



**Natural Resources Canada
Canadian Forest Service**

TECHNICAL SPECIFICATIONS

Completion of various forestry operations and related work Valcartier Base (Va Base) 2018-2019

Canadian Forest Service
Natural Resources Canada

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The purpose of these technical specifications is to provide information concerning the implementation of the major service contract projects, the rules applicable to work on the Valcartier Base (Va Base), as well as the definition of the contractual responsibilities respectively of the contractor and of Natural Resources Canada (NRCan). This document is intended to supplement the information contained in the proposal request and the submission slip.

1. Guidelines

The Contractor must complete the work in compliance with these specifications, as well as with the instructions from the NRCan representative in charge of approving said work. An initial meeting, in which all major employees and the contractor must participate, will be coordinated before the work begins. If necessary, meetings may be held throughout the duration of the contract.

The Contractor will be subject to the rules and procedures governing operations at the Va Base at all times. In addition, every employee working on the project must participate in an information session (of a maximum of 1.5 hours) regarding security procedures that must be followed on military grounds and the principles of environmental responsibility (PHL, spillage).

The Contractor must keep in mind that the primary use of this land is military, and that military training takes precedence over all other types of activities.

All work must be carried out in accordance with standard practices and with the laws and regulations applicable in Quebec, particularly the standards and rules of the *Commission des normes, de l'équité, de la santé et de la sécurité au travail* (CNESST), of the *Commission des normes du travail*, and of the *Sustainable Forest Development Act*.

Work must be carried out in compliance with the *Règlement sur l'aménagement durable des forêts* (RADF), with the *Environment Quality Act*, the *Forest Protection Regulation*, or with any other standards applicable in the forest environment.

2. Order in which the work is to be completed

Much of the work proposed in this contract have the purpose of mechanically controlling woody vegetation in the Range and Training Area (RTA) sectors of the Va Base. All such vegetation control must be completed before the trees enter their dormant phase.

Vegetation control must first be carried out in areas where the height of the vegetation is less than 1.5 metres. The target date for completion of vegetation control work is September 15, 2018.

Roadside vegetation shredding may be done at any time until snow accumulation reaches 15 cm.

3. Method to be used in carrying out the work

3.1 Roadside vegetation control

Goal: To shred vegetation invading any right-of-way to roads and telecommunications lines. Work schedule

Method:

1. Using an excavator equipped with a forestry shredder with blades or hammers, shred all woody and herbaceous vegetation covering the right-of-way to 30 cm from ground level.
2. Sections which are not accessible to the excavator must be cleared with a manual brush cutter. Upon NRCan request, cut vegetation must could be brought out to the road in order to be shredded manually using a portable diesel-powered wood shredder.
3. Trees leaning into the right-of-way must also be shredded to 30 cm from ground level.
4. The shredder head used by Contractor must have an attachment to prevent the chips from scattering by directing them towards the ground.
5. The Contractor must take all necessary precautions to limit the scattering of chips onto individuals, vehicles, infrastructure, and roadway surfaces.
6. Areas that were shredded in previous years can be dealt with using a 4WD tractor equipped with a boom and a brush cutter, such as the Orsi Leader GP.
7. The Contractor will be required to work near communications lines. The Contractor is responsible for any damage to communications infrastructure that may be caused by its vehicles.

3.2 Clearing the perimeter of the Carpiquet Nord firing range

Goal: To fell, trim, cut, and haul vegetation away from the enclosed perimeter of the firing range. Work schedule

Method:

1. In order to ensure operational safety, an explosives specialist may be present while the work is being carried out. It is important to note that the Contractor's work may be considerably slowed down due to the work of the explosives specialist.
2. Fell, trim, and cut trees using a multifunctional machine according to specifications provided in the appendix.
3. A swath of approximately 1,600 m x 15 m must be cleared.
4. An excavator will be required in order to level a path for the multifunctional machine and the forwarder and to create culverts. Some trees may have to be felled using the excavator shovel. The Contractor must equip the excavator with any protective equipment it deems necessary to complete the forestry work and the tasks in question.
5. Cut wood must be hauled out and piled at the side of a road that is accessible to logging

- trucks.
6. A logging truck will be required to haul the wood to another location on the Va Base to be designated by NRCan.
 7. Some sections will have to be cleared using an excavator equipped with a forestry shredder.

