



SCREENING DECISION REPORT NIRB FILE No.: 17UN006

NPC File No.: 148414

May 18, 2017

Following the Nunavut Impact Review Board's (NIRB or Board) assessment of all materials provided, the NIRB is recommending that a review of the Government of Nunavut's "Iqaluit Airport - Approach Lighting Replacement" is not required pursuant to paragraph 92(1)(a) of the *Nunavut Planning and Project Assessment Act* (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

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REGULATORY FRAMEWORK

The primary objectives of the NIRB are set out in Section 12.2.5 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada* (Nunavut Agreement) as follows:

"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."

These objectives are confirmed under section 23 of the NuPPAA.

The purpose of screening is provided for under section 88 of the NuPPAA:

“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 subsection 89(1) of NuPPAA:

“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 subsection 89(2) provides that the considerations set out in paragraph 89(1)(a) prevail over those set out in paragraph 89(1)(b).

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. Specifically, paragraph 92(2)(a) of NuPPAA provides:

“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 11, 2017 the Nunavut Impact Review Board (NIRB or Board) received a referral to screen the Government of Nunavut’s (GN) “Iqaluit Airport - Approach Lighting Replacement” project proposal from the Nunavut Planning Commission (NPC or Commission), which noted that the project proposal is outside the area of an applicable regional land use plan.

Pursuant to Article 12, Sections 12.4.1 and 12.4.4 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in Right of Canada* (Nunavut Agreement)

and section 87 of the *Nunavut Planning and Project Assessment Act* (NuPPAA), the NIRB commenced screening this project proposal and assigned it file number 17UN006.

PROJECT OVERVIEW & THE NIRB ASSESSMENT PROCESS

1. Project Scope

The proposed “Iqaluit Airport - Approach Lighting Replacement” project is located within the Qikiqtani region, in the City of Iqaluit. The Proponent intends to replace and extend the approach lighting system at the Iqaluit International Airport. The project is proposed to take place from July 2017 to October 2018.

As required under subsection 86(1) of the NuPPAA, the Board accepts the scope of the “Iqaluit Airport - Approach Lighting Replacement” as set out by the GN in the project proposal. The scope of the project proposal includes the following undertakings, works, or activities:

- Mobilization of 20 personnel from the Municipality of Iqaluit to the project site for construction activities;
- Replacement of the existing approach lighting system with 12 lighting bars and extension of the footprint by 450 metres into Koojesse Inlet;
- Replacement of the existing two (2) simultaneously flashing strobes with five (5) sequenced strobes;
- Construction of a rubble mound breakwater to support approach lighting extension into Koojesse Inlet;
- Extension of the existing sewage lagoon access road to the rubble mound breakwater for periodic maintenance operations;
- Use of explosives at existing Iqaluit airport quarry;
- Trucking of approximately 209,300 tonnes of quarried rock and granular material from the existing Iqaluit airport quarry to the project site to support construction of infrastructure;
- Use of water for dust management;
- Use of portable toilets on-site and disposal of associated sewage waste at an approved facility in the Municipality; and
- Transportation of hazardous and non-hazardous wastes to approved disposal sites.

2. 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.

3. Key Stages of the Screening Process

The following key stages were completed:

Date	Stage
January 11, 2017	Receipt of project proposal from the NPC
January 16, 2017	Information request(s)
January 19, 2017	Proponent responded to information request(s)
January 19, 2017	Scoping pursuant to subsection 86(1) of the NuPPAA
January 26, 2017	Public engagement and comment request

February 16, 2017	Receipt of public comments
February 23, 2017	Proponent provided with an opportunity to address comments/concerns raised by public
April 24, 2017	Proponent responded to comments/concerns raised by public
March 2, 2017	Ministerial extension requested from the Minister of Indigenous and Northern Affairs, Government of Canada

4. Public Comments and Concerns

Notice regarding the NIRB's screening of this project proposal was distributed on January 26, 2017 to community organizations in Iqaluit, 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 16, 2017 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; if so, why;
- Whether the project proposal is of a type where the potential adverse effects are highly predictable and mitigable with known technology, (please provide any recommended mitigation measures); and
- Any matter of importance to the Party related to the project proposal.

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

Environment and Climate Change Canada (ECCC)

- Noted that it has no comments on the project proposal at this time.

