



SCREENING DECISION REPORT NIRB FILE No.: 21UN004

NPC File No.: 149437

October 4, 2021

Following the Nunavut Impact Review Board's (NIRB or Board) assessment of all materials provided, the NIRB is recommending that a review of Fisheries and Oceans Canada – Small Craft Harbours' (DFO – SCH) "Arctic Bay Small Craft Harbours Development" 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(s) accepts this Screening Decision Report.

OUTLINE OF SCREENING DECISION REPORT

| | |
|------------------------------------------------------------------------------------|-----------|
| REGULATORY FRAMEWORK..... | 2 |
| PROJECT REFERRAL..... | 3 |
| PROJECT OVERVIEW & THE NIRB ASSESSMENT PROCESS..... | 3 |
| ASSESSMENT OF THE PROJECT PROPOSAL IN ACCORDANCE WITH PART 3 OF NUPPAA..... | 6 |
| VIEWS OF THE BOARD | 7 |
| RECOMMENDED PROJECT-SPECIFIC TERMS AND CONDITIONS | 12 |
| MONITORING AND REPORTING REQUIREMENTS..... | 15 |
| OTHER NIRB CONCERNs AND RECOMMENDATIONS | 17 |
| CONCLUSION | 18 |

APPENDICES

| | |
|------------------------------------------------------------------------------------------------------------------------|-----------|
| APPENDIX A: SPECIES AT RISK IN NUNAVUT | 19 |
| APPENDIX B: ARCHAEOLOGICAL AND PALAEONTOLOGICAL RESOURCES TERMS AND CONDITIONS FOR LAND USE PERMIT HOLDERS..... | 22 |

REGULATORY FRAMEWORK

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 27, 2021, the NIRB received a referral to screen DFO - SCH's "Arctic Bay Small Craft Harbour Development" project proposal from the Nunavut Planning Commission (Commission), with an accompanying positive conformity determination with the North Baffin Regional Land Use Plan.

Pursuant to Article 12, Sections 12.4.1 and 12.4.4 of the *Nunavut Agreement* and s. 87 of the *NuPPAA*, the NIRB commenced screening this project proposal and assigned it file number **21UN004**.

PROJECT OVERVIEW & THE NIRB ASSESSMENT PROCESS

1. Screening Process Timelines

The following key stages were completed for the screening process:

| Date | Stage |
|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| January 27, 2021 | Receipt of project proposal and positive conformity determination (North Baffin Regional Land Use Plan) from the Commission |
| January 27, 2021, February 9, 2021 | Request to complete public registry online and provide information pursuant to s. 144(1) of the <i>NuPPAA</i> |
| March 5, 2021 | The Board suspended the application until the Proponent was able to provide the requested information |
| August 18, 2021 | Proponent responded to information request(s) and provided additional information |
| August 18, 2021 | Scoping pursuant to s. 86(1) of the <i>NuPPAA</i> |
| August 24, 2021 | Public engagement and comment request |
| September 14, 2021 | Receipt of public comments |
| October 4, 2021 | Issuance of Screening Decision Report |

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/125580.

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| Project: | Arctic Bay Small Craft Harbour Development |
| Region: | Qikiqtani (North Baffin) |
| Location: | Within the municipal boundaries of Arctic Bay |
| Summary of Project Description: | The Proponent intends to construct a small craft harbour to support safe access to the land and sea in the context of rapid environmental changes in the Arctic and in support of community fish harvesting and marine mammal harvest, ensuring local fishing operations have access to safe harbours and landing facilities. |
| Project Proposed Timeline: | Construction carried out from 2022 to 2025. The project is expected to be operational in the summer of 2026. |

As required under s. 86(1) of the *NuPPAA*, the Board accepts the scope of the project as set out by DFO - SCH in the proposal. The scope of the project proposal includes the following undertakings, works, or activities:

- Construction and development of a Small Craft Harbour, including the development of a:
 - Rock breakwater;
 - Boat launch ramp;
 - Laydown area for boat and sealift storage; and
 - Floating docks that would be removed during winter;
- Construction and use of a temporary camp to support project activities;
- Development of a new quarry to support project activities during construction;
 - Potential construction of a new quarry access road to access new quarry;
- Use of heavy equipment for the construction and development of the project;
- Sourcing fuel locally for fuel use activities during the life of the project;
- Sourcing of water locally for the life of the project;
- Hazardous harbour infrastructure to be returned to the south in sealed drums and disposed of properly;
- Combustible and non-combustible wastes to be disposed of at the local landfill; and
- Greywater and sewage waste to be disposed of at the local sewage lagoon.

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. Public Comments and Concerns

Notice regarding the NIRB's screening of this project proposal was distributed on August 24, 2021 to community organizations in Arctic Bay, 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 September 14, 2021 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 September 14, 2021 the NIRB received comments from the following interested parties:

- **Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)**
- **Transport Canada (TC)**

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:

CIRNAC

- Recommends that the Proponent prioritize the employment and training of local Inuit as well as procurement with Inuit-owned businesses when implementing project activities.
- Recommends that the Proponent consult with the Hamlet of Arctic Bay, community members, and organizations which may have an interest in the project's activities. Issues that should be considered as part of any consultation activities include:
 - Safety precautions associated with the construction and operation of the small craft harbour, new quarry, temporary camp, and access roads;
 - Incorporation of Inuit Knowledge and Inuit Qaujimajatuqangit into project activities;
 - Mitigation measures designed to prevent any disruption to wildlife and the environment;
 - Training and employment opportunities for community members;
 - Procurement opportunities for local businesses; and
 - Regular updates on the status of project activities.

TC

- Understands that the proposed project will generally be a large improvement and a benefit to the communities. The public and communities are currently being consulted and site visits are being conducted to determine the required needs for the communities.

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.

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 physical footprint of the proposed project components is within the municipal boundaries of Arctic Bay, within the uplands harbour area as well as the marine harbour area.The proposed project would take place within habitats of terrestrial wildlife species such as migratory and non-migratory birds, Arctic fox, Arctic hare, and Species at Risk such as Polar Bears, as well as marine wildlife and fish and fish habitat, however, the proposed project is taking place in an existing and established harbour area. |
| 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. |
| 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. |
| The size of the human and the animal populations likely to be affected by the impacts. | <ul style="list-style-type: none">The proposed project may impact human and animal populations as drilling is taking place, however, the potential for impacts is considered to be limited due to infrequent and temporary activities. |
| The nature, magnitude and complexity of the impacts; the probability of the impacts | <ul style="list-style-type: none">A zone of influence of up to 30 kilometres (km) from the most potentially-disruptive project |

| Factor | Comment |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| occurring; the frequency and duration of the impacts; and the reversibility or irreversibility of the impacts. | <p>activities was selected for the NIRB's assessment.</p> <ul style="list-style-type: none"> With adherence to the relevant regulatory 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 NIRB has not identified any past, present, and reasonably foreseeable projects at this time; however, the mitigation measures recommended by the NIRB have been designed to reduce cumulative effects should projects occur in the area in the future. |
| Any other factor that the Board considers relevant to the assessment of the significance of impacts. | <ul style="list-style-type: none"> The Small Craft Harbour will help support safe access to the land and sea in the context of rapid environmental changes in the Arctic and in support of community fish harvesting and marine mammal harvest. |

VIEWS OF THE BOARD

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 addition, the NIRB has proposed terms and conditions that would mitigate the potential adverse impacts identified.

The NIRB has listed specific Acts and Regulations below that may be applicable to the project proposal but this list should not be considered as a complete list and the Proponent is responsible to ensure that it follows all Acts and Regulations that may be applicable to the project proposal.