3.3 Redevelopment of the Jacques Cartier riverbank

Goal: Following the completion of the DND's excavation work, redevelop the riverbank by stabilizing the soil and replanting vegetation on the site. Work schedule

Method:

1. Using an excavator, level the ground according to the specifications to be provided by NRCan in order to prevent sediment from entering the river.
2. Purchase, deliver, and spread 15 cm of topsoil on the area to be redeveloped. The topsoil must meet Standard 9101 of the ministère des Transports, de la Mobilité durable et de l'Électrification des transports.
3. Purchase, deliver, and install rolls of biodegradable anti-erosion mulch over a swath of approximately 180 m x 5 m.
4. Purchase, deliver, and plant riverside shrubs in the area below the high-water mark. The species of trees will be determined based on their availability in nurseries.
5. Carry out the hydraulic seeding of the entire revegetated area using a combination of seeds that must be pre-approved by NRCan. The contract will include watering the seeded area and guaranteed results.

3.4 Maintenance of a plantation of white spruce measuring less than 1.5 m in height

Goal: Cut herbaceous and woody vegetation in a large-scale plantation of white spruce established in 2016. To be billed per hectare.

Method:

1. Refer to the of the Agence des forêts privées de Québec's Technical Instruction Manual No. 03 for the method to be used in cleaning the plantation as well as the successful treatment criteria that the Contractor must meet. http://afpqca.whc.ca/wp/?page_id=102 (in French)
2. GPS survey of the cleared area will be performed by NRCan. Once this area is properly processed, the Contractor will present its bill to NRCan in accordance with the per-hectare rate indicated on the submission slip.

3.5 Cutting the Stony Ridge vegetation sector

Goal: TO cut the sector's herbaceous and woody vegetation. To be billed per hectare.

Method:

1. Using a 4WD tractor equipped with a brush cutter/mower, cut the herbaceous and woody vegetation in the sector.
2. The cutting device of the brush cutter must be capable of making a clean cut at all times, leaving no woody vegetation uncut.
3. The height of the required cut is 10 cm above ground level.
4. Ditches are included in the area to be cut. The Contractor must take the necessary measures to cut ditch vegetation according to the same criteria.
5. The Contractor must attend to sections where the vegetation has not been cut.
6. NRCan will be responsible for performing the GPS survey of the area where the work was actually carried out. This is the area that will be billable by the Contractor.

3.6 Maintenance of the Va Base property line (to be billed by the hour)

Goal: To clear and level a swath measuring approximately 9 m in width to allow the installation or repair of fencing. Work schedule

Method:

1. Using an excavator equipped with a forestry shredder, clear a 9 m swath of as measured from the property line to the interior of the DND's property.
2. Using an excavator, level a swath measuring approximately 6 m in width in order to make the property line accessible to equipment that will be used to carry out the fencing installation/repair work.
3. When necessary, make culverts or ditches to permit drainage.
4. Level the ground and create culverts according to the standards set out in the regulations of the *Règlement sur l'aménagement durable des forêts (RADF)*.
5. The Contractor will use the same excavator for shredding vegetation, levelling the ground, and creating culverts. The Contractor will replace the shredder with a bucket as needed.
6. The Contractor will take all precautions necessary in order to avoid any oil from spilling into the environment while removing and installing the forestry shredder.

Control vegetation in the Mags sector

Goal: To cut the sector's herbaceous and woody vegetation. Work schedule

Method:

1. Using a 4WD tractor equipped with a brush cutter/mower, cut all herbaceous and woody vegetation in the sector.
2. The cutting device of the brush cutter must at all times be capable of making a clean cut, leaving no vegetation uncut.
3. Using a 4WD tractor equipped with a brush cutter on a hydraulic boom, clear vegetation growing around the sector's safety barricades.
4. Using a brush cutter or chainsaw, a forestry worker must clear the woody vegetation growing around the barricades that the tractor was unable to cut.
5. Using shears, a worker will cut and remove the woody vegetation growing on the sector enclosure fences.
6. Vegetation that is cut manually must be shredded using a manual shredder or with the tractor equipped with a brush cutter on a hydraulic boom.

