
TITLE	ISR Crown Lands Application for a Class A Land Use Permit
SECTION	4: Infrastructure Sites
SUBJECT	1: Infrastructure Site for the Storm Hills Pigging Facility

INTRODUCTION

This section supports an application for the development of a temporary infrastructure site within the Storm Hills pigging 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 Storm Hills pigging facility will be situated completely within the facility footprint and is shown in [Figure 4-2](#).

PERSONNEL (PART 3)

The construction of the infrastructure site for the Storm Hills pigging facility will require grading, camp construction and mechanical crews. These crews, of up to 15 people, will be obtained from the main gathering pipeline clearing and grading crews or will be established specifically for infrastructure development.

The Storm Hills pigging facility infrastructure pad and the 40-person construction camp will be completed during the winter of 2007-2008. Personnel constructing the pigging facility will reside at the camp as soon as it is commissioned. The camp will then be occupied through the winter of 2009-2010.

At full occupancy, the camp will require a camp support staff of about 6 people. These people are included in the nominal camp capacity of 40 people.

SUMMARY OF OPERATION (PART 5)

The land use activities and operations associated with the infrastructure site at the Storm Hills pigging facility include developing and operating:

- a fuel storage site to support construction activities
- a stockpile site for storage of material, equipment, modules and pipe, and for construction equipment maintenance
- a 40-person camp for worker accommodation during construction activities

- during operations, temporary living quarters for five personnel will be available consisting of modules previously used for the 40-person construction camp
- 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 at this site will commence in 2007 and will include 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 ISR. Detailed discussion of development of borrow sites on Crown lands is included in [Section 5](#).

The infrastructure site layout, within the Storm Hills pigging 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.

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.

Figure 4.2 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.

Infrastructure Site Access

During construction, access to the Storm Hills pigging facility will be along the gathering pipeline right-of-way commencing on an all-weather access road that will be built to the Inuvik area facility from the Dempster Highway about 18 km east of Inuvik.

The infrastructure site at the Storm Hills pigging facility will be used as the staging area for the construction of the facility.

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](#).

Storage tanks will be used to supply the site requirements for electric power generation and facility construction equipment. Tank storage for about 250,000 L will be required at the Storm Hills pigging facility. These tanks are planned to contain diesel fuel.

In the first construction season, fuel will be stored on fuel trucks. Tank storage will be used once in the designated place and after secondary containment is installed.

The fuel storage depot at the Storm Hills pigging facility will be monitored by computerized systems. 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 Storm Hills pigging facility will require the installation of pads to permit truck movement around the site and to safely support unloading and storing large loads of pipe, 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 19 modular

camp structures. Pad material requirements, camp site layout and size will be finalized after the preconstruction survey (see [Figure 4-2](#)).

Start-up of camp activities will involve the mobilization of supplies and materials. The typical camp layout and services are discussed in [Section 3](#).

Water for the camp will likely be obtained from Parsons Lake. The water will be transported by truck from the source to the campsite for use as camp and emergency fire suppression water.

Operations Activities

The site will act as a staging area for the construction activities for the Storm Hills piggery 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 Storm Hills piggery facility.

Stockpile Operations

The stockpile will be used to store the material required for construction of the Storm Hills piggery facility. The Dempster Highway, a proposed all-weather access road and the pipeline right-of-way will be used for transporting equipment and material from the existing barge landing site in Inuvik and the Campbell Lake staging area in the GSA to the Storm Hills piggery facility stockpile site.

During the barge-unloading period (about seven weeks each year), trucks will operate continuously until all the required material has been stockpiled at the Campbell Lake site. Materials for the Storm Hills piggery facility will then be transported during the winter along the pipeline right-of-way. A preliminary estimate of materials to be stockpiled at the infrastructure site for the Storm Hills piggery facility includes about 1,970 tonnes of camp modules, supplies and construction machinery. A list of equipment that might be stored at the site is included in [Section 7](#).

Camp Site Operations

The camp will be used to feed and house construction personnel. The largest element of the operations will be the catering and housekeeping for the 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. Periodic water truck cycles will bring the necessary volume of water (about 227 L per person daily or 9 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

The local ISR communities, in meetings or discussions with Imperial, have not expressed concerns regarding the Storm Hills pigging facility specifically. However, they have requested that the gathering pipeline (and therefore the Storm Hills pigging facility and accompanying infrastructure) be moved from the proposed location west to the Ikhil route. The public involvement activities are documented in [Section 10](#) of this application.

Imperial has conducted route comparisons and concluded that the proposed gathering pipeline route is preferred because it is shorter and uses a smaller footprint than the proposed Ikhil alternatives, and as a result, will be less costly.

EQUIPMENT (PART 10)

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

Table 4-1: Estimate of Infrastructure 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 grader (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 organic material
Compactor – 1	Medium sized compactor (20,879 kg sheepfoot packer)	Compaction of camp site pad fill materials and access road construction
Crane (tracked) – 1	Medium sized crane (100 tonne)	Unloading and placement of camp modules
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	3,785 L	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	Warehouse van	Parts and supplies
Graders – 2	Medium sized grader (4.3 m blade)	Earthwork, road maintenance and snow removal
Front end loader with bucket – 1	Medium sized loader (5.5 m ³ bucket loader)	Movement of camp supplies and snow removal
Snowmobiles – 6	As required	Personnel transport

Table 4-2: Estimate of Equipment to Operate the Infrastructure Site (cont'd)

Type and Approximate Number per Site	Size, Model or Equivalent	Proposed Use
Crew cabs and pick-ups – 4	4x4	Transporting crews
Crane (tracked) – 1	Medium sized crane (100 tonne)	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 loader (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	1	50,000 L	Fuel Depot
Diesel	1	200,000 L	Fuel Depot
Other	As required	As required	Fuel Depot

PERIOD OF OPERATIONS (PART 14)

Site operations will be continuous from 2007 through the winter of 2009-2010 (see [Section 3](#) for a schedule of development activities in the ISR).

LOCATION OF ACTIVITIES BY MAP COORDINATES (PART 16)

Map coordinates of the facility site are shown in [Table 4-4](#). The map in [Figure 4-4](#) shows the location of the site.

[Figure 4-3](#) is a photograph of the undeveloped infrastructure site at the Storm Hills pigging facility site.

Table 4-4: Storm Hills Pigging Facility Infrastructure Site Location

Latitude (DD)	Longitude (DD)	UTM Easting (m)	UTM Northing (m)	UTM Zone
68.8141	-133.8404	546768	7634074	8

FEES (PART 18)

The total land area required for activities contained in this subsection is 0.4 ha. This area is included within the footprint of the Storm Hills pigging facility.

The land requirements are shown in [Appendix A](#). Fees are included in the calculation shown in part 18 of the application form ([Section 2](#)).



Figure 4-3: Terrain within the Storm Hills Pigging Facility Site

Figure 4.4 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.

