Environment and Climate Change Canada
Environnement et Changement climatique Canada

2021 Nunavut Impact Review Board Annual Report

Eureka High Arctic Weather Station

1871 | 2021
1971 | 2021

Canada

Cat. No.: xxx
ISBN: xxx

Environment and Climate Change Canada
Public Inquiries Centre
12th Floor, Fontaine Building
200 Sacré-Coeur Boulevard
Gatineau QC K1A 0H3
Telephone: 819-938-3860
Toll Free: 1-800-668-6767 (in Canada only)
Email: ec.enviroinfo.ec@canada.ca

Aussi disponible en français

Distribution List

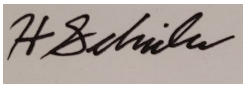
# Hard Copies	PDF Required	Association / Company Name
		Nunavut Impact Review Board (NIRB)
		Public Services and Procurement Canada (PSPC)
		Environment and Climate Change Canada (ECCC)
		AECOM Canada Ltd.

Revision History

Rev #	Date	Revised By:	Revision Description
1	October 22, 2021	Hannah Schriber Tyler Huguet	Draft to PSPC and ECCC
2	November 1, 2021	Tyler Huguet	Final to PSPC and ECCC

Authors

Report Prepared By:



Hannah Schriber, B.Sc.
B.I.T. Ecologist
AECOM Canada Ltd.

Tyler Huguet, BA
Environmental Planner
AECOM Canada Ltd.

Report Reviewed By:

Nadia Baker, B.Sc.H., P.Biol., R.P.Bio.
Environmental Assessment and
Permitting Specialist
AECOM Canada Ltd.

Table of Contents

List of Tables

Appendices

1. Introduction

The Eureka High Arctic Weather Station (HAWS; the Project; the site) is located on the north side of Slidre Fjord, at the northwestern tip of Fosheim Peninsula, Ellesmere Island, NU. Since 1947, Environment & Climate Change Canada (ECCC; the Proponent) has owned and managed the overall operations and maintenance of the site under Land Reserve #1021. The total area of the Project is approximately 2.23 hectares. There are presently 15 primary buildings and other facilities at the HAWS. The Eureka runway is located 1.5 kilometres northeast of the HAWS main site and is the primary way by which the HAWS is accessed year-round.

The Eureka HAWS is an operational weather monitoring facility as well as a hub of activity for the Department of National Defence (DND), the Polar Continental Shelf Project and the Polar Environment Atmospheric Research Laboratory (PEARL). Additional sites at Eureka are operated by the Canadian Network for the Detection of Atmospheric Change including the PEARL and the Surface and Atmospheric Flux, Irradiance and Radiation Extension, and Zero Altitude PEARL Auxiliary Laboratory (Arcadis 2018).

The Nunavut Impact Review Board (NIRB) is an institute of Territorial government created by the Nunavut Agreement to assess potential impacts of developmental projects in the territory of Nunavut before the approval of required project authorizations (NIRB 2020).

1.1 Purpose of this Document

The purpose of the NIRB Annual Report is to provide a yearly reference and summary of the activities undertaken as part of the Project, monitored and predicted effects, and the Project's compliance with terms and conditions included in the NIRB Screening Decision Reports for the Project. This document contributes to the well-being of existing and future residents and communities and the protection of ecosystem integrity of the Nunavut Settlement Area by helping to ensure that the Project is complying with legislation, regulations, and the terms and conditions set out by the NIRB in the Screening Decision Report, NIRB FILE No. 12XN020 (the Screening Decision; NIRB 2018).

As per the NIRB 2018 Screening Decision, an annual report is a requirement for the Project. This Annual Report summarizes the following:

- A summary of Project engagement activities undertaken between January 1, 2021 – December 31, 2021
- Project activities completed or performed between January 1, 2021 – December 31, 2021
- The status of the Post-Environment Assessment Monitoring Program (PEAMP)
- The Project's compliance with the terms and conditions outlined in the Screening Decision (NIRB 2018).
- A summary of results from site visits and/or inspections that took place during the reported year

This report also considered the terms and conditions of all additional NIRB Screening Decision Reports for the Project which do not have formal annual reporting requirements. NIRB Screening Decision Reports applicable to the Project are referenced in **Section 1.3.2**.

