



SCREENING DECISION REPORT NIRB FILE No.: 17KN073

Associated NIRB File No.: 98D01N074

NPC File No.: 148646

Associated NPC File No. 148275

NWB File No.: 1BR-RES1626

March 21, 2018

Following the Nunavut Impact Review Board's (NIRB or Board) assessment of all materials provided, the NIRB is recommending that a review of Indigenous and Northern Affairs Canada - Contaminated Sites Division's "Resolution Island Long Term Monitoring" project proposal is not required pursuant to paragraph 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 accepts this Screening Decision Report.

OUTLINE OF SCREENING DECISION REPORT

- 1) REGULATORY FRAMEWORK
- 2) PROJECT REFERRAL
- 3) PROJECT OVERVIEW & THE NIRB ASSESSMENT PROCESS
- 4) ASSESSMENT OF THE PROJECT PROPOSAL IN ACCORDANCE WITH PART 3 OF *NuPPAA*
- 5) VIEWS OF THE BOARD
- 6) RECOMMENDED PROJECT-SPECIFIC TERMS AND CONDITIONS
- 7) MONITORING AND REPORTING REQUIREMENTS
- 8) OTHER NIRB CONCERNS AND RECOMMENDATIONS
- 9) REGULATORY REQUIREMENTS
- 10) CONCLUSION

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)* and are confirmed by section 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 section 88 of the *NuPPAA*:

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 subsection 89(1) of *NuPPAA*:

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

As set out under subsection 92(1) of the *NuPPAA*, upon conclusion of the screening process, the Board must provide its written report the Minister:

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 December 13, 2017 the NIRB received a referral to screen Indigenous and Northern Affairs Canada-Contaminated Sites Division's (INAC – Contaminated Sites Division or the Proponent) "Resolution Island Long Term Monitoring" project proposal from the Nunavut Planning Commission (NPC or Commission). The NPC noted that the project proposal is outside the area of an applicable regional land use plan and determined that the project proposal is a significant modification to the previously screened works and activities associated with NIRB File No. 98D01N074 because of the temporary camp to accommodate 30 people; incineration and/or off-site transport and disposal of waste fuels in barrels and fuel storage tanks; excavation and off-site disposal of contaminated soil; and the repair of roads and the airstrip.

The "Clean up of PCBs at Resolution Island" (NIRB File No. 98D01N074) was previously approved by the Board to proceed subject to the requirements of Project Certificate No. 001. The Department of Indian Affairs and Northern Development's (since renamed INAC) Contaminated Sites Division has been managing the site since 1997 to complete the remediation of Resolution Island under a two-phase process with the first step being the containerization of contaminated material and the second being the shipment of this material to a licensed facility for treatment. Active remediation activities of the site commenced in 1997 and were completed in 2005. In 2006, following the cleanup and remediation of the site, a 25 year long term monitoring program was implemented.

The NIRB conducted an internal evaluation of the scope proposed for the "Resolution Island Long Term Monitoring" project, and has determined that the proposed activities were not considered within the scope of the Board's original Review of the "Clean up of PCBs at Resolution Island" (NIRB File No. 98D01N074) and treated the proposal as a new project subject to screening.

Pursuant to Article 12, Sections 12.4.1 and 12.4.4 of *Nunavut Agreement* and section 87 of the *NuPPAA*, the NIRB commenced screening this project proposal and assigned it file number 17KN073.

PROJECT OVERVIEW & THE NIRB ASSESSMENT PROCESS

1. Project Scope

The proposed "Resolution Island Long Term Monitoring" project is located within the Qikiqtani (south Baffin) region, approximately 310 kilometres (km) southeast from Iqaluit. The Proponent intends to conduct remediation activities of the former Pole Vault Line military installation on Resolution Island to address deficiencies identified through long term monitoring activities at Resolution Island. The program is proposed to take place seasonally from summer 2018 to summer 2019.

