SCREENING DECISION REPORT
NIRB FILE No.: 16UN058

Associated NIRB File No.: 00MN059
NPC File No.: 148585

July 24, 2017

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's "Jericho Site Stabilization - Amendment" is not required pursuant to paragraph 92(1)(a) of the *Nunavut Planning and Project Assessment Act* (NuPPAA).

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

OUTLINE OF SCREENING DECISION REPORT

REGULATORY FRAMEWORK

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

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

These objectives are confirmed under section 23 of the NuPPAA.

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

> "*The purpose of screening a project is to determine whether the project has the potential to result in significant ecosystemic or socio-economic impacts and, accordingly, whether it requires a review by the Board…*"

To determine whether a review of a project is required, the NIRB is guided by the considerations as set out under subsection 89(1) of NuPPAA:

> *"89. (1) The Board must be guided by the following considerations when it is called on to determine, on the completion of a screening, whether a review of the project is required:*
>
> *(a) a review is required if, in the Board's opinion,*
> *i. the project may have significant adverse ecosystemic or socio-economic impacts or significant adverse impacts on wildlife habitat or Inuit harvest activities,*
> *ii. the project will cause significant public concern, or*
> *iii. the project involves technological innovations, the effects of which are unknown; and*
>
> *(b) a review is not required if, in the Board's opinion,*
> *i. the project is unlikely to cause significant public concern, and*
> *ii. its adverse ecosystemic and socioeconomic impacts are unlikely to be significant, or are highly predictable and can be adequately mitigated by known technologies."*

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

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

> "*92. (2) In its report, the Board may also*
> *(a) recommend specific terms and conditions to apply in respect of a project that it determines may be carried out without a review.*"

PROJECT REFERRAL

On May 30, 2017 the NIRB received a referral to screen INAC's "Jericho Site Stabilization - Amendment" 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 has determined that the project proposal is a significant modification to the project because of the use of explosives currently being proposed was not included in the original project description.

Pursuant to Article 12, Sections 12.4.1 and 12.4.4 of the Nunavut Agreement and section 87 of the NuPPAA, the NIRB has commenced screening this project proposal. Due to the proposal containing activities that are sufficiently related to previously assessed activities under NIRB file number **16UN058**, the NIRB viewed this project proposal as an amendment to the previously screened project and assigned this proposal with this previous file number.

PROJECT OVERVIEW & THE NIRB ASSESSMENT PROCESS

1. Project Scope

The proposed "Jericho Mine Site Stabilization - Amendment" project is located within the Kitikmeot region, approximately 260 kilometres (km) southeast of Kugluktuk, 430 km southwest of Cambridge Bay, at the existing Jericho Diamond Mine. In addition to the previously approved activities, the Proponent intends to remove the jetty in Carat Lake to create fish habitat on behalf of the Department of Fisheries and Oceans and to possibly use explosive to aid in the removal of the frozen core West Dam. The program is proposed to take place from July to September, 2017. The scope of activities previously approved for this ongoing reclamation program (NIRB File No. 16UN058) has been included within **Appendix A**.

As required under subsection 86(1) of the NuPPAA, the Board accepts the scope of the "Jericho Mine Site Stabilization - Amendment" project as set out by INAC in the proposal. The scope of the project proposal includes the following undertakings, works, or activities:

- Transport and use of up to 40,000 kg of explosives at the site to loosen the core of the previously installed West Dam to allow for removal;
    - Explosives to be pre-mixed and flown into site as needed;
- Removal of the pump house and water intake jetty in Carat Lake based on the Tahera Jericho Closure and Reclamation Plan (2007 Update);
    - Removal of all infrastructure associated with the water intake;
    - Excavation of the jetty to at least two (2) meters below normal summer water levels to form new fish habitat;
    - Use of silt booms and/or silt curtains to isolate the jetty from the lake for sediment and erosion control; and
- Use of heavy equipment previously approved for operations at the site.

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.

4. Key Stages of the Screening Process

The following key stages were completed:

Date	Stage
May 30, 2017	Receipt of project proposal from the NPC noting no land use plan was applicable
May 31, 2017	Information request(s)
June 14, 2017	Proponent responded to information request(s)
June 14, 2017	Scoping pursuant to subsection 86(1) of the NuPPAA
June 16, 2017	Public engagement and comment request
July 7, 2017	Receipt of public comments

5. Public Comments and Concerns

Notice regarding the NIRB's screening of this project proposal was distributed on June 16, 2017 to community organizations in Kugluktuk, as well as to relevant federal and territorial government agencies, Inuit organizations and other parties. The NIRB requested that interested parties review the proposal and provide the Board with any comments or concerns by July 7, 2017 regarding:

- Whether the project proposal is likely to arouse significant public concern; and if so, why;
- Whether the project proposal is likely to cause significant adverse eco-systemic or socio-economic effects; and if so, why;
- Whether the project proposal is likely to cause significant adverse impacts on wildlife habitat or Inuit harvest activities; if so, why;
- Whether the project proposal is of a type where the potential adverse effects are highly predictable and mitigable with known technology, (please provide any recommended mitigation measures); and
- Any matter of importance to the Party related to the project proposal.