1.2 Project Overview

ECCC is currently undertaking or planning a number of construction and infrastructure upgrade projects to the HAWS. To support these projects, ECCC has obtained a number of permits. Due to project updates, design changes, unforeseen issues such as the discovery of contaminated soils or the need for additional infrastructure to support the HAWS operation or projects, ECCC may be required to re-apply for new or amended licences and permits. The numerous improvement projects currently being undertaken or planned for include the following:

- Eureka Airport Runway Recapitalization Project
- Eureka Water and Wastewater Treatment Infrastructure Upgrades Project
- Fuel Tank Inspections
- Building Decommissioning Project
- Development of New Licenced Waste Disposal Area(s)
- Development of Landfarm
- Human Health and Ecological Risk Assessment and Remedial Action Plan
- Long Term Monitoring Plan

1.3 Regulatory Context

1.3.1 NIRB Screening Decision Report

The terms and conditions are contained in the Screening Decision (NIRB 2018). The Screening Decision was issued on June 1, 2018. Per the Screening Decision, *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* (NIRB 2018).

1.3.2 Existing Permits

Over the years, ECCC has applied for and received various regulatory permits, licences and approvals that have been required to operate the facilities at the site, including the currently planned construction and infrastructure upgrades. The existing permits and licences include the following:

- Land Use Permit N2017N0017 (2017)
- Amended Land Use Permit N2017N0017 (2018)
- Quarry Permit 2021QP0001 (2021)
- Quarry Permit 2020QP0002 (2020)
- Type ‘B’ Water Licence 8BC-EUR2131 (2021)
- NIRB Screening Decision File No. 12XN020 (NIRB 2018)
- NIRB Screening Decision File No. 21UN002, 21QN005, 21XN012 (2021)
- Nunavut Planning Commission (NPC) Conformity Determinations No. 149457, 149587, 149440, 149476) (2021)
- Class 2 Nunavut Archaeologist Permit No. 2021-04A (Expired as of October 31, 2021)
- DFO File #18-HCAA-00071, Bridge Construction, Small Creek near Slidre Fiord, Eureka High Arctic Weather Station (February 20, 2018) – Authorization Email from DFO to PSPC ESCSM
- DFO File #21-HCAA-00295, Temporary Culverts, Remus Creek, Baffin Region (March 24, 2021) – Authorization email from DFO to ECCC

It should be noted that the DND maintains Fort Eureka (the Fort), located south of the Eureka runway. The Fort is occupied for approximately three weeks per year during the summer (typically in July) and DND’s water use is

currently captured under ECCC's existing water licence. ECCC is responsible for including DND's annual usage amounts with ECCC's annual report but is not responsible for any DND operations or permits.

1.3.3 Renewals, Updates and Amendments for the Authorizations

The following is a list of renewals, updates, and amendments made during 2021:

- Amendment to Quarry Permit for the expansion of West Remus Quarry
- Renewed and Amended the Water Licence to incorporate West Remus Quarry Expansion
- Fisheries and Oceans Canada request for review for a potential water crossing to access West Remus Quarry
- Several new Nunavut Planning Commission Conformity Determinations for proposed activities including: West Remus quarry expansion, landfarm, solid waste non-hazardous facility, water and sewage treatment infrastructure upgrades, temporary camp, fuel tank farm upgrades and repairs, and building demolition.
- Several NIRB Screening Decisions for above NPC applications

2. Engagement Activities

This section includes a summary of community consultations undertaken, issues identified and any modifications to monitoring programs.

2.1 Engagement Approach

Community and Indigenous engagement is important for projects in the northern region. Engagement builds new and stronger relationships and maintains relationships with those previously established. The goal is to inform stakeholders, communities, and Indigenous communities using effective communication strategies, prioritizing concerns of the listed parties, and collecting and processing feedback on potential concerns or issues raised.

Meaningful consultation and engagement occur when individuals provide input on how they want to be consulted and engaged, which yields a framework for creating unique and flexible approaches and activities that can be tailored to the needs of Indigenous communities, government agencies and interested persons. The NIRB conformity review and the NIRB screening processes utilize local/Indigenous consultation through information distribution and public forum. The NIRB process encompasses aspects of this process.

2.2 Engagement Objectives

ECCC has retained PSPC, and the consulting firm AECOM Canada Ltd. (AECOM) to engage with interested groups who may wish to receive Project status updates or general information on upcoming activities. Feedback may also support ongoing planning efforts, operations and decommissioning of the current and proposed activities. Feedback will help ECCC understand how the Project may affect communities, and support ongoing efforts, operations and decommissioning of the current and proposed activities.

2.3 Engagement Activities

ECCC has prioritized the development of engagement activity goals. As recommended by the NIRB, engagement is continuing with the Hamlet of Grise Fiord, and the Iviq Hunter Trapper Organization (HTO). ECCC sent a letter of notification in January 2021 to the Hamlet Council of Grise Fiord and the Iviq Hunter Trapper Organization providing a high-level summary of the project, upcoming works, regulatory process, and soliciting any comments or feedback. This letter was followed up by a notice sent November 2021 which provided a status update on the works proposed, a plan for 2022, and requests that any feedback or Inuit knowledge be shared.

