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ENVIRONMENTAL EMERGENCY RESPONSE PLAN ERP - 001

NACFOR Contact Information
NACFOR office: 250-265-3603 (8 AM to 5 PM Monday – Friday)
Supervisor: Mike Crone 250-307-1869 cell; Erin McLeod 250-265-1965

Environmental Emergency Contact Information
BCWS Forest Fire Reporting : 1-800-663-5555 or *5555 on mobile phone
Spill Reporting: 1-800-663-3456 Emergency Coordination Centre (ECC)
CANUTEC (Canadian Transport Emergency Centre) for transportation of dangerous goods 1-888-226-8832, 1-613-996-6666 or *666 on cell phone (technical contact)
General Contact Information
Police: <u>All areas 911</u>
Work Safe BC: 1-888-621-7233 after hrs 1-866-922-4357
BC Ambulance: Within cellular network: 911 On Satellite phone: 1-250-374-5937 Toll Free: 1-800-461-9911
Hospital: Nakusp 250-265-3622, New Denver 250-358-7911
Hi-Terrain Helicopters (Nelson): 1-250-354-8445
Hi-Terrain Helicopters (Nakusp): 250-265-3434
Poison Control Centre: 1-800-567-8911
Arrow Park/Needles Ferry: WaterBridge Ferries 250-265-2105

BC Hydro Emergency: 1-800-224-9376 or *49376 on mobile phone
BC Wildfire Service phone: Southeast Fire Centre 250-365-4040, Website http://bcwildfire.ca/
Spill Response Specialists: <u>SNC-LAVALIN (Morrow Environmental)</u>
<u>Trail Office</u> 250-368-3256
<u>Nelson Office</u> 250-354-1664
<u>Kelowna Office</u> 250-861-9070
<u>Golder Associates</u>
Castlegar, office 250-365-0344
Kelowna, office 250-860-8424

First Aid, Injury and Fatality Response	
Life Threatening Emergency Situations	First Aid / Injury
<i>Call 911</i>	Call / radio First Aid attendant to the scene.
	Ensure site is safe, comfort patient, assist FA attendant as needed. Help to package patient and arrange for emergency transport

Fatality
Ensure site is safe.
Phone 911 or alternate number if using the satellite phone, or RCMP. Call WSBC at 1-888-621-7233 Mon – Fri 0830-1630 After Hours 1-866-922-4357.
Do not disturb the site, cover the body, ribbon off the area, and block access with machine if needed.
No one is to make any statements to anyone except to the Supervisor.

FOREST FIRE PREPAREDNESS AND RESPONSE

Initial Fire Response

1. Stop operations and immediately notify the rest of the crew regardless of fire size.
2. **Report Forest Fires immediately to BC Wildfire Service and NACFOR.**
3. The individual reporting the fire shall remain available to communicate details of the fire suppression activity taken and what may be required.
4. The remaining crew will immediately action the fire to their level of safety and competence.
5. The person in charge of the crew during suppression operations will continue to supervise the efforts until relieved by licensee/contractor representative or BC Wildfire Service personnel.

If Alone

1. Take immediate action on the fire if you believe you can safely control it yourself.
 2. If the fire is beyond your ability, notify the BC Wildfire Service immediately and follow their instructions. DO NOT take action on an intense fire yourself
 3. Report the fire to BC Wildfire Service and licensee/contractor representative as soon as you feel that the fire can be left alone without spreading out of control.
- Complete NACFOR Incident Report Form (CHK-014) and submit to NACFOR**

Fire Roles and Responsibilities

Prior to Start-Up and During Operations

- For all Industrial Activities**
- Determine fire response equipment sufficient for the type of operation and the associated fire risk to comply with the *Wildfire Regulation*. Ensure that you have adequate firefighting hand tools on site if there is a risk of a fire starting and spreading.
 - Ensure there are firefighting hand tools easily accessible on site in a combination and type to properly equip each person who works on site with at least one firefighting hand tool.
 - See **ERP 3** for a list of required firefighting tools.
- For all High-Risk Industrial Activities**
- Determine if your operations are considered high-risk as defined in “Part 1: Interpretation” of the *Wildfire Regulation* (e.g., mechanical land clearing and felling, processing, debris piling, using power saws, using fire- or spark-producing tools, welding, etc.)
 - While carrying out high-risk activities from March 1 to November 1, unless the area is snow-covered, you must determine and monitor the fire danger class for the activity location and follow all restrictions related to the current fire danger class
 - If there is a risk of a fire starting or spreading:
 - keep firefighting hand tools on site as described in **ERP 3**
 - have an adequate fire suppression system on site that is capable of initial suppression of a fire of a reasonable/foreseeable size if started on site
 - Also refer to Wildfire Prevention for Industry and Commercial Operators:
<https://www2.gov.bc.ca/gov/content/safety/wildfire-status/prevention/for-industry-commercial-operators>
- Determine Appropriate Weather Station for Fire Danger Class Ratings – Falls Creek**
- Use the interactive map on the following website to find a representative weather station(s) to monitor for fire danger class ratings during operations: www.bcwildfire.ca/Weather/stations.htm
 - Be aware the danger class rating on your site may be higher than the danger class ratings provided. Be sure to consider additional site conditions such as changes in slope aspect, stand conditions, forest health, or surface fuel conditions when determining applicable weather station to use and when to restrict your activities.

Fire Roles and Responsibilities - continued

- ✓ **Provide 24hr Contact information**
 - Contractors must provide the NACFOR supervisor 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 Emergency Response Plan with worksite details and company contact information**

During Operations

- ✓ **Ensure employees are aware of all fire preparedness responsibilities and trained** for their fire duties in accordance with Work Safe BC requirements
- ✓ **Conduct periodic drill(s) of fire preparedness and response** based on fire danger class ratings, employee knowledge and experience, seasonal conditions, environmental impact, and adjacent values.
- ✓ **Regularly monitor the appropriate fire weather index information** using your representative weather station (**Falls Creek**) and determine the appropriate Fire Danger Class for the area. For Danger Class Reports go to: <https://wfapps.nrs.gov.bc.ca/pub/wfwx-danger-summary-war/dangerSummary?fireCentre=Southeast%20Fire%20Centre>
- ✓ **Restrict activities during Fire Danger Class 3 (III), 4 (IV), or 5 (V) situations**, including implementing fire watch, patrol, early shift, and cease activity, as required (see "Schedule 3: Restrictions on High Risk Activities" of the *Wildfire Regulation*). Monitor activities and changing site/weather conditions. Do not operate solely based on the restrictions outlined in "Schedule 3" of the *Wildfire Regulation*.
- ✓ **Ensure a copy of the emergency response plan is onsite**
- ✓ **Conduct regular fire suppression equipment inspections and maintenance**
- ✓ **Report and be prepared to action a forest fire that is within 1 km of the worksite**
- ✓ **Complete Hazard Assessments and Abatement** at prescribed intervals in accordance with the *Wildfire Regulation*
 - Keep all debris piles clean, obtain burn reference number by calling 1-888-797-1717 or email hpr.1800@gov.bc.ca, complete hazard abatement and follow requirements including monitoring of burning activities
 - For smoke management/venting indices call Provincial Venting Index Hot Line 1-888-281-2992 or visit BC Environment Venting Index website <https://www.env.gov.bc.ca/epd/epdpa/venting/>
 - Extinguish and inspect debris piles by date specified on burning reference number
 - Apply to extend reference number if required to extinguish

SPILL PREPAREDNESS AND RESPONSE

Initial Spill Response Activity

1. Discovery and Assessment

- Follow safety procedures and use appropriate personal protective equipment (PPE) prior to initiating response plan. Safety will take precedence over environmental cleanup.
- Account for all personnel.
- If safe, **STOP THE PRODUCT FLOW!** Halt activities that are causing the spill (eg. Close valves; elevate leaking hoses, shut off pumps, etc.) **Minimize Impact of Spill**
- Prior to taking action complete an incident assessment (Safety, Spill ID/Volume and Environmental)

2. Notification and Documentation

- Report spills in accordance with spill reporting criteria listed "Table 1" below.
- If you feel that the spill is beyond your level of training and experience to handle, it is advisable that you seek assistance from a spill response specialist.**

3. Containment and Recovery

- Take action within your ability using available resources (hand tools, heavy equipment, and spill response equipment) to minimize the spread and impact of the spill until additional resources and expertise arrive.

Spills on Land

- Determine the extent and mark the perimeter of the spill. Contain spills away from any water.
- 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.

Spills in Water

- In a ditch or stream, contain the spill using whatever surface water containment system possible
- Divert and corral the spilled product to the containment system using absorbent booms or other methods
- Continue to sweep and corral the spilled product to one corner 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 heavy-duty plastic bag or other suitable container 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 NACFOR as required.
- Complete clean-up and required mitigation actions. If required, contact a spill response specialist for assistance.
- Complete NACFOR Incident Report Form (CHK-014) and submit to NACFOR**

Spill Roles and Responsibilities (BE PREPARED)

- ☑ **Assess risk for potential spills:** identify additional preventative and control measures
- ☑ **Ensure all workers understand the emergency response plan (ERP)** and know where the ERP is located 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 appropriate MSDS available on site
- ☑ **Conduct periodic drill(s) of spill preparedness and response** based on employee knowledge and experience, environmental impact, and adjacent values. Where applicable refer to local procedures.
- ☑ **Complete spill kits inspections and maintain spill kits** as necessary
 - For spill kit content requirements, see Fuel Handling SOP.
- ☑ **Respond to all spills** in accordance with the ERP
 - 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 NACFOR.

