



SCREENING DECISION REPORT NIRB FILE No.: 19RN005

*Related to NIRB File Nos.: 99WR053, 02RN037 and 04RN111
NPC File No.: 148975*

March 4, 2019

Following the Nunavut Impact Review Board's (NIRB or Board) assessment of all materials provided, the NIRB is recommending that a review of Nahanni Construction Ltd.'s "Lupin Mine Winter Access" is not required pursuant to Article 12, Section 12.4.4(a) of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada (Nunavut Agreement)* and s. 92(1)(a) of the *Nunavut Planning and Project Assessment Act*, S.C. 2013, c. 14, s. 2 (*NuPPAA*).

Subject to the Proponent's compliance with the terms and conditions as set out in below, the NIRB is of the view that the project proposal is not likely to cause significant public concerns, and it is unlikely to result in significant adverse environmental and social impacts. The NIRB therefore recommends that the responsible Minister accept this Screening Decision Report.

OUTLINE OF SCREENING DECISION REPORT

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The primary objectives of the NIRB are set out in Article 12, Section 12.2.5 of the *Nunavut Agreement* and are confirmed by s. 23 of the *NuPPAA*:

Nunavut Agreement, Article 12, Section 12.2.5: In carrying out its functions, the primary objectives of NIRB shall be at all times to protect and promote the existing and future well-being of the residents and communities of the Nunavut Settlement Area, and to protect the ecosystemic integrity of the Nunavut Settlement Area. NIRB shall take into account the well-being of the residents of Canada outside the Nunavut Settlement Area.

The purpose of screening is provided for under Article 12, Section 12.4.1 of the *Nunavut Agreement* and s. 88 of the *NuPPAA* which states:

NuPPAA, s. 88: The purpose of screening a project is to determine whether the project has the potential to result in significant ecosystemic or socio-economic impacts and, accordingly, whether it requires a review by the Board...

To determine whether a review of a project is required, the NIRB is guided by the considerations as set out under Article 12, Section 12.4.2(a) and (b) of the *Nunavut Agreement* and s. 89(1) of *NuPPAA* which states:

NuPPAA, s. 89(1): The Board must be guided by the following considerations when it is called on to determine, on the completion of a screening, whether a review of the project is required:

- (a) a review is required if, in the Board's opinion,
 - i. the project may have significant adverse ecosystemic or socio-economic impacts or significant adverse impacts on wildlife habitat or Inuit harvest activities,
 - ii. the project will cause significant public concern, or
 - iii. the project involves technological innovations, the effects of which are unknown; and
- (b) a review is not required if, in the Board's opinion,
 - i. the project is unlikely to cause significant public concern, and
 - ii. its adverse ecosystemic and socioeconomic impacts are unlikely to be significant, or are highly predictable and can be adequately mitigated by known technologies.

It is noted that under Article 12, Section 12.4.2(c) and s. 89(2) of the *NuPPAA* provides that the considerations set out in s.89(1)(a) prevail over the considerations set out in s. 89(1)(b) of the *NuPPAA*.

As set out under Article 12, Section 12.4.4 of the *Nunavut Agreement* and s. 92(1) of the *NuPPAA*, upon conclusion of the screening process, the Board must provide its written report the Minister. The contents of the NIRB's report are specified under *NuPPAA*:

NuPPAA, s. 92(1): The Board must submit a written report to the responsible Minister containing a description of the project that specifies its scope and indicating that:

- (a) a review of the project is not required;
- (b) a review of the project is required; or
- (c) the project should be modified or abandoned.

Where the NIRB determines that a project may be carried out without a review, the NIRB has the discretion to recommend specific terms and conditions to be attached to any approval of the project proposal pursuant to paragraph 92(2)(a) of *NuPPAA* as follows:

NuPPAA, s. 92(2) In its report, the Board may also

- (a) recommend specific terms and conditions to apply in respect of a project that it determines may be carried out without a review.

PROJECT REFERRAL

On January 14, 2018 the Nunavut Impact Review Board (NIRB or Board) received a referral to screen Nahanni Construction Ltd.'s "Lupin Mine Winter Access" project proposal from the Nunavut Planning Commission (NPC or Commission), which noted that the project is outside the area of an applicable regional land use plan. The NPC noted that the project proposal is a significant modification to the previous projects because the form of traffic on the ice road will be modified from what occurred during the Lupin Mine.

Pursuant to Article 12, Sections 12.4.1 and 12.4.4 of the *Nunavut Agreement* and s. 87 of the *NuPPAA*, the NIRB has commenced screening this project proposal and has assigned it file number **19RN005**.

PROJECT OVERVIEW & THE NIRB ASSESSMENT PROCESS

1. Information Request

On January 14, 2019 the NIRB requested that the Proponent complete the online application form through the NIRB's public registry system and ensure, pursuant to s. 144(1) of the *NuPPAA*, that the information provided be sufficient to determine the scope of the project activities being proposed and that sufficient information has been provided to commence screening,

On January 15, 2019 the NIRB received the required additional information and commenced the screening pursuant to Part 3 of the *NuPPAA*.

2. Project Scope

All documents received and pertaining to this project proposal can be accessed from the NIRB's online public registry at www.nirb.ca/project/125435.

The proposed "Lupin Mine Winter Access" project is a transboundary project located within the Kitikmeot region of Nunavut and the Northwest Territories (NT), approximately 285 kilometres (km) southwest from Kugluktuk. The Proponent intends to construct and operate the portion of

the Tibbitt to Contwoyto Winter Road (TCWR) route from Lac de Gras, NT to the Lupin Mine in order to mobilize and demobilize equipment and supplies in support of ongoing reclamation of the Lupin Mine. The program is proposed to take place from seasonally (December to April) from 2019 through 2024.

As required under s. 86(1) of the *NuPPAA*, the Board accepts the scope of the Lupin Mine Winter Access project as set out by Nahanni Construction Ltd in the proposal. The scope of the project proposal includes the following undertakings, works, or activities:

- Seasonally construct, operate, maintain and close a 213 km winter access route 95 km in NT and 118 km in Nunavut;
- Transport of equipment and supplies such as bulk fuel, lime and explosives required for mine reclamation activities;
- Accommodations at the Lupin Mine site or in small, mobile, temporary camps; and
- Waste disposal to be collected for offsite disposal at either Lupin Mine or via a suitable waste receiver.

3. Inclusion or Exclusion to Scoping List

The NIRB has identified no additional works or activities in relation to the project proposal. As a result, the NIRB proceeded with screening the project based on the scope as described above.

4. Key Stages of the Screening Process

The following key stages were completed:

Date	Stage
January 14, 2019	Receipt of project proposal and referral from the NPC
January 14, 2019	Information request
January 15, 2019	Proponent responded to information request
January 15, 2019	Scoping pursuant to s. 86(1) of the <i>NuPPAA</i>
January 17, 2019	Public engagement and comment request
February 7, 2019 and February 15, 2019	Receipt of public comments
February 8, 2019	Proponent provided response to comments/concerns raised by public

5. Public Comments and Concerns

Notice regarding the NIRB's screening of this project proposal was distributed on January 17, 2019 to community organizations in Kugluktuk, as well as to relevant federal and territorial government agencies, Inuit organizations and other parties. The NIRB requested that interested parties review the proposal and provide the Board with any comments or concerns by February 7, 2019 regarding:

- Whether the project proposal is likely to arouse significant public concern; and if so, why;
- Whether the project proposal is likely to cause significant adverse eco-systemic or socio-economic effects; and if so, why;
- Whether the project proposal is likely to cause significant adverse impacts on wildlife habitat or Inuit harvest activities; and if so, why;

- Whether the project proposal is of a type where the potential adverse effects are highly predictable and mitigable with known technology, (and providing any recommended mitigation measures); and
- Any matter of importance to the Party related to the project proposal.

