
TITLE	GSA Crown Lands Application for a Type A Land Use Permit
SECTION	4: Infrastructure Sites
SUBJECT	1: Infrastructure Site for the Inuvik Area Facility

INTRODUCTION

This section supports an application for the development of a temporary infrastructure site within the Inuvik area facility footprint. It contains:

- an overview map with the site location ([Figure 4-1](#))
- an estimate of the personnel requirements
- a summary of the operations
- a description of potential environmental and resource effects
- construction equipment estimates

The infrastructure site at the Inuvik area facility will be situated completely within the footprint of the Inuvik area facility and is shown in [Figure 4-2](#).

PERSONNEL (PART 3)

The construction of the infrastructure site for the Inuvik area facility will require clearing, grading, camp construction and mechanical crews. These crews, of up to 60 people, will be obtained from the main pipeline clearing and grading crews or will be established specifically for infrastructure development. They are planned to reside at an existing camp in the town of Inuvik.

The Inuvik area facility infrastructure pad and a 250-person construction camp will be completed during the winter of 2006-2007. Personnel constructing the processing plant will move from the existing camp in the town of Inuvik to the Inuvik area facility camp as soon as it is commissioned. The camp will then be occupied through the summer of 2010.

This camp will require a support staff of about 25 people. These people are included in the 250-person total.

SUMMARY OF OPERATION (PART 5)

The land use activities and operations associated with the infrastructure site at the Inuvik area facility include developing and operating:

- a fuel storage site to support construction activities
- an administration office
- a stockpile site for storage of material, equipment, modules and pipe, and for construction equipment maintenance

- a 250-person camp for worker accommodation during construction activities
- a helipad within the site boundary

Preconstruction Activities

Before site development begins:

- a preconstruction survey will be conducted to finalize the location and site-specific layout
- geotechnical evaluations will be conducted, as required, to support engineering of the infrastructure site components

Development Activities

Initial development activities will commence in 2006 and will include clearing and construction of the pad that will support the proposed camp at the facility site. The pad material might be obtained from nearby borrow sites on both private and Crown land. The borrow sites on private land will be included in the land use permit application for private lands within the GSA. Detailed discussion of development of borrow sites on Crown lands is included in [Section 5](#).

The infrastructure site layout, within the Inuvik area facility footprint, is shown in the artist's impression in [Section 7](#). This figure demonstrates how the camp might be integrated into the facility site.

Infrastructure Site Access

Access to the infrastructure site will be the same as for the Inuvik area facility (see [Section 7](#)).

The infrastructure site for the Inuvik area facility will be used as the staging area for the construction of the facility. A section of the all-weather road to this facility will be built within GSA private lands, beginning at the Dempster Highway near the Campbell Lake infrastructure site.

Fuel Storage Depot

The fuel storage depot will require the installation of pads of a sufficient depth to permit truck movement around the site and to safely support refuelling activities. The pads will be sufficient to stabilize the traffic areas of the site, to provide a suitable driving surface and to support the fuel tanks. The fuel depot will be located within the overall infrastructure site footprint. Additional information on typical fuel storage depots is provided in [Section 3](#).

Figure 4.1 has been moved to reduce file size. To view it, click on the link to the figure in the web page List of Figures for this document.

Storage tanks will be used to supply the site requirements for electric power generation and facility construction equipment. Tank storage for about 100,000 L will be required at the Inuvik area facility site. These tanks are planned to contain diesel fuel.

The fuel storage depot at the Inuvik area facility will be monitored by computerized systems and site security patrol. It will be equipped with management control systems for access, and authorization controls for fuel handling. An emergency shutdown system will also be provided.

Stockpile Site

The stockpile site at the Inuvik area facility will require the installation of pads to permit truck movement around the site and to safely support unloading and storing large loads of equipment, gas processing and other modules, and materials. The pad will be of sufficient depth to stabilize the storage areas of the stockpile site and provide a suitable driving surface for heavy truck traffic. Pad material requirements, the stockpile layout, and size will be finalized after the preconstruction survey. Typical stockpile sites are discussed in [Section 3](#).

Camp Site

Development of the temporary self-contained camp will require the installation of pads of sufficient depth to permit the transport and erection of about 60 modular camp structures. Pad material requirements, camp site layout and size will be finalized after the preconstruction survey. Typical camp layout and services are discussed in [Section 3](#).

Start-up of camp activities will involve the mobilization of supplies and materials.

Water for the camp will likely be obtained from Inuvik, subject to negotiations with the town. The water will be transported by truck from the source to the camp site for use as camp and fire suppression water.

Operations Activities

The site will act as a staging area for the construction activities for the Inuvik area facility.

Fuel Depot Operations

Fuel will be delivered by truck to the fuel depot from the existing bulk storage facility in Inuvik. This will reduce the size of the depot facilities at the infrastructure site for the Inuvik area facility. This will require daily truck traffic through the fuel depot during construction operations.

Stockpile Operations

The stockpile will be used to store the material required for construction of the Inuvik area facility. The Dempster Highway and the proposed all-weather access road will be used for transporting equipment and material from the existing barge landing site in Inuvik and the Campbell Lake staging area to the Inuvik area facility stockpile site. This activity will primarily take place in the summer during the open-water barging season.

During the barge-unloading period (about seven weeks each year), trucks will operate continuously until all the required material has been stockpiled. A preliminary estimate of materials to be stockpiled at the infrastructure site for the Inuvik area facility includes about 13,440 tonnes of camp modules and supplies. A list of equipment that might be stored at the site is included in [Section 7](#).