7. An excavator equipped with a forestry shredder may also be needed for this project.

4. SAFETY AND OPERATING RULES

4.1 The Contractor will designate a project leader to be the contact person for NRCan's technical manager. For safety considerations and in order to facilitate communication with the project supervisor, some of the Contractor's operators may be required to carry portable FM radios transmitting on the Va Base's dedicated frequency. In such cases, a portable radio (Motorola HT 1250) owned by the DND will be provided on loan by NRCan. The Contractor is however entirely responsible for this equipment. In case of loss or damage to the equipment resulting from misuse, the Contractor will be held responsible and will incur any replacement costs.

4.2 The Contractor will ensure that its personnel and equipment comply at all times with Va Base-specific traffic and safety regulations. Every employee must sign the "**Safety in training areas – Road safety**" document. When driving, in addition to observing speed limits, employees must slow down when approaching groups on foot and be mindful of the dust created by their vehicles.

4.3 The Contractor and all its personnel are required to submit to control and access procedures governing the use of Va Base grounds, particularly at the main entrance to the base and at the RTA checkpoint.

4.4 The Contractor must ensure that CNESST rules are respected while carrying out the work and that workers are equipped with and use the appropriate safety equipment for to the type of work being carried out.

4.5 The Contractor will comply with the minimum standards of the Société de protection des forêts contre le feu.

4.6 The Contractor must develop an emergency plan in case of casualties and spillages and submit it to the NRCan representative.

4.7 The Contractor must comply with environment protection requirements.

4.8 Road signs indicating ongoing forestry operations must be placed along the roads, from the beginning of each location where there is a team at work. Signs must be placed on either side facing both directions of the roadway. Particular care must be given to areas that are strategic or at high risk of causing accidents (curves, narrowing roads, road crossings, etc.) and any parking in these areas must be avoided.

4.9 All equipment used on the grounds of the Va Base must be in good working condition and must not leave gas or oil residue. The Contractor must attach a tank and absorbent padding on equipment that is prone to leak oil or gas when idle. All operators must have a sufficient supply of absorbent padding on board their equipment to soak up any minor spillage. The Contractor's vehicles must also have a spillage kit on board. Parking vehicles for extended periods is not permitted.

4.10 Any hourly-paid work must be approved on a daily basis by submitting a work order to be signed at the end of the day by the NRCan supervisor. NRCan will only pay for duly approved work orders. If the work order cannot be signed on the same day, it must be sent for approval by email the following day. Failure to comply with this rule will result in the non-payment of any work orders that the NRCan representative has not approved.

4.11 Where work is performed on an hourly basis, billable hours shall commence at the location where the work is being carried out.

5. FIRE SAFETY REQUIREMENTS

5.1 On-site fire safety

- .1 The contractor shall ensure that the construction site's fire safety plan complies with the National Fire Code of Canada.

5.2 Fire safety briefing

- .1 After the award of the contract, the NRCAN Contract Representative will arrange a kickoff meeting. Prior to the commencement of work, the fire chief or the fire chief's designated representative, will brief the contractor on fire safety.

5.3 Reporting fires

- .1 Prior to the commencement of work, know the location of the nearest fire alarm box and emergency telephone, and memorize the emergency phone number.
 - .1 For business: 418-844-5000 ext. 5312;
 - .2 For emergency, fire or medical: 418-844-5333 (to be saved on cell phones) or 911 (internal phone).
 - .3 For all work outside of CFB Valcartier, the emergency number is 911.
- .2 Report immediately all fire incidents to the Fire Department as follows:
 - .1 Activate the nearest fire alarm box;
 - .2 When reporting by phone, specify the building name or number;
 - .3 Try to fight the fire without endangering your life;
 - .4 Evacuate the site;
 - .5 When firefighters arrive, convey the location and nature of the fire or medical emergency.
- .3 The person activating the fire alarm shall evacuate the site, report to firefighters when they arrive and direct them to the scene of the fire or accident.
- .4 The person phoning the firefighters shall specify the building name or number, and the fire location, and be prepared to confirm the information given.
- .5 The contractor shall inform the NRCAN Contract Representative and the fire chief of all fires reported on the construction site, regardless of their magnitude.
- .6 When reporting a fire by phone, specify the fire location of the fire and the building name or number and be prepared to verify the location.

