

“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 June 8, 2016 the NIRB received a referral to screen the project proposal from the Nunavut Planning Commission (NPC or Commission). Please note that the referral from the NPC was triggered by cumulative effects concerns

PROJECT OVERVIEW & THE NIRB ASSESSMENT PROCESS

1. Project Description

The proposed “Geotechnical and Environmental Baseline Studies - Iqaluit Port Development” project is located within the Qikiqtani (South Baffin) region, within the city boundaries of Iqaluit, and in the marine areas proximal to the community. The proponent intends to conduct geotechnical and environmental baseline studies in preparation for the environmental assessment

of a proposed new deep water port, and in support of the design for upgrades to an existing municipal breakwater and boat ramp in Iqaluit. The program is proposed to take place from 2016 to 2017.

According to the project proposal, the scope of the project includes the following undertakings, works or activities:

- Collection of geotechnical baseline data between July and September 2016 and 2017, and between March and May 2017 with the studies lasting approximately two (2) weeks for each study period;
- Collection of environmental baseline data in the summer/fall of 2016 with additional studies conducted in the summer/fall of 2017 if required;
- Transportation of personnel to project site(s) by truck;
- Use of rotary, diamond and hand-held drilling equipment to conduct geotechnical drilling;
- Undertake terrestrial baseline surveys by foot, and utilize one (1) motorized boat for marine-based studies;
- Collection of water and sediment quality samples to establish existing conditions. Two (2) sampling events occurring once post-ice melt and once prior to freeze-up;
- Conduct towed video surveys with an underwater camera to identify the presence, type and value of fish habitat;
- Collection of benthic invertebrates using a grab sampler;
- Deployment of surface drogues in the marine environment for collection of surface current speed and direction data;
- Collection of migratory and marine bird surveys along the shoreline;
- Conduct an ecosystem mapping and rare plant survey to confirm terrestrial vegetation and rare plants in the project area;
- Conduct soil, geotechnical conditions and geochemistry studies;
- Use of up to 100 Litres (L) of diesel fuel for drilling rig;
- Transport and use of hazardous materials for drill equipment and chemicals for sampling preservation;
- Use of approximately 2 cubic metres (m³) of water per day for drilling activities and anticipated to be sourced from the municipality and/ or pumped from sea;
- Accommodate field crew in facilities within the municipality of Iqaluit;
- Use of environmentally friendly drilling muds with drill cuttings generated in the marine area to be pumped down borehole on completion of activities; and
- Potential use of portable toilet on-site with sewage treated in a municipal facility.

2. Scoping

The NIRB has identified no additional works or activities in relation to the project proposal.

3. Key Stages of the Screening Process

The following key stages were completed:

Date	Stage
June 8, 2016	Receipt of project proposal from the NPC
June 16, 2016	Information request(s)
June 22, 2016	Proponent responded to information request(s)
June 23, 2016	Scoping pursuant to subsection 86(1) of the NuPPAA
June 24, 2016	Public engagement and comment request
July 4, 2016	Receipt of public comments
July 15, 2016	Proponent responded to comments/concerns raised by public

4. Public Comments and Concerns

From June 24 to July 4, 2016 the NIRB provided opportunity for the public to provide comments and concerns regarding the project proposal. The following is a summary of the comments and concerns received:

Oikiqtani Inuit Association (QIA)

- Do not have any comments related to the geotechnical and environmental baselines studies as proposed.

Fisheries and Oceans Canada (DFO)

- Indicated that several aquatic species, specifically beluga whale, bowhead whale, killer whale, narwhal and Atlantic walrus, which are currently listed under the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), and of special concern may be using the proposed work area;
- Recommended that the proposed work area be monitored for marine mammal presence prior to the commencement of in-water works, and that all activities cease if marine mammals are observed within or approaching the work location, and only recommence project activities when marine mammals have left the area;
- Recommended that the Proponent avoid causing serious harm to fish, and notify DFO if it has caused, or is about to cause, serious harm to fish that are part of or support a commercial, recreational or Aboriginal Fishery;
- Requested that the Proponent provide additional information regarding the approximate number and size of the geotechnical drilling holes, including detailed substrate information and fish use in the area of the proposed works.