Ecosystem, Wildlife Habitat, and Inuit Harvesting Activities:

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| Valued Component | Terrestrial wildlife such as migratory and non-migratory birds, Arctic fox and Arctic hare and Species at Risk such as Polar Bears |
| Potential effects: | Potential adverse effects to terrestrial wildlife such as migratory and non-migratory birds, Arctic fox and Arctic hare, and Species at Risk such as Polar Bears from noise and visual disturbance generated from the construction and development of the new small craft harbour, transportation of personnel and equipment via heavy equipment, the use of a temporary camp, as well as quarrying activities |
| Nature of Impacts: | The potential for impacts is considered to be limited due to infrequent and temporary activities and any resulting impacts would be expected to be reversible |

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| Mitigating Factors: | The Board is recommending terms and conditions that ensure that the potential adverse impacts can be mitigated by measures such as minimizing activities when wildlife and birds are particularly sensitive to disturbance especially during denning periods, migration, nesting, and moulting are adhered to, and ensuring that all project personnel are made aware of the measures to protect wildlife. |
| Proposed Terms and Conditions: | Wildlife General – 12 through 16 Migratory Bird and Raptors Disturbance – 17 through 20 Drilling General – 27 through 29 Drilling on Land – 30 through 32 |
| Related Acts and/or Regulations: | <ol style="list-style-type: none"> 1. The <i>Wildlife Act (Nunavut)</i> and its corresponding regulations (http://www.canlii.org/en/nu/laws/stat/snu-2003-c-26/latest/snu-2003-c-26.html). 2. The <i>Nunavut Act</i> (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. |

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| Valued Component | Fish and fish habitat and surface water quality |
| Potential effects: | Potential adverse impacts to fish, water, and the aquatic environment due to the construction and development of the small craft harbour, the use of a temporary camp, quarrying and drilling activities and use of fuel and chemicals. |
| Nature of Impacts: | The potential for impacts is considered to be limited and mostly reversible if regulations and best practices for drilling and quarrying operations, temporary camp activities and storage and use of fuel and chemicals are followed. |
| Mitigating Factors: | The Proponent has developed a Spill Contingency Plan and has committed to make available adequate spill response equipment materials and personnel during fuel transfer. The Board is also recommending terms and conditions and it is expected that these terms and conditions would mitigate any potential adverse impacts to water quality, fish and fish habitat in the direct project area and areas adjacent to the proposed project. |
| Proposed Terms and Conditions: | Waste Management – 6 Fuel and Chemical Storage – 7 through 9 Drilling – General – 27 through 29 Drilling on Land – 30 through 32 Land Use and Restoration of Disturbed Areas – 33 through 37 Camps – 38 and 39 |
| Related Acts and/or Regulations: | <ol style="list-style-type: none"> 1. The <i>Fisheries Act</i> (http://laws-lois.justice.gc.ca/eng/acts/F-14/index.html). 2. The <i>Nunavut Waters and Nunavut Surface Rights Tribunal Act</i> (http://laws-lois.justice.gc.ca/eng/acts/n-28.8/). |

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| | <p>3. The <i>Transportation of Dangerous Goods Act</i> (http://laws-lois.justice.gc.ca/eng/acts/t-19.01/) and the <i>Transportation of Dangerous Goods Regulations</i> (http://www.tc.gc.ca/eng/tdg/clear-tofc-211.htm).</p> <p>4. The <i>Canadian Environmental Protection Act</i> (http://lawslois.justice.gc.ca/eng/acts/C-15.31/).</p> |
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| Valued Component | Land, terrestrial vegetation, and permafrost disturbance |
| Potential effects: | Potential adverse impacts to the ground stability, vegetation quality, terrain, and permafrost due to drilling and quarrying operations, use of a temporary camp, and moving of equipment and personnel. |
| Nature of Impacts: | The potential for impacts is considered to be limited if regulations and best practices for drilling and quarrying operations are followed. The potential for disturbance due to other exploration activities is considered to be minimal due to the localized and temporary nature of the activities. |
| Mitigating Factors: | The Proponent proposes to incorporate local knowledge into operating plans to ensure minimal disturbance to the ecosystem. The Proponent also has developed a <i>Spill Contingency Plan</i> that would be implemented as required. Further, combustible disturbance to the land would be minimal and waste generated by the project would be disposed of at the local dump. Noncombustible and hazardous waste would be taken for proper disposal. |
| Proposed Terms and Conditions: | Waste Management – 6 Fuel and Chemical Storage – 7 through 9 Road and Ground Disturbance - 21 Land Use and Restoration of Disturbed Areas – 33 through 39 Camps – 38 and 39 |
| Related Acts and/or Regulations: | N/A |

