



## **NIRB Application for Screening #125538**

### **Rankin Inlet sand pit**

**Application Type:** New

**Project Type:** Pits and Quarries

**Application Date:** 6/2/2020 7:33:20 PM

**Period of operation:** from 0001-01-01 to 0001-01-01

**Proposed Authorization:** from 0001-01-01 to 0001-01-01

**Project Proponent:** Randy Mercer  
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P.O. Box 490  
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Canada  
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## Non-technical project proposal description

English: Rankin Inlet sand pit is a site currently being used by the Hamlet of Rankin Inlet and members of the public to extract sand and other fine materials to meet the construction demands of the community. The use of the aggregate will vary widely. The Hamlet will use it for municipal purposes such as road construction and maintenance. The public will use it for private purposes. The site will be used in the summer months (June-September) of each year until all the aggregate is extracted. The frequency of use will depend on the construction projects in Rankin Inlet and the need for sand and other fine materials for that year. The quarry is located 7.3 kilometers north of the community of Rankin Inlet and 222 metres south of the Iqalugaarjuup Nunanga Territorial Park. This site is already being used for quarrying purposes. The exact date of its first use is not known but it is estimated to have occurred in the early 1990's. The total volume of quarry material that was taken from the site is not known. All the aggregate within the quarry is loose sand; extraction will be done by CAT track excavators and wheel loaders. Dump trucks of varying make and models will be used to haul aggregate to and from the quarry site. No blasting of rock outcrops is planned. There is an estimated volume of 300,000 cubic metres of material left in the quarry. There is an existing road that connects the community to the territorial park that passes by the Rankin Inlet sand pit. This road will be used to access the site. It is used frequently by both the Hamlet, community residents, and contractors. The quarry is located on untitled municipal land which is administered by the department of Community and Government Services (CGS). Once approval for this the site is obtained, CGS will go into a quarry administration agreement (QAA) with the Hamlet which allow the Hamlet to issue quarry permits instead of CGS. The Hamlet will stockpile the aggregate and then members of the public will obtain quarry permits from the Hamlet. The fees from these quarry permits will be stored in a Hamlet financial account which will be used to maintain the road to the quarry site, cover administrative costs, and to remediate the quarry. After the quarry is depleted, the Hamlet will smooth out the edges of the site to ensure no steep inclines are present. Vegetation that was present prior to the use of the site will grow back over time. Due to its proximity to the community of Rankin Inlet, its estimated volume, and the existing road that reaches the site, makes the sand pit a desirable site for the extraction of quarry material.

French: not applicable

[illegible]

Inuinnaqtun: not applicable

**Personnel**

Personnel on site: 2

Days on site: 1800

Total Person days: 3600

Operations Phase: from 2020-03-28 to 2030-09-21

## Activities

| Location                       | Activity Type     | Land Status   | Site history  | Site archaeological or paleontological value              | Proximity to the nearest communities and any protected areas   |
|--------------------------------|-------------------|---------------|---|---|--|
| Rankin Inlet Sand Pit boundary | Quarry/Borrow pit | Commissioners | The current use of this site is for quarrying purposes. It is estimated that this site was used as a quarry since at least the 1990's. Prior to that date, this site has no land use. | This site has no archaeological or paleontological value. | The quarry is located 7.3 kilometres from the community of Rankin Inlet. The Iqalugaarjuup Nunanga Territorial Park is 222 metres north of the quarry boundary. No other known protected areas in or around the quarry boundary. |

## Community Involvement & Regional Benefits

| Community    | Name  | Organization  | Date Contacted |
|--------------|---|---|----------------|
| Rankin Inlet | Morag Macpherson, Senior Administrative Officer | The Municipal Corporation of the Hamlet of Rankin Inlet | 2020-05-27     |

## Authorizations

Indicate the areas in which the project is located:

Kivalliq

### Authorizations

| Regulatory Authority                                   | Authorization Description  | Current Status | Date Issued / Applied | Expiry Date |
|--|--|----------------|-----------------------|-------------|
| Government of Nunavut, Community Government & Services | The quarry boundary is located on Untitled Municipal Land, which is administered by CGS. CGS is the applicant and we approve of this NIRB application. | Active         |                       |             |
| Hamlets and Municipalities                             | Senior Administrative Officer with the Hamlet of Rankin Inlet gave consent to move forward with this application.                                      | Active         |                       |             |

### Project transportation types

| Transportation Type | Proposed Use   | Length of Use |
|---------------------|--|---------------|
| Land                | There is an existing road that was and is still being used to access the site. CAT loaders, excavators and dump trucks will use this road. |               |