Spill Reporting Criteria (If in Doubt Report the Spill)

- ☑ All spills that are equal to or greater than those outlined in the *Spill Reporting Regulation* must be reported to **1-800-663-3456** or spillreports@gov.bc.ca as soon as possible within 24hrs.
- ☑ Any spills of deleterious substance to a watercourse must be reported as soon as possible within 24hrs.
- ☑ All spills that are equal to or greater than the NACFOR reportable level must be reported to NACFOR contact as soon as possible within 24hrs.

Table 1: Reportable Levels of Hazardous Materials Spills

Hazardous Material	PEP Reportable Level ^(1, 2)	NACFOR Reportable Level ⁽²⁾
Antifreeze	5 kilograms (5 litres)	5 kilograms (5 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 kilograms (5 litres)	5 kilograms (5 litres)
Paints & Paint Thinners	100 litres	25 litres
Solvents	100 litres	25 litres
Pesticides	1 kilogram	1 kilogram
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)

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 shut down.
2. **Immediate Remedial Action.** Take steps to control further environmental impacts.
3. **Notification.** Report the erosion event to the NACFOR contact within 24 hours or as soon as practical (refer to reporting criteria below)
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 (avoid riparian management areas, steep side slopes, steep road sections, areas with excessive soil moisture, and areas within reach of standing timber).
5. **If Environmental Damage Has Occurred.** The NACFOR contact must review the situation with the appropriate personnel. Work in the area may only resume after approval has been granted.
6. **Complete NACFOR Incident Report Form (CHK-014) and submit to NACFOR**

Landslide & Erosion Roles and Responsibilities

- Verify that operations are conducted in a manner that minimizes the risk of an erosion event occurring.
- Ensure all workers understand and trained in response procedures and it is available on site at all times.
- Supervisor ensures all employees are familiar with risk areas.
- Assess landslides and erosion events, determine reporting requirements, and report to NACFOR contact immediately where applicable.
- Respond to erosion events in accordance with this emergency response plan (ERP).

Landslide & Erosion Event Reporting Criteria

Landslides and major erosion events must be reported to NACFOR 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 m³ has moved or is imminent danger of movement,
- A land area greater than 0.25 hectares is disturbed,
- A road or structure is damaged and requires structural repairs.



COMMUNITY AND DOMESTIC CONSUMPTIVE USE WATERSHEDS

ERP 002

ERP Scope and Purpose

This ERP applies to NACFOR contractors and their workers involved in forest practices within 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 NACFOR-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.
- 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 armouring 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 NACFOR are advised of planned water interruptions or potential sediment increases as a result of activities.
- Report to the NACFOR forest manager **any** amount of unexpected soil movement or **any** quantity of material spill or equipment fluid leaks within the watershed area.



COMMUNITY AND DOMESTIC CONSUMPTIVE USE WATERSHEDS

ERP 002

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 NACFOR representatives as soon as possible.
5. Document details of the incident and response measures using *Environmental Incident Report Form* and submit to NACFOR.
6. Work Co-operatively with NACFOR, other agencies, and water users to investigate incidents and to implement measures to restore disrupted water supply quickly, thereby minimizing impacts on water users.



SUMMARY OF FIRE TOOLS REQUIRED MARCH 1 TO NOVEMBER 1

ERP 003

When the Fire Danger Class (DGR) is III or lower, your NACFOR supervisor may approve a modified tool requirement list. This modified list must be documented and signed by the NACFOR supervisor. The modified tool list will only apply to the sites and dates specified on the documentation. When the (DGR) is greater than III, the following list must not be modified.

Hand Tools – All Sites	<ul style="list-style-type: none"> • Minimum of 1 hand tool per worker on site <i>(in a combination and type to fight a fire)</i> Hand tools include: round-nosed shovel, pulaski or mattock, or hand-tank pump (min 18L of water)
Heavy Equipment including Logging Trucks	<ul style="list-style-type: none"> • 1 round-nosed shovel • 1 pulaski or mattock • 2 charged fire suppression systems <i>(i.e. Fire extinguisher(s), backpack pump, and/or internal suppression system)</i>
Pick-Up Truck	<ul style="list-style-type: none"> • Minimum 1 hand tool • Backpack pump <i>(optional, unless otherwise specified by NACFOR)</i> • Fire extinguisher
Per Site:	The following firefighting equipment is required on site in addition to the items listed in previous sections above. A site is defined as work areas within 5km on tributary roads.
<ul style="list-style-type: none"> - Clearing ROW - Felling - Processing - De-limbing - Skidding - Yarding - Disk Trenching <p><i>Sites where loading is the only active operation do not require a suppression system</i></p>	<ul style="list-style-type: none"> • 1 water delivery system for 1-10 workers • 2 water systems for 11 or more workers <i>(water delivery system includes: water pump of reasonable size, appropriate number of nozzles and sufficient hose to reach all corners of block)</i> • Available water source <ul style="list-style-type: none"> - <i>lake, creek etc. or;</i> - <i>one 2,500L water tank</i>
Piling or MSP with excavators	<ul style="list-style-type: none"> • 1 fire suppression system (defined as the excavator being capable of covering potential fire with soil)
Hot Works (Welding/Grinding)	<ul style="list-style-type: none"> • Minimum of 1 Backpack pump • 2 Fire extinguishers • 1 Shovel
Brushing (with mechanical brush saws)	<ul style="list-style-type: none"> • Minimum 1 personal fire extinguisher for each brush saw operator • Minimum 1 hand tool per worker on site

GUIDELINES

Guidelines are non-statutory procedures, practices and results that are consistent with the legislated requirements of the Forest and Range Practices Act and Regulations. The information provided in the guidelines is intended to help users exercise their professional judgment in developing site-specific management strategies and prescriptions designed to accommodate resource management objectives.

Four guidelines have been provided to help NACFOR management and contractors plan, prescribe and implement sound forest practices that comply with the ESMS.

Guide to Minimizing Soil Disturbance	GD – 001
Road Deactivation Guide	GD - 002
Directive: Terrain Stability and Soil Conservation	GD - 003
General Best Practices for Maintaining Terrain Stability	GD - 004
Invasive Plants General Best Management Practices	GD - 005

ENVIRONMENTAL STANDARD OPERATING PROCEDURES

Standard operating procedures (SOPs) are operational controls that ensure safety and environmental objectives are met.

Title	SOP #	Activity
Common to all Operational Phases	SOP – 01	All
Ground Based Conventional Logging	SOP – 02	Harvesting, Roads and Silviculture
Cable Logging	SOP – 03	Harvesting, Roads and Silviculture
Stream Crossings	SOP – 04	Harvesting, Roads and Silviculture
Road Construction	SOP – 05	Roads
Road Maintenance	SOP – 06	Roads
Road Deactivation	SOP – 07	Roads
Bridge, Culvert and Log Culvert Construction/ Removal	SOP – 08	Roads
Fuel and Chemical Handling	SOP – 09	All
Spill Kit Requirements	SOP – 10	All
Site Preparation	SOP – 11	Harvesting, Roads and Silviculture
ESMS Tracking	SOP – 12	All
Development and Layout	SOP – 13	Planning
Procedures for Working Along Powerlines	SOP – 14	Harvesting, Roads
Wildlife Habitat Features	SOP – 15	All
Migratory Birds	SOP – 16	All
Special Tree Protection Regulation	SOP – 17	All



COMMON TO ALL OPERATIONAL PHASES

This SOP applies to all Contractor workers involved in any field activities including all planning, harvesting, roads and silviculture related activity. It describes general requirements to minimize impacts on the environment and to promote safety. This SOP does not replace the requirements of legislation, licences, permits and contracts.

1. Follow NACFOR's safety and environmental policies at all times.
2. This SOP applies at all work sites. It is your responsibility to be familiar with all SOPs which apply at your work site.
3. If you see unsafe work practices, or unacceptable environmental damage is occurring, you must take immediate action to address the issue. You have the right to refuse unsafe or environmentally unsound work.
4. Before starting work in a new area, or after an extended shutdown, the Supervisor must complete an on-site prework of the project plan with the Contractor Representative. The prework must emphasize site specific environmental and safety issues, and must be signed-off to indicate an understanding of the plan.
5. To avoid potential trespass situations, ensure plans, maps, and boundary markings are clearly understood before starting work. If in doubt, contact your Supervisor. Maps, prescriptions or other project documents must be readily available. Know your location on a map at all times.
6. Monitor your work to ensure that completed work has met the project objectives. If you can't follow the plan, or following the plan may compromise safety or the environment, **Stop Operations** and contact your Supervisor.
7. Familiarize yourself with the area, project plan, map, field markings and location of hazardous or sensitive areas. Ensure that all features identified on the site map can be located on the ground and that the related guidelines, best management practices, and SOPs are available for reference.
8. Operate during favorable weather conditions and know the shut-down criteria.
9. When working in Riparian Management Areas, Lakeshore Management Zones or other Resource Management Zones, you must clearly understand what activities you can and cannot do.
 - If you discover a stream or wetland that is not identified on the plan you must contact your Supervisor immediately and adjust your work practices accordingly.
10. At temporary work sites, petroleum products and hazardous materials are to be transported, stored and handled in a safe and environmentally responsible manner.
 - Do not store fuel, refuel, or service equipment within 30 meters of a water body or riparian area unless special circumstances exist as described in **SOP 9**, Bullet number 10.
11. In case of an emergency such as a fire or controlled substance spill;
 - Contact your Supervisor and take immediate action.
 - Follow the NACFOR Spill Emergency Response Plan
 - Follow the NACFOR Wildfire Emergency Response Plan

CONTINUED ON NEXT PAGE



12. Collect used industrial products and special wastes (including aerosol cans) for re-use, recycling or proper disposal. Ensure all other garbage is properly disposed of in an approved landfill site.
13. Check first aid kits, fire extinguishers and spill kits regularly to ensure they are available and have all required supplies.
14. The Wildfire Act and Regulation applies at all worksites. Be aware of the current Fire Danger Class and conduct your work accordingly. If you spot a wildfire, contact your Supervisor and implement the NACFOR Wildfire Emergency Response Plan.
15. Follow a routine equipment maintenance schedule so all machines are functioning safely. Ensure all equipment issues are dealt with in a timely manner.
16. Report any sightings of Species at Risk, Wildlife Habitat Features, migratory bird nests, or other sensitive features to your Supervisor.
17. Follow NACFOR's Invasive Plant Best Management Practices to limit the spread of invasive species and report infested sites to your Supervisor.

