
TITLE	ISR Application for a Type A Water Licence
SECTION	3: Overview of Activities in the ISR
SUBJECT	1: Regional Overview

PURPOSE

This section describes the proposed activities and gathering pipeline components associated with the ISR development, excluding the anchor fields. It applies to the construction and operation phases, and contains typical drawings, artist's impressions, and photographs.

An introduction to the biophysical and human environment setting is also included in this section, as is a discussion of primary mitigation strategies to reduce potential effects or development concerns that might be associated with the project.

SUMMARY OF REGIONAL ACTIVITIES

A one-kilometre wide corridor has been identified for the gathering pipelines through the ISR. Within this corridor, proposed pipeline routes have been identified that extend about 175.2 km in the ISR to the GSA boundary.

Development Activities

As shown in [Figure 3-1](#), the proposed ISR development will involve constructing and operating:

- 15.7 km of NPS 16 gathering pipeline in a 30 m wide right-of-way of the Niglintgak lateral
- 81.4 km of NPS 26 gathering pipeline in a 40 m wide right-of-way of the Taglu lateral
- 26.5 km of NPS 18 gathering pipeline in a 30 m wide right-of-way of the Parsons Lake lateral
- 51.6 km of NPS 30 gathering pipeline in a 40 m wide right-of-way of the Storm Hills lateral
- the Storm Hills pigging facility
- receipt meter stations
- pipeline appurtenances, such as valves and cathodic protection, at nine sites

New permanent gathering pipeline rights-of-way will be required for about 23.6 km of Inuvialuit private lands and about 151.6 km of Crown lands. An estimated 90.7 ha of additional temporary workspace will also be needed for construction purposes, including about 19.6 ha on Inuvialuit private lands and 71.1 ha on Crown land. These estimates do not include workspace for bypass areas, which will be determined as engineering and construction planning progresses.

To support the proposed gathering pipeline construction and operations activities in the ISR, various new infrastructure developments will be needed, including:

- a stationary camp, stockpile, fuel storage and helipad at the Storm Hills pigging facility and a temporary infrastructure site at Swimming Point
- 55 winter access roads totaling about 149.2 km of new access (85.0 ha on private land and 213.4 ha on Crown land)

Borrow Sites

To support construction activities in the ISR, a total requirement of about 1,332,000 m³ of borrow material has been estimated, including the quantity required by the three anchor field owners. Imperial will be developing some borrow sites on their behalf. Fifteen borrow sites have been identified for potential development. Seven are on Inuvialuit private lands and eight are on Crown lands. Together, these sources could provide about 35,780,000 m³ of exploitable borrow materials. The borrow sites, a selected part of the borrow sources, could provide about 1,816,000 m³.

Existing Infrastructure

In addition to the proposed development activities, existing services and transportation infrastructure in the ISR will be used where practical and with permission as required. This includes a barge landing, air strip and bulk fuel storage facilities at Swimming Point. Existing Government of the Northwest Territories winter roads will also be used.

Water Requirements and Sources

An estimated 3,272,100 m³ of water will be needed in the ISR for construction purposes (see [Table 3-1](#)). These requirements are addressed in the Type A water licence application to the Northwest Territories Water Board.

The water will be used to build and maintain winter access roads and right-of-way travel lanes, for domestic purposes at the camps, for horizontal directional drilling activities at selected watercourse crossings and potentially for gathering pipeline pressure testing.

A final pressure testing decision has not been made regarding the test medium. A water-freeze depressant mixture has been assumed for this application.

Water will normally be transported by truck to sites from nearby lakes and rivers.

Table 3-1: Estimated Water Requirements in the ISR

Purpose	Estimated Annual Quantity (m ³)	Total Estimated Quantity (m ³)
Winter Access Roads	285,500	856,500
Pipeline Right-of-Way	780,000	2,340,000
Camp Water	29,950	60,200
Horizontal Directional Drilling	N/A	10,900
Pipeline Pressure Testing	N/A	4,500
Total	1,095,450	3,272,100

About 34 potential water sources are being investigated in the ISR, including 24 on Crown land and 10 on private land (see [Figure 3-2](#)). Their location, by gathering pipeline lateral, is provided in [Table 3-2](#). Some can be accessed from several points on the gathering pipeline rights-of-way. The largest potential sources include the Mackenzie River, Yaya Lake, Noell Lake and Parsons Lake.

Table 3-2: Location of Potential Water Sources in the ISR

Location	
Gathering Pipeline Lateral	Number of Sources
Niglintgak Lateral	3
Taglu Lateral	21
Parsons Lake Lateral	4
Storm Hills Lateral	6

Water Use and Deposits

As stated previously, water will be obtained from the Mackenzie River and various lakes in the ISR for building winter access roads, the gathering pipeline travel lanes and temporary work platforms.

No additives or treatment of the water will be required for building the winter access roads, travel lanes and work platforms. The water will be trucked to the sites and used to help freeze and form the travel or work surface. In spring, the ice and snow will melt and flow into the surrounding natural drainage system. Any fuel spills will be immediately handled in accordance with the spill contingency

plan (SCP). The collected materials will be managed in accordance with the SCP and with applicable regulatory requirements (see [Section 11](#)).

Water will be required for domestic purposes at the Storm Hills pigging facility and the Swimming Point infrastructure site.

Domestic wastewater from the camps will be treated to meet the appropriate regulatory standards. Camp sewage will either be treated onsite or transported to an approved off-site location, in compliance with the applicable environmental and health standards. Off-site transport and disposal of sewage will occur primarily when smaller staffing requirements exist, such as during the operations phase.

In the event that water is used for pressure testing the gathering pipeline laterals, it is expected that the water will be obtained from sources within the ISR. This water will be mixed with a freeze depressant. After the tests are completed, the freeze depressant will be separated from the water or the mixture will be salvaged or disposed of in an environmentally appropriate manner. A number of alternatives are being investigated for disposal, including recycling, deep well injection or flaring.

Treated wastewater might be used for winter road maintenance.

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Figure 3.2 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.