5.4 Fire safety plan

- .1 Submit a construction site fire safety plan prior to commencement of work. The fire safety plan shall comply with the National Fire Code of Canada.
- .2 The fire safety plan shall be submitted to the NRCAN Contract

Representative for review by local fire department. The contractor shall take into account all comments by the local fire department.

- .3 The fire safety plan shall be limited to the area of construction only. The contractor is not responsible for amending fire safety plans in existing buildings.
- .4 Post the fire safety plan at the construction site entrance or near the on-site health and safety bulletin board.
- .5 The fire safety plan shall comply with the National Fire Code of Canada and cover the following:
 - .1 Fire emergency procedures, especially for:
 - .1 Activating the alarm;
 - .2 Reporting to the Fire Department;
 - .3 Instructing occupants on procedures after the fire alarm has been activated;
 - .4 Evacuating occupants, including special provisions for people needing assistance;
 - .5 Containing, controlling and extinguishing fires.
 - .2 Designating and preparing supervisory staff in charge of fire safety tasks.
 - .3 Training supervisory staff on fire safety tasks.
 - .4 Documents, especially charts, specifying the type, location and operation of building emergency systems that are triggered in the event of fire.
 - .5 Fire drills (if any).
 - .6 Fire hazard control inside a building.
 - .7 Inspection and maintenance of the facilities of the building to keep occupants safe.

5.5 Fire alarm system

- .1 A fire alarm must ring to notify construction staff that there is a fire on site.
- .2 The system must ring loud enough to be heard throughout a building.

5.6 Fire protection and alarm systems (interior and exterior)

- .1 Fire protection and alarm systems must not be:
 - .1 Obstructed;
 - .2 Shut-off;
 - .3 Left inactive at the end of a working day or shift, without prior written authorization from the fire chief.
- .2 Do not use fire hydrants, standpipe systems or hose stations for purposes other than firefighting, unless authorized by the fire chief.

5.7 Fire protection system impairment

- .1 Notify the NRCAN Contract Representative and fire chief at least 48 hours prior to shutting down and working on any fire protection system, including water supply, fire suppression and life safety systems.
- .2 Where a fire protection system that provides fire alarm monitoring is impaired in an existing building, a fire watch may be required at the fire

chief's discretion.

- .3 Implement all fire protection system impairments in accordance with the National Fire Code of Canada and the base's fire orders. Fire orders will be given to the contractor at the kickoff meeting.

5.8 Fire extinguishers

- .1 In addition to the other equipment required by these specifications and, as scaled by the fire chief, provide fire extinguishers necessary to protect work in progress and the contractor's physical facilities on site.
- .2 Fire extinguishers may be required at the following locations, as specified by the fire chief:
 - .1 Near hot works;
 - .2 In areas where combustible material is stored;
 - .3 Near or on any internal combustion engine;
 - .4 Near areas where flammable liquids or gases are stored or handled;
 - .5 Near temporary oil- or gas-fired devices;
 - .6 Near bitumen-binding equipment.
- .3 Fire extinguishers must be size 4-A:40-B:C (20 lb), unless the fire chief specifies otherwise.
- .4 Only dry chemical fire extinguishers shall be used, unless they are ill suited for the type of fire to be controlled.
- .5 The contractor may estimate the necessary quantity of fire extinguishers based on the required 75-foot maximum travel distance.