Fisheries and Oceans Canada (DFO)

- Noted that the following information was required of the Proponent to make a determination as to whether the project would avoid causing serious harm to fish that are part of a commercial, recreational or Aboriginal fishery, or to fish that support such fishery:
 - Identification of potential impacts of the breakwater on fish and fish habitat at the outlet of the Airport, including Carney Creek in the tidal flats;
 - Provision of an estimate of the breakwater footprint below the high water mark in square meters;
 - Identification of any potential impacts and proposed mitigation measures for Bowhead whales; and
 - Description of proposed mitigation measures for potential impacts to fish and fish habitat from the construction of the breakwater.
- Requested clarification on the breakwater construction methods and proposed mitigation measures for sediment resuspension.

- Noted that the Proponent should consult DFO's Measures to Avoid Harm to Fish and Fish Habitat website for information on standard mitigation measures applicable to the proposed project.

Indigenous and Northern Affairs Canada (INAC)

- Requested details of community consultation undertaken and/or planned by the Proponent for the project.
- Requested clarification on the breakwater construction methodologies and sediment resuspension mitigation measures.

Transport Canada (TC)

- Noted that due to potential overlapping construction timelines, it may need to determine the combined navigational impacts of the proposed project with the proposed deep water port and municipal breakwater expansion projects in the general area at the permitting stage.
- Requested that the Proponent present mitigation measures with respect to interference with navigation, including:
 - A description of measures proposed to mitigate potential luminous interference with navigation from the project; and
 - Details on proposed mitigation measures for potential project effects to navigation during the construction phase.

5. 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 April 24, 2017:

- In response to a request for additional project and project area information to allow an assessment of potential impacts to fish and fish habitat,
 - The Proponent indicated the breakwater height above the high-water mark and the surface below this point will be 5.93 metres and 23,181 square metres, respectively.
 - The Proponent noted that the construction of the breakwater will occur in the intertidal zone in Koojesse Inlet and, therefore, not likely to interact with Bowhead whales.
 - The Proponent provided information on baseline environmental conditions in the project area, including freshwater and marine fish and fish habitat that may be impacted by the construction of the project.
 - The Proponent also proposed mitigation measures to reduce impacts to fish and fish habitat.
- In response to a request for details of community consultation undertaken and/or planned for the project,

- The Proponent indicated that it held a public consultation session on April 11, 2017 in Iqaluit and highlighted the main concerns recorded during consultation.
- The Proponent highlighted prior meetings it held with staff of the City of Iqaluit and government agencies, including the Canadian Coast Guard, Transport Canada, and Government of Nunavut- Community and Government Services to discuss the project proposal.
- In response to a request for clarification on the breakwater construction methodologies and sediment resuspension mitigation measures,
 - The Proponent provided additional details on methods to be used for construction, including the types of material to be used for the breakwater, the material placement method, and associated quarry supply requirements for the breakwater.
 - The Proponent provided details on methods proposed to reduce the potential for sediment resuspension during breakwater construction, such as timing breakwater material placement to avoid high-tide periods.
- In response to a request for proposed mitigation measures to address potential navigation issues associated with multiple ongoing or planned projects in the marine environment in Iqaluit, the Proponent noted that the potential for navigation issues was discussed at public consultations on the project.
- In response to a request for a description of measures proposed to mitigate potential luminous interference with navigation from the project,
 - The Proponent noted that it has consulted with government agencies, including Transport Canada and Government of Nunavut - Community and Government Services, on this issue.
 - The Proponent highlighted previous discussions with the government agencies regarding some recommended changes to existing lighting for navigation to reduce the potential for luminous interference.
 - The Proponent also noted that it plans to work with Transport Canada and the Canadian Coast Guard to address any residual effects related lighting interference in the execution of the proposed project.

7. Time of Report Extension

As a result of the time required to allow the Proponent to respond to the concerns and comments received, the NIRB was not able to provide its screening decision report to the responsible Minister within 45 days as required by Article 12, Section 12.4.5 of the Nunavut Agreement and subsection 92(3) of the NuPPAA. Therefore, on March 2, 2017 the NIRB wrote to the Minister of Indigenous and Northern Affairs, Government of Canada, seeking an extension to the 45-day timeline for the provision of the Board's Report.