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

Government of Nunavut (GN)

- Noted use of explosives could potentially disturb wildlife.
- Recommended a no-blasting buffer for the presence of caribou and other wildlife.
- Requested details on the method of detection the Proponent plans to use for the detection and monitoring of wildlife during blasting operations.

Environment and Climate Change Canada (ECCC)

- Noted use of explosives on the West Dam could potentially introduce ammonia into the water flowing through the breach; however noted should not be a concern if best practices to reduce loss rates are used.
- Surface erosion and sedimentation from removal of the West Dam must be managed using standard mitigation measures.

- Coarse processed kimberlite should not be used as a closure cover unless capped with non-acid generating waste rock:
    - Experience from the Ekati mine has shown weathering of coarse process kimberlite has occurred with a subsequent release of fines and loss of structure.
    - Capping would be necessary to prevent weathering, and the coarse processed kimberlite piles need to be stabilized to minimize weathering and erosion.
- Recommended sufficient armouring be used to prevent weathering and/or erosion of coarse kimberlite used for the remediation.

Fisheries and Oceans Canada (DFO)

- No comments at this time.

Indigenous and Northern Affairs Canada (INAC)

- No comments at this time.

Natural Resources Canada (NRCan)

- Noted that NRCan might be a Responsible Minister if a license for explosives storage is required.
- Anticipates no adverse effects due to explosives storage because of strict regulatory requirements.

6. 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.

FACTORS FOR DETERMINING SIGNIFICANCE OF IMPACTS

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

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

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

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

   The proposed amended activities fall within the footprint of the existing project, within a previously changed water diversion area as well as Carat Lake, and as such are not expected to have an effect greater than previously considered for the project.

The proposed Jericho site stabilization project this proposed amendment would occur within the migratory range of the Bathurst caribou herd, and within the border ranges of the Beverly, and Dolphin and Union caribou herds; however the activities included in this current proposal would largely occur in and around freshwater resources, specifically a freshwater holding area with no identified fish species, as well as Carat Lake which is a fish-bearing lake. The components of this amendment would be located in less than 1 km squared area, and especially the in-water works of Carat Lake, would occur to offset habitat removed from Carat Lake to satisfy previous commitments made, but not completed, to provide offset habitat for fish use.

2. *The ecosystemic sensitivity of that area.*

   The proposed amended activities fall within the footprint of the existing project, and as such are not expected to have an effect greater than previously considered for the project. This area has previously been identified as having value and priority to the local community for:
   i. Terrestrial wildlife, including Beverly, Bathurst, Peary caribou; and
   ii. Fish species.

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

   As the proposed amendments to the project would be contained within the boundaries of the existing project footprint, the Proponent would not be expected to interact with historical, cultural, or archaeological sites outside those previously identified. The use of explosives and fish habitat offset activities are occurring in areas previously disturbed and overlain by the mine infrastructure, as such no archaeological resources would be expected in that area.

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

   As previously identified, the proposed project would occur approximately 260 kilometres (km) southeast of Kugluktuk, and 430 km southwest of Cambridge Bay, the nearest communities; as such, no human populations are likely to be affected by project impacts. Specific animal and fish populations have been previously identified as potentially interacting with the Jericho site; however, mitigation measures recommended in the following section are expected to limit any potential impacts that would result from this project on any human or animal populations.

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 "Jericho Site Stabilization – Amendment" project would the removal of the jetty from Carat Lake based on the approved Tahera Jericho Closure and Reclamation Plan (2007 Update), it is not anticipated that the impacts would exceed those previously considered for the project. Further, the use of explosives to loosen the material of the West Dam to allow for easier mechanical removal is anticipated to consist of a single blast with no displacement of material, therefore of negligible—and one-time—impact which can be mitigated by

following proper procedures for the use of explosives and control of ammonia release into water from explosive residue.

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 current project proposal would take place at an existing development; however, activities related to the previously approved Jericho Diamond Mine Project (NIRB File No. 00MN059) have not been occurring since the site was placed into temporary closure, and site stewardship taken over by Aboriginal Affairs and Northern Development Canada in 2014.

   No additional cumulative impacts have been identified as potentially resulting from this proposed amendment which would exceed those previously considered for the project.

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

   The use of explosives to loosen the frozen material in the West Dam would allow for a more efficient and faster removal than by mechanical means alone, allowing site remediation and operations at the site to be concluded sooner. Further, the removal of the pump house and water intake jetty at Carat Lake would also create fish habitat which is required to offset previous disruption to lake.

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 Board has previously recommended terms and conditions 1 through 4 which continue to apply to the current project proposal.