As required under subsection 86(1) of the *NuPPAA*, the Board accepts the scope of the “Resolution Island Long Term Monitoring” project as set out by INAC – Contaminated Sites Division in the proposal. The scope of the project proposal includes the following undertakings, works, or activities:

- Mobilization and demobilization of equipment, materials/wastes via sealift/barge and mobilization of personnel via fixed wing aircraft and/or helicopter;
- Site remediation activities to include:
 - Establishment a temporary camp to accommodate a maximum of 30 personnel to support site operations;
 - Excavation of contaminated soil associated with the permeable reactive barriers (PRBs) and removal and/or replacement of PRBs, as required;
 - Excavation and off-site disposal of contaminated soil, as required;
 - Collection, containerization and off-site disposal of hazardous materials, including hazardous surface debris, PRB materials and waste fuel;
 - Decommissioning of existing fuel storage systems;
 - Incineration and/or off-site transport and disposal of waste fuels in barrels and fuel storage tanks;
 - Improvements of site roads, access routes and airstrip, as necessary;
 - Development of borrow sources to be used to assist in the remediation work;
 - Site grading;
- Transportation, storage and use of 90,200 litres (L) diesel, 5,125 L aviation fuel and 5,125 L gasoline;
- Incineration of combustible wastes and storage of non-combustible waste for future off-site disposal;
- Treatment of on-site wastewater and sewage or disposal in sewage lagoon;
- Use of water from freshwater lakes for domestic and construction purposes; and
- Continuation of long-term monitoring activities as approved by the Nunavut Water Board (NWB Licence #: 1BR-RES1626).

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
December 13, 2017	Receipt of referral from the NPC
December 13, 2017	Information request
January 16, 2018	Proponent responded to information request
January 16, 2018	Scoping pursuant to subsection 86(1) of the <i>NuPPAA</i>
January 30, 2018	Public engagement and comment request
February 20, 2018	Receipt of public comments
March 1, 2018	Ministerial extension requested from the Minister of Crown-Indigenous Relations 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 30, 2018 to community organizations in Iqaluit and Kimmirut, 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 20, 2018 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.

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

Environment and Climate Change Canada (ECCC)

- No comments.

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. Time of Report Extension

As a result of the time required to ensure the application was complete prior to initiating the public consultation period, 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 1, 2018 the NIRB wrote to the Minister of Crown - Indigenous Relations and Northern Affairs, Government of Canada, seeking an extension to the 45-day timeline for the provision of the Board's Report.

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 section 90 of the *NuPPAA*. The Board took particular care to take into account Inuit Qaujimaningit and 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 remediation activities would occur on the Resolution Island BAF-5 clean-up site, within an area of approximately three (3) square kilometres (km²) and will include a temporary camp to accommodate a maximum of 30 personnel. As identified by the Proponent and NPC mapping sources, the proposed remediation activities may take place within habitats for far ranging terrestrial and marine wildlife including Polar Bear, walrus, seal, whale, seabirds, migratory birds, non-migratory birds and small terrestrial mammals such as arctic hares and arctic foxes may be present. As such, the project may potentially affect wildlife migratory patterns.

2. *The ecosystemic sensitivity of that area.*

The proposed project would occur in an area with no particular identified ecosystemic sensitivity, and with no indicated value or priority to the local communities.

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. As the area is the location of an existing cleanup and remediation site, the probability of encountering unknown historical, cultural, and archaeological is considered low. However, should the project be approved to proceed, the Proponent would be required to 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 at a location approximately 310 kilometres from Iqaluit, the nearest community; as such, no human populations are likely to be affected by project impacts.

Although no significant public concerns were raised during the public commenting period, 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 remediation activities 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.*

The “Resolution Island Long Term Monitoring” project would involve addressing deficiencies identified in the monitoring of the cleanup of the Resolution Island cleanup site, remediation of contaminated soils, and decommissioning of fuel storage systems and incineration or removal of waste fuel; therefore, the proposed activities will be focused on reducing existing environmental impacts at the site. There is potential for additional impacts as a result of the proposed remediation activities to be conducted over a long period (168 days). However, based on past evidence of similar scope of activities, the potential adverse impacts will be short in duration, of low 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.*

No cumulative impacts have been identified as potentially resulting from this proposed project in association with any projects that have been carried out, are being carried out or are likely to be carried out. The activities would occur at an established clean-up site and continue remediation activities that were previously undertaken, thus reducing potential future cumulative impacts.