On or before February 7, 2019 the NIRB received comments from the following interested parties (see Summary of Comments and Concerns section below):

- **Government of Nunavut (GN)**
- **Crown-Indigenous and Northern Affairs Canada (CIRNAC)**
- **Environment and Climate Change Canada (ECCC)**

On February 15, 2019, the NIRB received comments from:

- **Kugluktuk Angoniatit Association**

a. Summary of Public Comments and Concerns Received during the Public comment period of this file

The following provides a summary of the comments and concerns received by the NIRB:

Government of Nunavut

- Concerns noted with potential impacts to archaeological sites and recommended:
 - Strict adherence to the proposed route to avoid disturbing unidentified archeological sites and avoid travel on islands where sites are reported.
 - Proponent work with the Territorial Archeological Office to identify and mark archeological sites that may potentially be affected by the development activities.
 - Minimum of 50 metre (m) buffer zone to be applied to all archaeological sites.
- Recommends the Spill Contingency Plan be updated to:
 - account for the high volume of fuel products to be transported;
 - that equipment be present on site and ready to remove contaminated soil or snow;
 - include information on the environment surrounding the potential development area; and
 - account for a delay in response of professionals accessing the site in the event of a spill.
- Lack of information in the Abandonment and Restoration Plan and recommends the plan include:
 - width of the road and potential development area;
 - maintenance of snow cover to prevent damage to tundra; and
 - a Snow Removal Plan that specifies the anticipated height of the snow banks, including the intended method of snow removal/placement.
- Concern noted that the development of a winter road in the area can increase hunter access to the Bathurst caribou herd and consequently increase harvest rate.
- Noted that the Wildlife Protection Plan failed to disclose the level of vehicle activity anticipated on the road and how the Proponent will maintain this activity to an acceptable level.
- Noted that the Wildlife Protection Plan failed to explore the different caribou herds potentially interacting with the proposed Project's potential development area, especially during the winter, or early spring migration period.

- Recommended the Wildlife Protection Plan include:
 - information on number and type of vehicles using the route during construction and operations;
 - methods of monitoring speed limits, road usage, and usage by the public;
 - road intersections with caribou migration routes and herd ranges; and
 - proposed response strategies when caribou may interact with the road.

Crown-Indigenous and Northern Affairs Canada

- Recommended additional terms and conditions as the Proponent's Spill Contingency Plan was lacking measures that should be followed in regards to preventing water pollution for re-fueling and storing of fuel and other hazardous materials; and
- Proponent should explain why the camp use, construction, operation and decommissioning of the road will result in negative and non-mitigatable impacts.

Environment and Climate Change Canada

- No comments at this time.

Kugluktuk Angoniatit Association

- Recommended roads are plowed to ensure easy crossings for wildlife; and
- Avoid disturbance of tundra.

b. Comments and Concerns with respect to Inuit Qaujimaningit, Traditional, and Community Knowledge

No concerns or comments were received with respect to Inuit Qaujimaningit or traditional and community knowledge in relation to the proposed project.

6. Proponent's Response to Public Comments and Concerns

The following is a summary of the Proponent's response to concerns as received on February 8, 2019:

- In response to GN's comments and concerns:
 - Noted that the project footprint in Nunavut is almost entirely on Contwoyto Lake and avoids islands. Any portage across land uses an existing alignment, so the potential for interaction with archeological sites is minimal, but will work with the territorial archeologists to identify and avoid known sites.
 - Noted that the Spill Contingency Plan will be revised to reflect the items discussed below and will be provided to the NIRB prior to commencing the land use:
 - all pickups will have Transport Canada approved tidy tanks and all fuel trucks are highway legal meeting current regulations and inspections requiring double-walled tanks.
 - there is an excavator and haul trucks on site that will be available to assist in a spill response, should it be required. In the event of a spill, contaminated material may be sent to KBL Environmental's facility in Yellowknife.
 - all equipment and vehicle transiting the road will have fire suppression systems.

- all vehicles will be equipped with a spill kit and will carry a copy of the Spill Contingency Plan.
- should there be an emergency situation and a professional response be delayed, resources are available at the two adjacent operating mines (Diavik and Ekati) and the Lupin Mine. All mines will have personnel onsite during the winter road season and are accessible by the Tibbitt to Contwoyto Winter Road.
- The Abandonment and Restoration Plan will be revised to include the operational aspects as requested by the GN and will include information on the road construction, snow maintenance detail, consideration of wildlife, traffic management and road safety, and road speed limits for each truck type.
- Noted that the road will be private and only Project-related traffic will be permitted beyond the Ekati turnoff. Records of all traffic using the road will be maintained by the Proponent, using GPS, radio and required check-ins and inspections.
- The Wildlife Protection Plan will be revised to provide further details on Bluenose-East and Beverley herds in the project area even though the project is predominantly within the Bathurst herd range. The revised plan will be provided to the NIRB prior to commencing the land use operation.
- Noted that the proposed land use occurs in winter only and so it is expected that road use in these areas will not affect migration as the caribou can walk unimpeded across the ice surface. Bathurst caribou use of the area is well understood; based on known ranges and the timing of project activities (December-April), winter range use is negligible in the Project area, and spring migration use is low. Further indicated that the mitigation measures proposed for traffic management are sufficient to deal with individual or small groups of caribou that may be present during road operations.
- Indicated that it will acquire caribou collar data from the Government of NT and real-time observations from local land users to inform traffic management.
- In response to CIRNAC's comments and concerns:
 - Noted that refueling and storage of materials such as fuel, lubricants, and ANFO is outside the scope of the application, as refueling and storage will take place the Lupin Mine where such activities are permitted under the existing water licence.
 - Noted that it made an error in filling out the impact identification matrix, and all fields designated as negative and non-mitigable should have been designated as may be negative and mitigable.

ASSESSMENT OF THE PROJECT PROPOSAL IN ACCORDANCE WITH PART 3 OF *NuPPAA*

In determining whether a review of the project is required, the Board considered whether the project proposal had potential to result in significant ecosystemic or socio-economic impacts.

Accordingly, the assessment of impact significance was based on the analysis of those factors that are set out under s. 90 of the *NuPPAA*. The Board took particular care to take into account Inuit Qaujimaningit, traditional and community knowledge in carrying out its assessment and determination of the significance of impacts.