FACTORS FOR DETERMINING SIGNIFICANCE OF IMPACTS

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 section 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:

1. *The size of the geographic area, including the size of wildlife habitats, likely to be affected by the impacts.*

The proposed approach lighting replacement activities will occur at the Iqaluit International Airport in the City of Iqaluit. The footprint of the proposed activities will include land currently used for approach lighting and a 450 meter extension of this land into Koojesse Inlet. The proposed land extension will include a breakwater covering 23,181 square metres. The project construction will be supported by rock material from the existing Iqaluit airport quarry, approximately 1.3 kilometres from the project site. The proposed activities may take place within habitat for Arctic fox, Arctic hare, various species of freshwater and marine fish, marine mammals, and upland and coastal migratory birds, including Species at Risk such as Harlequin Duck, as identified by the Proponent and from mapping sources.

2. *The ecosystemic sensitivity of that area.*

The proposed project would occur in an area with no known ecosystemic sensitivity. However, this area has been identified as having value and priority to Iqaluit for:

- i. Char fishing,
- ii. Clam harvesting, and
- iii. Bird egg collection

3. *The historical, cultural and archaeological significance of that area.*

Neither the Proponent nor any parties that submitted comments for this project identified any known areas of historical, cultural and archaeological significance associated with the project area. Should the project be approved to proceed, the Proponent would be required to conduct an archaeological assessment of the project area, and contact the Government of Nunavut-Department of Culture and Heritage if any sites of historical, cultural or archaeological significance are encountered.

4. *The size of the human and the animal populations likely to be affected by the impacts.*

The proposed project would occur on the outskirts of the City of Iqaluit; as such, the project activities are likely to interact with human populations in the community. No specific animal populations, other than freshwater and marine fish, have been identified as likely to be affected by potential project impacts.

Although no significant public concerns were raised during the public commenting period, the NIRB notes that the proximity of the proposed activities to the community of Iqaluit could potentially contribute to public concern developing. A term and condition has been

recommended to direct engagement with the community, hunters and trappers organization and interested parties, as well as the posting of public notices to ensure residents are aware of the proposed approach lighting replacement, including breakwater construction being or to be conducted.

5. *The nature, magnitude and complexity of the impacts; the probability of the impacts occurring; the frequency and duration of the impacts; and the reversibility or irreversibility of the impacts.*

There is potential for adverse impacts to on-land and marine resources from project activities, including the construction of a 450-metre rubble mound breakwater in Koojesse Inlet. However, based on past evidence of similar scope of activities and the mitigation measures proposed by the Proponent, the potential adverse impacts will be short in duration and may be of moderate magnitude, reversible, and mitigable with due care.

6. *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.*

The proposed project would take place within a 100 km radius of other projects that have been or are being assessed by the Board. These projects include a number of undertakings within the municipal boundaries of Iqaluit such as “Geotechnical and Environmental Baseline Field Studies” (NIRB File No. 16YN041); “Iqaluit Deep Sea Port” (NIRB File No. 17XN021); “Iqaluit Small Craft Harbour” (NIRB File No. 17XN022); “Former Iqaluit Metal Dump Remediation” (NIRB File No. 17UN025); and several research projects (NIRB File No. 16YN042; NIRB File No. 16YN044; and NIRB File No. 16YN057). The need for this project has been identified to address safety and operations requirements for the Iqaluit International Airport, and as such the benefits would be expected to outweigh the impacts; however, to ensure that the adverse impacts are minimized, the NIRB recommends terms and conditions to mitigate the impacts identified above.

Due to the proximity of this project to the City of Iqaluit and other projects noted, there is potential for cumulative effects to air quality from dust and noise associated with project-related road traffic and quarry activities, and to marine fish and fish habitat from in-water works associated with the establishment of marine infrastructure in Koojesse Inlet; however, it is noted that this project is not likely to result in significant residual cumulative impacts. The potential for cumulative impacts to terrestrial wildlife and habitat, fish and fish habitat, marine mammals, migratory birds, water quality, soil quality and ground stability, air quality, cultural and archaeological resources, and traditional wildlife harvesting pursuits from the proposed approach lighting replacement, including breakwater construction, and other projects occurring in the region has been identified and considered in the development of the NIRB’s recommendations. Terms and conditions recommended for each of these projects are expected to reduce any residual impacts, and as such would limit or reduce the potential for cumulative effects to occur.