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

As noted above, the objective of the proposed project is to address issues noted in the long-term monitoring of Resolution Island and to decommission existing infrastructure. As such, the predicted positive long-term outcomes of the proposed project would be expected to offset any short-term negative impacts which may result from the remediation of the Resolution Island site. By removing contaminated soils, removing and disposing of fuel storage and waste fuel while adhering to the NIRB’s terms and conditions as well as the respective authorizations, it is expected that the project would increase the ecosystemic integrity of the area.

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 marine wildlife such as Polar Bears, walrus, seal, whale; to seabirds migratory birds, non-migratory birds and small terrestrial mammals such as arctic hares and arctic foxes due to transport of personnel to project site by aircraft and helicopter, development and operation of the temporary camp, earthmoving activities, clean-up activities.

Board views: As discussed above in the assessment of factors relevant to this project proposal, the potential for impact(s) is applicable to a small geographic area. Further, it is unlikely that the specific areas where operations will be carried out by the Proponent would disturb significant numbers of wildlife given the previously disturbed nature of the area. Polar Bears may be present in the area, however it is expected that normal precautions to minimize interactions with bears should be sufficient to reduce impacts. The land-based operations and use of marine transport mobilization and demobilization of equipment and materials/wastes via sealift/barge are unlikely to significantly disturb any marine mammals that might be in the waters around the project area. The potential adverse impact(s) of the proposed project activities to terrestrial wildlife, marine wildlife and birds is considered to be of low magnitude due to the scale and seasonal and temporary nature of the remediation activities.

The Proponent would also be required to follow the *Migratory Birds Convention Act*, *Migratory Birds Regulations*, *Species at Risk Act*, the *Wildlife Act (Nunavut)*, the *Arctic Waters Pollution Prevention Act*, and the *Canada Shipping 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 maintain minimum flight altitudes and seasonal restrictions, and avoiding wildlife and nesting areas. The NIRB recommends the following terms and conditions to mitigate the potential adverse impacts to wildlife: 7, 10, 17 through 28, and 31.

Issue 2: Potential adverse impacts to surface water quality, fish and fish habitat, and the marine environment from storage and use of fuel and chemicals; remediation activities, the establishment of a temporary camp, the use of existing and development of new quarries/borrow areas, and mobilization and demobilization via sealift.

Board views: There is the potential for the project to adversely impact surface water quality, fish and fish habitat from fuel spills during movement of machinery, fuel, and supplies, use of water, removal of contaminated soil and waste fuel, earthmoving operations from existing and new quarries and borrow areas, and storage and use of chemicals and fuel. Material for road and runway repairs would be taken from the existing and new quarry and borrow areas located within the existing project area. The potential for impacts is applicable to small geographic areas within the project footprint and the probability of impacts occurring is considered to be low, with potential adverse effects anticipated to be low in magnitude, infrequent in occurrence and reversible in nature.

Potential adverse effects to the marine environment may occur through sealift activities and transport of fuel and removal of contaminated soils and other waste material. However, the brief period of sealift activities during mobilization and demobilization is not anticipated to result in significant disturbance, and normal safety and operating measures should be sufficient to reduce the risk of significant negative impacts.

The Proponent would be required to provide a comprehensive Spill Prevention and Response Plan that includes storage measures, spill response measures, equipment requirements, and overall handling procedures for the management of fuel and chemicals. It is expected that standard operational considerations would mitigate any potential adverse impacts to the surface water quality, and fish and fish habitat in the direct project area and areas adjacent to the proposed project.

The Proponent would require a water licence from the Nunavut Water Board for the water usage activities and fuel storage. 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*, the *Canadian Environmental Protection Act*, the *Arctic Waters Pollution Prevention Act*, the *Canada Shipping Act, 2001*, the *Marine Liability Act*, and the *Navigation Protection Act* (see Regulatory Requirements section).

Recommended Mitigation Measures: It is recommended that the potential adverse impacts to surface and marine waters, and fish and fish habitat would be mitigated by measures requiring the Proponent to follow appropriate refueling procedures, ensure proper handling of contaminated soils and waste fuel, and implementing erosion prevention measures prior to land disturbance. The Board recommends the following terms and conditions to mitigate the potential adverse impacts from fuel use, storage, operations associated with contaminated soils and decommissioning of bulk fuel storage, and use of water: 5, 6, 11 through 14, 30, and 32 through 34.