The following is a summary of the Board's assessment of the factors that are relevant to the determination of significant impacts with respect of this project proposal:

Factor	Comment
The size of the geographic area, including the size of wildlife habitats, likely to be affected by the impacts.	<ul style="list-style-type: none"> ▪ The proposed project is a transboundary project located within Nunavut and the Northwest Territories (NT) approximately 285 kilometres (km) southwest from Kugluktuk. The size of the winter access route would be approximately 213 km, 118 km in Nunavut and 95 km in NT. ▪ The proposed activities would take place within habitats for terrestrial wildlife species such as barren-ground caribou (migration corridor; breeding core range; and winter range), muskox, moose, wolves, wolverine, grizzly bear, foxes, arctic hare and migratory and non-migratory birds.
The ecosystemic sensitivity of that area.	<ul style="list-style-type: none"> ▪ No specific areas of ecosystemic sensitivity have been identified by the Proponent within the physical footprint of the proposed project. However, the Proponent has identified that the program would occur within the Southern Arctic Ecozone and the Takijug Lake Upland Ecoregion
The historical, cultural and archaeological significance of that area.	<ul style="list-style-type: none"> ▪ No specific areas of historical, cultural and archaeological significance have been identified by the Proponent within the physical footprint of the proposed project. Project will be following a previously established winter trail route. ▪ The GN has identified 10 archeological sites in the vicinity of the Winter Access Road.
The size of the human and the animal populations likely to be affected by the impacts.	<ul style="list-style-type: none"> ▪ There are potential impacts to barren-ground caribou which have a significant social, cultural and economic value for the people and communities from Nunavut and the Northwest Territories. ▪ There is the potential for use of the winter road for tourism and for access by harvesters to previously inaccessible areas.
The nature, magnitude and complexity of the impacts; the probability of the impacts occurring; the frequency and duration of the	<ul style="list-style-type: none"> ▪ A zone of influence of up to 100 km from the most potentially-disruptive project activities was selected for the NIRB's assessment. With adherence to the relevant regulatory

Factor	Comment
impacts; and the reversibility or irreversibility of the impacts.	requirements and application of the mitigation measures recommended by the NIRB, no significant residual effects are expected to occur.
The cumulative impacts that could result from the impacts of the project combined with those of any other project that has been carried out, is being carried out or is likely to be carried out.	<ul style="list-style-type: none"> ▪ The mitigation measures recommended by the NIRB have been designed with consideration for the potential for cumulative effects to result from the impacts of the project combined with other past, present and reasonably foreseeable projects.
Any other factor that the Board considers relevant to the assessment of the significance of impacts.	<ul style="list-style-type: none"> ▪ Potential risks associated with the degradation of ice thickness and integrity of the ice cover along the road from climatic conditions, temperature fluctuations causing pressure ridges, cracking and other hazards. Regular inspection of the road and monitoring of ice conditions can be expected to significantly reduce risks.

Other past, present and reasonably foreseeable projects considered in this assessment:

NIRB Number	Project Title	Project Type
<i>Proposed Developments – undergoing assessment</i>		
03UN114	Bathurst Inlet Port and Road	Infrastructure
12MN043	Izok Corridor	Mine Development
17XN011	Gray's Bay Port and Road	Infrastructure
<i>Present Projects – approved or in operation</i>		
00MN059	Jericho Project	Mine Development
12MN036	Back River Project	Mine Development
16UN058	Jericho Mine Stabilization Project	Remediation
<i>Past Projects</i>		
00MN042	Access Road and Stockpile Removal – Echo Bay	Mine Development
02RN037	Lupin Winter Road	Winter Road/Trail
02WR118	Takajuak Project for Rockinghorse Property	Winter Road/Trail
04RN110	Winter Road Lupin to Kathawachaga Lake	Winter Road/Trail
04RN111	Winter Road from Pellat Lake to Jericho	Winter Road/Trail
05YN111	Lupin Mine	Scientific Research
10YN053	Lupin Gold Mine Cycle 3 Environmental Effects Monitoring	Scientific Research
11EN047	Lupin Exploration Project	Mineral Exploration

In considering the factors as set out above in the screening of the project proposal, the NIRB has identified a number of issues below and respectfully provide the following views regarding whether or not the proposed project has the potential to result in significant impacts. In order to mitigate the potential impacts of the project the Proponent would be required to follow all Acts and Regulations applicable to the project proposal (see Regulatory Requirements section). In addition, the NIRB has proposed terms and conditions that would mitigate the potential adverse impacts identified.

Ecosystem, wildlife habitat and Inuit harvesting activities:

- Potential negative impacts to fish, and terrestrial wildlife including caribou, muskox, moose, grizzly bears, wolves, wolverine and migratory and non-migratory birds from the sensory disturbance (traffic generated noise) of the winter road that may change behaviours. Further, the sensory disturbance may act as a semi-permeable barrier to wildlife (particularly caribou) movement potentially effecting their movements on a local and regional scale. The Proponent has provided a Wildlife Project Plan that describes mitigation measures to minimize the impacts of sensory disturbance on wildlife. The Board is also recommending terms and conditions 15, and 17 through 23, to mitigate potential negative impacts to fish, wildlife and birds.
- Potential negative impact to wildlife from mortalities from collisions with vehicles. Caribou and other wildlife have been seen bedding or traveling on winter roads increasing their risk of negative interactions with vehicles. The Proponent has provided a Wildlife Project Plan that describes mitigation measures to minimize the potential interactions between vehicles and wildlife. The Board is also recommending terms and conditions 14 through 23, and 32 to mitigate potential negative impacts to wildlife.
- Potential negative impact to wildlife from increased harvesting pressure (particularly caribou) because of increased harvest access via the winter road. The Board is recommending the Proponent provide an annual report that includes a log of instances in which community residents occupy or transit through the project area for the purpose of traditional land use or harvesting (see Monitoring and Reporting Requirements section). The Proponent has provided a Wildlife Project Plan that describes mitigation measures to minimize the potential impacts on wildlife due to harvesting pressure.
- Potential negative impact to surface water quality, and fish and fish habitat from sedimentation due to erosion along the portages from construction and operation of the winter road and water withdrawal during winter road construction. The Proponent has provided an Environment and Heritage Resource Protection Plan to mitigate impacts to surface water quality, and fish and fish habitat. The Board is also recommending terms and conditions 4 and 5, 26 through 31, and 33 and 34 to mitigate potential negative impacts.
- Potential negative impact to ground stability, soil and vegetation health along the portages from compaction or erosion. The Proponent has provided an Environment and Heritage Resource Protection Plan to mitigate impacts to soil and vegetation. The Board is also

recommending terms and conditions 24, 25, 26, 29, 30, 31, 33 and 34 to mitigate potential negative impacts.

- Potential negative impact from accidents and spills of hazardous materials to soil, water quality, fish and fish habitat. For small spills, the consequences to the environment are low and the risk to the environment is therefore negligible. For a large spill, the consequences could be moderate to the environment if the spill cannot be adequately contained and recovered. The Proponent has produced a Spill Response Plan, noting that vehicles carrying bulk fuel are certified to do so, and equipment necessary for cleanups are available at the Lupin Mine, Ekati and Diavik mines. The Board is also recommending terms and conditions 6 through 13, 27, 35 and 36 to mitigate potential negative impacts.
- The Proponent would also be required to follow specific Acts and Regulations (see Regulatory Requirements section) relevant to the proposed project to mitigate and potential adverse affects to the ecosystem, wildlife habitat and Inuit harvesting activities.