Environment and Climate Change Canada (ECCC)

- Noted that the Spill Prevention Plan did not include details on the spill kits and location of the plan on site. Recommended that the Proponent list the contents of the spill kits, including copies of the plan on site with the spill kits, and noting where fuel or hazardous materials are stored;
- Indicated that the Proponent is required to provide information regarding delineation and characterization of the dredge site including disposal site if disposal at sea is to be used for the proposed works. Additional information on the oceanography, biological, chemical and physical properties of the disposal site should be included.

Indigenous and Northern Affairs Canada (INAC)

- Had no comments or concerns regarding the project proposal.

Sinaakuut Support Group

- Noted issues with respect to the proposed new port facility and specifically expressed concerns regarding the potential for increased traffic, public safety, environmental changes including privacy and aesthetic impacts on the neighbourhood;
- Requested an opportunity for neighbourhood briefing including follow-up discussion with the Proponent to review development plans and approaches including impact predictions.

5. Comments and Concerns with respect to Inuit Qaujimaningit

No concerns or comments were received with respect to Inuit Qaujimaningit 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 July 15, 2016:

- Ensure that comments and concerns received from stakeholders will influence detailed design and construction and operation phases of the proposed infrastructure, and that additional consultations will be conducted with stakeholders in 2016 and 2017;
- Submitted a revised Spill Prevention Plan and noted it would ensure that copies of the plan and spill kits will be kept onsite near areas of work, and near fuel and/or hazardous material storage areas;
- Ensure that environmental studies undertaken will collect information that would inform the disposal at sea process including sediment quality data, habitat mapping, biota presence and oceanographic modelling;
- Submitted a revised Wildlife Mitigation and Monitoring Plan which included a commitment to visually monitor areas around the drilling barge for potential signs of stress, injury or mortality of fish or marine mammals and to report such incidents to Fisheries and Oceans Canada; and
- Indicated that approximately ten (10) boreholes would be drilled in the proposed deep sea port and quarry areas, with each borehole to be approximately 0.1metre (m) diameter to a depth ranging from 15 to 20 m below seabed.

FACTORS FOR DETERMINING SIGNIFICANCE OF IMPACTS

In determining whether a review of the project is required, the Board considered whether the project proposal had a 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 NuPPAA. The Board took particular attention to take into account traditional knowledge and Inuit Qaujimaningit 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 size of the geographic area for the project proposal would encompass an existing breakwater and boat ramp, in addition to marine shoreline and municipal land within the City of Iqaluit. The proposed activities are not likely to take place within habitats for many far-ranging terrestrial wildlife species; however, due to the proposed undertaking primarily being in-water works and marine based activities. As the proposed project would involve underwater survey of fish populations, including use of a motorized boat and collection of water, sediment and benthic invertebrate samples, it is likely that the proposed activities would impact fish populations, benthic invertebrate, migratory birds and marine mammals frequenting the area, and may potentially affect their migratory patterns.

2. *The ecosystemic sensitivity of that area.*

The proposed project would occur in an area where fish population, including several aquatic species listed under COSEWIC – such as beluga whale; bowhead whale, killer whale, narwhal and Atlantic walrus may be present. Further, this area has been identified as having value and priority to the local community for:

- i. Traditional land use activities, including tourism;
- ii. Migratory birds;
- iii. Arctic char; and
- iv. Marine mammals.

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

The project Proponent has indicated that there are no known areas of historical, cultural and archaeological significance associated with the project areas. 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 historical sites are encountered.

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

The proposed project would occur within the municipal boundary of Iqaluit; as such human populations are likely to be affected by project impacts. Comments with respect to the potential impacts of the proposed new port facility on residential neighborhoods in the vicinity of the breakwater area were specifically noted by the Sinaakuut Support Group during the NIRB's commenting period for this file. Further, Fisheries and Oceans Canada noted concerns regarding the potential for several aquatic species, such as those currently listed under COSEWIC to be present in the area during project activities and likely to be affected by potential project impacts.