7. *Any other factor that the Board considers relevant to the assessment of the significance of impacts.*

No other specific factors have been identified as relevant to the assessment of this project proposal.

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.

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: 1-4.

Ecosystem, wildlife habitat and Inuit harvesting activities:

Issue 1: Potential adverse impacts to terrestrial wildlife, migratory birds, non-migratory birds and their respective habitats from site preparation, extension of the approach lightning system, access road construction/extension, and potential increase in noise associated with the activities.

Board views: As discussed above in the assessment of factors relevant to this project proposal, the potential for impact(s) associated with the proposed activities, such as site clearing, and road construction, overlaps the natural ranges of several terrestrial wildlife species including Arctic fox, Arctic hare, and migratory and non-migratory birds. The potential impacts to terrestrial wildlife, and migratory and non-migratory birds are associated with destruction of vegetation within the project footprint. To mitigate potential impacts to terrestrial wildlife and migratory birds, the Proponent has committed to restoring vegetation cover over exposed areas as soon as construction is completed. The potential impacts to terrestrial wildlife and migratory and non-migratory birds are considered to be of low magnitude, short duration, and reversible.

The Proponent would also be required to follow the *Migratory Birds Convention Act*, *Migratory Birds Regulations*, *Species at Risk Act*, and the *Wildlife Act (Nunavut)* (see *Regulatory Requirements* section).

Recommended Mitigation Measures: It is recommended that the potential adverse impacts may be mitigated by measures such as requiring the Proponent to minimize activities during periods when birds are particularly sensitive to disturbance such as migration, nesting and moulting, and to ensure that all project personnel are made aware of the measures to protect wildlife. The Board recommends the following terms and conditions to mitigate

the potential adverse impacts to terrestrial wildlife, migratory and non-migratory birds: 7 through 12.

Issue 2: Potential adverse impacts to fish and fish habitat, benthic organisms, marine mammals, and freshwater and marine water quality, from breakwater placement activities associated with the project.

Board views: The project may adversely impact fish and fish habitat, benthic organisms, marine mammals, and freshwater and marine water quality, from destruction of intertidal and benthic habitat from the breakwater construction activities. Specifically, the proposed breakwater construction will displace intertidal/sub-tidal area of approximately 23,181 square metres. Also, adverse impacts to marine water in proximity to the breakwater footprint are likely due to sedimentation into open water during installation of the rock fill core, filter stone, and armour stone; however, no significant long-term adverse impacts are expected, as the sedimentation should quickly dissipate due to wave and tidal action. To mitigate potential project impacts to these natural resources, the Proponent has committed to ensuring that maintenance and refuelling are conducted over impervious surfaces and a least 60 metres from waterbodies, and implementing an Emergency Response Plan and a project-specific Spill Prevention Plan. The Proponent has also committed to using breakwater construction material with minimal amount of fine particles to avoid the possibility of sediment resuspension during and after construction. Finally, the Proponent has committed to constructing a diversion channel around the breakwater, during the construction phase, for free movement of fish during low tides. It is noted that the interspatial areas created within the rubble mound breakwater will likely result in the creation of additional fish habitat. As a result, the potential adverse impacts to fish and fish habitat, including freshwater quality, are considered to be of moderate magnitude, infrequent and reversible.

The Proponent would require a water licence from the Nunavut Water Board for the waste disposal activities associated with the project. In addition, the Proponent would also be required to follow the *Fisheries Act*, the *Transportation of Dangerous Goods Regulations*, the *Transportation of Dangerous Goods Act*, and the *Canadian Environmental Protection Act* (see *Regulatory Requirements* section).

Recommended Mitigation Measures: It is recommended that the potential adverse impacts may be mitigated by measures such as requiring the Proponent to ensure that the construction of the breakwater is carried out during periods when wind, wave, and tide conditions minimize the dispersion of silt and sediment from the work site. The Board recommends the following terms and conditions to mitigate the potential adverse impacts to fish and fish habitat, marine mammals, benthic organisms, and water quality: 5, 6, and 15 through 18.

Issue 3: Potential adverse impacts to vegetation, ground stability, and soil quality from quarry operations, and the use of heavy equipment for site preparation and on-land transportation.