Socio-economic effects on northerners:

- Potential negative impact from interactions between commercial and non-commercial (private) traffic such as harvesters (e.g., fishing, hunting, camping) and tourism (e.g., sightseeing) use along the winter road. The Board is recommending terms and conditions 37 and 38 to mitigate potential negative impacts.
- Potential negative impacts to historical, cultural, and archeological sites. The GN has noted that there are known archeological sites in the vicinity of the planned route, however the Proponent has noted that the winter road would follow an existing established alignment and thus there is minimal probability of disturbance to archeological sites. The Proponent is required to follow specific Acts and Regulations (see Regulatory Requirements section) relevant to the proposed project to mitigate and potential adverse affects or disturbance to archeological sites.
- Potential negative impacts to traditional land use due to traffic using the winter road. The Proponent has noted that the use of the winter road will be restricted to a period of approximately six weeks of operation, thus any disruption is limited and short-term. The Board is also recommending terms and conditions 37 and 38 to mitigate potential negative impacts.

Significant public concern:

- No significant public concern was expressed during the public commenting period for this file. Follow up consultation and involvement of local community members has been recommended by the Board (see terms and conditions 37 and 39).

Technological innovations for which the effects are unknown:

- No specific issues have been identified associated with this project proposal.

Administrative Conditions:

To encourage compliance with applicable regulatory requirements and assist the Board and responsible authorities with compliance and effects monitoring for project activities, the following project-specific terms and conditions have been recommended: 1-3.

In considering the above factors and subject to the Proponent's compliance with the terms and conditions necessary to mitigate against the potential adverse environmental and social effects, the Board is of the view that the proposed project is unlikely to cause significant public concern and its adverse ecosystemic and socioeconomic impacts are unlikely to be significant or are highly predictable and can be adequately mitigated by known technologies.

RECOMMENDED PROJECT-SPECIFIC TERMS AND CONDITIONS

The Board is recommending the following specific terms and conditions to apply in respect of the project:

General

1. Nahanni Construction Ltd. (the Proponent) shall maintain a copy of the Project Terms and Conditions at the site of operation at all times.
2. The Proponent shall operate in accordance with all commitments stated in correspondence provided to the Nunavut Planning Commission (NPC File No.: 148975 and the NIRB (Online Application Form, January 15, 2019).
3. The Proponent shall operate the site in accordance with all applicable Acts, Regulations and Guidelines.

Water Use

4. The Proponent shall not extract water from any fish-bearing waterbody unless the water intake hose is equipped with a screen of appropriate mesh size to ensure that there is no entrapment of fish. Small lakes or streams should not be used for water withdrawal unless otherwise authorized by the Nunavut Water Board.
5. The Proponent shall not use water, including constructing or disturbing any stream, lakebed or the banks of any definable water course unless otherwise authorized by the Nunavut Water Board.

Waste Disposal

6. The Proponent shall keep all garbage and debris in bags placed in a covered metal container or equivalent until disposed of at an approved facility. All such wastes shall be kept inaccessible to wildlife at all times.

Fuel and Chemical Storage

7. The Proponent shall store all fuel and chemicals in such a manner that they are inaccessible to wildlife.
8. The Proponent shall locate all fuel and other hazardous materials a minimum of thirty-one (31) metres away from the high-water mark of any water body and in such a manner as to prevent their release into the environment unless otherwise authorized by the Nunavut Water Board.

9. The Proponent shall ensure that re-fueling of all equipment occurs a minimum of thirty-one (31) metres away from the high-water mark of any water body unless otherwise authorized by the Nunavut Water Board.
10. The Proponent shall use adequate secondary containment or a surface liner (e.g., self-supporting insta-berms and fold-a-tanks) when storing barreled fuel and chemicals at all locations.
11. The Proponent shall ensure that appropriate spill response equipment and clean-up materials (e.g., shovels, pumps, barrels, drip pans, and absorbents) are readily available during any transfer of fuel or hazardous substances, at all fuel storage sites, at all refuelling stations and at vehicle maintenance areas.
12. The Proponent shall remove and treat hydrocarbon contaminated soils and snow on site or transport them to an approved disposal site for treatment.
13. The Proponent shall ensure that all personnel are properly trained in fuel and hazardous waste handling procedures, as well as spill response procedures. All spills of fuel or other deleterious materials of any amount must be reported immediately to the 24 hour Spill Line at (867) 920-8130.

Wildlife - General

14. The Proponent shall ensure that there is no damage to wildlife habitat in conducting this operation.
15. The Proponent shall not harass wildlife. This includes persistently circling, chasing, pursuing or in any other way harass wildlife, or disturbing large groups of animals.
16. The Proponent shall not hunt or fish, unless proper Nunavut authorizations have been acquired.
17. The Proponent shall ensure that all wildlife have the right-of-way on the winter road. Vehicles are required to slow down or stop and wait to permit the free and unrestricted movement of wildlife across the winter road at any location.
18. The Proponent shall enforce safe speed limits for vehicles travelling along the winter road to ensure drivers have sufficient time to react in a safe manner if wildlife are encountered on the winter road.
19. The Proponent shall ensure that drivers maintain at least 500 metres spacing when traveling in convoys to ensure drivers have time to react to any caribou on the winter road.
20. The Proponent shall ensure that all project personnel are made aware of the measures to protect wildlife and are provided with training and/or advice on how to implement these measures.

Caribou and Muskox Disturbance

21. The Proponent shall not block or cause any diversion to caribou or muskox migration and shall cease activities likely to interfere with migration until such time as the caribou or muskox have passed.
22. The Proponent shall avoid interfering with any paths or crossings known to be frequented by caribou during periods of migration.

23. Should pregnant caribou cows, cows with young calves, or groups of 50 or more caribou be observed within one (1) kilometre of project operations at any time, the Proponent shall suspend all operations in the vicinity until caribou are no longer in the immediate area.

Winter Road/Trail

24. The Proponent shall select a route for its winter trail that maximizes the use of frozen water bodies.
25. The Proponent shall not erect camps or store materials on the surface ice of lakes or streams, except that which is for immediate use.
26. The Proponent shall ensure that no disturbance of the stream bed or banks of any definable watercourse be permitted, except where deemed necessary for maintaining project-specific operational commitments or by a responsible authority in cases of spill management.
27. The Proponent shall not move any equipment or vehicles without prior testing the thickness of the ice to ensure the lake is in a state capable of fully supporting the equipment or vehicles.
28. The Proponent shall not move any equipment or vehicles unless the ground surface is in a state capable of fully supporting the equipment or vehicles without rutting or gouging. Overland travel of equipment or vehicles must be suspended if rutting occurs.
29. The Proponent shall ensure that bank disturbances are avoided and no mechanized clearing carried out immediately adjacent to any watercourse.
30. The Proponent shall ensure that stream crossings and/or temporary crossings constructed from ice and snow, which may cause jams, flooding or impede fish passage and or water flow, are removed or notched prior to spring break-up.
31. The Proponent shall avoid disturbance on slopes prone to natural erosion, and alternative locations shall be utilized.
32. The Proponent shall ensure snow bank heights along the winter road are managed to allow wildlife visibility and passage.
33. The Proponent shall implement suitable erosion and sediment suppression measures on all areas before, during and after conducting activities in order to prevent sediment from entering any waterbody. This includes ensuring that a sufficient thickness of snow and ice is present on the winter road to prevent unnecessary erosion of the underlying ground surface and impact on underneath vegetation.
34. The Proponent shall implement a clean-up and reclamation stabilization plan which should include, but is not limited to, re-vegetation and/or stabilization of exposed soil in road bed.