5.9 Access for firefighting

- .1 Access for firefighting shall be provided in accordance with the National Fire Code of Canada.
- .2 Advise the Fire Department of work that would impede fire apparatus response. This includes violation of minimum horizontal and overhead clearance, as prescribed by the fire chief, erecting of barricades and digging of trenches.
- .3 Minimum horizontal clearance: clear width of not less than 6 m or as defined by the fire chief.
- .4 Minimum vertical clearance: overhead height of not less than 6 m or as defined by the fire chief.

5.10 Smoking precautions

- .1 Smoking is prohibited in all buildings. Observe posted smoking restrictions near existing buildings.

5.11 Rubbish and waste materials

- .1 Keep rubbish and waste materials on the site at minimum quantities.
- .2 Burning of rubbish is prohibited.
- .3 Remove rubbish from work site at end of work day or shift or as directed.

- .4 Storage
 - .1 Store oily waste in approved receptacles to ensure maximum cleanliness and safety.
 - .2 Deposit greasy or oily rags and materials subject to spontaneous combustion in approved receptacles and remove as specified.

5.12 Flammable and combustible liquids

- .1 Handle, store and use flammable and combustible liquids in accordance with the National Fire Code of Canada.
- .2 Keep flammable and combustible liquids such as gasoline, kerosene and naphtha for ready use in quantities not exceeding 45 litres provided they are stored in approved safety cans bearing the Underwriters' Laboratory of Canada or Factory Mutual seal of approval. Obtain written authorization from the fire chief for storage of quantities of flammable and combustible liquids exceeding 45 litres.
- .3 Do not transfer flammable or combustible liquids inside buildings or on jetties.
- .4 Do not transfer flammable or combustible liquids in the vicinity of open flames or any type of heat-producing devices.
- .5 Do not use flammable liquids having a flash point below 38°C, such as naphtha or gasoline, as solvents or cleaning agents.
- .6 Store flammable and combustible waste liquids, for disposal, in approved containers located in a safe ventilated area. Keep quantities to a minimum and notify the fire chief when disposal is required.

5.13 Hot works

- .1 The contractor shall implement a hot works program in accordance with the National Fire Code of Canada and the NFPA 51 Standard for Fire Prevention during Welding, Cutting and Other Hot Work.
- .2 The contractor shall obtain from the fire chief a "Hot Work" permit for all hot works on the construction site. Frequency of renewal for hot works permits is at the fire chief's discretion. When work is carried out in hazardous areas or using hazardous heat sources, provide fire watchers equipped with sufficient fire extinguishers. The fire chief must determine hazardous areas or sources, and the level of protection necessary for the fire watch.
- .3 Provide a fire watch service for work on the scale established and in conjunction with the fire chief as defined in the Fire Department briefing. Fire watchers shall be trained in the use of fire extinguishing equipment.
- .4 Area of hot works
 - .1 Hot works shall be carried out in an area free of combustible and flammable materials.
 - .2 Where 5.14 is not possible,
 - .1 All flammable and combustible materials within 15 m of the hot works shall be protected in accordance with the National Fire Code of Canada.
 - .2 A fire watch shall be on site during hot works, and for at least 60

- minutes, unless otherwise directed by the fire chief.
- .3 Make provision for a final inspection of the hot works area at least 4 hours after the completion of the hot works, unless otherwise directed by the fire chief.
- .3 When sparks may potentially reach combustible materials located in areas adjacent to the hot work area:
 - .1 Cover or close up openings in walls, floors or ceilings so as to prevent sparks from reaching adjacent areas;
 - .2 Implement item 5.14 in such areas.
- .5 Protection of flammable and combustible materials
 - .1 Any combustible or flammable material, dust or residue shall be:
 - .1 Removed from the area where hot works is carried out; or
 - .2 Protected from ignition by non-combustible materials.
- .6 Fire extinguisher
 - .1 A fire extinguisher shall be provided within 3 m of all hot works. Fire extinguisher minimum size shall be ABC (20 lb) unless otherwise directed by the fire chief.

5.14 Hazardous substances

- .1 Work entailing use of toxic or hazardous materials, chemicals or explosives, or otherwise creating a hazard to life, safety or health, shall be carried out in accordance with National Fire Code of Canada.
- .2 Provide ventilation where flammable liquids, such as lacquers or urethanes are used. Eliminate all sources of ignition. Inform the fire chief prior to and at completion of such work.