Issue 3: Potential adverse impacts to ground stability, vegetation health, soil quality, terrain, and permafrost from earthmoving and quarrying, use of a temporary camp, storage and use of fuel and chemicals, waste storage and disposal, and removal of contaminated soils.

Board Views: There is potential for adverse impacts to ground stability, vegetation health and soil quality from the use of vehicles on portions of the area lacking previously established roads or pads, operations of a temporary camp, and quarrying/borrow activities. In addition, fuel spills may result in soil contamination and adverse impacts to vegetation. Further, there is potential for impacts to vegetation health and soil quality from the decommissioning of fuel storage, disposal of waste fuel, and removal of contaminated soils. However, the majority of activities would be carried out on previously established roads and infrastructure, with the only disruption of potentially undisturbed land being the establishment of a new borrow area.

The potential adverse impacts to ground stability, vegetation health, soil quality, terrain, and permafrost are considered to be of low magnitude and reversible especially when the activities are to remediate the site and remove contaminated materials.

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 to the terrestrial environment, particularly for ground stability, vegetation and surface soils would be mitigated by measures requiring the Proponent to follow appropriate refueling procedures, ensure proper handling of contaminated soils and waste fuel, remove all garbage, undertake restoration of the site to a stable state upon completion of project activities, and implementing erosion prevention measures prior to land disturbance. The Board recommends terms and conditions 13 through 16, 29, 32 through 34, and 41 through 44.

Issue 4: Potential adverse impacts to air quality due use of heavy equipment, and incineration of combustible wastes and an increase in noise from the proposed activities to the surrounding environment.

Board views: There is potential for adverse impacts to air quality from site preparation, use of heavy equipment and machinery, development of quarry sites and incineration of select combustible wastes, which would be limited to within the project footprint. Further, the increase in noise from the remediation activities may contribute to the disturbance to wildlife and birds which may affect migration patterns. The potential adverse impacts to air quality and potential adverse impacts from increase in noise are considered to be of low magnitude, short-term, and reversible due to the short period associated with the remediation activities.

Recommended Mitigation Measures: It is recommended that the potential adverse impacts may be mitigated by measures such as ensuring that the Proponent reviews the Canadian Council of Ministers of the Environment guidance document for open-air burning. In addition, the Board recommends the following terms and conditions to mitigate the potential adverse impacts to air and from increase in noise from project activities: 8, 9, and 31.

Issue 5: Potential adverse impacts to public and traditional activities in the area due to transportation of personnel and equipment to the project site and reclamation and other project activities.

Board Views: The project area is located in an area that has seen minimal traditional use or public activities due to the pre-existing military station for the Pole Vault Line, the use of the area as a military reserve and the current ongoing remediation activities and the clean-up site, thus no significant impact on traditional activities or harvesting is expected. Further, the online community mapping data from the Nunavut Planning

Commission indicate that the area has not known to be have used for traditional activities. If situations arise where the project may interfere with tradition land use, terms and conditions have been recommended to ensure minimal impacts to traditional land use activities.

Recommended Mitigation Measures: Term and condition 45 is recommended to ensure that the affected communities and organizations are informed about the project proposal and term and condition 46 has been recommended to ensure that project activities do not interfere with Inuit wildlife harvesting or traditional land use activities in the area. In addition terms and conditions 17 through 28 have been recommended to minimize interference with the movements of nesting/breeding birds, and terrestrial and marine wildlife.

Socio-economic effects on northerners:

Issue 6: Potential positive impacts to the local community of Iqaluit from purchasing of local goods and services, and the hiring of equipment operators and other workers.

Board Views: It is noted that the Proponent will be conducting activities which allow for the employment of local equipment operators and labourers. In addition, the Proponent would be purchasing local goods and services for the support of the temporary camp which would allow the increase of income and expenditures within the community.