Restoration of Disturbed Areas

35. The Proponent shall remove all garbage, fuel and equipment upon abandonment.
36. The Proponent shall complete all clean-up and restoration of the lands used prior to the end of each field season and/or upon abandonment of site.

Other

37. The Proponent should consult with local residents regarding their activities in the area and solicit available Inuit Qaujimaningit and information that can inform project activities.

38. The Proponent shall ensure that project activities do not interfere with Inuit wildlife harvesting or traditional land use activities.
39. The Proponent should, to the extent possible, hire local people and access local services where possible.

MONITORING AND REPORTING REQUIREMENTS

In addition, the Board is recommending the following:

Wildlife Mitigation and Monitoring Plan

1. Prior to the start of project activities, the Proponent shall submit an updated Wildlife Mitigation and Monitoring Plan (WMMP) to the Nunavut Impact Review Board and the Government of Nunavut, Department of Environment. At a minimum, this plan should include proposed template for a wildlife log/record of observations and proposed mitigation measures for caribou, migratory birds, grizzly bear and other sensitive species that may be encountered within the project area. Further, the plan shall include the items committed to during the commenting period for this project proposal. The Proponent is encouraged to consult with the Government of Nunavut's Regional Biologists during the development of the WMMP, regarding project schedule and timelines so as to ensure adequate mitigation of potential wildlife impacts.

Spill Contingency Plan

2. Prior to the start of project activities, the Proponent shall submit an updated Spill Contingency Plan (SCP) to the Nunavut Impact Review Board and the Government of Nunavut, Department of Environment. The plan shall include the items committed to during the commenting period for this project proposal.

Abandonment and Restoration Plan

3. Prior to the start of project activities, the Proponent shall submit an updated Abandonment and Restoration Plan (ARP) to the Nunavut Impact Review Board and the Government of Nunavut, Department of Environment. The plan shall include the items committed to during the commenting period for this project proposal.

Annual Report

4. The Proponent shall submit a comprehensive annual report to the Nunavut Impact Review Board, by March 31st of each year of permitted activities beginning March 31, 2020. The annual report must contain at least the following information:
 - a) A summary of activities undertaken for the year, including:
 - a map showing the exact routing of the winter road;
 - a description of local hires, contracting opportunities and initiatives;
 - site photos.
 - b) A work plan for the following year, including descriptions of any planned progressive reclamation work undertaken;
 - c) A log of instances in which community residents occupy or transit through the project area for the purpose of traditional land use or harvesting. This log should include the location

and number of people encountered, activity being undertaken (e.g., fishing, hunting, camping, etc.), date and time; and any mitigation measures or adaptive management undertaken to prevent disturbance;

- d) A discussion of issues related to wildlife and environmental monitoring, including the number of cease-work orders required as a result of proximity to caribou and any other wildlife;
- e) A brief summary of WMMP results as well as any mitigation actions that were undertaken. In addition, the Proponent shall maintain a record of wildlife observations while operating within the project area and include it as part of the summary report. The summary report based on wildlife observations should include the following:
 - 1. Locations (i.e., latitude and longitude), species, number of animals, a description of the animal activity, and a description of the gender and age of animals if possible.
 - 2. Prior to conducting project activities, the Proponent should map the location of any sensitive wildlife sites such as denning sites, calving areas, caribou crossing sites, and raptor nests in the project area, and identify the timing of critical life history events (i.e., calving, mating, denning and nesting).
 - 3. Additionally, the Proponent should indicate potential impacts from the project, and ensure that operational activities are managed and modified to avoid impacts on wildlife and sensitive sites.
- f) An analysis of the effectiveness of mitigation measures for wildlife;
- g) Summary of any heritage sites encountered during the activities, any follow-up action or reporting required as a result and how project activities were modified to mitigate impacts on the heritage sites;
- h) Summary of its knowledge of Inuit land use in/near the project area and explain how project activities were modified to mitigate impacts on Inuit land use; and
- i) A summary of how the Proponent has complied with conditions contained within this Screening Decision, and all conditions as required by other authorizations associated with the project proposal.

OTHER NIRB CONCERNS AND RECOMMENDATIONS

In addition to the project-specific terms and conditions, the Board is recommending the following:

Change in Project Scope

- 1. Responsible authorities or Proponent shall notify the Nunavut Planning Commission as appropriate, and the NIRB of any changes in operating plans or conditions, including phase advancement, associated with this project prior to any such change.

Copy of licences, etc. to the Board and Commission

- 2. As per s. 137(4) of the *NuPPAA*, responsible authorities are required to submit a copy of each licence, permit or other authorization issued for the Project to the Nunavut Planning Commission and the NIRB. Please forward a copy of the licences, permits and/or other

authorizations to the NIRB directly at info@nirb.ca or upload a copy to the NIRB's online registry at www.nirb.ca.

Bear and Carnivore Safety

3. The Proponent should review the Government of Nunavut's booklet on Bear Safety, which can be downloaded from this link: http://gov.nu.ca/sites/default/files/bear_safety_-_reducing_bear-people_conflicts_in_nunavut.pdf. Further information on bear/carnivore detection and deterrent techniques can be found in the "*Safety in Grizzly and Black Bear Country*" pamphlet, which can be downloaded from this link: http://www.enr.gov.nt.ca/sites/default/files/web_pdf_wd_bear_safety_brochure_1_may_2015.pdf.
4. There are polar bear and grizzly bear safety resources available from the Bear Smart Society with videos on polar bear safety available in English, French and Inuktitut at <http://www.bearsmart.com/play/safety-in-polar-bear-country/>. Information can also be obtained from Parks Canada's website on bear safety at the following link: <http://www.pc.gc.ca/eng/pn-np/nu/quttinirpaaq/visit/visit6/d.aspx> or in reviewing the "*Safety in Polar Bear Country*" pamphlet, which can be downloaded from the following link: http://www.pc.gc.ca/eng/pn-np/nu/quttinirpaaq/visit/visit6/~media/pn-np/nu/auyuittuq/pdf/shared/PolarBearSafety_English.ashx.
5. Any problem wildlife or any interaction with carnivores should be reported immediately to the local Government of Nunavut, Department of Environment Conservation Office (Conservation Officer of Kugluktuk, phone: (867) 982-7450).

Species at Risk

6. The Proponent review Environment and Climate Change Canada's "Environment Assessment Best Practice Guide for Wildlife at Risk in Canada", available at the following link: http://www.sararegistry.gc.ca/virtual_sara/files/policies/EA%20Best%20Practices%202004.pdf. The guide provides information to the Proponent on what is required when Wildlife at Risk, including *Species at Risk*, are encountered or affected by the project.

