent damaging or rendering the feature ineffective.

Clear definitions and descriptions, as well as suggested management strategies for consideration when carrying out primary forest or range activities can be found in the field guide, at the following link:

https://www2.gov.bc.ca/assets/gov/environment/natural-resource-policy-legislation/legislation-regulation/frpa-pac/wildlife-habitat-features/whf_field_guide_kootenay_boundary.pdf

Please note the list of wildlife features in the table above may be expanded from time to time to reflect new information that indicates potential threats from forest or range activities on localized features. Updates will be included in the link above and/or discussed at operational pre-works.

Nov 25, 2020

Kootenay Business Area Wildlife Habitat Features

On May 29, 2018 the Minister of Environment & Climate Change Strategy signed an Order identifying ***fourteen*** wildlife habitat features in the Kootenay Boundary region, as listed in the table below.

LIST OF WILDLIFE HABITAT FEATURES – KOOTENAY BOUNDARY REGION	
1. a nest of a Bald Eagle	8. an American Badger burrow
2. a nest of an Osprey	9. a Grizzly Bear den
3. a nest of a Flammulated Owl	10. a significant mineral lick
4. a nest of a Western Screech-Owl *macfarlanei* subspecies	11. a significant wallow
5. a nest of a Great Blue Heron	12. a bat hibernaculum
6. a nest of a Lewis's Woodpecker	13. a bat nursery roost
7. a nest of a Williamson's Sapsucker	14. a hot spring or thermal spring

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Nov 25, 2020

Purpose: This guide is intended to assist BCTS clients and staff in recognizing wet weather and ground conditions that may impact worker safety, operations, environment and damage to road systems. The guide also provides suggested best practices and recommends operational shut down conditions.

The primary control mechanism to protect water quality is through the operational controls such as Environmental Field Procedures (EFPs) of the Environmental Management System (EMS). The EMS plays a significant role in maintaining water quality as it requires the licensees and contractors to manage erosion and sediment delivery into water features appropriately.

The following are related operational requirements identified in BCTS's EFPs #04 & #05 that apply to BCTS harvesting and road management activities:

- Operate during favourable weather and site conditions
- Implement strategies to minimize impacts to soil productivity and water quality
- Avoid excessive soil disturbance
- Utilize sediment control measures i.e. (silt fences, hay bales, rock armouring, swales, water bars or sediment ponds as appropriate)
- Clean introduced debris from ditches, streams and culverts on an on-going basis.

STOP WORK and contact your project supervisor and the BCTS representative if:

- You experience unfavourable weather or site conditions that could cause environmental damage.
- You observe conditions that have the potential for immediate environmental damage.

Environmental indicators for work shutdown & evacuation of the worksite for safety purposes include:

1. Sudden muddy water in creeks (especially in gullies)
2. Sudden lack of flow in creeks during wet weather
3. Cracks appearing in the soil
4. Sloughs ≥ 1m x 1m occurring in the soil
5. Anchor stumps pulling out of wet soil
6. Landslides occurring in the general area, or sounds of landslides occurring
7. Sloughs in road cuts, especially during road construction or deactivation

Harvesting and Road Activities *Also refer to related requirements outlined in BCTS EFP #04 Roads, Bridges and Major Culverts & EFP #05 Harvesting*