### Project accomodation types

Community

## Material Use

Equipment to be used (including drills, pumps, aircraft, vehicles, etc)

| Equipment Type  | Quantity | Size - Dimensions            | Proposed Use  |
|-----------------|----------|------------------------------|---|
| Loader          | 1        | 5.7m x 2.7m x 1.5m           | excavate quarry material                                    |
| dump truck      | 1        | 8m x 2.5m x 3.4m             | haul quarry material  |
| Track Excavator | 1        | 10m(L) x 3.2m (H) x 3.2m (W) | excavate quarry material                                    |
| Screener        | 1        | 14.2m(L) x 4m(H) x 4.9m (W)  | Screen undesirable aggregate and large boulders out of Sand |

### Detail Fuel and Hazardous Material Use

| Detail fuel material use: | Fuel Type | Number of containers | Container Capacity | Total Amount | Units  | Proposed Use   |
|---------------------------|-----------|----------------------|--------------------|--------------|--------|--|
| Diesel                    | fuel      | 1                    | 535                | 535          | Liters | fuel tank that attached to the CAT Wheel loader. Diesel will be taken from the community fuel station. |
| Diesel                    | fuel      | 1                    | 567                | 567          | Liters | fuel tank that attached to the Dump Truck. Diesel will be taken from the community fuel station.       |
| Diesel                    | fuel      | 1                    | 600                | 600          | Liters | fuel tank that attached to the Track Excavator. Diesel will be taken from the community fuel station.  |
| Diesel                    | fuel      | 1                    | 276                | 276          | Liters | fuel tank that attached to the Screener. Diesel will be taken from the community fuel station.         |

### Water Consumption

| Daily amount (m3) | Proposed water retrieval methods   | Proposed water retrieval location                    |
|-------------------|--|--|
| 4571              | Water is retrieved from the Rankin Inlet fill station located on lot 546 plan 2542. The water is pumped from the community drinking source known as Nippisar Lake to the fill station. | Nippisar Lake- Rankin Inlet's drinking water source. |

# Waste

## Waste Management

| Project Activity             | Type of Waste | Projected Amount Generated | Method of Disposal | Additional treatment procedures |
|------------------------------|---------------|----------------------------|--------------------|---------------------------------|
| Information is not available |               |                            |                    |                                 |

### Environmental Impacts:

The natural vegetation such as moss and other arctic plants on the surface will be disturbed or destroyed within the excavation area of the Sand Pit. This is unavoidable due to the nature of quarry operations. Additional environmental impacts and the mitigation measures are outlined the Quarry Management, Spill Contingency and the dust mitigation measures Plans attached to this application.

# **Additional Information**

**SECTION A1: Project Info**

**SECTION A2: Allweather Road**

**SECTION A3: Winter Road**

**SECTION B1: Project Info**

**SECTION B2: Exploration Activity**

**SECTION B3: Geosciences**

**SECTION B4: Drilling**

**SECTION B5: Stripping**

**SECTION B6: Underground Activity**

**SECTION B7: Waste Rock**

**SECTION B8: Stockpiles**

**SECTION B9: Mine Development**

**SECTION B10: Geology**

**SECTION B11: Mine**

**SECTION B12: Mill**

**SECTION C1: Pits**

(see Quarry Management Plan attached to this application under Project application documents)