The Board would also note that, as justified in its previous decision (NIRB File No. 16UN058 dated December 22, 2017), terms and conditions 5, 7 through 9, 11, 13 through 27, 33 through 37, 40, 43 through 54, 56, 57, 59, 60, 62, and 63 remain applicable to the project reclamation activities, while the additional impacts identified for the new components of the jetty removal and explosives use warrant mitigation measures as justified below.

Ecosystem, wildlife habitat and Inuit harvesting activities:

Issue 1: Potential adverse impacts to wildlife from explosives use and blasting operations at West Dam.

Board views: As discussed above in the assessment of factors relevant to this project proposal, the potential for impacts due to the use of explosives is applicable to a single site and is limited to one blast which would not displace any material, just break up the frozen core. Further, the material to be blasted is already designated to be removed by mechanical means, thus creating no more disturbance than previously screened.

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

Recommended Mitigation Measures: The Board has previously recommended terms and conditions to mitigate potential adverse impacts to wildlife which continue to apply to the current project amendment proposal and would mitigate the potential impacts caused by the use of explosives: 12, 28 through 32, 38, and 39.

Issue 2: Potential adverse impacts to surface water quality and quantity, and fish and fish habitat from use of explosives on the West Dam and operations to remove the jetty in Carat Lake.

Board views: There is the potential for the project to adversely impact surface water quality, fish and fish habitat due to water flowing through the planned breach in the West Dam and having increased levels of ammonia due to exposure to material with explosives residue. Additionally, removal of the water intake jetty in Carat Lake could cause issues with sedimentation and silt, adversely impact the surface water quality and fish and fish habitat.

The Proponent has committed to the use of silt booms and/or silt curtains during removal operations of the jetty, and to have personnel on site to monitor water conditions. In addition to the Proponent's proposed mitigation measures, it is expected that standard operational considerations would mitigate any potential adverse impacts to the surface water quality and quantity, and fish and fish habitat in the direct project area and areas adjacent to the proposed project.

Further, ECCC has noted that use of best practices to control loss rates from explosives use would mitigate ammonia release into water. Further, removal of the blasted material would reduce the amount of possible exposure of water to explosive residue.

In addition, the Proponent would also be required to follow the *Fisheries Act*, the *Transportation of Dangerous Goods Act*, the *Canadian Environmental Protection Act*, and the *Guidelines for the use of Explosives in or near Canadian Fisheries Waters* (see Regulatory Requirements section).

Recommended Mitigation Measures: The Board previously issued terms and conditions to reduce adverse impacts from dust, noise, equipment, and fuel/chemical spill hazards resulting from reclamation at the Jericho site by issuing terms and conditions 6, 10, 41,

42, and 58 which continue to apply to the project and would mitigate the potential impacts of explosives use and removal of the jetty.

Issue 3: Potential adverse impacts the surface water quality, vegetation and the land due to weathering of coarse kimberlite used as cover in reclamation activities.

Board Views: Although not specifically related to the use of explosives and other activities outlined in this specific amendment, it was noted during this assessment by ECCC that experience from the Ekati Diamond Mine has shown that coarse processed kimberlite used as a cover material degrades due to weathering, releasing fines and compromising the structure of the material with consequent effects on erosion and sedimentation. This in turn could have potential adverse impacts to the surface water quality, vegetation and the land. Due to the ongoing works at the Jericho site, and to ensure that stabilization activities are carried out in a responsible manner, the Board would note this potential adverse impact in the planned use of site materials which have been also addressed through the board's previous recommendations.

Recommended Mitigation Measures: It is recommended that INAC and its subcontractors for the Jericho site stabilization project consult with ECCC on the use of kimberlite as a cover material during reclamation. The Board has previously recommended the following terms and conditions to mitigate the effects of sedimentation and erosion: 42 and 55 which continues to apply to this amendment.

Significant public concern:

Issue 4: 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.

Recommended Mitigation Measures: Term and condition 61 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.

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.

The following terms and conditions were previously issued by the NIRB in the December 22, 2016 Screening Decision Report(s) for File No. **16UN058*, and continue to apply to the Jericho Site Stabilization – Amendment project*:**

General

1. Indigenous and Northern Affairs Canada (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; INAC, KIA, NWB Applications, Comprehensive Application, September 30, 2016), and the NIRB (Online Application Form, Non-Technical Summaries, Consultation Summary, Winter Road Group Agreement, Site Diagrams, NIRB Part 1 Form including translations, and NIRB Part 2 Form dated October 14 and 18, 2016; Proponent Correspondence Re Clarification of project information, October 13, 17, and 21, 2016).
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, where possible or appropriate, 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. 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.