Activity	Recommended Practices	Recommended Shut Down Conditions
Trail Construction (this includes pilot trails for during road construction)	➢ Locate skid and pilot trails in areas that minimize excavation where possible (avoid steep cuts, seeps, and wet areas). ➢ Maintain drainage concurrently with skid trail or pilot trail construction by utilizing cross-ditches/swale, skid culverts/log bundles including wood puncheon at all seeps and water courses (NCDs and classified water courses). Highly erodible materials may require temporary rock armouring. Water bars may be necessary on steeper grades especially when rutting occurs. ➢ Install cross-ditches/swales and water bars during periods of inactivity. ➢ Utilize sediment control measures where necessary at key control points. ➢ Locate pilot trails in areas that minimize excavation and optimizes material use, where possible (avoid steep cuts, seeps, and wet areas). Where possible, do not deviate from pre-located road locations. ➢ In areas of significant wet ground, pre-construct this section with excavator (i.e. install geotextile, rock ballast etc.) may be necessary. ➢ Prior to any excavations on wet ground, consider utilizing techniques to minimize excessive disturbance such as using geotextile matting, puncheon, or rock ballast etc.). Have a plan prior to starting. ➢ Ensure that ruts are cross ditched to allow drainage; ➢ Maintain natural drainage concurrent with trail construction ➢ If surfaces become rutted to the extent that water begins to pool or road surfaces become saturated from a lack of drainage, install drainage control such as cross-ditches, swales and/or water bars. ➢ Back blade to remove ruts and hasten dry material when conditions allow	1. Ground based operations should cease if the following conditions develop: • Water is transporting visible siltation or sediment towards streams, • Excessive rutting of 15cm or greater depth is occurring. 2. Operations should be modified or suspended where there is abundant hill slope runoff i.e. during spring freshet or periods of high runoff from prolonged heavy precipitation. 3. Suspend operations if wet weather causes excessive erosion and rutting particularly to the extent where sediment flow is noticeable or when construction material (soils/parent material) losses its ability to hold its shape. . 

Activity	Recommended Practices	Recommended Shut Down Conditions
Ground Skidding	➢ Machine use should be limited to areas where excessive scour, rutting, or compaction is avoidable. This would generally restrict machine use from areas of moderately steep slopes as well as any localized areas of wet, soft, or very loose soils. This is intended to reduce the likelihood of concentrated or redirected drainage, as well as shallow subsurface water interception. ➢ Maintain drainage features clean out introduce debris concurrent with operations. ➢ Utilize sediment control measures where necessary at key control points.	1. Ground based operations should cease if the following conditions develop: • Water is transporting visible siltation or sediment towards streams, • Excessive rutting of 15cm or greater depth is occurring. 2. Operations should be modified or suspended where there is abundant hill slope runoff i.e. during spring freshet or periods of high runoff from prolonged heavy precipitation. 3. Suspend operations if wet weather causes excessive erosion and rutting particularly to the extent where sediment flow is noticeable or when construction material (soils/parent material) losses its ability to hold its shape.
Cable Skidding	➢ Fall, skid, and yard away from all streams and NCDs where practicable. ➢ Avoid cross-stream yarding and keep all riparian features clear of debris. ➢ Where possible, avoid excessive repetitive scouring. ➢ Maintain drainage features clean out introduce debris concurrent with operations. ➢ Utilize sediment control measures at key control points.	
Hauling and Road Use	➢ Operate during favourable weather and site conditions ➢ If hauling during marginal conditions prolong haul window and minimize road damage by daily tending of the road surface. ➢ Utilize sediment control measures at key control points ➢ Minimize accumulation of moisture to road surface, install temporary waterbars (well skewed) and spot surfacing of short sections ➢ Operate during favourable weather and site conditions	1. Road use should be suspended if: • Road surface runoff is transporting visible siltation or sediment into streams, • Road surface becomes soupy • Ruts become sloppy and deformed Acceptable depth of ruts is subject to discretion depending on site conditions. In general, pick-up truck access should be un-impeded,
Road Maintenance, Deactivation	Schedule road works required in fine textured soils during dry weather condition i.e.: summer/fall dry.	Material does not hold intended shape or achieve desired compaction when handled Proceed with grading only under dry or slightly damp conditions.

FPInnovations prepared this guide in order to provide forest workers with information on purpose built skid trails on steep slopes. FPInnovations worked in close cooperation with BC Timber Sales, Kootenay Business Area during the development of this guide. Reference material for this guide included The Construction and Rehabilitation of Purpose-Built Skid Trails on Steep Slopes: Discussion Paper; FPInnovations Technical Report No. 3 (March 2015) by C. Gillies.

Photo's courtesy of BCTS

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This guide can be downloaded and printed from **www.fpinnovations.ca**

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The construction and rehabilitation of purpose built skid trails on steep slopes

A PRACTICAL GUIDE FOR FOREST WORKERS

fpinnovations.ca

REDUCING SITE IMPACTS

Constructing purpose-built skid trails to extract timber from steep slope harvest areas needs to be done with careful construction practices and with rehabilitation in mind. This guide will help forest workers choose appropriate construction and rehabilitation methods which aim to address soil protection and water management in an environmentally sensitive manner.