Board Views: The activities proposed for the project, including the use of heavy equipment for site preparation and hauling quarried rock to the breakwater site, may result in adverse impacts to soil quality and soil stability from erosion and rutting associated with land disturbance. In addition, fuel spill incidents from general construction activities and potential acid rock drainage from exposed bedrock rock in the quarry area may adversely impact soil quality. However, the potential for impacts is likely limited to the project footprint, and the probability of long-term impacts occurring is considered to be low. To mitigate potential impacts, the Proponent has committed to avoiding the use of machinery and vehicles over unstable areas and maintaining spill prevention and recuperation materials at the project site. The Proponent has also committed to limiting slope steepness for all structures associated with the project, including the breakwater, and protecting such structures and exposed surfaces from erosion. The potential adverse impacts to ground stability and soil quality are considered to be of low magnitude and reversible.

The Proponent would also be required to follow the *Transportation of Dangerous Goods Regulations*, *Transportation of Dangerous Goods Act*, and the *Canadian Environmental Protection Act*.

Recommended Mitigation Measures: It is recommended that the potential adverse impacts may be mitigated by measures such as requiring the Proponent to 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. The Board recommends the following terms and conditions to mitigate the potential adverse impacts to ground stability and soil quality: 13, 19, and 20.

Issue 4: Potential adverse impacts to air quality from project activities, including dust and emissions generated by quarry operations and the use of heavy equipment for site preparation, access road construction, breakwater placement, and quarry material haulage.

Board views: There is potential for adverse impacts to air quality from dust and vehicle emissions during site preparation, quarry operations, transport of quarried materials, and breakwater construction. The Proponent has committed to minimizing dust emissions by spraying water on work surfaces and at excavation sites during dry periods. The potential adverse impacts to air quality are considered to be of low magnitude, short-term, and reversible.

Recommended Mitigation Measures: It is recommended that the potential adverse impacts may be mitigated by measures such as requiring the Proponent to use water or other non-toxic and biodegradable additives for dust suppression as necessary to maintain ambient air quality. The Board recommends the following term and condition to mitigate the potential adverse impacts to air quality: 15.

Issue 5: Potential adverse impacts to traditional land use activities and other on-land and marine resource users in the area from noise and movement disruptions associated with the access road and breakwater construction, and quarry operations.

Board Views: There is potential for the proposed land- and marine-based activities, such as site preparation, access road and breakwater construction, quarry operations, and road transport, to disrupt the movement of residents in Iqaluit to areas for traditional land use pursuits. These project activities may also interfere with other land users and marine resource users. Although the proposed project would include temporary activities (less than two-year construction period) with limited potential for long-term impacts with respect to noise, there is potential for long-term impacts as a result of navigation interference. To mitigate these impacts, the Proponent has committed to limiting project construction period to day work hours, and consulting with Transport Canada and Canadian Coast Guard to identify solutions for any residual lighting interference between navigation and approach lights as a result of the project. Terms and conditions have also been recommended to ensure that potential impacts to traditional land use activities are minimized should they be observed.

Recommended Mitigation Measures: It is recommended that the potential adverse impacts may be mitigated by measures such as requiring the Proponent to engage with local residents regarding planned activities in the area and soliciting available Inuit Qaujimaningit and information regarding current recreational and traditional usage of the project area. In addition, it is recommended that the Proponent discuss potential implications of the project on on-land and marine traffic movement with the City of Iqaluit, applicable territorial and federal government agencies, and local facility users before the implementation of the project. The Board recommends the following terms and conditions to mitigate the potential adverse impacts to traditional land use activities and other on-land and marine resource users: 14, 21, 23, and 25.

Socio-economic effects on northerners:

Issue 6: Potential adverse impacts to historical, cultural and archaeological sites from land disturbance activities associated with the project.

Board Views: The Proponent has not identified sites of historical, cultural and archaeological importance in the proposed project area. The probability of impacts to historical, cultural and archaeological sites is considered to be low as the project is to be located in an area dedicated to the operations of the Iqaluit International Airport. However, it is recommended that the Proponent consult with community members in Iqaluit prior to executing the project.

The Proponent is also required to follow the *Nunavut Act* (as recommended in the Regulatory Requirements section) and would be required to contact the Government of Nunavut-Department of Culture and Heritage if sites of historical, cultural and archaeological importance are encountered.