During construction, the material required for constructing the facilities for the project will be hauled from the stockpile site and set in place at the facility site. When construction is underway, truck activity will occur along the proposed all-weather access road and the Dempster Highway, and from Inuvik and the Campbell Lake infrastructure site to the Inuvik area facility site.

Camp Site Operations

The camp will be used to feed and house construction personnel. The largest element of the operations will be catering and housekeeping for camp residents. Other activities will include the maintenance operations of the camp and restocking of fuel and supplies by truck.

Food and other supplies will be trucked in periodically from Inuvik. Daily water truck cycles will bring the necessary volume of water (about 227 L per person daily or 57 m³ daily at full occupancy) to the camp.

The camp will have attendants and facilities to handle medical problems as they arise. All project camps will have a zero tolerance policy for alcohol and illegal drugs.

SUMMARY OF POTENTIAL ENVIRONMENTAL AND RESOURCE EFFECTS (PART 6)

A description of the potential environmental and resource effects and primary mitigation strategies for this site can be found in [Section 7](#).

PUBLIC INVOLVEMENT

Travaillant Lake Camp and Travaillant River Barge Site

During public involvement activities, Tsiigehtchic community members indicated that burial sites were located on both sides of the Travaillant and Thunder River, where they enter the Mackenzie River. The community was also concerned with having a temporary infrastructure camp or access to the Travaillant Lake – Thunder River area, as these developments would result in people accessing this fishing area and causing unnecessary disturbance to the land. Because of the community input, these sites were withdrawn from the project.

The public involvement activities are documented in [Section 10](#) of this application.

EQUIPMENT (PART 10)

The following tables show an estimate of the equipment that might be required at the infrastructure site for the Inuvik area facility. An exact list and numbers will not be known until immediately before construction. [Table 4-1](#) lists the site construction equipment. [Table 4-2](#) lists site operations equipment.

Table 4-1: Estimate of Site Construction Equipment

Type and Approximate Number per Site	Size, Model or Equivalent	Proposed Use
Crew cabs and pick-ups – 2	4x4	Transporting crews
Bulldozers with GP buckets, U blades and brush rakes – 2	Large sized bulldozer (405 HP)	Site grading, pad and access road development, spreading granular material, snow removal
Dump trucks (double axle) – 2	Truck with trailer (12 m ³)	Hauling granular material
Front end loader with GP bucket – 1	Large sized loader (5.5 m ³ bucket loader)	Site preparation work
Road grader – 1	Large sized grade (4.9 m blade)	Site preparation work, grading ramps and access roads
Tracked mechanical ditcher – 1	Medium sized excavator (1.45 m ³ bucket)	Excavating and removing organic material
Tree feller-buncher and skidder – 1	Tracked 35,490 kg feller-buncher with a high speed saw head	Site clearing and timber handling
Compactor – 1	Medium sized compactor (20,879 kg sheepsfoot packer)	Compaction of camp site pad fill materials and access road construction
Crane (tracked) – 1	Medium sized crane (100 t)	Unloading and placement of camp modules

Table 4-1: Estimate of Site Construction Equipment (cont'd)

Type and Approximate Number per Site	Size, Model or Equivalent	Proposed Use
Mechanic's truck with welder – 1	4x4	Equipment repair
Water truck – 1	Tandem axle, 16-24 m ³	Site and road work
Sea containers – 2	6 m	Storage
Mobile camp – 1	35 person	Site development
Fuel trucks – 1	3785 Litre	Fuel for equipment
Skid steer loaders – 2	Large sized skid steer (80 HP)	Site work

Table 4-2: Estimate of Equipment to Operate the Infrastructure Site

Type and Approximate Number per Site	Size, Model or Equivalent	Proposed Use
Sea containers – 4	6 m	Storage
Tractor trailers – 4	Dry van 14.6 m or 16.2 m	Parts and supplies
Road graders – 2	Large sized grader (4.9 m blade)	Earthwork, road maintenance and snow removal
Front end loader with GP bucket - 1	Large sized loader (5.5 m ³ bucket loader)	Movement of camp supplies and snow removal
Snow machines – 6	Small sized snow machine (400 cc)	Personnel transport
4x4 crew cab pick up – 4	4x4	Transporting crews
Crane (tracked) – 1	Medium sized crane (100 t)	Loading and unloading pipe, equipment and materials
Flatbed trucks with pickers – 2	10 ton truck	Transporting materials and maintenance
Truck and water tank trailers – 5	Tandem axle, 16-24 m ³	Bringing water to the camp for domestic use and fire protection
Skid steer loaders – 2	Large sized skid steer (80 HP)	Site work

FUELS (PART 11)

Table 4-3 itemizes fuel storage. This represents an estimate of fuel requirements.

Table 4-3: Estimate of Fuel Storage

Fuels	Number of Containers	Capacity of Containers	Location
Diesel	2	50,000 L	Fuel Depot
Other	As required	As required	Fuel Depot

PERIOD OF OPERATIONS (PART 14)

Site operations will take place year-round, at varying levels of activity, from 2006 through the summer of 2010. See [Section 3](#) for a schedule of development activities in the GSA.

LOCATION OF ACTIVITIES BY MAP COORDINATES (PART 16)

Map coordinates of the facility site are shown in [Table 4-4](#). A map showing the location of the site is provided in [Figure 4-2](#).

Table 4-4: Map Coordinates

Latitude (DD)	Longitude (DD)	UTM Easting (m)	UTM Northing (m)	UTM Zone
68.4132	-133.3238	568818	7589867	8

FEES (PART 18)

The total land area required for activities contained in this section is 1.6 ha. This area is included within the footprint of the Inuvik area facility.

The land requirements are shown in [Appendix A](#).

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