5.15 Questions and clarifications

- .1 Direct questions or clarification requests on fire safety to the NRCAN Contract Representative.
- .2 NRCAN is responsible for obtaining clarifications from the fire chief. The contractor is not to liaise directly with the fire chief for notification, authorization or any requests unless the situation constitutes an immediate emergency.

5.16 Fire inspection

- .1 Coordinate site inspections by the fire chief through the NRCAN Contract Representative.
- .2 Allow the fire chief unrestricted access to the work site.
- .3 Cooperate with the fire chief during routine fire safety inspections of the work site.
- .4 Immediately remedy unsafe fire situations observed by the fire chief.

6. ENVIRONMENTAL PROTECTION

6.1 CONTRACTOR'S SPILL RESPONSE PLAN

- .1 The contractor shall have a spill response plan (SRP). A DND-approved SRP model will be given to the contractor. Using this model will ensure compliance with laws and regulations and facilitate communications and response should a spill occur on our site.
- .2 The contractor shall have, on site, the appropriate response equipment for spill containment and recovery. The quantity of equipment to prepare will be proportional to the project's scope and spill risks. Spill equipment shall be easily accessible and allocated adequately throughout the site to cover all risks, at any time and place during the project (heavy equipment, tankers, generators, heating system, pump, etc.).
- .1 Without limitation, such response kit must include at least basic equipment and devices suitable for containing any spill, to minimize the risk of spreading contamination caused by a spill of oil, hazardous materials or other contaminants. The response kit shall be labelled "EMERGENCY-ENVIRONMENT" and contain:
 - .1 2 pairs of rubber gloves;
 - .2 2 pairs of safety goggles;
 - .3 1 epoxy putty stick;
 - .4 Duct tape;
 - .5 1 oil absorbent sock: 3 inches in diameter, 12 feet in length;
 - .6 1 oil absorbent sock: 3 inches in diameter, 4 feet in length;
 - .7 25 absorbent mats;
 - .8 2 bags of absorbent, 7 litres (sphagnum moss type);
 - .9 3 plastic recovery bags;
 - .10 2 shovels;
 - .11 Cutting pliers and screwdrivers;
 - .12 1 permanent marker;
 - .13 Two "DANGER" signs;
 - .14 "Environmental incident report" declaration forms for CFB Valcartier, provided by the Department Representative.
- .3 Employees working on site shall know the location of, have unrestricted access to and know how to use spill equipment.
- .4 Contractors and subcontractors who perform work that requires the use of motorized or fuel transfer equipment, or hazardous materials, shall know the spill response plan and procedures.
- .5 Make sure that all persons likely to respond in a spill have attended an awareness session and are prepared to act quickly and effectively in a spill.

6.2 PROCEDURES FOR OIL, HAZARDOUS MATERIAL OR OTHER CONTAMINANT SPILLS

- .6 Implement the procedures described in the contractor spill response plan (SRP), which is based on DND requirements. Take photos before, during and after the response.
- .7 This is a brief summary of the SRP's main steps, to which the contractor must adhere:
 - .1 Make sure people are safe and recover the spill immediately.
 - .2 If the contractor is unable to contain or recover the spill immediately or the spill is in water, it must notify the following contacts, according to the area in which the work is being performed:
 - .1 Base: Fire Department (844-5333);
 - .2 Training areas: Checkpoint (844-5000, extension 3710);
 - .3 Citadel: Québec City Fire Department (911 or 691-7722);
 - .4 Armoury and other locations: Local Fire Department (911).
 - .3 Next, regardless of spill size, the contractor must immediately report the spill to the Department Representative and the Support Base environment officer (by cell phone: 418-563-2676).
 - .4 Within 24 hours, the contractor will draft an incident report and submit it to the Department Representative. The Department Representative will provide the model for this report before commencement of work.
- .8 The contractor will be liable for any product spill deemed harmful to the environment or to DND property; if applicable, the contractor shall immediately implement, at its own expense, the corrective measures prescribed by the Department Representative or the Base environment officer.
- .9 Failure to respond adequately and to the satisfaction of DND due to spill type and size will result in the contractor bearing the costs of additional response action requiring DND staff or machinery.