Recommended Mitigation Measures: The Board recommends term and condition 21 to ensure that the affected communities and organizations are informed about the project proposal and that available Inuit Qaujimaningit can inform project activities and reduce the potential for adverse impacts occurring to any historical, cultural, and archaeological sites.

Issue 7: Potential adverse impacts to human health and safety from the construction of the breakwater and from noise associated with the use of heavy equipment, and quarry operations.

Board Views: Although the project will result in improvements to safety at the Iqaluit International Airport, there is potential for injury to community members traversing the project area, including the breakwater, during the construction phase. Also, an increase in noise levels from quarry operations, construction traffic, and the use of heavy equipment for the placement of the rubble mound breakwater may pose a nuisance to community residents. To mitigate these potential adverse impacts to humans, the Proponent has committed to limiting project construction period to day work hours, and installing gates at the access road to the breakwater to reduce public safety risks. With the implementation of mitigation measures proposed and committed to by the Proponent, the adverse impacts to human health and safety are likely to be infrequent, short-term, and of low magnitude.

Recommended Mitigation Measures: It is recommended that potential adverse impacts to human health and safety be mitigated by measures such as requiring the Proponent to ensure that access to work areas is controlled and restricted to construction personnel. The Board recommends terms and conditions 14 and 24 to mitigate the potential adverse impacts to human health and safety.

Issue 8: Potential benefits to the local community from improvements to airport safety and from the purchasing of local goods and services to support the project.

Board Views: The project will improve approach facilities and airport safety in Iqaluit. It is also noted that the Proponent has committed to procuring local labour and services to support the execution of the project, which is likely to benefit the local economy.

Recommended Mitigation Measures: Term and condition 22 is recommended to ensure the Proponent meets its commitment to procure local services for the project and inform community members of local hiring opportunities.

Significant public concern:

Issue 9: No significant public concern was expressed during the public commenting period for this file.

Board Views: It is noted that there is potential for public concern developing as the proposed project is located within the municipal boundaries of the City of Iqaluit. Follow up consultation and involvement of the local community in Iqaluit is expected to mitigate any potential for public concern resulting from project activities.

Recommended Mitigation Measures: The Board recommends term and condition 21 to ensure that the affected community and organizations are informed about the proposed project and that the Proponent is able to proactively address or mitigate any concerns that may arise from the project activities.

Technological innovations for which the effects are unknown:

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

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. The Government of Nunavut (the Proponent) shall maintain a copy of the Project Terms and Conditions at the site of operation at all times.
2. The Proponent shall forward copies of all permits obtained and required for this project to the Nunavut Impact Review Board (NIRB) prior to the commencement of the project.
3. The Proponent shall operate in accordance with all commitments stated in correspondence provided to the Nunavut Planning Commission (Application to Determine Conformity, January 11, 2017), and the NIRB (Online Application Form, January 19, 2017; and the Proponent's supplementary application information, April 24, 2017).
4. The Proponent shall operate the site in accordance with all applicable Acts, Regulations and Guidelines.

Water Use

5. 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.
6. The Proponent shall not construct or disturb any stream, lakebed or the banks of any definable water course unless approved by the Nunavut Water Board or Fisheries and Oceans Canada.

Waste Disposal

7. 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.

Wildlife - General

8. The Proponent shall ensure that there is no damage to wildlife habitat in conducting this operation.
9. The Proponent shall not hunt or fish, unless proper Nunavut authorizations have been acquired.
10. 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.

Migratory Birds and Raptors Disturbance

11. The Proponent shall not disturb or destroy the nests or eggs of any birds. If nests are encountered and/or identified, the Proponent shall take precaution to avoid further interaction and or disturbance (e.g., a 100 metres buffer around the nests). If active nests of any birds are discovered (i.e., with eggs or young), the Proponent shall avoid these areas until nesting is complete and the young have left the nest.
12. The Proponent shall minimize activities during periods when birds are particularly sensitive to disturbance such as migration, nesting and moulting.

Ground Disturbance

13. 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.
14. All construction and road vehicles must be fitted with standard and well-maintained noise suppression devices and engine idling is to be minimized.

Aggregate Removal within Existing Quarries

15. The Proponent shall use water or other non-toxic and biodegradable additives for dust suppression as necessary to maintain ambient air quality without causing water to pool or runoff.