STOP WORK and contact your Supervisor if:

- **You are uncertain of map content, field markings or location of hazardous or sensitive areas.**
- **A previously unidentified cultural, resource feature, value or sensitive area is found.**
- **You experience unfavorable weather or site conditions that could cause environmental damage.**
- **You believe the project plan will not work.**

Reasons to Temporarily Shut Down Operations

- × Emergencies and Safety: All workers have the right to refuse unsafe work
- × Unclear Map or Plan Detail
- × Slope Instability
- × Excessively wet conditions following periods of intense rainfall
- × Road Surface Deterioration: hauling should cease when road surfaces become "soupy"
- × Trespass / Damage to Stands and Plantations
- × Fire danger rating is extreme or you start a fire
- × Soil Damage
- × Hazardous spill
- × Damage to Resource Features
- × Species at Risk or other sensitive features encountered



GROUND BASED CONVENTIONAL LOGGING

This SOP applies to all Contractor workers involved in any field activities including all planning, harvesting, roads and silviculture related activity. It describes general requirements to minimize impacts on the environment and to promote safety. This SOP does not replace the requirements of legislation, licences, permits and contracts.

1. All work is to be conducted in a safe and environmentally sound manner.
2. All work is to be conducted according to the plan that is reviewed at the pre-work meeting. The logging plan map and site plan must be on site at all times.
3. All crew members must be aware of the location of identified steep slopes and sensitive areas (which may be prone to site disturbance). If you are required to work on steep slopes you must be familiar with safe work procedures for those slopes.
4. All crew members must be aware of the location of all known riparian areas and wildlife features.
5. Maintain a 5 meter “No Machine” buffer on all streams unless exempted in the logging plan.
6. Ensure that all feller buncher operators and/or fallers are retaining the required leave trees and/or vegetation in Riparian Management Zones.
7. Where possible, fall and skid away from riparian areas.
8. If you identify wildlife features, cultural heritage features, migratory birds, or other sensitive areas that do not appear in the Plan, do not disturb them and report the finding and location of such features to your Supervisor.
9. Bladed skid trails must be located according to the guidelines discussed at the pre-work meeting.
10. Always maintain natural drainage patterns. Refer to **SOP-04** for in-block stream crossings.
11. Minimize soil disturbance when skidding. If skidding is creating excessive disturbance, move to another suitable area until the problem area can be reviewed with your Supervisor.
12. Deck logs according to the harvest plan/map and away from riparian areas. If roadside decking, ensure that decks do not block drainage features or culverts.
13. Debris accumulations are to be piled on roads, landings, and low productivity sites whenever practicable and away from streams and standing timber. Piled debris accumulations should occupy the least amount of plantable area possible.
14. Ensure that you have the required fire tools on site during fire season and that you observe restrictions relating to the fire hazard.

When in doubt, STOP WORK and ask your Supervisor



Standard Operating Procedures

CABLE LOGGING

This SOP applies to all Contractor workers involved in any field activities including all planning, harvesting, roads and silviculture related activity. It describes general requirements to minimize impacts on the environment and to promote safety. This SOP does not replace the requirements of legislation, licences, permits and contracts.

1. All work is to be conducted in a safe and environmentally sound manner.
2. All work is to be conducted according to the plan that is reviewed at the pre-work meeting. The logging plan map and site plan must be on-site at all times.
3. All crew members must be aware of the location of all known riparian areas, wildlife features, and sensitive areas. If you are required to work near such features you must be familiar with the related guidelines, best management practices, and SOPs.
4. Ensure that all fallers and/or tethered machine operators are retaining the required leave trees and/or vegetation in Riparian Management Zones.
5. Where possible, fall and yard away from riparian areas.
6. Backspar trails are to be located only as approved.
7. If you identify wildlife features, cultural heritage features, migratory birds, or other sensitive areas that do not appear in the Plan, do not disturb them and report the finding and location of such features to your Supervisor.
8. Always maintain natural drainage patterns.
9. Minimize soil disturbance when yarding. If yarding is creating excessive disturbance, move to another suitable area until the problem area can be reviewed with your Supervisor.
10. Debris accumulations are to be piled on roads, landings, and low productivity sites whenever practicable and away from streams and standing timber. Piled debris accumulations should occupy the least amount of plantable area possible.
11. Deck logs according to the harvest plan/map and away from riparian areas. If roadside decking, ensure that decks do not block drainage features or culverts.
12. Ensure that that you have the required fire tools on site during fire season and that you observe restrictions relating to the fire hazard.

When in doubt, STOP WORK and ask your Supervisor



Standard Operating Procedures

STREAM CROSSINGS

This SOP applies to all Contractor workers involved in any field activities including all planning, harvesting, roads and silviculture related activity. It describes general requirements to minimize impacts on the environment and to promote safety. This SOP does not replace the requirements of legislation, licences, permits and contracts.

1. All work is to be conducted in a safe and environmentally sound manner.
2. All work is to be conducted according to the plan that is reviewed at the pre-work meeting.
3. The logging plan map and site plan must be on site at all times. Know where you are on a map at all times and be aware of all streams and NCDs located within the area.
4. Field conditions for appropriate stream crossing locations will be discussed at the pre-work meeting. If you are unsure whether or not a potential crossing location meets these conditions contact your Supervisor prior to construction.
5. Log fill crossings are for short term use by equipment and should only be constructed when:
 - The stream is non-fish bearing (S5/S6) or NCD **and**
 - No water is present
or
 - Water level is sufficiently low that flow will not be impeded/diverted by logs
or
 - Deep snow/winter conditions will prevent damage to the stream channel.
6. All crossings will be constructed in a manner that maintains stability and mitigates disturbance to the stream banks and stream channel. When trees within a riparian management zone must be removed to build the stream crossing, removal will be conducted in such a way that remaining trees are sufficient to maintain stream bank or channel stability.
7. All material placed in the stream channel at short-term crossings must be removed from the crossing once the crossing is no longer needed for harvesting activities or before the next freshet; whichever is earliest. Dispose of removed debris outside riparian management areas.

When in doubt, STOP WORK and ask your Supervisor



Standard Operating Procedures

ROAD CONSTRUCTION

This SOP applies to all Contractor workers involved in any field activities including all planning, harvesting, roads and silviculture related activity. It describes general requirements to minimize impacts on the environment and to promote safety. This SOP does not replace the requirements of legislation, licences, permits and contracts.

1. All work is to be conducted in a safe and environmentally sound manner.
2. All work is to be conducted according to the plan that is reviewed at the pre-work meeting. Road construction maps and any related technical documents must be on site at all times.
3. If work is being done in an area identified with a moderate to high likelihood of landslides, ensure worker's safety by always proceeding with caution. In areas like this, it is very important to identify unforeseen conditions and report them to your Supervisor before proceeding.
4. When blasting, avoid blasting methods that may damage sensitive areas/features, increase terrain instability, or cause excessive site degradation. Minimize flyrock at all times.
5. Always maintain natural drainage patterns. Build drainage structures concurrent with subgrade construction where possible. Avoid directing water onto unstable slopes or erodible soils.
6. Where water is encountered that has not been identified in the plan (surface flows, sub surface flows, and/or excessive standing ditch water), notify your Supervisor.
7. Utilize sediment control measures as required, including silt fences, hay bales, rock armouring, swales, water bars, or siltation detention ponds as appropriate.
8. When crossing large streams, ensure that debris entering the stream is removed before proceeding. For fish streams, do not disturb the stream channel unless otherwise identified in the plan. Refer to **SOP – 04** for stream crossings.
9. Ensure that you know the stream classification of all the streams that you are crossing. S1-S4 streams are fish-bearing and/or within a community watershed and are treated differently than S5-S6 streams and NCDs. If you suspect that a stream has been misclassified or missed entirely, notify your Supervisor immediately.
10. Always know and follow all in-stream work timing windows (or as approved).
11. Ensure that you have the required fire tools on site during fire season and that you observe restrictions relating to the fire hazard.
12. Where possible, anticipate and mitigate future erosion or problem areas. This may include temporary measures over a high-risk period.

When in doubt, STOP WORK and ask your Supervisor



Standard Operating Procedures

ROAD MAINTENANCE

This SOP applies to all Contractor workers involved in any field activities including all planning, harvesting, roads and silviculture related activity. It describes general requirements to minimize impacts on the environment and to promote safety. This SOP does not replace the requirements of legislation, licences, permits and contracts.