Best Practices and Sustainablity

The goal is to minimize soil disturbance, rehabilitate disturbed areas, and maintain / restore subsurface and surface drainage.

Forest workers need to choose harvesting strategies that minimize soil disturbance and maintain the biological and physical function of forest soils. Long-term soil productivity, hydrologic function, sediment generation, and the stability of current and rehabilitated trails are all key aspects to focus efforts towards, in order to sustain a healthy and productive forest ecosystem / productive forest land base.

Plan your work

Purpose-built skid trails have historically been used to aid ground-based harvesting on steep side slopes, specifically to accommodate the extraction of timber. The following should be considered during construction:

- Use appropriate type and size of equipment.
- The amount of newly constructed trails should be minimized.
- Use existing / historic trails when appropriate.
- Utilize professional reports when available (terrain stability assessment, hydrology, soil, etc.)
- Constructed trails should not result in any concentration or redirection of runoff. As well, avoid locating trails where there is a risk of damaging any existing drainage structures.
- Trails should be constructed with a plan for rehabilitation; trails should be fully rehabilitated upon completion of harvesting and prior to spring runoff (not left to overwinter).
- As a best management practice, plan to rehabilitate trails concurrent with harvesting such as when a logical unit / area is complete.

Trail Construction

Use small excavators

- Narrow trails will minimize disturbance
- Sort and place woody materials using the excavator's bucket and live thumb; the placement of woody material along the toe of the fill slope helps to reduce disturbances and provides a visual cue of the disturbance limits during rehabilitation.
- Use of an excavator during construction allows for the exposure and sorting of the forest floor and soil horizons. The aim of trail construction should include the separation of nutrient-rich productive surface soil and organic material from less productive subsoil, so that during trail rehabilitation, both layers can be retrieved and deposited in the original undisturbed order. This placement of soil back to the location it was removed from helps to maintain site productivity.
- Light weight machines help to reduce compaction.

Construct with deactivation in mind

- Planning ahead for rehabilitation by minimizing soil disturbance will reduce the rehabilitation efforts required.
- Stumps along the low side of a skid trail can be used to support fill and reduce the quantity of cut and fill required by holding the material at a steeper angle.
- The use of snow during winter construction helps to reduce the amount of cutbank excavation required to build the trail to the desired width, resulting in less disturbance. Use of the trail during frozen conditions will reduce soil disturbance due to reduced compaction and the reduced depth of decompaction required.
- Use of log bundles placed in a temporary stream crossings or seepage during trail construction:
  - Will deactivate more easily than excavating through solid frozen ground.
  - Will result in less soil disturbance resulting in a reduced erosion of the crossing site.
  - Provide a high level of protection to the channel and banks.

TRAIL REHABILITATION

GOAL

The goal is to improve site nutrient and soil moisture holding capacity (which provides a good substrate for seedling establishment and growth), restore soil structure, improve aeration porosity, control erosion, restore drainage patterns, and leave hummocky surface with variable micro-relief which incorporates large woody material.

Timing: Rehabilitate trail before spring runoff

A summer-built trail, which will not be rehabilitated before operations end and winter begins, will require seasonal deactivation to manage water. Waterbars and / or swales need to be constructed to shed water from the trail and prevent erosion.

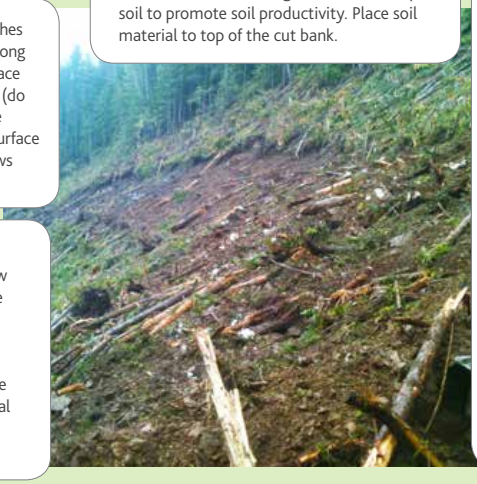
A winter-built trail, which has a snow layer as part of the fill, will require careful planning in order to have all rehabilitation completed before snow melts. If the snow fill melts, the stability of the trail will be compromised.