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| Valued Component | Air Quality |
| Potential effects: | There is potential for adverse effects to air quality in the immediate vicinity of the quarry due to an increase in fugitive dust and emissions from equipment on site and the development of quarries. |
| Nature of Impacts: | The potential for impacts to air quality is considered to be moderate due to the limited period of site activity and mitigable through application of dust suppressants and mitigation measures. |
| Mitigating Factors: | The Proponent has included a <i>Construction Environmental Management Plan</i> that provides mitigation measures that will be implemented as required. Further, it is recommended that the potential adverse impacts from the quarrying activities may be mitigated by ensuring the Proponent undertakes appropriate dust suppression. |
| Proposed Terms and Conditions: | Waste Management – 6 Air Quality – 10 and 11 Aggregate Removal within Existing and New Quarries – 22 through 26 |

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|-----------------------------------------|-----|
| Related Acts and/or Regulations: | N/A |
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| Valued Component | Public and traditional land use activities |
| Potential effects: | No specific concerns or impacts to public and traditional land use activities in the area have been identified, however, the Board is recommending terms and conditions to ensure project activities are informed by available Inuit Qaujimaningit and that project activities do not interfere with Inuit wildlife harvesting or traditional land use activities. |
| Nature of Impacts: | Potential for impacts is considered to be minimal due to the location of the project. |
| Mitigating Factors: | Proponent proposes to incorporate local knowledge into operating plans and has committed to executing its work in a way that minimizes the negative effects to wildlife. |
| Proposed Terms and Conditions: | Other – 40 through 42 |
| Related Acts and/or Regulations: | N/A |

Socio-economic Effects on Northerners:

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| Valued Component | Historical, archeological, and heritage sites |
| Potential effects: | No historical sites in the proposed project area were identified by the Proponent, however, the Board is recommending terms and conditions to ensure project activities are informed by available Inuit Qaujimaningit and that project activities do not negatively effect historical or heritage sites. |
| Nature of Impacts: | The potential for impacts are considered minimal as the area has no historical, archeological, and heritage sites that have been previously identified. The nature of the proposed project operations are unlikely to impact any unknown archeological sites. |
| Mitigating Factors: | As noted, the Board is recommending terms and conditions to ensure that project activities do not negatively effect historical or heritage sites. |
| Proposed Terms and Conditions: | Other - 40 |
| Related Acts and/or Regulations: | 1. The <i>Nunavut Act</i> (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 . |

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| Valued Component | Employment and Business Opportunities |
| Potential effects: | Potential positive economic effects from local employment and accommodations within the community |

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|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| Nature of Impacts: | The Proponent has committed to working with the community as well as accommodating within the community of Arctic Bay |
| Mitigating Factors: | Recommended terms and conditions |
| Proposed Terms and Conditions: | Other – 40 |
| Related Acts and/or Regulations: | N/A |

Significant public concern:

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|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Valued Component | Public concern |
| Potential effects: | No significant public concern was expressed during the public commenting period for this file, however, the Board recommends terms and conditions to ensure project activities do not interfere with Inuit wildlife harvesting or traditional land use activities, to the extent possible hire local people and access local services where possible, and to ensure planned activities in the area utilizes available Inuit Qaujimaningit. |
| Nature of Impacts: | The potential for impacts is considered to be minimal as long as the Proponent follows the recommended terms and conditions. |
| Mitigating Factors: | Recommended terms and conditions |
| Proposed Terms and Conditions: | Other – 40 through 42 |
| Related Acts and/or Regulations: | N/A |

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: 1-5.