1. All work is to be conducted in a safe and environmentally sound manner.
2. All work is to be conducted according to the plan that is reviewed at the pre-work meeting. Worksite maps must be on site at all times.
3. Always maintain natural drainage patterns. Ensure that road surface drainage is directed to drainage structures and is not impeded.
4. When brushing, ensure that debris is not accumulated at inlets/outlets of culverts and/or in ditches.
5. When grading over drainage structures, prevent material from entering watercourses.
6. Avoid placing road material on bridge decks or in stream channels or flood plains.
7. Report any damage to drainage structures to your Supervisor.
8. Protect non-target roadside vegetation (including trees) unless damage is unavoidable.
9. Culvert and bridge work must be conducted within the approved fisheries window (where applicable).
10. All road maintenance must take place in a timely manner. Where possible, anticipate future erosion and fix potential problem areas.
11. Ensure signage or notification requirements are followed.

When in doubt, STOP WORK and ask your Supervisor

Last Updated: Apr 04 2023 by EM

SOP-06



Standard Operating Procedures

ROAD DEACTIVATION

This SOP applies to all Contractor workers involved in any field activities including all planning, harvesting, roads and silviculture related activity. It describes general requirements to minimize impacts on the environment and to promote safety. This SOP does not replace the requirements of legislation, licences, permits and contracts.

1. All work is to be conducted in a safe and environmentally sound manner.
2. All work is to be conducted according to the plan that is reviewed at the pre-work meeting. Worksite maps and any related technical documents must be on site at all times.
3. For temporary deactivation, waterbars or cross-ditches are to be installed at locations where there is a risk of erosion such as:
 - at culverts and ditches that are prone to plugging,
 - on steep or long grades,
 - on switchbacks.
4. All cross-ditches and waterbars that are constructed in highly erodible material are to be armoured.
5. Cross-ditches are to be located so as to avoid channeling water onto potentially unstable slopes.
6. When re-establishing natural drainage patterns during road deactivation, the road fill should be removed down to the natural stream channel. Fill slopes must be left in a stable condition after removal of culverts or other drainage structures.
7. Temporarily deactivated roads should be 4x4 driveable.
8. Ensure natural drainage patterns are maintained.
9. Always know and follow all in-stream work timing windows (or as approved).
10. Ensure that you have the required fire tools on site during fire season and that you observe restrictions relating to the fire hazard.
11. All road deactivation must take place in a timely manner. Where possible, anticipate future erosion and fix potential problem areas. This may include temporary measures over a high-risk period.

When in doubt, STOP WORK and ask your Supervisor



Standard Operating Procedures

BRIDGE, CULVERT & LOG CULVERT CONSTRUCTION & REMOVAL

This SOP applies to all Contractor workers involved in any field activities including all planning, harvesting, roads and silviculture related activity. It describes general requirements to minimize impacts on the environment and to promote safety. This SOP does not replace the requirements of legislation, licences, permits and contracts.

1. All work is to be conducted in a safe and environmentally sound manner.
2. All work is to be conducted according to the plan. The Engineered Drawings for any designed structures must be on-site at all times during installation. If you are uncertain, contact your Supervisor.
3. Ensure the work complies with timing windows and other specifications as required.
4. Pre-mark the inlet and outlet location of all pipes to ensure they fit to the edges of the road prism. Accommodate skew, slope and amount of embedment, as designed.
5. Ensure that you know the stream classification of all the streams that you are crossing. S1-S4 streams are fish-bearing and/or within a community watershed and are treated differently than S5-S6 streams and NCDs. If you suspect that a stream has been misclassified or missed entirely, notify your Supervisor immediately.
6. Minimize the impact on water quality by:
 - a. Operating during favorable weather conditions. Know the project shut-down criteria,
 - b. Utilize sediment control measures as required, including silt fences, hay bales or siltation ponds as appropriate,
 - c. Clean introduced debris from ditches, streams and culverts on an on-going basis and before plugging can occur.
7. Always maintain natural drainage patterns. Avoid directing water onto unstable slopes or erodible soils.
8. Do not place any road material on or in stream channels or flood plains. Do not place any road material on bridge decks. Remove any material inadvertently placed in these areas.
9. In non-fish culvert installations, armour the inflows, outflows, and fill slopes to minimize erosion as required.
10. Load ratings should be pre-determined by an engineer. Know what the load rating is and consult your Supervisor if you need clarification or have concerns.
11. Dispose of wood culvert/bridge debris in designated sites, outside riparian management areas, or according to pre-work instructions.

When in doubt, STOP WORK and ask your Supervisor



FUEL AND CHEMICAL HANDLING

This SOP applies to all Contractor workers involved in any field activities including all planning, harvesting, roads and silviculture related activity. It describes general requirements to minimize impacts on the environment and to promote safety. This SOP does not replace the requirements of legislation, licences, permits and contracts.

1. All work is to be conducted in a safe and environmentally sound manner.
2. All petroleum and chemical storage and handling will be conducted in compliance with all applicable laws, acts and codes (e.g Transportation of Dangerous Goods Act and Regulations). Fuel products will be stored and dispensed as per Tables 1 – 3.
3. All petroleum and chemical storage and transfer areas will be visually inspected when used. Monthly safety inspections will be conducted and document conditions and track any action items.
4. Spill Kits are to be kept in close proximity to all petroleum and chemical storage and transfer areas.
5. Spill kits are to be as per **SOP-10** Spill Kit Requirements.
6. Fuel handling and transfer procedures are to be available and followed wherever fuel or oil is stored or dispensed.
7. Be familiar with the “Spill Emergency Response Plan” for your operation and initiate them should a spill occur.
8. Before handling any chemicals refer to the appropriate Material Safety Data Sheets (MSDS).
9. The storage and handling of pesticides are governed by the Pesticide Control Act. Any person responsible for the storage and handling of pesticides is to be familiar with the requirements of the Pesticide Control Act.
10. Ensure that all equipment maintenance is done in an environmentally sound manner. Ensure that proper containment devices (sorbet pads, buckets, etc) are available and utilized. An appropriate spill kit must be available in close proximity.
11. Never store fuel or refuel equipment within 30 meters of a water body or in a Riparian Management Zone unless the machinery is:
 - required for fire fighting,
 - broken down and requires fuelling or services to be moved, or
 - authorized in a logging or operational plan to be fuelled or serviced in the area.

When in doubt regarding your fuel and chemical storage and handling facilities and/or practices, contact your Supervisor.



FUEL AND CHEMICAL HANDLING: SOP – 09

TABLE #1 SMALL FUEL CONTAINERS (Volume < 230L) Drums, Jerry Cans, Pails, Canisters		Legend			
		④ Legal Requirement	☐ NACFOR Requirement	⌚ Information	
TYPE	CONDITION, DESIGN & MAINTENANCE	STORING AND SECURING	DISPENSING	TRANSPORT	PREVENTION & RESPONSE
SMALL FUEL CONTAINERS (Volume < 230L)	<p>④ Must be filled and capped so that under normal conditions there will be no leakage that would endanger public or worker safety</p> <p>☐ Containers must be in good condition – not damaged, rusting, or leaking</p> <p>⌚ Replace fatigued containers on a regular basis (plastic containers usually every 5 years)</p> <p>Construction Standard</p> <p>④ Containers must be specifically designed for the product</p> <p>④ Containers less than 30 liters are exempt from TDG requirements but are still governed under the WHMIS</p> <p>Inspections</p> <p>☐ Licensee/ Contractor must regularly inspect containers for leaks or maintenance issues</p>	<p>☐ Do not store small containers in Riparian areas</p> <p>☐ Do not smoke where fuel is stored or dispensed</p> <p>Securing</p> <p>④ Containers must be appropriately secured to prevent shifting, swaying, damage or escape from the vehicle</p> <p>④ Tie down straps must have safe <u>combined</u> working load ratings <i>greater</i> than the secured load</p> <p>Labeling</p> <p>④ WHMIS labeling or appropriate <u>Product Identification</u> is required when storing hazardous products</p> <p>⌚ Additional WHMIS labels are not required if content matches the product identifier on the container</p>	<p>④ Maintain current MSDS in a location available to worker</p> <p>☐ Do not dispense fuel in Riparian areas</p> <p>☐ Dispense all flammable and combustible substances only from drums in an upright position</p> <p>⌚ Do not fill containers beyond their safe filling level (<i>approximate safe level – 90%</i>)</p> <p>⌚ Store the hose above the pump (and drum) to avoid siphoning</p>	<p>④ Drums must be properly arranged by:</p> <ul style="list-style-type: none"> Stacking in an upright, vertical position Separating with dunnage Protecting through use of sides, sideboards, or stakes on the vehicle <p>④ If multiple containers of Class 3 products are transported and the <u>combined capacity</u> exceeds 2000L, the following conditions apply:</p> <ul style="list-style-type: none"> 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 <p>Labeling</p> <p>④ Any container over 30 liters must have appropriate safety marks:</p> <ul style="list-style-type: none"> Label or Placard, UN number & Shipping Name <p>④ TDG safety marks on the outside of an enclosed unit must be visible if containers are stored within</p>	<p>④ Take reasonable measures to prevent leaks & spills</p> <p>☐ Spill control measures are required:</p> <ul style="list-style-type: none"> Spill Kit as per Minimum Requirements Locate containers of fuel cache where potential spills cannot reach water courses <p>☐ <i>Additional</i> spill prevention and control measures may be required in higher risk areas for caches.</p> <p>Fire Control and Response</p> <p>⌚ Maintain one suitable BC- rated fire extinguisher</p>

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FUEL AND CHEMICAL HANDLING: SOP – 09