There has been no feedback or Inuit knowledge received to date.

2.4 Engagement Activities Planned for 2022

ECCC will distribute a notification in 2022 similar to the notice distributed in November 2021.

3. Operations Overview

3.1 Site Activities Completed in 2021

Below is a summary of activities undertaken at site in 2021:

- Construction camp opening and operations began June 7, 2021
- Routine equipment maintenance and repairs were completed in preparation for the construction season
- Spring maintenance of access road to West Remus Quarry, including grading, culvert maintenance, freshet observations at Blacktop Creek bridge to prevent washouts – none occurred
- Removal of remaining old runway edge lighting
- Runway reconstruction including subgrade excavation and regrading, placement and compaction of new granular fill materials as per design.
- Trenching and installation of new runway edge and threshold lighting through the reconstructed length
- Testing and commissioning of new runway lighting installation
- Quarrying and crushing at West Remus Creek quarry
- Hauling and stockpiling of crushed granular materials from West Remus quarry to Blacktop Creek stockpile area
- Construct new temporary oil containment berm for storage of maintenance lubes and waste oil
- Receive and store sealift freight for future Water and Sewer Infrastructure project
- Winterize fleet and camp for final departure of crew on Sept 18, 2021

In 2021, no new temporary camps were constructed. A temporary camp previously constructed was utilized for the 2021 season and flights were restricted (see Section 5.2.8). Runway maintenance occurred simultaneously with any construction activities to ensure availability for incoming air traffic.

3.1.1 Aggregate Extraction

In 2021, aggregate was extracted from Remus Creek Quarry as per quarrying permit 2021QP0001. A total of 61,673 m^3 of aggregate was extracted in 2021 during the months of June to September.

3.1.2 Progressive Reclamation Activities

No progressive reclamation has occurred to date in relation to the Runway Recapitalization Project. All areas of disturbance remain as active areas and will experience further activities during the 2022 season. Work in the quarry and stockpile areas continues to progress with reclamation in mind, limiting disturbance to essential areas and in a manner that will require limited effort to achieve desired reclamation conditions.

3.1.3 Wildlife Mitigation and Observations

In 2021, wildlife and wildlife habitat mitigation measures, avoidance, response and safety measures were in accordance with the Wildlife and Wildlife Habitat Management Plan (WWHMP). The purpose of the WWHMP is to help on site personnel comply with legislative and regulatory requirements under the *Migratory Birds Convention*

Act (MBCA), Migratory Birds Regulations, *Species at Risk Act* (SARA), and the *Wildlife Act* (Nunavut), and the terms and conditions described in the Screening Decision (NIRB 2018). As a requirement of the WWHMP, wildlife or wildlife activity in 2021 was documented in a Wildlife Observation Log (see **Appendix A**).

There is an Arctic tern (*Sterna paradisaea*) nesting area southwest of the station, at the delta of Station Creek. According to the Eureka safety plan the nesting grounds are located approximately 500 feet West of the connection point of the floating transfer hose to the shore side pipeline and would feel the immediate impact of a spill if the winds were from the East. The protection strategy includes hazing to scare any birds in the area (it is unlikely any birds would be present as Arctic terns do not occupy the area in late August when the fuel transfers occur), relocating the boom to protect the shoreline along the delta if spill containment is ineffective, and understanding the sensitive nature of the area and where to get appropriate advice on the treatment of any affected areas or wildlife.

On July 4 2021, a snow bunting *(Plectrophenax nivalis)* was discovered nesting inside the crusher unit within the construction zone at the West Remus Creek quarry. The nest had hatchlings when discovered and a total of two adults and five hatchlings were identified. The event was reported to the ECCC and PSPC and work in the area was delayed until the fledglings had left the nest on July 12. Work resumed at the crusher once permission was received from the Permitting Officer.

No new wildlife mitigation measures were implemented in 2021.

3.1.4 Waste Storage and Disposal

Waste Disposal/Storage Activities: No changes to the waste disposal locations or methods have been implemented since 2020.