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.*

As the “Geotechnical and Environmental Baseline Studies-Iqaluit Port Development” project is a proposed research project, the nature of potential impacts is considered to be well-known, with potential for infrequent, localized impacts to the biophysical environment that are temporary in nature, 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 in proximity to other active projects that have been or is currently being assessed by the Board. This includes “Northwest Iqaluit Aggregate” (NIRB File No. 14QN039); “Asphalt Batch Plant” (NIRB File No. 15XN046); “Iqaluit Landfarm” (NIRB File No. 15XN051); “Thule Whalebone House Excavation and Replication” (NIRB File No. 16YN028); Zoonotic Disease Prevention in Dog Populations in Iqaluit” (NIRB File No. 16YN044); “Surface Water Quality in Iqaluit” (NIRB File No. 16YN042); and “Flora of the Canadian Arctic” (NIRB File No. 16YN032). Potential for cumulative impacts to the biophysical environment resulting from increased human traffic and research activities have been identified and considered in development of the recommended mitigation measures set out in the following section. Further, this project proposal could induce additional research activities in the area related to the baseline studies.

Although initial public concerns were raised regarding the proposed new port facility during the public commenting period, the NIRB notes that the close proximity of the project area to residential neighbourhood in the breakwater area could potentially contribute to public concern developing particularly during and after the construction period. A term and condition has been recommended to direct engagement with the community, municipality, hunters and trappers organization and posting of public notices to ensure residents are aware of the research being or to be conducted.

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.

In considering the factors as set out above in the screening of the project proposal, the NIRB has identified a number of issues and provides the following views regarding whether or not the proposed project has the potential to result in significant impacts, and 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 negative impacts to small mammals and migratory birds, and their habitats due to increased noise from overland transportation, geotechnical drilling and marine-based 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 encompassing the existing municipal breakwater and boat ramp area, including marine shoreline and municipal land area within Iqaluit, and is limited due to infrequent project activities anticipated to last a few hours per day over a two week period, and would be expected to be temporary. Some project activities, such as transport and use of hazardous materials and chemicals for drill equipment, including ground disturbance from geotechnical drilling, vehicular movement, marine-based activities and waste generation could potentially disturb migratory birds and small mammals with limited home range sizes habituated to the project area. Further, the Proponent has specifically committed to ensuring no significant impact to the aquatic habitat and terrestrial environment from marine-based research and geotechnical drilling activities.

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

Recommended Mitigation Measures: It is recommended that the potential negative impacts may be mitigated by measures such as requiring the Proponent to comply with operational restrictions for use of vehicles for overland transportation, fuel use and general wildlife management. The following terms and conditions are recommended to mitigate the potential adverse impacts to migratory birds, terrestrial and marine wildlife: 6, 7, 10, and 14 through 19.

Issue 2: Potential negative impacts to fish population, benthic invertebrate habitats and aquatic species from in-water sampling activities and marine-based studies.

Board views: The proposed marine based studies, including geotechnical drilling activities are likely to potentially result in discharge of drill cuttings to the seabed or in the surrounding aquatic environment, and as such could subsequently disturb or cause mortality events for fish, benthic habitats, and marine wildlife populations; however, any resulting impacts would be expected to be temporary only. In addition, the Proponent has committed to undertaking visual surveys for the presence of marine mammals prior to commencement of any drilling activities, and has further indicated that if marine mammals are observed in the vicinity of the drilling barge, drilling activities will not commence until wildlife have exited the area.

The Proponent would also be required to conform to all Fisheries and Oceans Canada requirements for works being conducted in or near waterbodies that support fish, as well as follow the *Fisheries Act* (see Regulatory Requirements and Commitment sections).

Recommended Mitigation Measures: It is recommended that the potential negative impacts may be mitigated by measures such as requiring the Proponent to use appropriate spill response equipment and clean-up materials (drip pans and absorbents) during fueling, and to remove all waste materials and debris following project activities. The following terms and conditions are recommended to mitigate the potential adverse impacts: 5, 6, 8, 9, 11, 12, 13 and 20.

Issue 3: Potential negative impacts to water quality from hydrocarbon contamination from spills during boat re-fuelling, geotechnical drilling activities and sediment re-suspension during marine sampling and oceanographic studies.

Board views: The potential for impacts is applicable to a small geographic area 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. The Proponent has committed to using environmental friendly drilling muds to avoid or minimize adverse impact during drilling at the proposed deep sea port. In addition, the Proponent has indicated that appropriate environmental management plans such as spill prevention and waste management plans will be implemented to mitigate potential effects of project activities on the environment (see Proponent Commitments section).