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. Fisheries and Oceans Canada – Small Craft Harbours (the Proponent) shall maintain a copy of the Project Terms and Conditions at the site of operation at all times and make it accessible to enforcement officers upon request.
2. The Proponent shall operate in accordance with all commitments stated in correspondence provided to the Nunavut Planning Commission (NPC File No.: 149437) and the NIRB (Online Application Form, August 18, 2021). This information should be accessible to enforcement officers upon request.
3. The Proponent shall operate the site in accordance with all applicable Acts, Regulations and Guidelines.
4. The Proponent shall ensure that it meets the standards and/or limits as set out in the authorizing agencies' permits or licences as required for this project.
5. The Proponent shall ensure that all personnel, staff and contractors are adequately trained prior to commencement of all project activities, and shall be made aware of all operational plans, management plans, guidelines and Proponent commitments relating to the project.

Waste Management

6. The Proponent shall manage all hazardous and non-hazardous waste including food, domestic wastes, debris and petroleum-based chemicals (e.g., greases, gasoline, glycol-based antifreeze) in such a manner to avoid release into the environment and access to wildlife at all times until disposed of appropriately or at an approved facility.

Fuel and Chemical Storage

7. The Proponent shall have a Spill Contingency Plan in place at all fuel storage or transfer locations and shall ensure that appropriate spill response equipment and clean-up materials (e.g., shovels, pumps, barrels, drip pans, and absorbents) are readily available.
8. The Proponent shall ensure that wildlife deterrent systems are utilized at the time of a spill incident in order to avoid wildlife (terrestrial or marine) and migratory birds from being contaminated.
9. The Proponent shall ensure that all spills of fuel or other deleterious materials of 100 litres or more must be reported immediately to the 24-hour Spill Line at (867) 920-8130.

Air Quality

10. The Proponent shall take appropriate dust suppression measures in conducting all activities for this Project including using approved dust suppression additives and techniques as necessary to maintain ambient air quality.

11. The Proponent shall eliminate unnecessary idling to reduce greenhouse gas emissions as much as possible.

Wildlife – General

12. The Proponent shall not substantially alter or damage or destroy any wildlife habitat in conducting this operation unless otherwise authorized by the appropriate authorizing agencies.
13. The Proponent shall not chase, weary, harass or molest wildlife. This includes persistently circling, chasing, hovering over, pursuing or in any other way harass wildlife, or disturbing large groups of animals.
14. The Proponent shall not hunt or fish, unless proper Nunavut authorizations have been acquired.
15. The Proponent shall ensure that all wildlife have the right-of-way on any roads or trails. Vehicles are required to slow down or stop and wait to permit the free and unrestricted movement of wildlife across roads or trails at any location.
16. The Proponent shall enforce safe speed limits for vehicles travelling along the road to ensure drivers have sufficient time to react in a safe manner if wildlife are encountered on or adjacent to the road or trail.

Migratory Birds and Raptors Disturbance

17. The Proponent shall carry out all phases of the project in a manner that protects migratory birds and avoids harming, killing or disturbing migratory birds or destroying, disturbing or taking their nests or eggs. In this regard, the Proponent shall take into account Environment and Climate Change Canada's *Avoidance Guidelines*. The Proponent's actions in applying the *Avoidance Guidelines* shall be in compliance with the *Migratory Birds Convention Act, 1994* and with the *Species at Risk Act*.
18. The Proponent shall not disturb or destroy the nests or eggs of any birds. If active nests of any birds are discovered or located (i.e., with eggs or young), the Proponent shall avoid these areas until nesting is complete and the young have naturally left the vicinity of the nest by establishing a protection buffer zone¹ appropriate for the species and the surrounding habitat.
19. The Proponent shall avoid the seaward site of seabird colonies and areas used by flocks of migrating waterfowl, a minimum distance away on the recommendation of the appropriate authorizing agencies.
20. The Proponent shall not pursue seabirds or waterbirds swimming on the water surface and shall avoid concentrations of these birds if encountered on the water.