TABLE #2 SMALL MOBILE (TRUCK BOX) TANKS (Volumes: 230L – 450L)				Legend		
				④ Legal Requirement	<input type="checkbox"/> NACFOR Requirement	Ⓢ Information
TYPE	CONDITION, DESIGN, & MAINTENANCE	STORING AND SECURING	DISPENSING	TRANSPORT	PREVENTION & RESPONSE	
SMALL MOBILE (TRUCK BOX) TANKS (Volumes: 230L – 450L)	<p>④ Must be filled and capped so that under normal conditions there will be no leakage that would endanger public or worker safety</p> <p><input type="checkbox"/> Containers must be in good condition – not damaged, rusting, or leaking</p> <p>Construction Standard</p> <p>④ Diesel: a spec or non-spec tank may be used. This tank capacity (<450L) is exempt under the TDG regulation</p> <p>④ Gasoline: a <u>spec tank is required</u> and must show the spec plate of the design standard</p> <p>Ⓢ Spec tanks may include:</p> <ul style="list-style-type: none"> • CGSB 43.146 • ULC/ORD 142.13 (until 2010) <p>Inspections</p> <p>④ All spec tanks require a visual inspection by a Transport Canada Registered facility every 60 months (5 yrs)</p> <p>≡ Licensee / Contractor must regularly inspect containers for leaks and maintenance issues</p>	<p>④ Use a pressure relief cap that meets manufacturers design specifications</p> <p>≡ Do not store small mobile tanks in riparian areas</p> <p>≡ Do not smoke where fuel is stored or dispensed</p> <p>Securing</p> <p>④ Containers must be appropriately secured to prevent shifting, swaying, damage or escape from the vehicle</p> <p>④ Tie down straps must have safe <u>combined</u> working load ratings <i>greater</i> than the secured load</p> <p>Labeling</p> <p>④ WHMIS labeling or appropriate <u>Product Identification</u> is required when storing hazardous products</p>	<p>④ Use dispensing pumps designed for the products being handled</p> <p>④ Use an appropriate hose and nozzle (in accordance with ULC standards) for dispensing fuel</p> <p>④ Hoses and nozzles must be maintained and not leak.</p> <p>④ Make sure there is suitable bonding to prevent static charges when dispensing gasoline.</p> <p>④ Maintain current MSDS in a location available to workers</p> <p><input type="checkbox"/> Do not dispense fuel in riparian areas</p> <p><input type="checkbox"/> Operators must stay with the nozzle <u>at all times</u> while dispensing fuel</p> <p><input type="checkbox"/> Nozzles must be secured in drip containment after use or in an <u>upright</u> position so that it is above the tank</p> <p>Ⓢ Store hose in a safe manner to prevent damage and leaks (i.e. coiled on top of tank)</p> <p>Ⓢ Do not fill tanks beyond their safe filling level (<i>approximate safe level – 90%</i>)</p>	<p>④ If multiple tanks of Class 3 product (diesel) are carried on the vehicle and the <u>combined capacity</u> exceeds 2000 liters, the following conditions apply:</p> <ul style="list-style-type: none"> • 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 <p>Labeling</p> <p>④ Maintain visible safety marks:</p> <ul style="list-style-type: none"> • Label or placard, • UN number and • Shipping name <p>④ TDG safety marks must be visible on the tank or any enclosed storage unit</p>	<p>④ Take reasonable measures to prevent leaks & spills</p> <p><input type="checkbox"/> Spill prevention and control measures are required:</p> <ul style="list-style-type: none"> • Spill Kit as per Minimum Requirements • Locate small mobile tanks where potential spills cannot reach water courses <p><input type="checkbox"/> <i>Additional</i> spill prevention and control measures may be required in higher risk areas</p> <p><input type="checkbox"/> Mobile tanks (>230L) stored on the ground require</p> <ul style="list-style-type: none"> • Collision protection • <i>Additional</i> Spill control measures <p>Fire Control and Response</p> <p>Ⓢ Maintain one suitable BC-rated fire extinguisher</p>	

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FUEL AND CHEMICAL HANDLING: SOP – 09

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

		Legend			
		④ Legal Requirement	<input type="checkbox"/> NACFOR Requirement	Ⓢ Information	
TYPE	CONDITION, DESIGN, & MAINTENANCE	STORING AND SECURING	DISPENSING	TRANSPORT	PREVENTION & RESPONSE
LARGE MOBILE TANKS (Volumes: 450L – 3000L)	<p>④ Must be filled and capped so that under normal conditions there will be no leakage that would endanger public or worker safety</p> <p>≡ Containers must be in good condition – not damaged, rusting, or leaking</p> <p>Construction Standard</p> <p>④ All Tanks: used to transport fuel (volume >5%) must be designed, and constructed to a mobile tank standard and display a spec plate:</p> <p>④ Spec Tanks: used for diesel and gasoline may have one of the following spec plates:</p> <ul style="list-style-type: none"> • CGSB 43.146 • ULC/ORD 142.13 (until 2010) <p>④ Non-Spec Tanks: May be used to until January 1, 2010 provided the following criteria are met:</p> <ul style="list-style-type: none"> • Non-Spec Tank is only used to transport <u>diesel</u> fuel • Non-Spec Tanks: is tested annually by a TC Registered facility and displays an inspection plate (see <i>Glossary</i>) <p>Inspections</p> <p>④ Non-spec diesel tanks used to transport fuel require annual testing by a Transport Canada (TC) Registered facility</p> <p>④ All Spec tanks must be inspected by a Transport Canada Registered facility every 60 months (5 years)</p> <p><input type="checkbox"/> Licensee / Contractor must regularly inspect tanks for leaks and maintenance issues</p>	<p>④ Use a pressure relief cap that meets manufacturers design specifications</p> <p>≡ Do not leave vehicles carrying auxiliary fuel in riparian areas</p> <p>≡ Do not smoke where fuel is stored or dispensed</p> <p>Securing</p> <p>④ Containers must be appropriately secured to prevent shifting, swaying, damage or escape from the vehicle</p> <p>④ Tie down straps must have safe <u>combined</u> working load ratings <i>greater</i> than the secured load to ensure the tank is integrally mounted</p> <p>Labeling</p> <p>④ WHMIS labeling or appropriate <u>Product Identification</u> is required when storing hazardous products</p> <p>④ TDG safety marks (labels or placards, UN number, shipping name) must be visible on the tank or any enclosed storage unit</p>	<p>④ Use an appropriate hose and nozzle (in accordance with ULC Standards) for dispensing fuel</p> <p>④ Use dispensing pumps designed for the products being handled.</p> <p>④ Make sure there is suitable bonding to prevent static charges when dispensing gasoline</p> <p>④ Maintain current MSDS in a location available to workers</p> <p><input type="checkbox"/> Hoses and nozzles must be maintained and not leak</p> <p><input type="checkbox"/> Do not dispense fuel in riparian areas</p> <p><input type="checkbox"/> Operators must stay with the nozzle <u>at all times</u> while dispensing fuel</p> <p><input type="checkbox"/> Nozzles must be secured in drip containment after use or in an <u>upright</u> position so that it is above the tank.</p> <p><input type="checkbox"/> Close valves when finished dispensing</p> <p>Ⓢ Store hose in a safe manner to prevent damage and leaks (i.e. on a retractor, hose reel or coiled)</p> <p>Ⓢ Do not fill tanks beyond their safe filling level (<i>approximate safe level</i> – 90%)</p>	<p>④ If multiple tanks of Class 3 product (diesel) are carried on the vehicle and the <u>combined capacity</u> exceeds 2000 liters, the following conditions apply:</p> <ul style="list-style-type: none"> • 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 <p>④ Non-Spec tanks that are transported empty (volume <5%) do not require annual inspection as they can be moved in accordance with the <i>Equivalent Level of Safety Permit 7544</i> until May 31, 2009 (see <i>Glossary</i>)</p> <p>Labeling</p> <p>④ Maintain visible safety marks:</p> <ul style="list-style-type: none"> • Label or placard, • UN number and • Shipping name <p>④ TDG Placards are required to be visible on all four sides of the tank</p>	<p>④ Take reasonable measures to prevent leaks & spills</p> <p><input type="checkbox"/> Spill control measures are required</p> <ul style="list-style-type: none"> • Spill Kit as per Minimum Requirements • Locate large mobile tanks where potential spills cannot reach water courses <p><input type="checkbox"/> <i>Additional</i> spill prevention and control measures may be required in higher risk areas</p> <p><input type="checkbox"/> If large mobile tanks are placed on the ground, the following requirements apply:</p> <ul style="list-style-type: none"> • Collision protection will be provided • <i>Additional</i> spill prevention and control measures <p>Fire Control and Response</p> <p><input type="checkbox"/> Maintain one 80-BC rated fire extinguisher for normal dispensing of fuel</p>

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SPILL KIT REQUIREMENTS

This SOP applies to all Contractor workers involved in any field activities including all planning, harvesting, roads and silviculture related activity. It describes general requirements to minimize impacts on the environment and to promote safety. This SOP does not replace the requirements of legislation, licences, permits and contracts.