PHASES OF REHABILITATION

1 **Site Preparation:** Remove long branches and stems before decompaction. No long branches or stems should be left in place during decompaction or recontouring (do not mix branches in with the soil). The stems could intercept and direct subsurface seepage resulting in concentrated flows causing erosion or instability.

2 **Decompaction:** Rip with teeth of excavator bucket to loosen soil below compacted surface. Rip deeper in the middle of the trail than the inside (uphill) track. This will provide an outsloping profile for the loosened soil. The outer (downhill) track will be decompacted during sidecast retrieval as part of recontouring.

3 **Recontouring:** Placement of soil material in reverse order – manage nutrient rich top soil to promote soil productivity. Place soil material to top of the cut bank.



4 **Water Management:** Construct waterbars to help ensure slope hydrology has been restored. Waterbars can be regularly spaced as well as positioned at obvious swale locations. Waterbars are constructed to collect flows and disperse water down slope. Waterbar spacing will prevent concentrated flows from forming.

Outsloped swales or rolling grades constructed along the rehabilitated trail will provide water management benefits similar to those of waterbars.

5 **Surface Roughness:** The placement of large woody debris over the recontoured surface will help provide microsites more suitable for tree seedling growth; woody debris provides both shade and associated moisture retention.

Keep the surface rough and irregular to prevent erosion. The use of large woody debris will aid in preventing rainfall from eroding bare soils.

6 **Planting:** Tree seedlings provide the growing stock of timber for future forest management.

The phases of decompaction and the retrieval of soil during recontouring help with seedling establishment and growth. Large woody debris should not be spread too thick otherwise it would interfere with the planting areas for tree seedlings.

TRAIL DECOMPACTION

1 Decompaction should be done by ripping the trail surface with the teeth of an excavator-mounted bucket. A ripping depth of 10 to 30 cm is easily achieved.

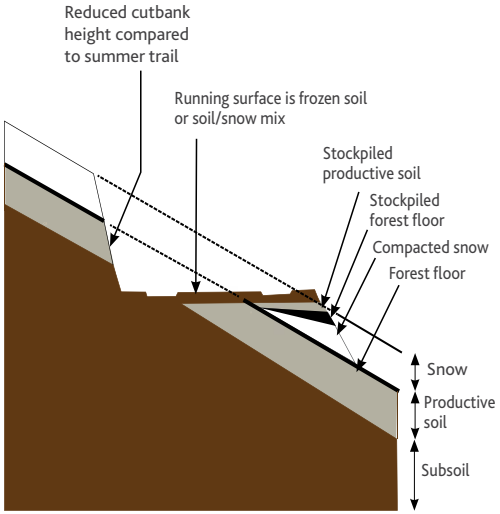
2 The mid track position should be ripped deeper than the inner track (upslope) position. This will promote an outsloping profile for the loosened soil. The shallow rip along the inner track will also help to prevent ripping into the undisturbed subsoil which could result in intercepting any functioning subsurface drainage.

4 Further spreading of the ripped material can be done with the bucket of the excavator which also will loosen the newly ripped surface material

3 The outer track location will be decompacted during sidecast retrieval and the placement of this material during recontouring.