Road and Ground Disturbance

21. 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.

¹ Recommended setback distances to define buffer zones have been established by Environment and Climate Change Canada for different bird groups nesting in tundra habitat and can be found at www.ec.gc.ca/paom-itmb.

Aggregate Removal within Existing and New Quarries

22. The Proponent shall install silt fences/curtains down stream of any quarry activities.
23. The Proponent shall ensure there is no obstruction of natural drainage, flooding or channel diversion from quarry/pit access, stockpiles, or other structures or facilities.
24. The Proponent shall locate screening and crushing equipment on stable ground, at a location with ready access to stockpiles.
25. The Proponent shall clearly stake and flag pit and quarry boundaries, so they remain visible to other land users.
26. The Proponent shall locate quarry/pit facilities so as to avoid all recreational sites and public use areas, and to protect unique geographical features and natural aesthetics.

Drilling – General

27. The Proponent shall not allow any drilling wastes to spread to the surrounding lands or water bodies.
28. The Proponent shall ensure that any deleterious substances (as defined in the *Fisheries Act*) resulting from its activities do not enter into any water bodies frequented by fish.
29. The Proponent shall ensure that all drill areas are constructed to facilitate minimizing the environmental footprint of the project area.

Drilling on Land

30. If an artesian flow is encountered, the Proponent shall ensure the drill hole is immediately plugged and permanently sealed.
31. The Proponent shall ensure that all sump/depression capacities are sufficient to accommodate the volume of wastewater and any fines that are produced. The sumps shall only be used for inert drilling fluids, and not any other materials or substances.
32. The Proponent shall ensure all drill holes are backfilled or capped prior to the end of each field season. All sumps must be backfilled and restored to original or stable profile prior to the end of each field season.

Land Use and Restoration of Disturbed Areas

33. The Proponent shall use existing trails where possible during project activities on the land.
34. The Proponent shall ensure that the land use area is kept clean and tidy at all times.
35. The Proponent shall avoid disturbance on slopes prone to natural erosion, and alternative locations shall be utilized.
36. The Proponent shall remove all garbage, fuel and equipment at the end of each field season and/or upon completion of work and/or upon abandonment.
37. The Proponent shall ensure that all disturbed areas are restored to a stable or pre-disturbed state using Best Available Technology Economically Achievable (BATEA) upon completion of work and/or abandonment.

Camps

38. The Proponent shall ensure that all camps are located durable surfaces, such as gravel or sand that is consolidated and can withstand repeated, heavy use. Measures shall be put in place to prevent erosion, trail formation and damage to the ground.
39. The Proponent shall not erect camps or store materials on the surface ice of lakes or streams, except that which is for immediate use.

Other

40. The Proponent should engage with local residents regarding planned activities in the area and should solicit available Inuit Qaujimaningit and information regarding current recreational and traditional usage of the project area which may inform project activities. Posting of translated public notices and direct engagement with potentially interested groups and individuals prior to undertaking project activities is strongly encouraged.
41. The Proponent shall ensure that project activities do not interfere with Inuit wildlife harvesting or traditional land use activities.
42. 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:

Annual Report

1. The Proponent shall submit a comprehensive annual report with copies provided to the Nunavut Impact Review Board and Fisheries and Oceans Canada (regulatory branch), by March 31st of each year through construction, beginning March 31, 2022, and a Final Report following completion of the construction activities. This reporting should be coordinated with the reporting occurring in compliance with the *Fisheries Act* Authorization. The annual report must contain at least the following information:
 - a) A summary of activities undertaken for the year, including:
 - a description of local hires, contracting opportunities and initiatives;
 - site photos;
 - any monitoring activities carried out, specifically including monitoring of effects on the marine environment (including but not limited to noise generated by in-water works);
 - b) A work plan for the following year, including any progressive reclamation work undertaken;
 - c) A summary of community consultations undertaken throughout the year, providing copy of materials presented to community members, a description of issues and concerns raised, discussions with community members and advice offered to the

company as well as any follow-up actions that were required or taken to resolve any concerns expressed about the project proposal;