Placement of Breakwater

16. The Proponent shall implement suitable erosion and sediment suppression measures on all areas before, during and after conducting activities in order to minimize turbidity plumes from the work site into the waterbody including the installation of silt screens.
17. Breakwater construction shall be carried out during periods when wind, wave and tidal conditions minimize the dispersion of silt and sediment from the work site.
18. The Proponent shall ensure that all personnel are properly trained in 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.

Restoration of Disturbed Areas

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

Other

21. 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.
22. The Proponent should, to the extent possible, hire local people.
23. The Proponent shall ensure that project activities do not interfere with Inuit wildlife harvesting or traditional land use activities.
24. The Proponent shall ensure that access to work areas is controlled and restricted to construction personnel. This should include the posting of signs noting hazards during construction activities.
25. The Proponent should discuss potential implications of the project on on-land and marine traffic movement with the City of Iqaluit, applicable territorial and federal government agencies, and local facility users before the implementation of the project.

MONITORING AND REPORTING REQUIREMENTS

In addition, the Board is recommending the following:

Final Report

1. The Proponent shall submit a comprehensive annual report to the Nunavut Impact Review Board by December 31, 2018. The report must contain, but not limited to, the following information:
 - a) A summary of activities undertaken, including:
 - a map showing the location of completed and ongoing rock and aggregate placement activities for the breakwater;
 - a map showing the approximate location of active quarry and borrow sites and buffer zones;
 - a description of local hires, contracting opportunities and initiatives;
 - site photos;
 - b) A summary of additional studies and environmental management activities undertaken in the year, including any corrective actions implemented for wildlife, soil, and acid rock drainage/metal leaching potential, and marine and freshwater resources. The summary should also include the results of monitoring of the quality of water in contact with its operations and any water diversions implemented;
 - 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) An analysis of the effectiveness of mitigation measures for wildlife, including fish and fish habitat;

- e) Summary of any heritage sites encountered during the remediation activities, any follow-up action or reporting required as a result and how project activities were modified to mitigate impacts on the heritage sites;
- f) 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
- g) 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.

Spill Contingency Plan

2. The Proponent shall update its Emergency Response Plan to include the up to date emergency contact numbers for the Government of Nunavut-Department of Environment, Manager of Environmental Protection (867-975-7748). This emergency contact number shall also be included to the project-specific Spill Prevention Plan.

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 (NPC) and the NIRB of any changes in operating plans or conditions, including phase advancement, associated with this project prior to any such change.

Bear and Carnivore Safety

2. 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.
3. 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.
4. 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 Iqaluit, phone: (867) 924-6235).

Species at Risk

5. 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

6. 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.
7. 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/>.

Nunavut Water Board

8. The Nunavut Water Board impose mitigation measures, conditions and monitoring requirements pursuant to the Water Licence, which require the Proponent to respect the sensitivities and importance of water in the area. These mitigation measures, conditions and monitoring requirements should be in regard to use of water, snow and ice; waste disposal; access infrastructure and operation for camps; spill contingency planning; abandonment and restoration planning; and monitoring programs.

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>) contains

provisions to protect and conserve wildlife and wildlife habitat, including specific protection measures for wildlife habitat and species at risk.

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/>).
8. The *Arctic Waters Pollution Prevention Act* (<http://laws-lois.justice.gc.ca/eng/acts/A-12/>).
9. The *Navigation Protection Act* (<http://laws-lois.justice.gc.ca/eng/acts/N-22/index.html>).

Other Applicable Guidelines

10. The *Guidelines for the use of Explosives in or near Canadian Fisheries Waters* (<http://publications.gc.ca/site/eng/82558/publication.html>).

CONCLUSION

The foregoing constitutes the Board's screening decision with respect to the Government of Nunavut's "Iqaluit Airport - Approach Lighting Replacement". The NIRB remains available for consultation with the Minister regarding this report as necessary.