Recommended Mitigation Measures: Terms and conditions 45 and 47 have been recommended to ensure the Proponent continues to inform the community of the remediation activities and findings as well as provide community members with information to ensure a successful local hiring opportunity.

Significant public concern:

Issue 7: No significant public concern was expressed during the public commenting period for this file.

Board Views: Follow up consultation and involvement of local community members is expected to mitigate any potential for public concern resulting from project activities. Further it is noted that the Proponent has committed to consult with local community members on the results of the remediation activities. In addition, it is recommended that the Proponent considers hiring local people for the project activities.

Recommended Mitigation Measures: Term and condition 45 is recommended to ensure that the affected community and organizations are informed about the project proposal, and to provide the Proponent with an opportunity to proactively address or mitigate any concerns that may arise from the project activities findings. Term and condition 47 is recommended to ensure that the Proponent provide community members with information to ensure a successful local hiring opportunity.

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. Indigenous and Northern Affairs Canada-Contaminated Sites Division (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 (NPC File No.: 148646), and the NIRB (Online Application Form, January 16, 2018).
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. Small lakes or streams should not be used for water withdrawal unless approved by the Nunavut Water Board.
6. The Proponent shall not use water, including constructing or disturbing any stream, lakebed or the banks of any definable water course unless approved by the Nunavut Water Board.

Waste Disposal/Incineration

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.
8. The Proponent shall incinerate all combustible wastes daily, and remove the ash from incineration activities and non-combustible wastes from the project site to an approved facility for disposal.
9. The Proponent shall ensure that the incineration of combustible camp wastes comply with the *Canadian Wide Standards for Dioxins and Furans*, and the *Canadian Wide Standards for Mercury*.

Fuel and Chemical Storage

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

Wildlife - General

17. The Proponent shall ensure that there is no damage to wildlife habitat in conducting this operation.
18. The Proponent shall not harass wildlife. This includes persistently circling, chasing, hovering over pursuing or in any other way harass wildlife, or disturbing large groups of animals.
19. The Proponent shall not hunt or fish, unless proper Nunavut authorizations have been acquired.
20. The Proponent shall ensure that all project personnel are made aware of the measures to protect wildlife and are provided with training and/or advice on how to implement these measures.

Migratory Birds and Raptors Disturbance

21. 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.

22. The Proponent shall minimize activities during periods when birds are particularly sensitive to disturbance such as migration, nesting and moulting.
23. The Proponent shall avoid the seaward site of seabird colonies and areas used by flocks of migrating waterfowl by three (3) kilometres.
24. The Proponent shall ensure its aircraft avoid excessive hovering or circling over areas where bird presence is likely.

Aircraft Flight Restrictions

25. The Proponent shall not alter flight paths to approach wildlife, and avoid flying directly over animals.
26. The Proponent shall restrict aircraft/helicopter activity related to the project to a minimum flight altitude of 610 metres above ground level unless except during landing, take-off or if there is a specific requirement for low-level flying, which does not disturb wildlife or migratory birds.
27. The Proponent shall ensure that aircraft maintain a vertical distance of 1000 metres and a horizontal distance of 1500 metres from any observed groups (colonies) of migratory birds. Aircraft should avoid critical and sensitive wildlife areas at all times by choosing alternate flight corridors.
28. The Proponent shall ensure that aircraft/helicopter do not, unless for emergency, touch-down in areas where wildlife are present.

Ground Disturbance

29. 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.
30. The Proponent shall implement suitable erosion and sediment suppression measures on all areas before, during and after conducting activities in order to prevent sediment from entering any waterbody.
31. 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

32. 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.
33. The Proponent shall not remove any material from below the ordinary high water mark of any lake or stream.
34. The Proponent shall not deposit or permit the deposit of sediment into any water body.

Establishment of New Quarries

35. The Proponent shall clearly stake and flag pit and quarry boundaries so they remain visible to other land users.

36. 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.
37. The Proponent shall ensure that silt fences/curtains are installed down gradient of any quarry activities.
38. The Proponent shall maintain an undisturbed buffer zone between the periphery of quarry sites and the high water mark of any water body that is of an adequate distance to ensure erosion control.
39. The Proponent shall locate screening and crushing equipment on stable ground, at a location with ready access to stockpiles.
40. 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.