SEASONAL CONSIDERATIONS

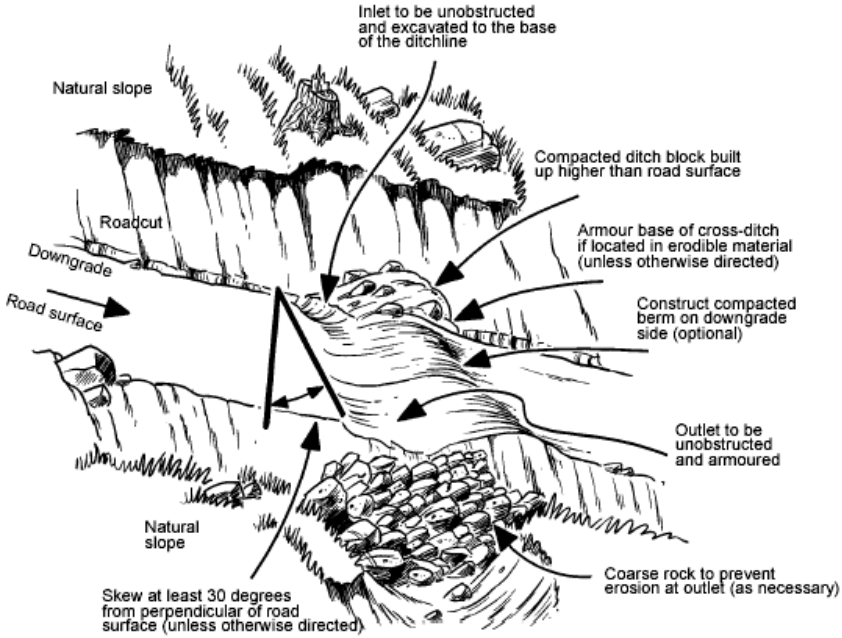
- When full rehabilitation of a summer-built trail needs to be suspended due to the onset of winter and frozen conditions, partial deactivation is required to control the water and prevent erosion along the trail network. Waterbars must be constructed along the trail before abandoning the trail network for the winter. Full deactivation can start again once the weather permits, allowing decompaction and recontouring to be completed. Rehabilitating trails concurrent with the completion of a logical unit / area will help to reduce the need to suspend activities.
- Deactivation of a winter constructed trail needs to be completed during the winter and before the snow melts. The snow placed as fill is providing support to the trail. If the snow melts the width of the trail will be reduced and the sorted soil layers will be compromised. A reduced trail width would not provide the needed trail width or stability for an excavator to rehabilitate the trail.
- During winter recontouring, retrieved material placed along the trail will settle as the snow melts, therefore material should be placed higher to compensate for this settlement.



Kootenay Business Area Road Deactivation Guidance Document

The intent of deactivation is to place the road in a self-maintaining state that will indefinitely protect adjacent resources at risk.
The purpose of a cross-ditch is to intercept road surface and ditchline water and convey it across the road onto stable, non-erodible slopes below the road.

Diagram of cross-ditch installation across an intact road.



A well-compacted ditch block will be installed immediately downgrade of the cross-ditch inlet. The ditch block is usually higher than the road surface. The ditch block should be non-erodible, relatively impermeable, and large enough to divert all expected flows into the cross-ditch. Where ditchwater converges at low points in the road, no ditch block or berm is required, as the cross-ditch should be constructed as a broad gentle swale.

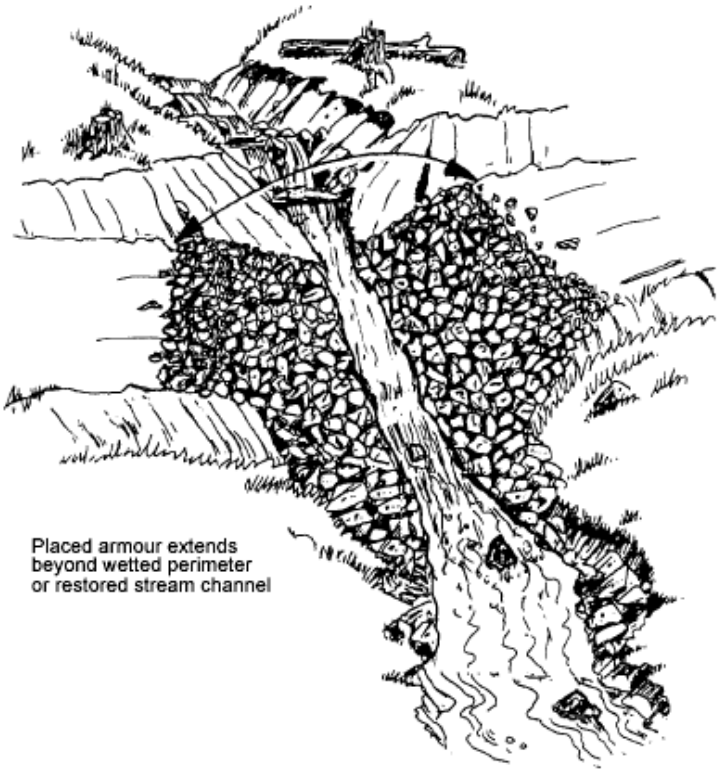
- Armour the base of the cross-ditch if erosion or rutting of the subgrade is expected to cause a problem for future road access. Armour the outlet of the cross-ditch, unless noted in the prescriptions. Size and placement of the armour will depend on the anticipated flows and downstream consequences.