- d) 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., berry picking, fishing, hunting, camping, etc.), date and time; and any mitigation measures or adaptive management undertaken to prevent disturbance;
- e) A discussion of issues related to wildlife and environmental monitoring, including the number of cease-work orders required as a result of proximity marine mammals and any other wildlife;
- f) A brief summary of Wildlife Monitoring and Management Plan 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 including marine habitat areas in the project area, and identify the timing of critical life history events (i.e., calving, migration, 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.
- g) An analysis of the effectiveness of mitigation measures for wildlife;
- h) Summary of any heritage sites encountered during the exploration activities, any follow-up action or reporting required as a result and how project activities were modified to mitigate impacts on the heritage sites;
- i) 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
- j) 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 and/or Parks Canada 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. The NIRB respectfully requests that responsible authorities submit a copy of each licence, permit or other authorization issued for the Project to the NIRB to assist in enabling possible project monitoring that may be required. 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.

Use of Inuit Qaujimaningit

3. The Proponent is encouraged to work with local communities and knowledge holders to inform project design, to carry out the project, and to confirm or validate the perspectives represented in publications, film or other media produced as part of the project. Care should be taken to ensure that Inuit Qaujimaningit and local knowledge collected for the project is used with permission and is accurately represented.

Bear and Carnivore Safety

4. 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: https://www.enr.gov.nt.ca/sites/enr/files/resources/safety_in_grizzly_and_black_bear_country_english.pdf.
5. 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.
6. 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 Arctic Bay, phone: (867) 439-9945).

Species at Risk

7. 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%2020204.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

8. 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.
9. 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://publications.gc.ca/collections/collection_2013/ec/CW66-324-2013-eng.pdf.

CONCLUSION

The foregoing constitutes the Board's screening decision with respect to Fisheries and Oceans Canada – Small Craft Harbours' "Arctic Bay Small Craft Harbour Development". The NIRB remains available for consultation with the Minister regarding this report as necessary.

Dated October 4, 2021 at Baker Lake, NU.



Kaviq Kaluraq, 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: September 2019

| Terrestrial Species at Risk ² | COSEWIC Designation | Schedule of SARA | Government Organization with Primary Management Responsibility ³ |
|-------------------------------------------------|---------------------|------------------|-----------------------------------------------------------------------------|
| 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 | Threatened | Schedule 1 | ECCC |
| Peregrine Falcon | Special Concern | Schedule 1 | ECCC |
| Red Knot Islandica Subspecies | Special Concern | Schedule 1 | ECCC |
| Red-necked Phalarope | Special Concern | Schedule 1 | 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 | ECCC |
| Peary Caribou | Endangered | Schedule 1 | GN |
| Polar Bear | Special Concern | Schedule 1 | ECCC |
| 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 |

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

3 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 Risk² | COSEWIC Designation | Schedule of SARA | Government Organization with Primary Management Responsibility³ |
|----------------------------------------------------------|----------------------------|-------------------------|-----------------------------------------------------------------------------------|
| Beluga Whale (Eastern High Arctic-Baffin Bay Population) | Special Concern | No Schedule | DFO |
| 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 PALAEONTOLOGICAL 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 Overview Assessment and/or Inventory and Documentation and/or Mitigation |
| c) | Construction of linear disturbances, Extractive disturbances, Impounding disturbances and other land disturbance activities | Archaeological/Palaeontological Overview Assessment and/or Inventory and Documentation and/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*⁴ to issue such permits.

⁴ 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*⁵, 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*⁶, 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

⁵ s. 51(1)

⁶ P.C. 2001-1111 14 June, 2001

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 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.