Migratory Birds

7. The Proponent review Canadian Wildlife Services' "Key migratory bird terrestrial habitat sites in the Northwest Territories and Nunavut", available at the following link: <http://publications.gc.ca/site/eng/317630/publication.html> and "Key marine habitat sites for migratory birds in Nunavut and the Northwest Territories", available at the following link: <http://publications.gc.ca/site/eng/392824/publication.html>. The guide provides information to the Proponent on key terrestrial and marine habitat areas that are essential to the welfare of various migratory bird species in Canada.
8. For further information on how to protect migratory birds, their nests and eggs when planning or carrying out project activities, consult Environment and Climate Change Canada's Incidental Take web page and the fact sheet "Planning Ahead to Reduce the Risk of Detrimental Effects to Migratory Birds, and their Nests and Eggs" available at <http://www.ec.gc.ca/paom-itmb/>.

Transport of Dangerous Goods and Waste Management

9. Environment and Climate Change Canada recommends that all hazardous wastes, including waste oil, receive proper treatment and disposal at an approved facility.
10. The Proponent shall ensure that proper shipping documents (waste manifests, transportation of dangerous goods, etc.) accompany all movements of dangerous goods. Further, the Proponent shall ensure that the shipment of all dangerous goods is registered with the Government of Nunavut Department of Environment, Department of Environment Manager. Contact the Manager (867) 975-7748 to obtain a manifest if dangerous goods including hazardous wastes will be transported.
11. The Proponent shall provide an authorization or letter of conformation of disposal be obtained from the owner/operator of the landfill to be used for disposal of project-related wastes.

Winter Roads/Trails

12. If ice bridges are constructed, the Proponent follow the mitigation measures outlined in Fisheries and Oceans Canada's Operational Statement for Ice Bridges, available at the following internet address: now <http://www.dfo-mpo.gc.ca/pnw-ppe/fpp-ppp/guide-eng.html>.
13. Cutting or filling of crossing approaches below the high-water mark will require prior review and approval by Fisheries and Oceans Canada - Fish Habitat Management Branch.

REGULATORY REQUIREMENTS

The Proponent is also advised that the following legislation may apply to the project:

Acts and Regulations

1. The *Fisheries Act* (<http://laws-lois.justice.gc.ca/eng/acts/F-14/index.html>).
2. The *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (<http://laws-lois.justice.gc.ca/eng/acts/n-28.8/>).
3. The *Migratory Birds Convention Act* and *Migratory Birds Regulations* (<http://laws-lois.justice.gc.ca/eng/acts/M-7.01/>).
4. The *Species at Risk Act* (<http://laws-lois.justice.gc.ca/eng/acts/S-15.3/index.html>). Attached in **Appendix A** is a list of Species at Risk in Nunavut.
5. The *Wildlife Act* (Nunavut) and its corresponding regulations (<http://www.canlii.org/en/nu/laws/stat/snu-2003-c-26/latest/snu-2003-c-26.html>).
6. The *Nunavut Act* (<http://laws-lois.justice.gc.ca/eng/acts/N-28.6/>). The Proponent must comply with the proposed terms and conditions listed in the attached **Appendix B**.
7. The *Transportation of Dangerous Goods Regulations* (<http://www.tc.gc.ca/eng/tdg/clear-tofc-211.htm>), *Transportation of Dangerous Goods Act* (<http://laws-lois.justice.gc.ca/eng/acts/t-19.01/>), and the *Canadian Environmental Protection Act* (<http://laws-lois.justice.gc.ca/eng/acts/C-15.31/>).

Other Applicable Guidelines

8. Fisheries and Oceans Canada Protocol for Winter Water Withdrawal from Ice-covered Waterbodies in the Northwest Territories and Nunavut
(<http://registry.mvlwb.ca/Documents/W2010C0005/W2010C0005%20-%20Land%20Use%20Permit%20Application%20-%20DFO%20Water%20Withdrawal%20Protocol%20-%20Aug%2025%2010.pdf>).

CONCLUSION

The foregoing constitutes the Board's screening decision with respect to the Nahanni Construction Ltd.'s "Lupin Mine Winter Access". The NIRB remains available for consultation with the Minister regarding this report as necessary.

Dated March 4, 2019 at Whale Cove, NU.



Elizabeth Copland, Chairperson

Attachments: Appendix A: Species at Risk in Nunavut
Appendix B: Archaeological and Palaeontological Resources Terms and Conditions for Land Use Permit Holders

APPENDIX A: SPECIES AT RISK IN NUNAVUT

Due to the requirements of Section 79(2) of the Species at Risk Act (SARA), and the potential for project-specific adverse effects on listed wildlife species and its critical habitat, measures should be taken as appropriate to avoid or lessen those effects, and the effects need to be monitored. Project effects could include species disturbance, attraction to operations and destruction of habitat. This section applies to all species listed on Schedule 1 of SARA, as listed in the table below, or have been assessed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), which may be encountered in the project area. This list may not include all species identified as at risk by the Territorial Government. The following points provide clarification on the applicability of the species outlined in the table.

- Schedule 1 is the official legal list of Species at Risk for SARA. SARA applies to all species on Schedule 1. The term “listed” species refers to species on Schedule 1.
- Schedule 2 and 3 of SARA identify species that were designated at risk by the COSEWIC prior to October 1999 and must be reassessed using revised criteria before they can be considered for addition to Schedule 1.
- Some species identified at risk by COSEWIC are “pending” addition to Schedule 1 of SARA. These species are under consideration for addition to Schedule 1, subject to further consultation or assessment.

If species at risk are encountered or affected, the primary mitigation measure should be avoidance. The Proponent should avoid contact with or disturbance to each species, its habitat and/or its residence. All direct, indirect, and cumulative effects should be considered. Refer to species status reports and other information on the species at risk Registry at <http://www.sararegistry.gc.ca> for information on specific species.

Monitoring should be undertaken by the Proponent to determine the effectiveness of mitigation and/or identify where further mitigation is required. As a minimum, this monitoring should include recording the locations and dates of any observations of species at risk, behaviour or actions taken by the animals when project activities were encountered, and any actions taken by the proponent to avoid contact or disturbance to the species, its habitat, and/or its residence. This information should be submitted to the appropriate regulators and organizations with management responsibility for that species, as requested.

For species primarily managed by the Territorial Government, the Territorial Government should be consulted to identify other appropriate mitigation and/or monitoring measures to minimize effects to these species from the project.

Mitigation and monitoring measures must be undertaken in a way that is consistent with applicable recovery strategies and action/management plans.

Schedules of SARA are amended on a regular basis so it is important to check the SARA registry (www.sararegistry.gc.ca) to get the current status of a species.