11. The Proponent shall ensure that re-fuelling 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.
12. The Proponent shall store all fuel and chemicals in such a manner that they are inaccessible to wildlife.
13. The Proponent shall use adequate secondary containment or a surface liner (e.g., self-supporting insta-berms and fold-a-tanks) when storing barrelled fuel and chemicals.
14. The Proponent shall use drip pans or other equivalent device when refuelling equipment. The Proponent shall also use secondary containment or a surface liner (e.g., self-supporting insta-berms and fold-a-tanks) at all refuelling stations.
15. The Proponent shall ensure that appropriate spill response equipment and clean-up materials (e.g., shovels, pumps, barrels, drip pans, and absorbents) are readily available during any transfer of fuel or hazardous substances, at all fuel storage sites, at vehicle maintenance areas.
16. The Proponent shall inspect and document the condition of all large fuel tanks (in excess of 205 litres) and all barrelled fuel caches on a weekly basis when personnel on site. All fuel and chemical storage containers must be clearly marked with the Proponent's name and examined for leaks immediately upon delivery.
17. The Proponent shall remove and treat hydrocarbon contaminated soils on site or transport them to an approved disposal site for treatment.
18. 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.

Landfarm Operations

19. The Proponent shall treat only petroleum and hydrocarbon contaminated soils at the landfarm facility. Materials contaminated with other substances such as glycol and heavy metals are not to be stored at the landfarm and must be disposed of at an authorized facility.
20. The Proponent shall ensure that it meets the required standards as set out in the Nunavut Water Board's Water Licence for this project prior to any discharge of water collected in the retention cell(s).
21. The Proponent shall ensure that the equipment used for aeration in the landfarm operation have been cleaned off within the landfarm facilities prior to exiting.
22. The Proponent shall take appropriate dust suppression measures when conducting soil turning and removal.
23. All operations personnel shall be adequately trained prior to commencement of landfarm operations, and shall be made aware of all operational guidelines and Proponent commitments relating to the Project.

Landfill Operations

24. The Proponent shall dispose of non-hazardous materials only at the landfill and shall limit this disposal to those materials listed as acceptable for disposal. Hazardous materials, materials listed as unacceptable for disposal at the landfill, or materials that contain asbestos, fluorescent tubes or ozone depleting substances are not to be disposed of in the landfill and must be disposed of at an authorized facility.
25. The Proponent shall ensure that it meets the standards and/or limits as set out in the Nunavut Water Board Water Licence and any other permits as required for this project.
26. The Proponent shall take appropriate dust suppression measures when conducting soil topping of landfill materials, or landfill capping activities.
27. All operations personnel shall be adequately trained prior to commencement of landfill operations, and shall be made aware of all operational guidelines and Proponent commitments relating to the Project.

Wildlife - General

28. The Proponent shall ensure that there is no damage to wildlife habitat in conducting this operation.
29. 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.
30. 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

31. 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.
32. The Proponent shall minimize activities during periods when birds are particularly sensitive to disturbance such as migration, nesting and moulting.
33. The Proponent shall ensure its aircraft avoid excessive hovering or circling over areas where bird presence is likely.

Aircraft Flight Restrictions

34. The Proponent shall restrict aircraft/helicopter activity related to the project to a minimum altitude of 610 metres above ground level unless there is a specific requirement for low-level flying, which does not disturb wildlife and migratory birds.
35. 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.

36. The Proponent shall ensure that aircraft do not, unless for emergency, touch-down in areas where wildlife are present.

37. The Proponent shall advise all pilots of relevant flight restrictions and enforce their application over the project area, including flight paths to/from the project area.

Caribou and Muskoxen Disturbance

38. The Proponent shall cease activities that may interfere with the migration or calving of caribou or muskox, until the caribou or muskox have passed or left the area.

39. The Proponent shall not block or cause any diversion to caribou migration, and shall cease activities likely to interfere with migration, such as the use of equipment, aircraft traffic, and movement of equipment or personnel, until such time as the caribou have passed.

40. During the period of May 15 to July 15, when caribou are observed within one (1) kilometre of project operations, the Proponent shall suspend all operations, including low-level over flights, and use of snow mobiles and all-terrain vehicles outside the immediate vicinity of the camps. Following July 15, if caribou cows or calves are observed within one (1) kilometre of project operations, the Proponent shall also suspend all operations in the vicinity, including low-level over flights, and use of snow mobiles and all-terrain vehicles, until caribou are no longer in the immediate area.

All-Weather Road and Ground Disturbance

41. 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.

42. 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.

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

Winter Road

44. The Proponent shall select a winter route that maximizes the use of frozen water bodies.

45. The Proponent shall not erect camps or store materials on the surface ice of lakes or streams, except that which is for immediate use.

46. The Proponent shall ensure that no disturbance of the stream bed or banks of any definable watercourse be permitted.

47. The Proponent shall not move any equipment or vehicles without prior testing the thickness of the ice to ensure the lake is in a state capable of fully supporting the equipment or vehicles.

48. The Proponent shall ensure that bank disturbances are avoided and no mechanized clearing carried out immediately adjacent to any watercourse.