Temporary Camps

41. The Proponent shall ensure that all camps are located on gravel, sand or other durable land.
42. The Proponent shall ensure that the land use area is kept clean and tidy at all times.

Restoration of Disturbed Areas

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

Other

45. The Proponent should consult with local residents regarding their activities in the area and solicit available Inuit Qaujimaningit and information that can inform project activities.
46. The Proponent shall ensure that project activities do not interfere with Inuit wildlife harvesting or traditional land use activities.
47. The Proponent should, to the extent possible, hire local people and access local services where possible.

MONITORING AND REPORTING REQUIREMENTS

In addition, the Board is recommending the following:

Wildlife Mitigation and Monitoring Plan

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

Spill Contingency Plan

2. The Proponent shall provide a Spill Contingency Plan to the Nunavut Impact Review Board once developed and ensure to include the up to date emergency contact numbers for the Government of Nunavut-Department of Environment, Manager of Environmental Protection (867-975-7748) and Environment and Climate Change Canada, Enforcement Branch (867-975-4644).

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 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/>.

Incineration of Wastes

8. The Proponent review Environment and Climate Change Canada's "Technical Document for Batch Waste Incineration", available at the following link: <http://www.ec.gc.ca/gdd-mw/default.asp?lang=En&n=F53EDE13-1>. The technical document provides information on appropriate incineration technologies, best management and operational practices, monitoring and reporting.

Transport of Dangerous Goods and Waste Management

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

REGULATORY REQUIREMENTS

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

Acts and Regulations

1. The *Fisheries Act* (<http://laws-lois.justice.gc.ca/eng/acts/F-14/index.html>).
2. The *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (<http://laws-lois.justice.gc.ca/eng/acts/n-28.8/>).
3. The *Migratory Birds Convention Act* and *Migratory Birds Regulations* (<http://laws-lois.justice.gc.ca/eng/acts/M-7.01/>).

4. The *Species at Risk Act* (<http://laws-lois.justice.gc.ca/eng/acts/S-15.3/index.html>). Attached in **Appendix A** is a list of Species at Risk in Nunavut.
5. The *Wildlife Act* (Nunavut) and its corresponding regulations (<http://www.canlii.org/en/nu/laws/stat/snu-2003-c-26/latest/snu-2003-c-26.html>).
6. The *Nunavut Act* (<http://laws-lois.justice.gc.ca/eng/acts/N-28.6/>). The Proponent must comply with the proposed terms and conditions listed in the attached **Appendix B**.
7. The *Transportation of Dangerous Goods Regulations* (<http://www.tc.gc.ca/eng/tdg/clear-tofc-211.htm>), *Transportation of Dangerous Goods Act* (<http://laws-lois.justice.gc.ca/eng/acts/t-19.01/>), and the *Canadian Environmental Protection Act* (<http://laws-lois.justice.gc.ca/eng/acts/C-15.31/>).
8. The *Aeronautics Act* (<http://laws-lois.justice.gc.ca/eng/acts/A-2/>).
9. The *Arctic Waters Pollution Prevention Act* (<http://laws-lois.justice.gc.ca/eng/acts/A-12/>).
10. The *Canada Shipping Act, 2001* (<http://laws-lois.justice.gc.ca/eng/acts/C-10.15/>).
11. The *Marine Liability Act* (<http://laws-lois.justice.gc.ca/eng/acts/M-0.7/>).
12. The *Navigation Protection Act* (<http://laws-lois.justice.gc.ca/eng/acts/N-22/index.html>).
13. The *Nunavut Mining Safety Ordinance* and the *Territorial Quarrying Regulations* (<http://www.canlii.org/en/ca/laws/regu/crc-c-1527/latest/crc-c-1527.html>) or equivalent.

Other Applicable Guidelines

14. The *Northern Land Use Guidelines Pits and Quarries* (<http://www.aadnc-aandc.gc.ca/eng/1100100023585>) provide guidelines for progressive reclamation applicable to establishment of pits and quarries.

CONCLUSION

The foregoing constitutes the Board's screening decision with respect to the INAC – Contaminated Sites Division or the Proponent) "Resolution Island Long Term Monitoring". The NIRB remains available for consultation with the Minister regarding this report as necessary.