The Proponent would require a water licence from the Nunavut Water Board for water usage activities and fuel storage, and would also be required to follow the *Fisheries Act*, the *Arctic Waters Pollution Prevention Act*, the *Transportation of Dangerous Goods Regulations*, *Transportation of Dangerous Goods Act* and the *Canadian Environmental Protection Act* (see Regulatory Requirements).

Recommended Mitigation Measures: It is recommended that the potential negative impacts be mitigated by measures such as requiring the Proponent to use appropriate spill response equipment and clean-up materials (drip pans and absorbents) during fueling, and to remove all waste materials and debris following project activities. The following terms and conditions are recommended to mitigate the potential adverse impacts: 5, 6, 8, 9, 11, 12 and 13.

Issue 4: Potential negative impacts to surface soils and terrestrial vegetation from overland transportation, fuel spills and geotechnical drilling activities.

Board views: Project activities related to overland transportation, terrestrial baseline surveys by foot, and generation of wastes materials from geotechnical drilling activities could alter soil geochemistry and subsequently threaten vegetation habitats in the project areas; however, any resulting impacts would be expected to be temporary only. In addition, the Proponent has committed to minimizing impacts to the terrestrial environment by

not generating overburden materials, and would use environmental friendly drilling muds during geotechnical activities and environmental baseline studies.

Recommended Mitigation Measures: It is recommended that the potential negative impacts may be mitigated by measures such as requiring the Proponent implement the appropriate environmental management plans, waste management as well as comply with the required operational restrictions for fuel use and chemical storage, including overland travels. The following terms and conditions are recommended to mitigate the potential adverse impacts: 11, 12, and 20 through 22.

Issue 5: Potential negative impacts to public and traditional land use activities in the area due to use of motorized boat for marine-based studies, and geotechnical drilling activities.

Board Views: The proposed project activity would occur within Iqaluit and due to the close proximity of residential neighborhood to the proposed project area it is possible that the project areas may currently be used for recreational/traditional activities. Increased ambient noise from both land and water-based activities may temporarily affect the distribution of fish population and marine mammals through avoidance, and may affect personal enjoyment of residents in the area. Terms and conditions have been recommended to ensure safety to the public and to minimize impacts to traditional land use activities

Recommended Mitigation Measures: Terms and conditions 23 and 25 have been recommended to ensure that project activities do not interfere with Inuit wildlife harvesting or traditional land use activities in the area.

Socio-economic effects on northerners:

Issue 6: Potential negative effects to archaeological and palaeontological sites from ground-based research activities, and overland transportation.

Board Views: The Proponent has indicated that no sites of known archeological and paleontological are associated with the project areas. The probability of impacts occurring is considered to be low in magnitude, and it is unlikely that overland transportation and subsequent marine research and terrestrial sampling activities would interact with any known archaeological and palaeontological resources in the area.

The Proponent is required to follow the *Nunavut Act* (as recommended in Regulatory Requirements section) and has provided a general environmental management plan (see Proponent Commitments section) and would be required to contact the Culture and Heritage Department when encountering historical sites (see Regulatory Requirements section).

Recommended Mitigation Measures: Term and condition 23 is recommended to ensure that available Inuit Qaujimaningit can inform project activities, and reduce the potential for negative impacts occurring around the project area.

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 concerns resulting from project activities. It is noted that the Proponent has committed to ensure that comment and concerns received from stakeholders will influence detailed design and construction and operation phases of the proposed marine infrastructure.

Recommended Mitigation Measures: Term and condition 23 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 24 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. Advisian (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, June 8, 2016), and the NIRB (Online Application Form, June 22, 2016, NIRB Part 1 form in English and Inuktitut, June 22, 2016).
4. The Proponent shall operate the site in accordance with all applicable Acts, Regulations and Guidelines.

Water Use

5. 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.

Ship-based Activities

6. The Proponent shall not deposit, nor permit the deposit of any fuel, chemicals, wastes (including waste water) or sediment into any marine waters, and shall collect wastes for disposal at approved facilities.

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.