49. The Proponent shall ensure that stream crossings and/or temporary crossings constructed from ice and snow, which may cause jams, flooding or impede fish passage and or water flow, are removed or notched prior to spring break-up.

50. The Proponent shall avoid disturbance on slopes prone to natural erosion, and alternative locations shall be utilized.

51. The Proponent shall implement sediment and erosion control measures prior to, and during operations to prevent sediment entry into the water during the spring thaw. This includes ensuring that a sufficient thickness of snow and ice is present on the winter road to prevent unnecessary erosion of the underlying ground surface and impact on underneath vegetation.

52. The Proponent shall implement a clean-up and reclamation stabilization plan, which should include, but is not limited to, re-vegetation and/or stabilization of exposed soil in road bed.

Aggregate Removal from Quarries

53. 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.

54. The Proponent shall not remove any material from below the ordinary high water mark of any lake or stream.

55. The Proponent shall not deposit or permit the deposit of sediment into any water body.

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

57. 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.

58. The Proponent shall ensure that silt fences/curtains are installed down gradient of any quarry activities.

59. 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.

Temporary Camps

60. The Proponent shall ensure that the land use area is kept clean and tidy at all times.

Other

61. 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.

62. The Proponent should, to the extent possible, hire local people.

63. The Proponent shall ensure that project activities do not interfere with Inuit wildlife harvesting or traditional land use activities.

The Board has previously recommended the following on December 22, 2016:

Final Plans

1. Despite providing extensive documents outlining the proposed project, terms of reference, environmental screening reports, and interim plans, it was noted that the final versions of these plans would be developed once the contract was awarded to the company undertaking the site stabilization activities. Prior to undertaking any activities at the site, the Proponent is required to submit copies of the finalized plans to the NIRB, including but not limited to:

    a) Emergency Response Plan,

    b) Site Waste and Hazardous Waste Management Plan,

    c) Site Dust Management Plan,

    d) Fuel Management and Spill Contingency Plan,

    e) Waste Water Treatment Plant Operations Plan

    f) Wildlife Mitigation and Monitoring Plan,

    g) Any other environmental monitoring or management plans, and

    h) Copies of permits related to the undertaking of the project proposal.

Annual Report

2. (*updated*) The Proponent shall submit a comprehensive annual report to the Nunavut Impact Review Board at the end of each year of permitted activities, and before December 31st of each year. It is expected that reporting requirements under NIRB File No. 16UN058 will be coordinated with existing reporting requirements associated with INAC's ongoing site management and monitoring functions related to the Jericho Diamond Mine Project (NIRB File No. 00MN059) as approved to proceed under Project Certificate No. 002. The Board expects to receive the first such report on or before December 31, 2017.

    The annual report must contain, but not limited to, the following information:

    a) A summary of activities undertaken for the year, including:

        - a map and associated details pertaining to remediation activities and site operations conducted to-date;
        - a map detailing the locations of all fuel storage areas illustrating all containment structures, accompanied with a description of all containment measures implemented;
        - a description of local hires and employee training initiatives;
        - details on transportation activities undertaken including:
            1. aircraft flight frequency, approximate flight routes, and altitudes;
            2. finalized winter road routing and vehicle traffic information (number of return trips, types of vehicles);
        - site photos illustrating site conditions and areas of remediation works;
        - a summary of wastes disposed on-site as well those transported for disposal off-site, including locations and any required mitigation during transportation;

b) An updated work plan for the following year including an approximate work schedule;

c) A summary of community consultations undertaken throughout the year, providing copy of materials presented to community members, a description of issues and concerns raised, discussions with community members and advice offered to the Proponent, as well as any follow-up actions that were required or taken to resolve any concerns expressed about the project;

d) A log of instances in which community residents occupied or transited through the project area for the purpose of traditional land use or harvesting. This log should include the location and number of people encountered, activity being undertaken (e.g., berry picking, fishing, hunting, camping, etc.), date and time; and any mitigation measures or adaptive management undertaken to prevent disturbance;

e) A brief summary of wildlife mitigation and monitoring results as well as any mitigation actions undertaken. In addition, the Proponent shall maintain a record of wildlife observations while operating within the project area and include it as part of the summary report. The summary report should include the following:

- Locations (i.e., latitude and longitude) and species of wildlife observed on-site including number of animals, a description of the animal activity, and a description of the gender and age of animals if possible;
- Prior to conducting project activities, the Proponent should map the location of any sensitive wildlife sites such as denning sites, calving areas, caribou crossing sites, and raptor nests in the project area, and identify the timing of critical life history events (i.e., calving, mating, denning and nesting);
- The Proponent should indicate potential impacts from the project, and ensure that operational activities are managed and modified to avoid impacts on wildlife and sensitive sites;
- A summary of the effectiveness of mitigation measures for wildlife impacts; and
- If mitigation measures are observed to be ineffective or not achieving the expected outcomes, a discussion of issues interfering with the mitigation and alternative plans to reduce impacts to the wildlife in the vicinity of the project;

f) A summary of any heritage sites encountered during the exploration activities, any follow-up action or reporting required as a result, and how project activities were modified to mitigate impacts on the heritage sites;

g) A summary of its knowledge of Inuit land use in/near the project area and how project activities were modified to mitigate impacts on Inuit land use;

h) A summary of any consultations with ECCC on movement and use of course processed kimberlite at site, and any resulting updates to project plans; and

i) A summary of how the Proponent has complied with conditions contained within the Screening Decision Report, and all conditions as required by other authorizations associated with the project proposal.