The purpose of this SOP is to ensure that spill kits have the minimum requirements in order to adequately handle a spill. For each location listed below, a spill kit must contain at a minimum:

MACHINERY / EQUIPMENT (excluding logging trucks):

- One (1) heavy duty garbage bag or other suitable container
- Five (5) grey pads
- Five (5) white pads
- One (1) 1A5BC Fire Extinguisher (as per Fire Regs)
- One (1) 3A10BC Fire Extinguisher (or internal suppression system) (as per Fire Regs)
- One (1) pair of disposable non-absorbent gloves

VEHICLES CARRYING AUXILIARY FUEL / TIDY TANKS:

- Three (3) large heavy duty garbage bags
- Five (5) 18" x 18" oil absorbent pads (white)
- Five (5) 18" x 18" antifreeze absorbent pads (grey or yellow)
- Three (3) 3" x 48" absorbent booms
- One (1) 4 litre container of dry absorbent
- One (1) ½ lb container of dry stop-leak material (eg Plug-N-Dyke),
- One (1) pair of disposable non-absorbent gloves
- One (1) 1A5BC Fire Extinguisher
- One (1) shovel

STATIONARY OR MOBILE FUEL STORAGE (tanks or multiple drum caches):

- Five (5) large heavy duty garbage bags or one open topped containment drum
- Ten (10) 18" x 18" oil absorbent pads (white)
- Ten (10) 18" x 18" antifreeze absorbent pads (grey or yellow)
- Six (6) 3" x 48" absorbent booms
- One (1) 4 litre container of dry absorbent
- One (1) 1 lb container of dry stop-leak material (eg Plug-N-Dyke),
- One (1) pair of disposable non-absorbent gloves
- One (1) shovel

NOTE: *After using any of the above materials on a spill, make sure that they are replaced as soon as possible.*



Standard Operating Procedures

SITE PREPARATION

This SOP applies to all Contractor workers involved in any field activities including all planning, harvesting, roads and silviculture related activity. It describes general requirements to minimize impacts on the environment and to promote safety. This SOP does not replace the requirements of legislation, licences, permits and contracts.

1. All work is to be conducted in a safe and environmentally sound manner.
2. All work is to be conducted according to the plan that is reviewed at the pre-work meeting. All operators must have a map of the work area.
3. Ensure that steep slopes are identified and that appropriate steep slope safe work procedures are followed.
4. Be aware of the site disturbance limits for the block. Plan and carry out your activities to stay within the limit.
5. Machine operators must be aware of the location of all known riparian areas, wildlife features and sensitive areas within the work area.
6. Ensure you are leaving the required leave trees and/or vegetation in Riparian Management Zones. Be aware of all No Machine Zones, Reserve Zones, and approved stream crossings.
7. Always maintain natural drainage patterns.
8. Rehabilitate disturbed areas as the work is progressing. Machine ruts where water can accumulate should be filled in and all bladed trails should be rehabilitated.
9. Do not operate on steep slopes where excessive site disturbance will occur. When in doubt, discuss the area with your Supervisor.
10. Ensure that you have the required fire tools on site during fire season and observe restrictions relating to the fire hazard.
11. Ensure appropriate spill kits and fire extinguishers are located at fueling stations.

When in doubt, STOP WORK and ask your Supervisor



OPERATIONS EMS TRACKING SYSTEM

General:

- ESMS utilizes 3 reports
 1. Preworks
 2. Required Action Forms
 3. Inspection Reports
- All ESMS reports can be found in the appropriate project file.
- The active life of a block begins when the first operational phase is initiated and ends at year-end of the year that the last operational phase was inspected and/or when all operational phases are complete. This time frame may be amended from time to time and may be changed to accommodate or to differentiate the harvesting and silvicultural operational phases, as that the total life span of a block from the first tree felled to Free to Grow may be upwards of 15 years.

Operational Prework:

- The Prework Package will consist of:
 - Prework Report that identifies the Significant Aspects related to the block,
 - Map (e.g. Logging Plan Map),
 - Separate Sign Off form (optional).
- Prior to commencement of operations, a meeting between the Contract Supervisor and the Contractor Representative occurs to review the contents of the Prework Package.
- The Prework Package requires signature by the Contractor Representative and a record of all present at the prework meeting.
- A copy of the Prework Package:
 - remains with the Contractor Representative for review and signoff with any crew members not present at the prework meeting.
 - is filed on the ESMS file as a record of the prework.

Inspection Reports (IR):

- The Contract Supervisor completes an Inspection Report following an official ESMS field inspection.
- Prior to the Inspection, the Site Plan, Prework and any issued Corrective Actions must be reviewed.
- All Inspections should ideally occur 2 weeks before the completion of the phases to facilitate remediation of any deficiencies.
- Any environmental remediation work that is required as a result of an inspection shall be recorded on the Corrective Action portion of the Inspection Report Form.
- Once completed, one copy of the IR goes in the ESMS Block File.
- One copy goes to the Contractor Representative who responsible for completing any Corrective Actions.

One copy stays with the Contract Supervisor. When Corrective Actions are completed, the Contract Supervisor signs off the form and files their copy in the appropriate project file.

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SOP-12



Standard Operating Procedures

DEVELOPMENT AND LAYOUT

This SOP applies to all Contractor workers involved in any field activities including all planning, harvesting, roads and silviculture related activity. It describes general requirements to minimize impacts on the environment and to promote safety. This SOP does not replace the requirements of legislation, licences, permits and contracts.

1. All work is to be conducted in a safe and environmentally sound manner.
2. All layout will be done to minimize the impact on non-timber resources including species at risk while maintaining total chance timber development opportunities.
3. NACFOR Development Standards will be followed for all development work. Standardized ribbon/paint colors will be used in all phases of layout. Exception to the standards may occur and minor deviations from this general scheme are acceptable *but must be clearly labeled on engineering summaries and operational plan maps and discussed during pre-work meetings.*
4. Streams require standardized marking to maintain consistent treatment:
 - Non classified drainages (NCDs) will be marked down the center with appropriate coloured ribbon if deemed important for drainage or habitat considerations.
 - Riparian management zones (RMZs) will be marked using designated ribbon for all classified streams. RMZ widths are as required by legislation (or District Policy). RMZs will be identified in maps, plans, and prescriptions.
 - Non-fish bearing streams (S6 and S5) will be referenced with “Machine Free Zone” colors by one of the following methods:
 - i. at approximately 5 meters on each side of the creek or
 - ii. at approximately the centre line of the creek.
 - Fish bearing streams (S4 – S1) will have riparian reserve zones (RRZs) marked using designated ribbon with RRZ width as required by legislation (or District Policy), and identified in maps, plans, and prescriptions.
5. Cut block boundary marking should be consistent throughout operating area:
 - Final landings, road stations, and culvert locations may be painted the appropriate colour (optional blazing/tags) in addition to standard ribbon colors.
 - Roads will be surveyed with tight chain traverse if slopes exceed 50% (section length must be $\geq 100\text{m}$) side slope or where an engineered design is required.
 - Standard tie points from the end of landings to creeks will be established if a creek is within 100 meters of the landing location.
6. Mapping standards will be consistent throughout the operating area:
 - Falling corners and road stations are mapped and labeled with station identification.
 - Clear identification will be made where the boundary meets and becomes the road.
 - Classified streams will be identified as described above.
7. WTRAs, wildlife features, sensitive areas, and any adjacent values will be marked in the field and located on all maps produced.



Standard Operating Procedures

PROCEDURES FOR WORKING ALONG POWERLINES

NACFOR will refer all cut blocks with trees in the powerline Limits of Approach (LOA) or that may fall within the LOA to BC Hydro to determine BC Hydro requirements and contact information.

NACFOR and the Contractor will sign off BC Hydro Logging Near Powerlines Emergency Contact Form

Review and follow BC Hydro handbook – ***Safety Guide for Utility Tree Workers*** - about limits to approach and emergency procedures in case of powerline contact as part of job pre-work. Have this handbook on site when conducting operations for reference.

Pre-work proposed worksite and examine access and trees to be felled with NACFOR supervisor.

Any issues or uncomfortable with task - do not initiate work. If issues or difficulties arise during job, stop and seek assistance as needed.

Additional workers for spotters and traffic control will be needed if trees along the powerline paralleling highways can reach the road.

NACFOR will inspect trees within the LOA with a Certified Utility Arborist (CUA) to determine procedures for falling. The CUA will hold an Assurance of No Reclose Permit (ANRP).

- Trees situated outside of the LOA and that will not fall within the LOA are to be felled by contractor
- Trees situated outside of LOA but which may fall within the LOA to be felled under the supervision of a CUA who holds an Assurance of No Reclose Permit (ANRP). The falling of these trees may be done either by the CUA, a buncher or a handfaller
- Trees situated within the LOA must be felled by a CUA or under the supervision of a CUA.

Rotten trees such as birch should be felled concurrent with other stems.

Fall direction should be perpendicular or close to perpendicular as possible from power line direction.

Assess weather conditions and suspend operations if conditions are unfavourable (wind, snow).

Any incident:

1. Ensure safe distances to approach are maintained from contact point
2. Refer to BC Hydro Logging Near Powerlines Emergency Contact form for local contact information
3. contact 1-800 BCHYDRO (224-9376) or *HYDRO (*49376) to report incident
4. Contact NACFOR representative to report incident



Standard Operating Procedures

WILDLIFE HABITAT FEATURES

This SOP applies to all Contractor workers involved in any field activities including all planning, harvesting, roads and silviculture related activity. It describes general requirements to minimize impacts on the environment and to promote safety. This SOP does not replace the requirements of legislation, licences, permits and contracts.