Fuel and Chemical Storage

8. 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.
9. The Proponent shall ensure that re-fueling of all equipment occurs a minimum of thirty-one (31) metres away from the high water mark of any water body, unless otherwise authorized by the Nunavut Water Board.
10. The Proponent shall store all fuel and chemicals in such a manner that they are inaccessible to wildlife.
11. 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.
12. 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, and at all fuel storage sites.
13. The Proponent shall ensure that all personnel are properly trained in fuel and hazardous waste handling procedures, as well as spill response procedures. All spills of fuel or other deleterious materials of any amount must be reported immediately to the 24 hour Spill Line at (867) 920-8130.

Wildlife - General

14. The Proponent shall ensure that there is no damage to wildlife habitat in conducting this operation.
15. The Proponent shall not harass wildlife. This includes persistently worrying or chasing animals, or disturbing large groups of animals. The Proponent shall not hunt or fish, unless proper Nunavut authorizations have been acquired.
16. 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

17. 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.
18. The Proponent shall minimize activities during periods when birds are particularly sensitive to disturbance such as migration, nesting and moulting.
19. The Proponent shall avoid the seaward site of seabird colonies and areas used by flocks of migrating waterfowl by three (3) kilometres.

Ground Disturbance

20. 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.

Restoration of Disturbed Areas

21. The Proponent shall remove all garbage, fuel and equipment upon abandonment.
22. 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

23. 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.
24. The Proponent should, to the extent possible, hire local people.
25. The Proponent shall ensure that project activities do not interfere with Inuit wildlife harvesting or traditional land use activities.

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: (867) 979-7800).

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/>.

REGULATORY REQUIREMENTS

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

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* (<http://www.canlii.org/en/nu/laws/stat/snu-2003-c-26/latest/snu-2003-c-26.html>) which 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/>). The Proponent must ensure that proper shipping documents accompany all movements of dangerous goods. The Proponent must register with the Government of Nunavut, Department of Environment Manager of Pollution Control and Air Quality at 867-975-7748.
8. The *Arctic Waters Pollution Prevention Act* (<http://laws-lois.justice.gc.ca/eng/acts/A-12/>).

CONCLUSION

The foregoing constitutes the Board's screening decision with respect to the Advisian "Geotechnical and Environmental Baseline Studies - Iqaluit Port Development".

Dated August 3, 2016 at Arviat, 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

This list includes species listed on one of the Schedules of SARA (*Species at Risk Act*) and under consideration for listing on Schedule 1 of SARA. These species have been designated as at risk by COSEWIC (Committee on the Status of Endangered Wildlife in Canada). This list may not include all species identified as at risk by the Territorial Government.

- 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.

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: June 2015

Species at Risk ¹	COSEWIC Designation	Schedule of SARA	Government Organization with Primary Management Responsibility ²
Eskimo Curlew	Endangered	Schedule 1	Environment Canada (EC)
Ivory Gull	Endangered	Schedule 1	EC
Ross's Gull	Threatened	Schedule 1	EC
Harlequin Duck (Eastern population)	Special Concern	Schedule 1	EC
Rusty Blackbird	Special Concern	Schedule 1	Government of Nunavut (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	EC
Red Knot (<i>islandica</i> subspecies)	Special Concern	Schedule 1	EC
Horned Grebe (Western population)	Special Concern	Pending	EC
Red-necked Phalarope	Special concern	Pending	EC
Buff-breasted Sandpiper	Special concern	Pending	EC
Felt-leaf Willow	Special Concern	Schedule 1	GN
Porsild's Bryum	Threatened	Schedule 1	GN
Peary Caribou	Endangered	Schedule 1	GN
Barren-ground Caribou	Special Concern	Schedule 1	GN

Species at Risk ¹	COSEWIC Designation	Schedule of SARA	Government Organization with Primary Management Responsibility ²
(Dolphin and Union population)			
Polar Bear	Special Concern	Schedule 1	GN/Fisheries and Oceans Canada (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	Schedule 2	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)		Schedule 2	DFO
Killer Whale (Northwest Atlantic / Eastern Arctic populations)	Special Concern	Pending	DFO
Narwhal	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.

³ The *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.

¹P.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 *Nunavut Land Claims 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 Nunavut Land Claims 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.*

³ P.C. 2001-1111 14 June, 2001

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, Language, Elders and Youth (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 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 Nunavut Land Claims 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*

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.