6.3 WORK NEAR A WATER BODY

- .10 All watercourse shorelines shall be protected. Physically mark off the on-site shoreline to be protected. No one is allowed within the shoreline, except to perform re-naturalization work.
- .11 The contractor shall take necessary measures to eliminate or minimize the introduction of petroleum products or other hazardous materials into water bodies and wetlands.

6.4 SOIL AND WATER POLLUTION PREVENTION

- .12 Contractors shall ensure that machinery, tools and equipment used to execute the work are safe, clean and in good working condition. The Department Representative reserves the right to deny access or to expel from the site machinery, tools and equipment that do not meet these requirements. Equipment that has been visibly neglected or has leaks or risks leaking will be turned away from the work site at the expense of the contractor or equipment owner, at no cost to the Crown.
- .13 Equipment requiring replenishment of POL or other hazardous materials shall be located no closer than 30 metres from any watercourse and as far as possible from sanitary or storm sewer manholes or any ditch leading directly to a watercourse.

- .14 Equipment requiring replenishment of POL or other hazardous materials (e.g., generators, heating system, pumps, etc.) shall be installed on a surface that is level, impermeable and allows for spill containment. Put all stationary equipment in a retention basin or on an absorbent mat that will exceed the equipment perimeter by at least 1 ft. Pay special attention to the area near the fuel cap. Inspect equipment regularly and replace absorbent mats as needed.
- .15 Spills often occur during product handling. Sensitize all POL-handling staff to the importance of avoiding all types of spills, including small spills, which tend to be trivialized.
- .16 When replenishing, place an oil drip pan and/or a sorbent and/or a rag under the spout.

6.5 AIR POLLUTION PREVENTION

- .1 The contractor shall control emissions from materials, equipment, vehicles and facilities in accordance with the requirements of local, federal, provincial and municipal authorities.
- .2 Vehicle idling is prohibited, unless otherwise authorized by the Department Representative.
- .3 Build temporary shelters to prevent sanding particles and other foreign matter from contaminating the air beyond the application area.
- .4 Soak dry materials and cover waste to prevent wind from raising dust or carrying debris. Eliminate dust on temporary roads.

6.6 HAZARDOUS MATERIAL TEMPORARY STORAGE

- .1 As much as possible, avoid storing POL or other hazardous materials on the site. When the contractor is required to store hazardous materials and hydrocarbons for the purposes of the project, it shall have retention basins and response kits at storage locations.
- .2 Products stored on site shall be put away in a closed shelter. Storage areas shall be equipped with a liquid holding or collecting system (Polyspill pallets, splash block, impermeable coatings, undulations, trenches, drains that are closed-off or connected to a recovery system). Dispose of contaminated water according to the rules in force.
- .3 Storage areas for POL or other hazardous materials shall be located no closer than 30 metres from any watercourse, sanitary or storm sewer manholes, or any ditch leading directly to a watercourse.
- .4 Hazardous materials shall be stockpiled and interspaced horizontally at every 1 m. Incompatible materials shall be interspaced horizontally at every 3 m. Stockpiles shall be located no closer than 30 metres from a tree/shrub line and no closer than 6 m from a surface covered by herbaceous plants/grass. Comply with safety distances (15 m from tents, and 3 metres from combustible material and roads). Provide access for emergency responders. Flammable and combustible liquid containers shall be stored vertically. Containers in poor condition shall be immediately disposed of outside of DND premises, in compliance with the strictest environmental standards. Label containers in compliance with WHMIS.
- .5 Temporary storage rooms for hazardous materials shall display risks with TDG (transportation of dangerous goods) placards.