August 2011

- Use angular rock large enough to protect exposed soil, but small enough so as not to divert or obstruct flows. Where coarse rock is unavailable, other methods of protecting the outlet area may include revegetation, erosion control mats, sandbags, soil bioengineering, or appropriately sized and placed woody debris.
- The resulting cross ditch or ford will allow for easy 4 wheel drive, pickup truck access.

A ford is a dip in a road constructed to cross a perennial or ephemeral stream. It is usually designed and built as a permanent feature during original road construction, or road deactivation

Example of a ford installed on a non–fish-bearing stream.



August 2011

Sustainable Forestry Initiative (SFI) Client General Awareness Document

The purpose of this document is to provide BC Timber Sale clients (supervisors/workers) with a general awareness to the principles of the SFI Forest Management Standard, including SFI basic training requirements in a tailgate training format. To learn more about the SFI organization and its standards go to www.forests.org The SFI principles are based on an array of objectives, performance measures and indicators.

SFI Forest Management Standard Principles

Sustainable Forestry

- Forest Management is a balance of social, economic, and environmental values now and in the future
- Balancing harvesting with the needs of other values like water, soil, plants, animals, aquatic habitats and ecological communities, recreation, and the capacity of the land to grow trees including consideration of climate change adaptation and mitigation.

Forest Productivity and Health

- Protect soils because productive soils support ecological values including growing trees
- Know the applicable soil disturbance limits and use appropriate methods to avoid excessive soil disturbance
- Become familiar with applicable invasive plants in your area and prevent/minimize their introduction and spread
- Prevent forest fires

Protection of Water Resources

- To protect and maintain water quality and quantity of water bodies and riparian areas, Follow BCTS Environmental Field Procedures (EFPs) and any local Water Quality Best Management Practices (BMPs) applicable to your forest management activities
- Ensure that forest practices do not degrade water quality values through the introduction of soil/silt; petrochemical products like hydraulic fluid, oil, gas, and diesel; and other chemicals used in forest management activities, e.g., herbicides
- Maintain the water's natural drainage patterns to the fullest extent possible and re-establish natural drainage patterns upon completion of forest management activities
- Follow wet weather shutdown procedures where they exist
- Do not disrupt the natural rate and timing of water flow through road construction or other forest management activities

Protection of Biological Diversity

- Know that BCTS's Species of Management Concern (SOMC) program is intended to protect threatened or endangered species and ecological communities (plants and animals).
- Know what SOMC exist, or could exist, in areas associated with your forest management activities
- Become familiar with Project Plans for forest operations to understand how to manage for SOMC
- Know about and protect biologically significant sites in or around areas of proposed forest management activities, e.g., parks, ecological reserves, old growth management areas, wildlife habitat areas, etc.
- Maintain Wildlife Tree Retention Areas (WTRAs) and other stand-level retention requirements

Version Sept 19, 2022

Aesthetic Values and Recreation

- Implement Project Plans for forest operations to ensure that visual values on the landscape are maintained
- Prevent or mitigate potential negative impacts to recreational opportunities as a result your activities

Protection of Special Sites

- Know about geologically (i.e. Karst) or culturally (i.e. historic, First Nations traditional use) significant sites in or around areas of proposed forest management activities in order to protect their unique qualities

Efficient Use of Fiber Resources

- Ensure efficient utilization of harvested timber, minimize waste

Recognize and Respect Indigenous Peoples' Rights

- Understand and respect traditional forest-related knowledge, including non-timber forest products of value to indigenous peoples
- Identify and protect spiritually, historically or culturally important sites

Legal and Regulatory Compliance

- Know the laws applicable to your activities (See http://www.bclaws.ca/legallinks.html)
- Make sure your activities are consistent with Project Plans that guide your forestry management activities
- Follow applicable Safety/WorkSafeBC laws and regulations

Training and Education

- Ensure that supervisors have completed BCTS EMS/SFM Awareness training and show documentation to BCTS
- Train your crews and maintain training records
- Commit to continuous learning in the areas in which you are involved in forestry activities
- Understand what aspects of your job have the greatest environmental impacts and then learn how to implement new procedures, techniques, or technology to minimize potential impacts