Updated: November 2018

Terrestrial Species at Risk¹	COSEWIC Designation	Schedule of SARA	Government Organization with Primary Management Responsibility²
Migratory Birds			
Buff-breasted Sandpiper	Special Concern	Schedule 1	Environment and Climate Change Canada (ECCC)
Common Nighthawk	Threatened	Schedule 1	ECCC
Eskimo Curlew	Endangered	Schedule 1	ECCC
Harlequin Duck	Special Concern	Schedule 1	ECCC
Harris's Sparrow	Special Concern	Schedule 1	ECCC
Horned Grebe	Special Concern	Schedule 1	ECCC
Ivory Gull	Endangered	Schedule 1	ECCC
Olive-sided Flycatcher	Special Concern	Schedule 1	ECCC
Red Knot Islandica Subspecies	Special Concern	Schedule 1	ECCC
Red-necked Phalarope	Special Concern	No Schedule	ECCC
Ross's Gull	Threatened	Schedule 1	ECCC
Rusty Blackbird	Special Concern	Schedule 1	ECCC
Short-eared Owl	Special Concern	Schedule 1	ECCC
Vegetation			
Porsild's Bryum	Threatened	Schedule 1	Government of Nunavut (GN)
Arthropods			
Transverse Lady Beetle	Special Concern	No Schedule	GN
Terrestrial Wildlife			
Caribou (Dolphin and Union Population)	Endangered	Schedule 1	GN
Caribou (Barren-ground Population)	Threatened	No Schedule	GN
Caribou (Torngat Mountains Population)	Endangered	No Schedule	GN
Grizzly Bear (Western Population)	Special Concern	Schedule 1	GN
Peary Caribou	Threatened	Schedule 1	GN
Polar Bear	Special Concern	Schedule 1	GN
Wolverine	Special Concern	Schedule 1	GN
Marine Wildlife			
Atlantic Walrus (High Arctic Population)	Special Concern	No Schedule	Fisheries and Oceans Canada (DFO)
Atlantic Walrus (Central/Low Arctic Population)	Special Concern	No Schedule	DFO
Beluga Whale (Cumberland Sound Population)	Threatened	Schedule 1	DFO
Beluga Whale (Eastern Hudson Bay Population)	Endangered	No Schedule	DFO
Beluga Whale (Eastern High Arctic-Baffin Bay Population)	Special Concern	No Schedule	DFO

¹ The Department of Fisheries and Oceans has responsibility for aquatic species.

² Environment and Climate Change Canada (ECCC) has a national role to play in the conservation and recovery of Species at Risk in Canada, as well as responsibility for management of birds described in the Migratory Birds Convention Act (MBCA). Day-to-day management of terrestrial species not covered in the MBCA is the responsibility of the Territorial Government. Populations that exist in National Parks are also managed under the authority of the Parks Canada Agency.

Terrestrial Species at Risk¹	COSEWIC Designation	Schedule of SARA	Government Organization with Primary Management Responsibility²
Beluga Whale (Western Hudson Bay Population)	Special Concern	No Schedule	DFO
Fish			
Atlantic Cod (Arctic Lakes Population)	Special Concern	No Schedule	DFO
Fourhorn Sculpin (Freshwater Form)	Data Deficient	Schedule 3	DFO
Lumpfish	Threatened	No Schedule	DFO
Thorny Skate	Special Concern	No Schedule	DFO

APPENDIX B: ARCHAEOLOGICAL AND PALAEOONTOLOGICAL RESOURCES TERMS AND CONDITIONS FOR LAND USE PERMIT HOLDERS



INTRODUCTION

The Department of Culture and Heritage (CH) routinely reviews land use applications sent to the Nunavut Water Board, Nunavut Impact Review Board and the Indigenous and Northern Affairs Canada. These terms and conditions provide general direction to the permittee/proponent regarding the appropriate actions to be taken to ensure the permittee/proponent carries out its role in the protection of Nunavut's archaeological and palaeontological resources.

TERMS AND CONDITIONS

- 1) The permittee/proponent shall have a professional archaeologist and/or palaeontologist perform the following **Functions** associated with the **Types of Development** listed below or similar development activities:

	Types of Development (See Guidelines below)	Function (See Guidelines below)
a)	Large scale prospecting	Archaeological/Palaeontological Overview Assessment
b)	Diamond drilling for exploration or geotechnical purpose or planning of linear disturbances	Archaeological/ Palaeontological Inventory
c)	Construction of linear disturbances, Extractive disturbances, Impounding disturbances and other land disturbance activities	Archaeological/ Palaeontological Inventory or Assessment or Mitigation

Note that the above-mentioned functions require either a Nunavut Archaeologist Permit or a Nunavut Palaeontologist Permit. CH is authorized by way of the *Nunavut and Archaeological and Palaeontological Site Regulations*³ to issue such permits.

³ P.C. 2001-1111 14 June, 2001

- 2) The permittee/proponent shall not operate any vehicle over a known or suspected archaeological or palaeontological site.
- 3) The permittee/proponent shall not remove, disturb, or displace any archaeological artifact or site, or any fossil or palaeontological site.
- 4) The permittee/proponent shall immediately contact CH at (867) 934-2046 or (867) 975-5500 should an archaeological site or specimen, or a palaeontological site or fossil, be encountered or disturbed by any land use activity.
- 5) The permittee/proponent shall immediately cease any activity that disturbs an archaeological or palaeontological site encountered during the course of a land use operation until permitted to proceed with the authorization of CH.
- 6) The permittee/proponent shall follow the direction of CH in restoring disturbed archaeological or palaeontological sites to an acceptable condition. If these conditions are attached to either a Class A or B Permit under the Territorial Lands Act Indigenous and Northern Affairs Canada directions will also be followed.
- 7) The permittee/proponent shall provide all information requested by CH concerning all archaeological sites or artifacts and all palaeontological sites and fossils encountered in the course of any land use activity.
- 8) The permittee/proponent shall make best efforts to ensure that all persons working under its authority are aware of these conditions concerning archaeological sites and artifacts and palaeontological sites and fossils.
- 9) If a list of recorded archaeological and/or palaeontological sites is provided to the permittee/proponent by CH as part of the review of the land use application the permittee/proponent shall avoid the archaeological and/or palaeontological sites listed.
- 10) Should a list of recorded sites be provided to the permittee/proponent, the information is provided solely for the purpose of the proponent's land use activities as described in the land use application, and must otherwise be treated confidentially by the proponent.

Legal Framework

As stated in Article 33 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada (Nunavut Agreement)*:

Where an application is made for a land use permit in the Nunavut Settlement Area, and there are reasonable grounds to believe that there could be sites of archaeological importance on the lands affected, no land use permit shall be issued without written consent of the Designated Agency. Such consent shall not be unreasonably withheld. [33.5.12]

Each land use permit referred to in Section 33.5.12 shall specify the plans and methods of archeological site protection and restoration to be followed by the permit holder, and any other conditions the Designated Agency may deem fit. [33.5.13]

Palaeontology and Archaeology

Under the *Nunavut Act*⁴, the federal government can make regulations for the protection, care and preservation of palaeontological and archaeological sites and specimens in Nunavut. Under the *Nunavut Archaeological and Palaeontological Sites Regulations*⁵, it is illegal to alter or disturb any palaeontological or archaeological site in Nunavut unless permission is first granted through the permitting process.

Definitions

As defined in the *Nunavut Archaeological and Palaeontological Sites Regulations*, the following definitions apply:

“archaeological site” means a place where an archaeological artifact is found.

“archaeological artifact” means any tangible evidence of human activity that is more than 50 years old and in respect of which an unbroken chain of possession or regular pattern of usage cannot be demonstrated, and includes a Denesuline archaeological specimen referred to in section 40.4.9 of the Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada (Nunavut Agreement).