- .6 Mobile tankers shall meet road standards. Tankers shall be grounded during fuel transfers. The refuelled vehicle or tank shall be connected to the tanker by a grounding cable (bonding continuity), ensuring that contact is on bare metal.
- .7 Any closed container, with a capacity of more than 230 litres, used for the storage of POL and related products shall be double-walled and comply with the Transportation of Dangerous Goods Regulations (TDGR) and designed as per CAN/CGSB-43.146-2002.

6.7 MANAGEMENT AND DISPOSAL OF EQUIPMENT, WASTE AND RESIDUAL MATERIALS

- .1 Fires and waste burning are prohibited.
- .2 Burying any type of waste or materials on DND premises is prohibited.
- .3 It is prohibited to dispose of any type of waste or materials by pouring them into watercourses, storm sewers or sanitary sewers.
- .4 Materials and waste (hazardous or non-hazardous) generated by the project shall be separated and stored in disposal containers, shielded from the weather.
- .5 All storage areas must be located more than 30 metres from watercourses, ditches and all storm and sanitary sewer manholes.

6.8 TRAFFIC OF VEHICLES TRANSPORTING HAZARDOUS MATERIALS

- .1 Any vehicle transporting hazardous materials must comply with the Transportation of Dangerous Goods Regulations (TDGR).
- .2 Any vehicle transporting hazardous materials shall enter the Valcartier Garrison through the main guardhouse (De la Bravoure road).
- .3 The vehicle shall then follow DND directions to the work site

Appendix 1 – Clearing

Trees having a diameter of 16 cm and more at trunk level must be felled, delimbed, and cut in accordance with the directives outlined below, with the environmental standards applying to federal lands, and with the directives of general practices of delimiting and cutting as followed by wood processing facilities. The entire volume of merchantable wood harvested in the clearing process must be hauled by tractor-trailer to a permanent road accessible to vehicles. If the removal of branches has been done manually, all branches must be removed down to the trunk level of the tree. Logs must be separated into piles according to the species group to which they belong at a distance no greater than 3 m from the side of the roadway. Wood placed at the roadside will then be taken care of by the Canadian Forest Service. All selected logs must be free of rot.

Fir and Spruce

Trees must be felled and cut into 5 m (16 ft 6 in) lengths down to a small-end diameter of 15 cm (6 in) and in 3.8 m (12 ft 6 in) lengths down to a diameter of 10 cm (4 in). Logs having a diameter greater than 10 cm (4 in) but shorter than 3.8 m (12 ft 6 in) must be cut in 2.85 m (9 ft 4 in) lengths. Knotty spruce is not to be harvested. These trees must be felled, delimbed, and left on the ground.

Maple, yellow birch, beech, birch

These trees must be felled, delimbed, and cut into 2.4 m (8 ft) lengths down to a small-end diameter of 10 cm (3.5 in).

Poplar (except balsam poplar)

These trees must be felled, delimbed, and cut into 2.4 m (8 ft) lengths down to a small-end diameter of 10 cm (3.5 in).

Larch

Trees must be felled and cut in 3.8 m (12 ft 6 in) lengths down to a small end diameter of 18 cm (7 in). Logs having a diameter of less than 18 cm (7 in) and more than 10 cm (3.5 in) at the small end must be cut into 2.4 m (8 ft) lengths.

Pine

Logs that are free of large knots on four sides must be cut in 3.8 m (12 ft 6 in) lengths down to a small end diameter of 20 cm (8 in). The remainder of the tree must be cut in 96 cm (8 in) lengths down to a diameter small-end diameter of 10 cm (3.5 in).

Appendix 2 – Photos of the worksites



Project : Roadside vegetation control



Project : Vegetation control in the Mags sector



Project : Vegetation control in the Mags sector



Project : Vegetation control in the Mags sector (Merlon)



Project : Vegetation control in the Mags sector



Project : Cutting vegetation in the Stony Ridge sector



Project : Cutting vegetation in the Stony Ridge sector



Project : Levelling and controlling vegetation at the Base Va property line



Project : Redevelopment of the Jacques-Cartier river bank and the Carpiquet
South shooting range



Project : Deforestation of the perimeter of the Carpiquet North shooting range



Project : Maintenance of a white spruce plantation at a height of less than 1.5 m