Continuous Improvement

- ✓ STOP WORK if you believe the Project Plan will not work
- ✓ Monitor and inspect your work
- ✓ Follow-up on corrective and preventative actions
- ✓ Participate in internal and external audits
- ✓ Report project changes and inconsistent forest practices

If you suspect that forest practices are not meeting the SFI principles you are encouraged to submit a complaint as described on the Western Canadian SFI Implementation Committee (WCSIC) Inconsistent Practices website. To learn more about WCSIC, or how to file a complaint, please refer to the WCSIC '*Procedure for Addressing Allegations of SFI Non-Conformance*' at the following web address: http://www.wcsic.ca/Inconsistent/Practices.php

Version Sept 19, 2022

BC TIMBER SALES – Working with Indigenous Peoples

Last Updated: September 19, 2022

BC Timber Sales (BCTS) manages the harvesting and reforestation of approximately 20 per cent of the allowable annual cut for public land, generating economic prosperity in British Columbia through safe and sustainable forest management and the auction of timber. As part of our business planning, there are guiding principles for forest sector safety, sustainable forest management, and reconciliation with Indigenous Peoples.

Reconciliation with Indigenous Peoples is integral to BCTS' mandate and its long-term success, and the program will continue to engage with Indigenous Peoples on how to best collaborate and continue our collective journey towards reconciliation. Part of this journey is improving cultural awareness and the understanding of Indigenous Peoples' history, relationship with the land and legal framework. This includes opportunities to build effective and ongoing relationships with Indigenous Peoples.

Working together with Indigenous Peoples takes willingness to building relationships by participating in open exchanges regarding wants, experiences and culture. Each Indigenous Nation has unique cultures, community interests, and concerns regarding operations in their territories. Indigenous Peoples would like the land to be treated with respect, and the impacts to the land and its values minimized. As part of building relationships and informing operational decisions, it is important to understand Indigenous Peoples' connection to the land and how Indigenous knowledge can inform such decisions.

Understanding our shared history and why it has led to intergenerational trauma for Indigenous Peoples is an important step towards reconciliation, righting some wrongs from the past, and improving relationships with Indigenous Peoples.

The following information provides further insight into why we need to work with Indigenous Peoples but is only a fraction of available information. This document should be considered a starting point in educating all who work with BCTS.

Ongoing Learning is important to understand why colonialism has resulted in ongoing generational trauma for Indigenous Peoples. This includes educating ourselves on traditional governance, Indigenous Peoples' connection to the land, and the importance of traditional knowledge.

We need to build positive relationships through self-discovery and awareness, and understanding why cultural humility and cultural safety are important to healing relationships.

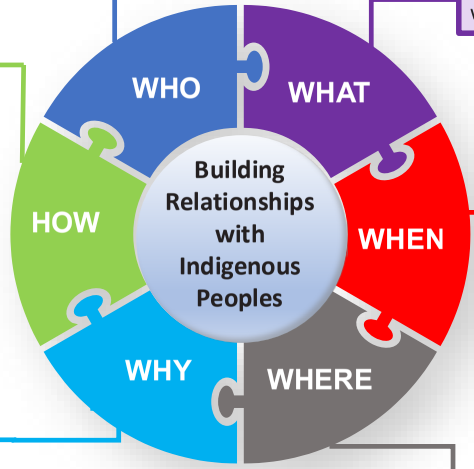
Education, listening to each other, and understanding everyone's points of view and culture are important to reduce potential conflict.

The ability to work respectfully, knowledgeably, and effectively will result in positive relationships.

Indigenous and Non-Indigenous Peoples need to work together to build a better British Columbia. This includes all who work directly for BCTS, TSL holders and contractors.

Colonialism forced Indigenous Peoples to disconnect from their lands, culture, and community.

To attempt to right wrongs from the past, we must work together to move towards reconciliation and build positive relationships with Indigenous Peoples.



Since **European contact** in the late 1700s (for BC) colonialism has greatly impacted Indigenous Peoples through assimilation, systematic destruction of culture, and disease.

The goal of the Province (including BCTS) is to reconcile with Indigenous Peoples. This includes providing opportunities for Indigenous communities to participate in BC's economy.

This process is ongoing, and reconciliation will be achieved when everyone agrees. This may take time and will evolve over time.

