

$\gamma_b \Delta^c \dot{\gamma} \Pi \sigma^b \quad \Lambda c_n \nabla^b \gamma \sigma \nabla n \nabla^a L^a \sigma^b$

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Quarry sites KM 8,15,16,18, and 20 are new sites being proposed by the Hamlet of Rankin Inlet to extract sand, gravel, pit-run, and other quarry material to meet the construction demands of the community. All sites are located north-west of the community of Rankin Inlet along the road known locally as "Diane road". The name of the sites is derived from their distance from Rankin Inlet. For example, KM 8 is approximately 8 kilometers from the center of Rankin Inlet. Existing quarries the community uses are either depleted or near-depleted, therefore it was necessary to propose these new quarry sites. The use of aggregate will vary widely depending on circumstance. The Hamlet will use it for municipal purposes such as road construction and maintenance. The public will use it for private purposes such as landscaping and grading. They will be used in the summer/fall months (June-October) of each year until all aggregate is extracted. The frequency of use will depend on the construction projects in Rankin Inlet for that year. All sites are located within the Rankin Inlet municipal boundary on untitled municipal land. This type of land is administered by The Commissioner of Nunavut for the use and benefit of the municipality as dictated by article 14 of the Nunavut Land Claims Agreement. Once approval for the quarries from the Nunavut Impact Review Board is obtained, The Commissioner will go into a quarry administration agreement (QAA) with the Hamlet. This will allow the Hamlet to issue quarry permits instead of The Commissioner. Permit fees will be stored in a Hamlet financial account which will be used to maintain the road to the quarry site, cover administrative costs, provide enforcement and supervision, and remediation. The route of Diane road is sufficient to access all sites except for KM 8 and 15. These sites will require an additional road to be constructed that branches off Diane Road. KM 8 will require 132 metres by 8 metre and KM 15 will require 1.3 kilometres by 8 metre of new road to be constructed. Diane road has an approximate width of 3 metres which is not sufficient to accommodate two-way heavy equipment traffic. To mitigate this, the Diane road will be widened to 8 metres. All sites have similar characteristics except for KM 8 and 16. KM 8 contains 4 private cabins within its boundaries. The Hamlet will determine the owners of these cabins and assist them in relocating. KM 8 also has a grave located approximately 75 metres south of the boundary. Precautions will be taken to ensure the grave is not disturbed during quarry operations. These precautions are outlined in the Quarry Management Plan. KM 16 contains one private cabin which will be relocated with the assistance from the Hamlet. Track excavators, wheel loaders, dump trucks, and a screener of varying make and models will be used to extract and haul aggregate from the quarry sites. No blasting of rock outcrops is planned. The estimate area and volume of material is as follows: KM 8: Area: 102,838 square metres (m²) | Volume: 70,000 cubic metres (m³) KM 15: Area: 497,841 m² | Volume: 75,000 m³ KM 16: Area: 168,284 m² | Volume: 75,000 m³ KM 18: Area: 103,864 m² | Volume: 140,000 m³ KM 20: Area: 472,958 m² | Volume: 800,000 m³

KM 8 will be used first for quarry material, then KM 15/16 and so forth. Once a site is depleted of useable material, quarry operations cease. Steep slopes will be levelled to a safe angle by the Hamlet. Any ditches will be filled and levelled with the quarry base. All mobile equipment will be removed. Unnatural waste, debris, scrap, and other garbage will be removed. Due to limited capacity and resources, replanting is not feasible.

KM 8,15,16,18, and 20 already having an existing road and their proximity to the community of Rankin Inlet made them excellent option for new quarry sites for the Hamlet. Further details related to these sites can be found in the Dust Management, Spill Contingency, and Quarry Management plans attached to the Nunavut Impact Review Board application.

▷ΔΛΠΩ^c: NIL

[illegible]

Operations Phase: from 2021-05-13 to 2040-08-22

$$\Lambda \subset \mathbb{N} \triangleleft \mathbb{N} \xrightarrow{\sigma} \mathbb{N}^b \supset \mathbb{C}$$