**SECTION D1: Facility**

**SECTION D2: Facility Construction**

**SECTION D3: Facility Operation**

**SECTION D4: Vessel Use**

**SECTION E1: Offshore Survey**

**SECTION E2: Nearshore Survey**



## **SECTION E3: Vessel Use**

## **SECTION F1: Site Cleanup**

## **SECTION G1: Well Authorization**

## **SECTION G2: Onland Exploration**

## **SECTION G3: Offshore Exploration**

## **SECTION G4: Rig**

## **SECTION H1: Vessel Use**

## **SECTION H2: Disposal At Sea**

## **SECTION I1: Municipal Development**

### **Description of Existing Environment: Physical Environment**

The site is already being used for quarrying purposes. It was estimated this quarrying started in the early 1990's. Prior to quarrying there was no land use. The quarry boundary is 30 metres east from of a large lake known locally as First Landing lake, though the actual extraction area is approximately 200 metres east. The depth and marine biology of First Landing Lake is not known but it has an approximate diameter of 744 metres. south-east of First Land Lake is an existing bridge named Char River Bridge that crosses over a drainage channel that drains water from First Landing Lake to Hudson Bay. It is located approximately one kilometre south of the Sand Pit. This bridge is used to access the quarry site. The Sand Pit contains natural sand eskers. These eskers have an elevation of 15 metres from the highest peak of the esker to the bottom of the quarry. The rest of the Sand Pit contains untouched natural vegetation. An image of the sand pit can be found attached to this NIRB application in Jpeg named "Rankin Inlet sand pit". There is an existing road that connects the community to the Iqalugaarjuup Nunanga Territorial Park that passes by the Rankin Inlet sand pit. This road will be used to access the site. It is used frequently by both the Hamlet, community residents, and contractors. There is no evidence of ice lensing, Therokarsts, ground or rock instability and seismicity. There are no heritage sites, sport and commercial fishing areas, migration routes, protected wildlife areas or sites of cultural or historical significance, or areas of natural beauty within or around the quarry boundary. Surface and bedrock geology, permafrost, and, sediment and soil quality are not known.

### **Description of Existing Environment: Biological Environment**

A portion within the sand pit boundary is already being used for quarrying purposes. This portion has been stripped of natural vegetation such as moss. The other portion has been untouched and contains typical vegetation found in Nunavut such as moss and other arctic plants. There are no wildlife or bird migration routes nor is there any species of concern in this area.

### **Description of Existing Environment: Socio-economic Environment**

The Sand Pit is located 7.3 kilometres north of the community of Rankin Inlet and 222 metres south of the Iqalugaarjuup Nunanga Territorial Park. There are no archaeological or culturally significant sites within or around the quarry. There is no subsistence harvesting, tourism, trapping or guiding operations in the quarry. As mentioned previously, there is an existing road that connects the community to the Iqalugaarjuup Nunanga Territorial Park that passes by the Rankin Inlet sand pit. This road will be used to access the site. It is used frequently by both the Hamlet, community residents, and contractors. Since the quarry site is located 7.3 kilometres from the community of Rankin Inlet and 222 metres south of the Iqalugaarjuup Nunanga Territorial Park, the effect of the extraction process on the well-being of the residence will be minimal.

### **Miscellaneous Project Information**

Additional information can be seen in the Dust Management, Spill contingency and Quarry Management plans.

### **Identification of Impacts and Proposed Mitigation Measures**

Impacts and mitigation measures are outlined in the Dust Management, Spill contingency and Quarry Management plans.

### **Cumulative Effects**

The road from the Community to the Iqalugaarjuup Nunanga Territorial Park which passes by the sand pit is well known by the residents of Rankin Inlet. It is used regularly by the Hamlet to access the sand pit, members of the public for recreational and leisure purposes and by the mining company Agnico Eagle Mines Limited to reach their Meliadine gold mine. Any possible cumulative effects from this sand pit will be minimal.