1. Contractors will be provided with information regarding wildlife habitat features (WHFs), legal requirements, and their responsibilities during NACFOR ESMS training events. This information will act as training for how to comply with the WHF Order.
2. For development planning and layout:
 - Download the WHF data layer for GIS applications from the Land and Resource Data Warehouse (LRDW).
 - Overlay the WHF layer with the NACFOR tenure boundary or a development area boundary and determine if any WHFs occur in the potential development area.
 - Another way of viewing the WHF data layer is to open the layer online in iMap or Habitat Wizard. The tenure or development boundaries can be uploaded to these applications as shapefiles.
 - Search for survey information (e.g. LRDW, eBird, Species at Risk) and overlay BEC and range maps (found in the field guide) of key species to determine if key species could be present in the development area even if no WHFs have been identified.
 - While working in a development area, field crews should identify all WHF encountered. Grid searches are unnecessary, but crews should be aware of potential WHFs in the area.
 - All WHFs must be assessed by a qualified professional and marked in the field and in operational maps and plans.
3. For operations:
 - Ensure that all operations comply with any timing windows that may be important for WHFs. Refer to the WHF field guide for timing windows and more information.
 - All WHFs in the development area should be given an appropriate buffer so as not to damage the WHF or render it ineffective. A feature becomes ineffective if it can no longer be used for its original purpose or if wildlife avoids or abandons the feature. Refer to the provincial government's WHF field guide for examples of appropriate buffers. Buffers should be established by a qualified professional.
4. Reporting requirements:
 - Record WHFs using the WHF data entry sheet. This can be downloaded as a spreadsheet onto any device.
 - All WHFs must be submitted to the data submission site before June 1st every year.
 - After WHFs have been established and the development in the area is complete, WHFs should be revisited to note any changes and to be sure they're still in use.
 - Costs related to managing for a WHF (i.e. delivered wood costs) should be calculated and reported.
5. Exemptions can be requested under the Wildlife Habitat Features Order in the same way as any other GAR Order. Exemptions should be requested by the NACFOR Project Manager.

When in doubt, STOP WORK and ask your Supervisor



Standard Operating Procedures

MIGRATORY BIRDS

This SOP applies to all Contractor workers involved in any field activities including all planning, harvesting, roads and silviculture related activity. It describes general requirements to minimize impacts on the environment and to promote safety. This SOP does not replace the requirements of legislation, licences, permits and contracts.

1. Contractors will be provided with information regarding migratory birds and nests and their responsibilities during NACFOR ESMS training events. This information will act as part of NACFOR's beneficial management practices for compliance with legislation.
2. For development planning and layout:
 - The nest density risk ranking layer is overlaid with the development area and used to evaluate the risk of incidental take of birds in NACFOR tenure. High risk areas should be avoided.
 - Known nest locations are overlaid on the development area. Known nests are visited to monitor activity and to create the necessary buffers around the nests.
 - During block layout, high risk areas should be avoided as much as possible and not have roads through them. Any active nests and WHFs that are encountered should be buffered and the location should be entered into the Nest Database and possibly reported as a WHF.
 - Site-specific field data on stand type(s) is used to update the risk Rank(s) and improve the accuracy of the risk assessment.
 - Forest health issues within the block are assessed using the Forest Health Guidance Chart and may alter the risk Rank(s).
 - Final risk Ranks are determined for the development area. BMPs are applied depending on the Rank.
3. For operations:
 - Ensure that all operations comply with the BMPs applied to the development area and any related timing windows.
 - All BMPs applied to the development area should be documented in the Site Plan and all contractors operating in the area should be made aware of the BMPs in place.
 - If a nest is encountered during harvesting or road construction, the Stop Work Procedures must be followed and a Chance Encounter Form must be filled out and returned to the NACFOR Supervisor or Project Manager.

When in doubt, STOP WORK and ask your Supervisor



SPECIAL TREE PROTECTION REGULATION

This SOP applies to all Contractor workers involved in any field activities including all planning, harvesting, roads and silviculture related activity. It describes general requirements to minimize impacts on the environment and to promote safety. This SOP does not replace the requirements of legislation, licences, permits and contracts.

1. All managers, supervisors, and contractors will be provided with information on the Special Tree Protection Regulation so they are familiar with the Regulation, reporting requirements, how the Regulation applies to their operations, and what they must do to meet legal obligations.
2. During layout activities, identify any trees that meet the criteria of a specified tree as defined the Regulation. **Specified trees must be standing and meet or exceed the following DBH requirements:**

Tree Species (specific to NACFOR tenure)		DBH (cm)
Cottonwood, black	<i>Populus balsamifera</i> , ssp. <i>trichocarpa</i> ; <i>P. trichocarpa</i>	176
Douglas-fir, Interior	<i>Pseudotsuga menziesii</i> var. <i>glauca</i>	160
Pine, ponderosa	<i>Pinus ponderosa</i>	119
Redcedar, western	<i>Thuja plicata</i>	290
Yew, pacific	<i>Taxus brevifolia</i>	63

3. Any specified trees identified within or directly adjacent to NACFOR tenure must be reported to the NACFOR Supervisor or Project Manager. **NACFOR must report specified trees to the District Manager within 30 days of identification.** The following data must be reported:
 - a. Location (CP/DA, road name/section, coordinates)
 - b. Species
 - c. DBH (cm)
 - d. Height (m)
 - e. Physical description or observation notes (e.g., live/dead, forest health risks, etc.)
 - f. Photos, if possible
4. **Specified trees require a one-hectare circular buffer** (56 m radius, horizontal distance). All trees within the buffer are considered support trees.
5. Specified trees must not be cut, damaged, or destroyed. Support trees must not be felled, topped, or destroyed unless maintaining or deactivating a road. Exemptions may be granted by The Minister.
6. If a specified tree is identified during harvest operations, **stop work** until the required one-hectare buffer has been established. If an exemption is requested, any operations that could affect the specified tree or support trees must cease until the exemption is granted. Harvest and/or site plans may need to be altered to accommodate the specified tree and buffer.

When in doubt, STOP WORK and ask your Supervisor



GUIDELINE FOR *INVASIVE PLANTS GENERAL BEST MANAGEMENT PRACTICES*

An ***invasive plant*** is any non-native plant species that has the potential to pose undesirable or detrimental impacts on humans, animals or ecosystems. Invasive plants have the capacity to establish quickly and easily, especially on disturbed sites, and can cause widespread negative economic, social, and environmental impacts.

If plants appear to be growing out-of-control on sites that have had soil disturbance, chances are they are invasive species. Use a field guide or send a photo or specimen to a provincial invasive plant specialist or your regional invasive plant/species committee for identification.

Forestry activities affect invasive plant establishment in two major ways:

- As a **vector** - Seeds and plant parts hitchhike in caked-on mud or get carried in to new places on boots and clothing, equipment, vehicles, and road-building materials.
- As a source of **soil disturbance** – Exposed soil is an invitation to the establishment of invasive plants.

BEST MANAGEMENT PRACTICES

There are eight practices that can be utilized in various forest activities and that can have considerable impact on the spread and establishment of invasive plants.

1. *Incorporate known invasive plant sites into development plans and report new sites as they are discovered.*

Early in the development planning process, consult the map display module of the Invasive Alien Plant Program (IAPP) online database for known invasive plant sites. Inspect work sites and report the size and location of new infestations. Plan activities so they won't create new or spread existing infestations (see other Best Practices).

2. *Avoid infested sites for staging, parking, and log sorting, both in the bush and storage yards.*

Roadsides, landings and storage yards are frequently already infested with invasive plants. Vehicles, equipment, and logs can pick up plant parts and seeds, especially in muddy conditions, and carry them to new locations.

3. *Work in un-infested sites before moving to infested sites.*

Work sites can be widely infested by invasive plants, partially infested, or invasive plant-free. As vehicles, equipment, and clothing are vectors for seeds and plant parts, schedule work activities to begin in the most pristine sites first and end in the most infested sites last.

4. Clean equipment before moving to a new work site or region.

Remove seeds and plant parts within existing infestations or designated wash sites to prevent spread to new sites. Avoid moving unclean equipment to a new work location. Carefully bag and dispose of seeds or plant parts picked from your clothes, boots, or equipment.

Cleaning With Water: Pressure washing all mud from vehicles and equipment is best. Prevent run-off from contaminating waterways and riparian areas. Wash within existing infestations or use designated wash sites to concentrate run-off. Alternatively, temporary sumps can be used and then buried when decommissioned.

Cleaning Without Water: Before departing infested sites, visually inspect vehicles and equipment and remove any lodged plant parts found. Knock off mud with a shovel, broom or use your boots (then knock out the boot treads).

Equipment relocated from other regions may be importing new problem plants to your area. Request that such equipment be cleaned before transport.

5. Inspect and ensure fill and erosion-control materials are free of invasive plants before transport and use.

Use only clean fill material from an “invasive plant free” source. Regularly inspect material sources (e.g. gravel pits) for invasive plants and record and report any infestations.

Use “Certified Weed Free” straw or hay for erosion-control. Such bales will be labelled and/or have colour-coded twine.

6. Minimize soil disturbance and maintain native vegetation.

Minimize unnecessary soil disturbance. Every cut made by bladed equipment into previously undisturbed soil and vegetation increases the likelihood of infestation by invasive plants. A cover of native vegetation is the best defence against problem plants.

7. Re-vegetate disturbed sites as soon as possible.

Road and bridge construction/deactivation sites, landings, and bladed trails are most likely to host new or expanding infestations if not re-vegetated quickly. Increase the shade levels or fill in growing space with non-invasive ground-cover and/or overstory plants.

To quickly achieve planned closed canopy tree cover on cut blocks: minimize planting delay, plant trees in high density, use large or fast-growing stock, or fertilize at time of planting.

Establish ground-cover promptly by seeding with mixtures that are free of weeds, locally adapted, non-invasive, and quick to establish (e.g. native species or non-native but non-invasive grass mixtures such as Common No.1 Forage Mixture or better).

Request a “Certificate of Seed Analysis” and reject seed lots containing invasive species listed under the WCA Regulation or FRPA Invasive Plants Regulation (see “For More Information” on p. 65). Sow seed in the early spring or late fall for best germination results. Monitor to ensure successful establishment and re-seed as necessary.