OTHER NIRB CONCERNS AND RECOMMENDATIONS

In addition to the project-specific terms and conditions, the Board has previously recommended the following on December 22, 2016:

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 Kugluktuk, phone: (867) 982-7450).

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 Waste/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 a waste manifest or the appropriate transportation of dangerous goods (TDG) documentation accompany all potential hazardous samples and/or materials that are transported off site. Further, the Proponent shall ensure that the shipment of waste is registered with the Government of Nunavut Department of Environment (GN-DoE). Contact the Manager of Pollution Control and Air Quality at (867) 975-7748 to obtain a manifest if hazardous waste will be generated during project activities.

11. The Proponent shall provide an authorization or letter of conformation of disposal be obtained from the owner/operator of the landfill to be used for disposal of project-related wastes.

Winter Roads/Trails

12. If ice bridges are constructed, the Proponent follow the mitigation measures outlined in Fisheries and Oceans Canada's Operational Statement for Ice Bridges, available at the following internet address: now http://www.dfo-mpo.gc.ca/pnw-ppe/fpp-ppp/guide-eng.html.

13. Cutting or filling of crossing approaches below the high water mark will require prior review and approval by Fisheries and Oceans Canada - Fish Habitat Management Branch.

Indigenous and Northern Affairs Canada

14. Indigenous and Northern Affairs Canada (INAC) impose mitigation measures, conditions and monitoring requirements pursuant to the Federal Land Use Permit, which require the Proponent to respect the sensitivities and importance of the area. These mitigation measures, conditions and monitoring requirements should be in regard to the location and area; type, location, capacity and operation of facilities; use, storage, handling and disposal of chemical or toxic material; wildlife and fisheries habitat; and petroleum fuel storage.

15. INAC consider the importance of conducting regular Land Use Inspections, pursuant to the authority of the Federal Land Use Permit, while the project is in operation. The Land Use Inspections should be focused on ensuring the Proponent is in compliance with the conditions imposed through the Federal Land Use Permit.

Kitikmeot Inuit Association

16. The Kitikmeot Inuit Association impose strict mitigation measures and/or conditions upon the Proponent pursuant to the Inuit Owned Lands License in regard to fuel and chemical storage, water conditions, ground disturbance, and wildlife on Inuit owned land.

Nunavut Water Board

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

18. In particular, mitigation measures, conditions and monitoring requirements should be considered for the use of water, snow and ice for the development and maintenance of the winter road/trail for this project.

Indigenous and Northern Affairs Canada – Water Resources Division

19. INAC – Water Resources Division should consider the importance of conducting regular inspections, pursuant to the authority of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*, while the project is in operation. Inspectors should focus on ensuring the Proponent is in compliance with the conditions imposed through the Water Licence.

REGULATORY REQUIREMENTS

The Board previously recommended in the December 22, 2016 Screening Decision Report for the Jericho Site Stabilization project the following legislation, which continues to apply to the current proposal:

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 B** 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 C**.
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 *Aeronautics Act* (http://laws-lois.justice.gc.ca/eng/acts/A-2/).
9. The Proponent shall undertake quarrying in accordance with 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.
10. The *Storage Tank System for Petroleum Products and Allied Petroleum Products Regulations* (http://laws-lois.justice.gc.ca/eng/regulations/SOR-2008-197/FullText.html). The Proponent must identify their tank system to Environment and Climate Change Canada and installation of new systems must comply with the regulations' design requirements.

Other Applicable Guidelines

11. The Proponent shall practice progressive reclamation in accordance with the restoration guidelines outlined in Indigenous and Northern Affairs Canada's *Northern Land Use Guidelines Pits and Quarries* (http://www.aadnc-aandc.gc.ca/eng/1100100023585).
12. The Proponent shall review and apply as applicable, design, operation, monitoring, sampling, analytical methods, decommissioning and closure, record keeping and reporting requirements for landfarming projects as found within the *Federal Guidelines for Landfarming Petroleum Hydrocarbon Contaminated Soils* (Science Applications International Corporation Canada, March 2006). It is recommended that the Proponent and any consultants hired for the project refer to this document as it relates to the future operations of the landfarming activities.