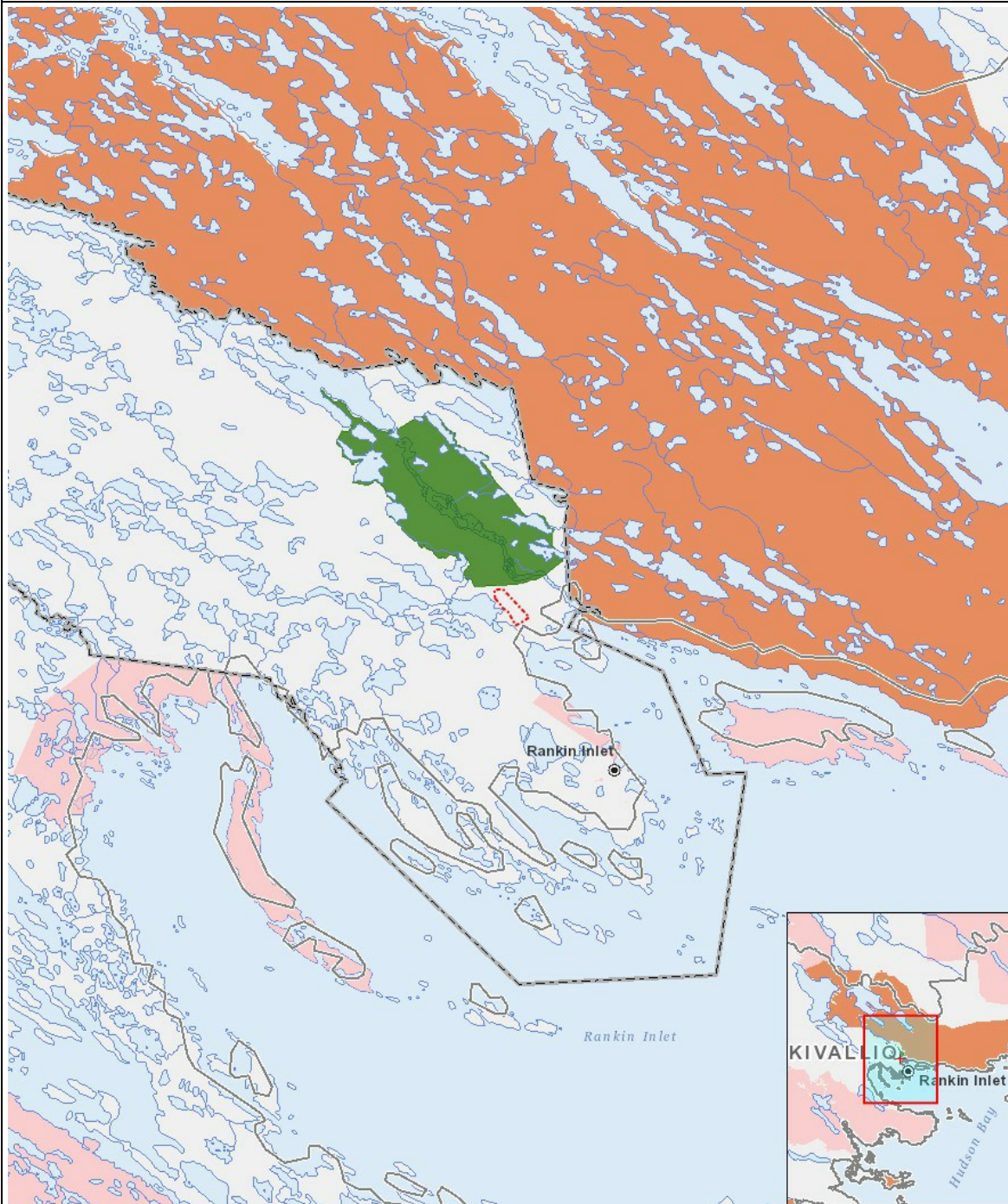
# Impacts

## Identification of Environmental Impacts

|                        |  | PHYSICAL | Designated environmental areas | Ground stability | Permafrost | Hydrology / Limnology | Water quality | Climate conditions | Eskers and other unique or fragile landscapes | Surface and bedrock geology | Sediment and soil quality | Tidal processes and bathymetry | Air quality | Noise levels | BIOLOGICAL | Vegetation | Wildlife, including habitat and migration patterns | Birds, including habitat and migration patterns | Aquatic species, incl. habitat and migration/spawning | Wildlife protected areas | SOCIO-ECONOMIC | Archaeological and cultural historic sites | Employment | Community wellness | Community infrastructure | Human health |
|------------------------|--|----------|--------------------------------|------------------|------------|-----------------------|---------------|--------------------|---|-----------------------------|---------------------------|--------------------------------|-------------|--------------|------------|------------|--|---|---|--------------------------|----------------|--|------------|--------------------|--------------------------|--------------|
| <b>Construction</b>    |  |          |                                |                  |            |                       |               |                    |   |                             |                           |                                |             |              |            |            |  |   |   |                          |                |  |            |                    |                          |              |
| -                      |  | -        | -                              | -                | -          | -                     | -             | -                  | -   | -                           | -                         | -                              | -           | -            |            | -          | -  | -   | -   | -                        |                | -  | -          | -                  | -                        | -            |
| <b>Operation</b>       |  |          |                                |                  |            |                       |               |                    |   |                             |                           |                                |             |              |            |            |  |   |   |                          |                |  |            |                    |                          |              |
| Quarry/Borrow pit      |  | -        | U                              | U                | -          | -                     | -             | -                  | -   | U                           | U                         | -                              | -           | N            |            | N          | -  | -   | -   | -                        |                | -  | P          | P                  | P                        | -            |
| <b>Decommissioning</b> |  |          |                                |                  |            |                       |               |                    |   |                             |                           |                                |             |              |            |            |  |   |   |                          |                |  |            |                    |                          |              |
| -                      |  | -        | -                              | -                | -          | -                     | -             | -                  | -   | -                           | -                         | -                              | -           | -            |            | -          | -  | -   | -   | -                        |                | -  | -          | -                  | -                        | -            |

(P = Positive, N = Negative and non-mitigatable, M = Negative and mitigatable, U = Unknown)

## Project Location



## List of Project Geometries

- |   |          |                                |
|---|----------|--------------------------------|
| 1 | polyline | Rankin Inlet Sand Pit boundary |
|---|----------|--------------------------------|