“palaeontological site” means a site where a fossil is found.

“fossil” includes:

Fossil means the hardened or preserved remains or impression of previously living organisms or vegetation and includes:

- (a) natural casts;*
- (b) preserved tracks, coprolites and plant remains; and*
- (c) the preserved shells and exoskeletons of invertebrates and the preserved eggs, teeth and bones of vertebrates.*

Guidelines for Developers for the Protection of Archaeological Resources in the Nunavut Territory

(Note: Partial document only, complete document at: www.ch.gov.nu.ca/en/Archaeology.aspx)

Introduction

The following guidelines have been formulated to ensure that the impacts of proposed developments upon heritage resources are assessed and mitigated before ground surface altering activities occur. Heritage resources are defined as, but not limited to, archaeological and historical sites, burial grounds, palaeontological sites, historic buildings and cairns. Effective collaboration between the developer, the Department of Culture, and Heritage (CH), and the contract archaeologist(s) will ensure proper preservation of heritage resources in the Nunavut Territory. The roles of each are briefly described.

CH is the Nunavut Government agency which oversees the protection and management of heritage resources in Nunavut, in partnership with land claim authorities, regulatory agencies, and the federal government. Its role in mitigating impacts of developments on heritage resources is as

⁴ s. 51(1)

⁵ P.C. 2001-1111 14 June, 2001

follows: to identify the need for an impact assessment and make recommendations to the appropriate regulatory agency; set the terms of reference for the study depending upon the scope of the development; suggest the names of qualified individuals prepared to undertake the study to the developer; issue an archaeologist or palaeontologist permit authorizing field work; assess the completeness of the study and its recommendations; and ensure that the developer complies with the recommendations.

The primary regulatory agencies that CH provides information and assistance to are the Nunavut Impact Review Board, for development activities proposed for Inuit Owned Lands (as defined in Section 1.1.1 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada (Nunavut Agreement)*), and the Indigenous and Northern Affairs Canada, for development activities proposed for federal Crown Lands.

A developer is the initiator of a land use activity. It is the obligation of the developer to ensure that a qualified archaeologist or palaeontologist is hired to perform the required study and that provisions of the contract with the archaeologist or palaeontologist allow permit requirements to be met; i.e. fieldwork, collections management, artifact and specimen conservation, and report preparation. On the recommendation of the contract archaeologist or palaeontologist in the field and the Government of Nunavut, the developer shall implement avoidance or mitigative measures to protect heritage resources or to salvage the information they contain through excavation, analysis, and report writing. The developer assumes all costs associated with the study in its entirety.

Through his or her active participation and supervision of the study, the contract archaeologist or palaeontologist is accountable for the quality of work undertaken and the quality of the report produced. Facilities to conduct fieldwork, analysis, and report preparation should be available to this individual through institutional, agency, or company affiliations. Responsibility for the curation of objects recovered during field work while under study and for documents generated in the course of the study as well as remittance of artifacts, specimens and documents to the repository specified on the permit accrue to the contract archaeologist or palaeontologist. This individual is also bound by the legal requirements of the *Nunavut Archaeological and Palaeontological Sites Regulations*.

Types of Development

In general, those developments that cause concern for the safety of heritage resources will include one or more of the following kinds of surface disturbances. These categories, in combination, are comprehensive of the major kinds of developments commonly proposed in Nunavut. For any single development proposal, several kinds of these disturbances may be involved

- *Linear disturbances: including the construction of highways, roads, winter roads, transmission lines, and pipelines;*
- *Extractive disturbances: including mining, gravel removal, quarrying, and land filling;*
- *Impoundment disturbances: including dams, reservoirs, and tailings ponds;*

- *Intensive land use disturbances: including industrial, residential, commercial, recreational, and land reclamation work, and use of heritage resources as tourist developments.*
- *Mineral, oil and gas exploration: establishment of camps, temporary airstrips, access routes, well sites, or quarries all have potential for impacting heritage resources.*

Types of Studies Undertaken to Preserve Heritage Resources

Overview: An overview study of heritage resources should be conducted at the same time as the development project is being designed or its feasibility addressed. They usually lack specificity with regard to the exact location(s) and form(s) of impact and involve limited, if any, field surveys. Their main aim is to accumulate, evaluate, and synthesize the existing knowledge of the heritage of the known area of impact. The overview study provides managers with baseline data from which recommendations for future research and forecasts of potential impacts can be made. A Class I Permit is required for this type of study if field surveys are undertaken.

Reconnaissance: This is done to provide a judgmental appraisal of a region sufficient to provide the developer, the consultant, and government managers with recommendations for further development planning. This study may be implemented as a preliminary step to inventory and assessment investigations except in cases where a reconnaissance may indicate a very low or negligible heritage resource potential. Alternately, in the case of small-scale or linear developments, an inventory study may be recommended and obviate the need for a reconnaissance.

The main goal of a reconnaissance study is to provide baseline data for the verification of the presence of potential heritage resources, the determination of impacts to these resources, the generation of terms of reference for further studies and, if required, the advancement of preliminary mitigative and compensatory plans. The results of reconnaissance studies are primarily useful for the selection of alternatives and secondarily as a means of identifying impacts that must be mitigated after the final siting and design of the development project. Depending on the scope of the study, a Class 1 or Class 2 Permit is required for this type of investigation.

Inventory: A resource inventory is generally conducted at that stage in a project's development at which the geographical area(s) likely to sustain direct, indirect, and perceived impacts can be well defined. This requires systematic and intensive fieldwork to ascertain the effects of all possible and alternate construction components on heritage resources. All heritage sites must be recorded on Government of Nunavut Site Survey forms. Sufficient information must be amassed from field, library and archival components of the study to generate a predictive model of the heritage resource base that will:

- allow the identification of research and conservation opportunities;
- enable the developer to make planning decisions and recognize their likely effects on the known or predicted resources; and
- make the developer aware of the expenditures, which may be required for subsequent studies and mitigation. A Class 1 or 2 permit is required.

Assessment: At this stage, sufficient information concerning the numbers and locations of heritage resources will be available, as well as data to predict the forms and magnitude of impacts. Assessments provide information on the size, volume, complexity and content of a heritage resource, which is used to rank the values of different sites or site types given current archaeological knowledge. As this information will shape subsequent mitigation program(s), great care is necessary during this phase.

Mitigation: This refers to the amelioration of adverse impacts to heritage resources and involves the avoidance of impact through the redesign or relocation of a development or its components; the protection of the resource by constructing physical facilities; or, the scientific investigation and recovery of information from the resource by excavation or other method. The type(s) of appropriate mitigative measures are dictated by their viability in the context of the development project. Mitigation strategies must be developed in consultation with, and approved by, the Department of Culture and Heritage. It is important to note that mitigation activities should be initiated as far in advance of the construction of the development as possible.

Surveillance and monitoring: These may be required as part of the mitigation program.

Surveillance may be conducted during the construction phase of a project to ensure that the developer has complied with the recommendations.

Monitoring involves identification and inspection of residual and long-term impacts of a development (i.e. shoreline stability of a reservoir); or the use of impacts to disclose the presence of heritage resources, for example, the uncovering of buried sites during the construction of a pipeline.