In addition, the Proponent is also advised that the following legislation may apply to the project:

Acts and Regulations

13. The *Explosives Act* (http://laws-lois.justice.gc.ca/eng/acts/E-17/page-1.html#h-5).

Other Applicable Guidelines

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

CONCLUSION

The foregoing constitutes the Board's screening decision with respect to the Indigenous and Northern Affairs Canada's "Jericho Site Stabilization - Amendment". The NIRB remains available for consultation with the Minister regarding this report as necessary.

Dated July 24, 2017 at Whale Cove, NU.

Elizabeth Copland, Chairperson

Attachments: Appendix A: Previously-Screened Project Proposals
Appendix B: Species at Risk in Nunavut
Appendix C: Archaeological and Palaeontological Resources Terms and Conditions for Land Use Permit Holders

APPENDIX A: PREVIOUSLY-SCREENED PROJECT PROPOSALS

The original project proposal NIRB (File No. 16UN058), was received by the NIRB from Nunavut Planning Commission (NPC or Commission) on September 30, 2016 and was screened by the Board in accordance with Part 4, Article 12 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada* (Nunavut Agreement) Part 3 of the *Nunavut Planning and Project Assessment Act* (NuPPAA). On December 22, 2016 the NIRB issued screening decision under paragraph 92(1)(1) of the NuPPAA to the Minister of Indigenous and Northern Affairs which indicated that the proposed project could proceed subject to the NIRB's recommended project-specific terms and conditions.

Indigenous and Northern Affairs Canada's (INAC or Proponent) original "Jericho Mine Site Stabilization Project" is located within the Kitikmeot region, approximately 260 kilometres (km) southeast of Kugluktuk, 430 km southwest of Cambridge Bay, at the existing Jericho Diamond Mine. With the goal of restoring the abandoned site to an environmentally safe condition, stabilizing the site to prevent water accumulation, and preventing the environmental migration of contaminants into surrounding ecosystems, INAC intended to conduct specific site stabilization and remediation activities between January 1, 2017 and March 31, 2018, followed by long-term monitoring during the summer months from 2019 to 2020, and possibly as long as 2044.

According to the previously screened project proposal, the scope of the project included the following undertakings, works or activities:[1]

- Transportation of equipment, fuel, supplies, and personnel to the site by:
    - Aircraft from Yellowknife and Kugluktuk, or via
    - Seasonal winter road connection routing between the Jericho site and the existing Tibbitt-Contwoyto Winter Road to mobilize and demobilize equipment between the site and Yellowknife, NWT. Approximately 20-25 round trip truckloads would be going up and back from Ekati to the Jericho site each year during two winter road seasons in February and March.
- Storage of fuel, oil, and chemicals at site for use towards stabilization activities.
- Use of existing site infrastructure, equipment, and supplies:
    - Maintenance and use of existing site airstrip and roads;
    - Use of accommodations and support buildings, generators, and equipment to accommodate up to 50 personnel;
    - Use of heavy machinery and equipment, passenger vehicles, and all-terrain vehicles to support site stabilization activities;
    - Extraction of water from Carat lake for use at camp and for remediation activities, including wetting of roads on the Jericho site as dust control;
    - Management of wastes at site, specifically:
        - Treatment and disposal of black and grey water using an on-site wastewater treatment system; and

[1] The proposed "Jericho Mine Site Stabilization Project" would not include the stabilization and remediation of infrastructure associated with the abandoned Jericho Diamond Mine Project situated on Inuit Owned Land (IOL). The proposal would, however, include the development of a winter road and the use of existing site roads located on IOL.

        - Incineration of combustible wastes and select hazardous wastes from camp and remediation operations using appropriate incinerators.
- As the previously approved landfill is located on Inuit Owned Land, the stabilization would involve designing and development of a new non-hazardous landfill for use in site remediation, and closure of the landfill by capping. This landfill would hold wood debris, metal debris, aboveground storage tanks, drums, rubber, concrete, plastic and other inert items. The preferred location being proposed is west of the main camp pad on a primarily bedrock area.
- Establishment of a new landfarm within the existing Phase I and II fuel tank farm areas.
- Remediation and demolition activities to include:
    - Collection, storage, and transportation of hazardous wastes, including identified heavy metal contaminated soils, off-site by truck for disposal at appropriate facilities;
    - Excavation of petroleum hydrocarbon (PHC) and Tier 1 metal contaminated soils from around the Jericho site for remediation within the new on-site landfarm;
    - Collection and disposal of non-hazardous wastes and debris on-site, including crushing and disposal of empty fuel barrels in the new landfill;
    - Treatment and disposal of aqueous liquids on-site using aqueous liquid waste treatment systems;
    - Demolition of site buildings including main camp facility, large aboveground storage tanks, and ancillary structures and disposal in new landfill (EXCEPT: process plant, truck shop, airport camp, and facilities located on Inuit Owned Land);
    - Decommissioning and cleaning of approximately nine (9) above-ground storage tanks coated with lead-based paint, to be dismantled and staged at site for future management;
    - Restoration of natural water flow at site, specifically:
        - Breaching and stabilization of existing water retention structures C1 Diversion, West Dam, and Divider Dyke A;
        - Construction of features to direct water flow into the open pit and to manage future outflow;
    - Removal and processing of up to 50,000 cubic metres (m^3) of aggregate material from existing structures (gravel pads and dams) as well as previously established borrow source ‘A’ to facilitate remediation activities;
    - Construction of a cover for Cell A of the Processed Kimberlite Containment Area; and
    - Grading and contouring of berms, pads, and remediation areas, including re-grading and removal of 6 (six) containment berms (two tank farm berms, gen-set day tank berm at main camp, airstrip tank berm, truck shop tank berm, and hazardous waste transfer area berm).
- Infrastructure to remain in place after remediation and demolition activities are complete includes the airstrip, site roads, core box laydown area, airport camp, truck shop, and process plant. The emulsion plant would also remain as it is located on Inuit Owned Land. Structures noted as both remaining and being landfilled were the PKCA East Dike tire berm and the core shack have been confirmed as expected to be dismantled and disposed of in the new landfill.