Area	Location	Authority	History	Findings	Notes
KM8 boundary	Quarry/Borrow pit	Commissioners	KM 8 has no prior site history except for 4 private cabins within the boundary	There is no known Archeological/Paleontological value within the boundary. However, 75 metres south of the boundary contains a grave. The engravings mentioned the person died in 2016. Its assumed that is when the grave was created.	KM8 is located approximately 8 kilometres north-west from the community of Rankin Inlet. There is no protected sites except for the grave mentioned above within the boundary.
KM15 boundary	Quarry/Borrow pit	Commissioners	KM15 had no prior use.	There is no known Archeological/Paleontological value within the boundary	KM15 is located approximately 15 kilometres north-west from the community of Rankin Inlet. There is no protected sites within the boundary.
KM16 boundary	Quarry/Borrow pit	Commissioners	KM 16 has no prior site history except for 1 private cabin within the boundary	There is no known Archeological/Paleontological value within the boundary	KM16 is located approximately 16 kilometres north-west from the community of Rankin Inlet. There is no protected sites within the boundary.
KM20 boundary	Quarry/Borrow pit	Commissioners	KM20 had no prior use.	There is no known Archeological/Paleontological value within the boundary	KM20 is located approximately 20 kilometres north-west from the community of Rankin Inlet. There is no protected sites within the boundary.

KM18 boundary	Quarry/Borrow pit	Commissioners	KM 18 has no prior site history .	There is no known Archeological/Paleontological value within the boundary	KM18 is located approximately 18 kilometres north-west from the community of Rankin Inlet. There is no protected sites within the boundary.
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ᓄᓇᓕᓯᓪᓐ	Ashley Ymana	The Municipal Corporation of the Hamlet of Rankin Inlet	2020-08-17
ᓄᓇᓕᓯᓪᓐ	Hamlet council	The Municipal Corporation of the Hamlet of Rankin Inlet	2016-04-01

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Kivalliq

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Government of Nunavut, Community Government & Services	All quarry sites are located on untitled Municipal land which is administered by CGS. CGS is the applicant on behalf of the Hamlet of Rankin Inlet.	Active		
Hamlets and Municipalities	The Hamlet council was made aware of these sites in 2016 and no objections. Ashley Ymana, Acting Senior Administrative Officer approved CGS to proceed with this application on September 9,2020.	Active	2020-09-09	

Project transportation types

Transportation Type	Access	Length of Use
Land	Mobile equipment, such as loaders and dump trucks will use an existing road to access all quarry sites	

Project accomodation types

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CAT 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

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Diesel	fuel	1	535	535	Liters	fuel tank that attached to the CAT 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.

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$D^c \rightarrow C \bar{L}^{\text{fb}} \rightarrow D^{\text{fb}} C D^{\text{fb}} \sigma^{\text{fb}} D^{\text{fb}} \bar{L}^{\text{fb}}$	$\bar{L}^{\text{fb}} \rightarrow \bar{L}^{\text{fb}} \Delta \Gamma^{\text{fb}} C^{\text{fb}} C^{\text{fb}} \sigma^{\text{fb}} D^{\text{fb}} <^c$	$L^c \Delta \Gamma^{\text{fb}} C^{\text{fb}} C^{\text{fb}} \sigma^{\text{fb}} D^{\text{fb}} <^c$
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246	Hamlet water trucks will be used to take water from the Williamson lake pump house.	Williamson Lake pump house located on lot 546 plan 2542, which takes its water from the Nippisar Lake.
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$$\Delta^b C d_{\sigma} \sim \Delta^{\epsilon} \sigma^{\epsilon b}$$
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$$4^{\circ} \cap \Gamma \triangleright C \dot{\div}^C \supset^C \quad 4^b \supset^{5b} C \triangleright \neg L \neg^C$$

The natural vegetation such as moss and other arctic plants on the surface will be disturbed or destroyed within the excavation area within quarry boundaries. 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

The Quarry Management Plan attached to this NIRB application goes into details related to quarry operations.

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

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Miscellaneous Project Information

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Cumulative Effects

Since the Diane road already exists and services recreational traffic to and from Rankin Inlet. Any added cumulative effects from quarry operations relating to human activity will be minimal.

Impacts

$\underline{e} \rightarrow e \Delta^{9b} C D \sigma^{9c} r^C$ $\Delta^{\circ} n \Gamma D C \dot{\sigma}^C)^C$ $\Delta^b)^{9b} C D r L r^C$

[illegible][illegible]

1	polygon	KM8 boundary
2	polygon	KM15 boundary
3	polygon	KM16 boundary
4	polygon	KM18 boundary
5	polygon	KM20 boundary

1	polygon	KM8 boundary
2	polygon	KM15 boundary
3	polygon	KM16 boundary
4	polygon	KM18 boundary
5	polygon	KM20 boundary