Colonialism has greatly impacted Indigenous Peoples through racist and colonial policies, and the effects are still seen today. Some examples of this are: the continuing existence of the *Indian Act;* residential and day schools; Indian hospitals; the sixties and millennium scoops; the missing and murdered Indigenous women and girls, and past and current provincial and federal government systems.

By working together, we can shift the status quo and renew trust based relationships with Indigenous Peoples based on respect.

Success will be when Indigenous Peoples believe they are self-governing, self-reliant and self-determining.

As part of reconciliation, building respectful relationships, and forming positive partnerships with Indigenous Peoples will take place within and outside of government and on government worksites, and industry (including forestry) is also working to partner with Indigenous Peoples.

EMS INCIDENT REPORTING REQUIREMENTS

1. **Emergency Response Incidents**
   - *Fire:* Any uncontrolled fire related to BCTS activities
   - *Spills:* any spill exceeding BCTS reportable levels or any amount spilled into or immediately adjacent to a stream, lake or running water.
   - *Erosion/Landslide events:* any emergency situations or potential emergency exists, abnormal movement has or is occurring, abnormal sedimentation, a volume of material greater than 250^{m3} has moved or is at imminent risk of movement, or a land area greater than 0.25 ha is disturbed through erosion processes
2. **Potential Non-Compliance:**
   - In the opinion of the person reporting, legislation and regulation has been violated and there may be an agency investigation to determine fact and possible enforcement action.
3. **Significant Non-conformance:**
   - An occurrence or event that has or will likely result in a negative impact to a significant environmental aspect and cannot be immediately rectified
   - Where the EMS program has been severely compromised and or a *"Notice to Comply"* has been issued at the discretion of local management. This includes; repeated non-conformances that may become significant.

Reportable Levels		
Substances	**BCTS**	**PEP**
Antifreeze	5 litres	5 kilograms
Diesel fuel	25 litres	100 litres
Gasoline (auto & saw)	25 litres	100 litres
Greases	25 litres	100 litres
Hydraulic Oil	25 litres	100 litres
Lubricating Oils	25 litres	100 litres
Methyl Hydrate	5 litres	5 kilograms
Paints & Paint Thinners	25 litres	100 litres
Solvents	25 litres	100 litres
Pesticides	1 kilogram	1 kilogram
Explosives	Any	Any

NOTES

NOTES

BCTS BC Timber Sales	**BCTS Environmental Management System** **EMS Tailgate Training**

Field Card for use by LPC supervisors to support worker EMS and SFM training

BEFORE STARTING WORK KNOW ABOUT:

1. Environmental and Sustainable Forest Management Policies

- Complying with the law.
- Prevent & minimize impacts on the environment.
- Practice of sustainable forestry.
- Recognition and respect for indigenous rights
- Continuous Improvement

2. Emergency Response Plan

- Know your eERP roles and responsibilities.
- Be prepared for emergencies i.e. fire, spills and erosion events**.**
- Know location of applicable ER equipment (spill kit, hand tools, fire suppression).

3. Environmental Field Procedures

- EFP #1 "General" applies to all workers.
- EFP #2 "Supervisors" applies to project and/or onsite supervisors.
- EFP #3 "Developing & Planning" applies to planning & development activities.
- EFP #4 "Roads Bridges and Major Culverts" applies road construction, maintenance, inspections and deactivation activities.
- EFP #5 "Harvesting" applies to all phases of harvesting activities.
- EFP #6 "Fuel Handling" applies to fuel handling activities.
- EFP #7 "Dryland Sort" applies to dryland sort activities.
- EFP #8 "Marine Log Handling Facilities" applies to construction & operations of log dumps, helicopter water drop zones, and direct barge-loading facilities.

Ensure all workers are familiar with the EFPs that apply to their roles and responsibilities before starting work. Copies available from your supervisor or BCTS representative.

4. Stop Work Procedures (See EFPs)

If not sure, Stop Work and contact your project supervisor or BCTS representative.

5. What to report to Supervisor and BCTS

- Hazardous Material Spills, Uncontrolled Fires & Erosion / Landslide Events.
- Potential non-compliances and non-conformances.
- Unidentified resource features, values, or sensitive areas e.g. Karst, Bear dens, culturally modified trees
- Species of Management Concern sightings.
- Changes to project plan.
- Safety hazards, close calls/near misses, or accidents.
- STOP Work situations