- Undertake long-term monitoring and sampling at site to ensure effectiveness of remediation.
- Hiring of Nunavut residents for project personnel and remediation services.

Appendix B
Species at Risk in Nunavut

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

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

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

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

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

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

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

Updated: October 2016

Terrestrial Species at Risk [1]	COSEWIC Designation	Schedule of SARA	Government Organization with Primary Management Responsibility [2]
Migratory Birds			
Eskimo Curlew	Endangered	Schedule 1	EC
Buff-breasted Sandpiper	Special concern	Pending	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
Peregrine Falcon	Special Concern (*anatum-tundrius* complex[3])	Schedule 1 - Threatened (*anatum*) Schedule 3 – Special Concern (*tundrius)*	Government of Nunavut
Short-eared Owl	Special Concern	Schedule 1	Government of Nunavut
Red Knot (*rufa* subspecies)	Endangered	Schedule 1	EC
Red Knot (*islandica* subspecies)	Special Concern	Schedule 1	EC
Horned Grebe (Western population)	Special Concern	Pending	EC
Red-necked Phalarope	Special concern	Pending	EC
Vegetation			
Felt-leaf Willow	Special Concern	Schedule 1	Government of Nunavut
Blanket-leaved Willow	Special Concern	Schedule 1	Government of Nunavut
Porsild's Bryum (Moss)	Threatened	Schedule 1	Government of Nunavut
Terrestrial Wildlife			
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
Dolphin and Union Caribou	Special Concern	Schedule 1	Government of Nunavut
Grizzly Bear (Western Population)	Special Concern	Pending	Government of Nunavut
Wolverine	Special Concern	Pending	Government of Nunavut
Marine Wildlife			
Polar Bear	Special Concern	Schedule 1	Government of Nunavut/DFO
Atlantic Walrus	Special Concern	Pending	DFO
Beluga Whale (Cumberland Sound population)	Threatened	Pending	DFO
Beluga Whale (Eastern Hudson Bay population)	Endangered	Pending	DFO
Beluga Whale (Western Hudson Bay population)	Special Concern	Pending	DFO
Beluga Whale (Eastern High Arctic – Baffin Bay population)	Special Concern	Pending	DFO
Bowhead Whale (Eastern Canada – West	Special Concern	Pending	DFO

Greenland population)			
Bowhead Whale (Eastern Arctic population	Endangered	Schedule 2	DFO
Killer Whale (Northwest Atlantic / Eastern Arctic populations)	Special Concern	Pending	DFO
Grey Whale (Eastern North Pacific population)	Special Concern	Schedule 1	DFO
Humpback Whale (Western North Atlantic population)	Special Concern	Schedule 3	DFO
Narwhal	Special Concern	Pending	DFO
Fish			
Northern Wolffish	Threatened	Schedule 1	DFO
Atlantic Wolffish	Special Concern	Schedule 1	DFO
Bering Wolffish	Special Concern	Schedule 3	DFO
Fourhorn Sculpin	Special Concern	Schedule 3	DFO
Roundnose Grenadier	Endangered	Pending	DFO
Spotted Wolffish	Threatened	Schedule 1	DFO
Thorny Skate	Special Concern	Pending	DFO
Atlantic Cod, Arctic Lakes	Special Concern	Pending	DFO
Blackline Prickleback	Special Concern	Schedule 3	DFO

[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 C
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*[2] to issue such permits.

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

[2] 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*[3], the federal government can make regulations for the protection, care and preservation of palaeontological and archaeological sites and specimens in Nunavut. Under

[3] s. 51(1)

the *Nunavut Archaeological and Palaeontological Sites Regulations*[4], 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

[4] 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.