Dated May 18, 2017 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: October 2016

Species at Risk ¹	COSEWIC Designation	Schedule of SARA	Government Organization with Primary Management Responsibility ²
Migratory Birds			
Eskimo Curlew	Endangered	Schedule 1	ECCC
Buff-breasted Sandpiper	Special concern	Pending	ECCC
Ivory Gull	Endangered	Schedule 1	ECCC
Ross's Gull	Threatened	Schedule 1	ECCC
Harlequin Duck (Eastern population)	Special Concern	Schedule 1	ECCC
Rusty Blackbird	Special Concern	Schedule 1	GN
Peregrine Falcon	Special Concern (<i>anatum-tundrius</i> complex ³)	Schedule 1 - Threatened (<i>anatum</i>) Schedule 3 – Special Concern (<i>tundrius</i>)	GN
Short-eared Owl	Special Concern	Schedule 3	GN
Red Knot (<i>rufa</i> subspecies)	Endangered	Schedule 1	ECCC
Red Knot (<i>islandica</i> subspecies)	Special Concern	Schedule 1	ECCC
Horned Grebe (Western population)	Special Concern	Pending	ECCC
Red-necked Phalarope	Special concern	Pending	ECCC
Vegetation			
Felt-leaf Willow	Special Concern	Schedule 1	GN
Blanket-leafed Willow	Special Concern	Schedule 1	GN
Porsild's Bryum	Threatened	Schedule 1	GN
Terrestrial Wildlife			
Peary Caribou	Endangered	Schedule 1	GN
Peary Caribou (High Arctic Population)	Endangered	Schedule 2	GN
Peary Caribou (Low Arctic Population)	Threatened	Schedule 2	GN
Barren-ground Caribou (Dolphin and Union population)	Special Concern	Schedule 1	GN
Marine Wildlife			
Polar Bear	Special Concern	Schedule 1	GN/DFO
Grizzly Bear	Special Concern	Pending	GN
Wolverine	Special Concern	Pending	GN
Atlantic Cod, Arctic Lakes	Special Concern	Pending	DFO
Atlantic Walrus	Special Concern	Pending	DFO
Beluga Whale (Cumberland Sound population)	Threatened	Pending	DFO
Beluga Whale (Eastern Hudson Bay population)	Endangered	Pending	DFO
Beluga Whale (Western Hudson Bay population)	Special Concern	Pending	DFO
Beluga Whale (Eastern High Arctic – Baffin Bay population)	Special Concern	Pending	DFO
Bowhead Whale (Eastern Canada – West Greenland population)	Special Concern	Pending	DFO
Bowhead Whale (Eastern Arctic population)	Special Concern	Schedule 2	DFO
Killer Whale (Northwest Atlantic / Eastern Arctic populations)	Special Concern	Pending	DFO
Grey Whale (Eastern North Pacific population)	Special Concern	Schedule 1	DFO

Species at Risk ¹	COSEWIC Designation	Schedule of SARA	Government Organization with Primary Management Responsibility ²
Humpback Whale (Western North Atlantic population)	Special Concern	Schedule 3	DFO
Narwhal	Special Concern	Pending	DFO
Fish			
Northern Wolffish	Threatened	Schedule 1	DFO
Atlantic Wolffish	Special Concern	Schedule 1	DFO
Bering Wolffish	Special Concern	Schedule 3	DFO
Fourhorn Sculpin	Special Concern	Schedule 3	DFO
Roundnose Grenadier	Endangered	Pending	DFO
Spotted Wolffish	Threatened	Schedule 1	DFO
Thorny Skate	Special Concern	Pending	DFO
Atlantic Cod, Arctic Lakes	Special Concern	Pending	DFO
Blackline Prickleback	Special Concern	Schedule 3	DFO

Notes: DFO: Fisheries and Oceans Canada; ECCC: Environment and Climate Change Canada; GN: Government of Nunavut

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

²Environment and Climate Change Canada 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.

³The *anatum* subspecies of Peregrine Falcon is listed on Schedule 1 of SARA as threatened. The *anatum* and *tundrius* subspecies of Peregrine Falcon were reassessed by COSEWIC in 2007 and combined into one subpopulation complex. This subpopulation complex was assessed by COSEWIC as Special Concern.

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 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*¹ to issue such permits.

- 2) The permittee/proponent shall not operate any vehicle over a known or suspected archaeological or palaeontological site.

¹ P.C. 2001-1111 14 June, 2001

- 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*², the federal government can make regulations for the protection, care and preservation of palaeontological and archaeological sites and specimens in Nunavut. Under

² s. 51(1)

the *Nunavut Archaeological and Palaeontological Sites Regulations*³, 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 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

³ P.C. 2001-1111 14 June, 2001

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.