Dated March 21, 2018 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: September 2017

Terrestrial Species at Risk ¹	COSEWIC Designation	Schedule of SARA	Government Organization with Primary Management Responsibility ²
Migratory Birds			
Buff-breasted Sandpiper	Special concern	Schedule 1	ECCC
Eskimo Curlew	Endangered	Schedule 1	ECCC
Harlequin Duck (Eastern population)	Special Concern	Schedule 1	ECCC
Harris's Sparrow	Special Concern	Pending	ECCC
Horned Grebe (Western population)	Special Concern	Schedule 1	ECCC
Ivory Gull	Endangered	Schedule 1	ECCC
Peregrine Falcon	Special Concern (<i>anatum-tundrius</i> complex ³)	Schedule 1 - Schedule 3	ECCC
Red Knot (<i>islandica</i> subspecies)	Special Concern	Schedule 1	ECCC
Red Knot (<i>rufa</i> subspecies)	Endangered	Schedule 1	ECCC
Red-necked Phalarope	Special concern	Pending	ECCC
Ross's Gull	Threatened	Schedule 1	ECCC
Rusty Blackbird	Special Concern	Schedule 1	ECCC
Short-eared Owl	Special Concern	Schedule 1	ECCC
Vegetation			
Blanket-leaved Willow	Special Concern	Schedule 1	Government of Nunavut
Felt-leaf Willow	Special Concern	Schedule 1	Government of Nunavut
Porsild's Bryum (Moss)	Threatened	Schedule 1	Government of Nunavut
Arthropods			
Traverse Lady Beetle	Special Concern	Pending	Government of Nunavut
Terrestrial Wildlife			
Caribou (Barren-Ground population)	Threatened	Pending	Government of Nunavut
Dolphin and Union Caribou	Special Concern	Schedule 1	Government of Nunavut
Grizzly Bear (Western Population)	Special Concern	Pending	Government of Nunavut
Peary Caribou	Endangered	Schedule 1	Government of Nunavut
Peary Caribou (High Arctic Population)	Endangered	Schedule 2	Government of Nunavut
Peary Caribou (Low Arctic Population)	Threatened	Schedule 2	Government of Nunavut
Wolverine	Special Concern	Pending	Government of Nunavut
Wolverine (Western population)	Non-active	Pending	Government of Nunavut
Marine Wildlife			
Atlantic Walrus	Special Concern	Pending	DFO
Beluga Whale (Cumberland Sound population)	Endangered	Schedule 2	DFO
Beluga Whale (Eastern High Arctic – Baffin Bay population)	Special Concern	Pending	DFO
Beluga Whale (Eastern Hudson Bay population)	Endangered	Pending	DFO

Beluga Whale (Southeast Baffin Island – Cumberland Sound population)	Endangered	Schedule 2	DFO
Beluga Whale (Western Hudson Bay population)	Special Concern	Pending	DFO
Bowhead Whale (Eastern Arctic population)	Endangered	Schedule 2	DFO
Bowhead Whale (Eastern Canada – West Greenland population)	Special Concern	Pending	DFO
Killer Whale (Northwest Atlantic / Eastern Arctic populations)	Special Concern	Pending	DFO
Narwhal	Special Concern	Pending	DFO
Polar Bear	Special Concern	Schedule 1	Government of Nunavut/DFO
Fish			
Atlantic Cod, Arctic Lakes	Special Concern	Pending	DFO
Atlantic Wolffish	Special Concern	Schedule 1	DFO
Bering Wolffish	Special Concern	Schedule 3	DFO
Blackline Prickleback	Special Concern	Schedule 3	DFO
Fourhorn Sculpin	Special Concern	Schedule 3	DFO
Fourhorn Sculpin (Freshwater form)	Data Deficient	Schedule 3	DFO
Northern Wolffish	Threatened	Schedule 1	DFO
Roundnose Grenadier	Endangered	Pending	DFO
Spotted Whitefish	Threatened	Schedule 1	DFO
Thorny Skate	Special Concern	Pending	DFO

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

² Environment Canada (EC) 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.

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.