8. Promptly control infestations resulting from forestry activities.

Remove invasive plants prior to seed set to prevent build-up of seed banks that will take years to control. Prioritize treatment of roadsides and landings to reduce inadvertent movement of seeds and plant parts by vehicles and equipment. Monitor to ensure control efforts are successful and re-treat if necessary. Contact the provincial Invasive Plant Specialist in your area (see below) to determine the best treatment approach.

Reporting Invasive Plants

It is critical to report new infestations! Fast treatment of new infestations is key to stopping the spread of invasive plants. Unusual plants that appear to be taking over or growing out of control should be reported to:

- NACFOR
- Online through the Report-A-Weed downloadable app <http://reportaweedbc.ca>
- Central Kootenay Invasive Species Society (CKISS) Phone 1-844-1160; E-mail: info@ckiss.ca

Please report the following information:

1. Species (include a photo whenever possible)
2. Size and density of infestation
3. UTM coordinates or directions to site
4. Reporter's contact information

REF: Invasive Species Council of BC "Best Practices for Preventing the Spread of Invasive Plants During Forest Management Activities – A Pocket Guide for British Columbia's Forest Workers" 2013 Edition

ENVIRONMENTAL and SAFETY MANAGEMENT SYSTEM

PURPOSE – the NACFOR Environmental and Safety Management System (ESMS) describes safety and environmental procedures related to NACFOR’s forestry operations.

NACFOR is committed to responsible stewardship of the forest and the environment throughout its operations as well as to the safety of all participants.

The ESMS provides a systematic approach to managing aspects of NACFOR’s operations to ensure a safe work environment and minimize impacts on the environment.

NACFOR ENVIRONMENTAL AND SAFETY MANAGEMENT POLICY

NACFOR is committed to responsible ***stewardship of the forest and the environment*** throughout our operations, and to ***strive for a safe workplace*** for our contractors and the general public. We will:

- Minimize environmental impact
- Strive for continual improvement of our practices and support efforts to develop and implement new methods, procedures and technologies that have the potential to improve our environmental management practices
- Meet or exceed legal obligations; policies, standard operating procedures and other pertinent requirements
- Regularly review our practices and procedures to monitor and report on environmental performance
- Monitor and evaluate key NACFOR forestry operations
- Communicate our environmental performance to our shareholder, stakeholders and the general public
- Ensure that NACFOR contractors are aware of or have been trained in environmentally responsible work practices
- Develop and adapt environmental forest management performance measures based on local forest values
- Provide safeguards to the health and safety of our contractors and consultants; and the public through responsible forest management

INSPECTIONS

Pre-work Inspection

The pre-work inspection will be conducted between NACFOR management and the contractor/consultant prior to work starting.

Initial Inspection

A full initial inspection will be conducted within two weeks of start-up of the activity. It will include detailed checks of environmental emergency preparedness (spills, fire); worker awareness of the project and obligations; presence of necessary project information; training and other documentation; and adherence to fuel management guidelines.

Progress Inspections

Progress inspections will be conducted by NACFOR management or contract supervisors.

Final Inspection

A final Inspection is mandatory and will review the overall plan performance, compliance, and completion of outstanding obligations.

- **Non-conformance** is the failure to meet a requirement of the ESMS that results in an impact to the environment. Non-conformance can be minor or major.
- **Minor non-conformance** is an isolated deficiency that does not adversely affect the overall performance of the ESMS. The contractor is notified of the deficiency and is required to remediate the problem and report to management within the designated timeframe.
- **Major non-conformance** is a serious deficiency that could have an adverse effect on the environment.

ROLES AND RESPONSIBILITIES FOR WORKERS

Before starting work, understand:

1. NACFOR's Environmental and Safety Policy

- preventing or minimizing environmental impacts
- safe work procedures

2. Environmental concerns for your work area

- Riparian areas, sensitive areas, soil, water, forest health, habitat, species at risk, leave trees, fuel spills, fire

3. Standard Operating Procedures (SOPs) – see page 13

- Know where they are and which SOP's apply to your task

4. Emergency Response Plan (ERP)

- Know your ERP roles and responsibilities
- Be prepared for emergencies i.e., fire, spills, erosion and water disruption events
- Know the location of the ERP on the job site and how to respond to emergencies

5. Follow the plan

- Pre-work with supervisor before starting work in a new area
- Understand work instructions and maps and ensure they match what's on the ground
- If not sure **Stop Work** and ask supervisor

6. What to Report

- Hazardous material spills and uncontrolled fires
- Erosion / Landslide and Water disruption events
- Alleged non-compliances and significant non-conformances
- Unidentified resource features (cultural heritage, bear dens)
- Species at risk sightings, wildlife habitat features, migratory birds, and identified invasive plants
- Changes to the project plan
- Safety hazards, close calls or accidents

INCIDENT REPORTING FORMS ARE IN PROJECT BINDER

Significant Environmental Aspects

Activity	Significant Aspects	Potential Environmental Impacts
Equipment operation, fueling and mechanical activity	<ul style="list-style-type: none"> • Starting a fire • Fuel spill 	<ul style="list-style-type: none"> • Air pollution from smoke • Damage to standing private property, timber and related resource values including wildlife habitat • Damage to riparian features and the introduction of deleterious substance and siltation in water used for domestic consumption and/or fish streams
<p>Construction/rehabilitation of roads and trails.</p> <p>Ground based operations including: mechanical falling, skidding, hoe-chucking, piling, stumping, waste recovery & dispersal and mechanical site preparation</p>	<ul style="list-style-type: none"> • Site disturbance • Natural drainage patterns • Water quality • Slope instability 	<ul style="list-style-type: none"> • Site disturbance exceeding legal limits. • Altering natural drainage patterns • Introduction of deleterious substance and siltation in water used for domestic consumption and/or fish streams • Landslide
Hazard abatement (pile burning, broadcast burning, windrow burning)	<ul style="list-style-type: none"> • Improper burn & fire escape 	<ul style="list-style-type: none"> • Air pollution • Damage to standing timber and related resource values • Damage to riparian features and the introduction of deleterious substance and siltation in water used for domestic consumption or fish streams

<p>Structure Installation, Repairs & Maintenance (culverts, bridges, wood box culvert)</p>	<ul style="list-style-type: none"> • Introduction of debris into streams 	<ul style="list-style-type: none"> • Damage to riparian features and the introduction of deleterious substance and siltation in water used for domestic consumption or fish streams
<p>Road Maintenance (brushing, ditching, grading)</p>	<ul style="list-style-type: none"> • Introduction of debris into streams • Damage to culverts • Introducing water onto unstable slopes 	<ul style="list-style-type: none"> • Damage to riparian features and the introduction of deleterious substance and siltation in water used for domestic consumption or fish streams • Restricting capacity of culvert and risk of washout • Redirection of water onto unstable slopes and increasing risk of landslide
<p>Planning cut block and road location, road and structure design and site plans (landscape and stand-level planning, assessments, prescribing treatments, layout, harvest planning and mapping)</p>	<ul style="list-style-type: none"> • Not using qualified individuals to assist in planning • Failing to address resource values identified through legal orders or non-statutory expectations • Failure to meet legal obligations 	<ul style="list-style-type: none"> • Increasing risk of landslide • Damage to wildlife habitat • Damage to riparian features • Windthrow • Damage to resource values
<p>Silviculture obligations</p>	<ul style="list-style-type: none"> • Not meeting silviculture commitments and obligations 	<ul style="list-style-type: none"> • Not meeting planting commitments • Not meeting free-growing obligations • Reducing short, mid & long-term timber supply

ESMS TRAINING REQUIREMENTS

Contractors and consultants working in activities that may potentially cause a significant impact on the environment must have appropriate training.

Training must be documented and contractors must maintain a training summary for each worker.

Position / Function	NACFOR Board	NACFOR Management	Harvest Contractor	Roads Contractor	Silviculture Contractor	General Contractors / Planning	Mechanical Site Prep	Logging Trucks
Training Requirement								
ESMS Overview	X	X	X	X	X	X	X	X
Fire Prep and Fire Tools		X	X	X	X	(1)	X	(1)
SOPs		X	X	X	X	X	X	X
WHMIS		(1)	X	X	X	(1)	X	X
Spill Prevention, Response		X	X	X	X	(1)	X	X
WorkSafeBC - S100		(1)	X	X	X	(1)	X	(1)
WCB OFA1 (minimum)		X	X	X	X	X	X	X

(1) Log truck drivers and some General Contractors may be working independently or working at an activity that does not require training in these functions. The need for training will be determined by the NACFOR management.

FIRE DANGER CLASS RESTRICTIONS

For information on current fire danger class ratings go to: <https://wfapps.nrs.gov.bc.ca/pub/wfwx-danger-summary-war/dangerSummary?fireCentre=Southeast%20Fire%20Centre>

FIRE DANGER CLASS (DGR)	RESTRICTIONS	DURATION
3 - III Moderate	After 3 consecutive days of DGR III or greater, maintain a fire watcher after work for a minimum of one hour	Until after the fire danger class falls below DGR III
4 - IV High	Maintain a fire watcher after work for a minimum of 2 hours	Until after the fire danger class falls to DGR III for 2 consecutive days or falls below DGR III
	After 3 consecutive days of DGR IV, cease activity between 1 p.m. PDT (Pacific Daylight Savings Time) and sunset each day	
5 - V Extreme	Cease activity between 1 p.m. PDT (Pacific Daylight Savings Time) and sunset each day and maintain a fire watcher after work for a minimum of 2 hours	Until after the fire danger class falls below DGR IV for 2 or more consecutive days
	After 3 consecutive days of DGR V, cease activity all day	Until after the danger class falls to DGR IV for 3 or more consecutive days, or falls below DGR IV