- Waste oil generated through equipment servicing activities to date was accumulated into double walled steel containers and shipped offsite on the sealift this year. An estimated volume of 12,000 litres of waste oil product was removed from site.
- Ongoing equipment maintenance will continue to generate waste oil products. These materials are collected and deposited in double walled steel tanks for future removal from site.
- Hydrocarbon contaminated soil – a total of 35 m3 of contaminated soil was collected and contained within a lined containment area near the Nuna camp. This soil resulted from a waste oil release that occurred on August 16 in Blacktop Creek quarry area (detailed memo regarding this incident is on file with PSPC). This soil will be containerized and removed from site on the 2022 sealift for disposal at an approved facility.
- Camp waste:
    - Pacto toilets were used throughout the Nuna camp and remote wash car facilities to collect all black water waste, which was then incinerated
    - Grey water waste from the Nuna camp and remote wash car facilities was collected via vacuum truck and deposited in the HAWS wastewater lagoon for treatment prior to discharge
    - All non-hazardous combustible kitchen and camp waste was collected and incinerated on site in compliance with standards for the site
    - Non-combustible waste generated in camp or through construction and maintenance activities were deposited in the on site landfill
- No waste oil or grease is incinerated on site

3.1.5 Water Usage

- Water for construction purposes was obtained from West Remus Creek only
- Camp water was obtained through the HAWS raw water reservoir pumphouse. Estimated quantity based on one truck load (8 m^3) per day on average during full operations. The camp was operational for 102 days in 2021 with a ramp up period in June and ramp down period in September. Estimated water usage for camp is 745 m^3 for the year.

3.1.6 Archaeological Sites

In 2021, inspections of rebar markers with flagging tape surrounding significant archaeological sites was conducted. The markers remain in place and are highly visible. Inspections of the markers will continue into 2022.

3.2 Work Plan for 2022

The following activities are proposed to occur during the 2022 summer field season (June – September):

Site Operations

- Ongoing operations of the site, routine facility maintenance, runway operations.

Program of Works Project

- Renovation and retrofit activities throughout buildings onsite

West Remus Creek Quarry Expansion

- Continuation of quarrying activities to provide aggregate material for other projects
- Construction of water crossing over Remus Creek

Black Top Creek Quarry

- Continuation of quarrying activities to provide aggregate material for other projects

Fuel Storage Tank Inspections

- Manual inspections and minor repairs of fuel storage tanks

Water & Sewer Infrastructure Upgrades

- Construction of new water reservoir adjacent to existing reservoir
- Construction and implementation of new sewage treatment plant facility

Contaminated Soil and Landfarm Project

- Excavation and stockpile of hydrocarbon contaminated soil in various areas throughout the Site
- Construction of onsite landfarm commencing in 2022. Stockpiled soil will be transferred to landfarm once landfarm completed.

Fuel/HazMat Secondary Containment Area

- Potential construction of new secondary containment area at Station to store fuel and other hazardous materials

4. Post-Environment Assessment Monitoring Program (PEAMP)

The Post-Environmental Assessment Monitoring Program (PEAMP) for the site was developed in FY 2012/13 after extensive site investigations (ESA Phase I-III). The PEAMP was developed to ensure that site risks related human health and safety and environmental health, as affected by site activities and impacted media, are within or below the established levels on site.

The Long-Term Monitoring (LTM) plan will ensure that pathways, contaminants of concern and receptors at the site are regularly monitored so as to mitigate unnecessary risk.

Impacts in soil and surface water have been/will be tested for Petroleum Hydrocarbons (PHC), BTEX, Poly Aromatic Hydrocarbons (PAH) and metals at the site. Along with decreasing concentrations, sampled monitoring locations will also ensure that contaminants are not migrating from the specified impacted areas.

In 2021, no Post-Environmental Assessment Monitoring occurred.

5. Compliance with Decision Screening Report Terms and Conditions

The following subsections provide a status of compliance in relation to the terms and conditions of the Screening Decision (NIRB 2018), and the other NIRB Screening Decision Reports Applicable to the Project. Compliance monitoring involves an assessment undertaken by regulators and other agencies to establish whether the Project is compliant with relevant legislation, regulations, instruments, commitments and agreements. Compliance monitoring, as reported by authorizing agencies, is also a requirement of the NIRB's Monitoring Program.

Table 5-1 summarizes the compliance criteria used to determine if compliance of a term or condition was met. The Screening Decision conditions for the Project are represented by four statuses of compliance. If a term or condition threshold for compliance has been met (or exceeded), a ranking of "In compliance" was given. Conversely, in instances where some or none of the requirements are met, a ranking of "Incomplete compliance and "Not compliance" are given, respectively. In these cases, rationale is provided for why these requirements have not been met and what methodologies, mitigation methods and/or strategies will be put into place to achieve compliance.

Table 5-1: The Status of Compliance Criteria in relation to the Terms and Conditions of the Screening Decision

Status of Compliance	Compliance Criteria
In compliance	The condition requirements have been met.
Incomplete compliance	Some conditions have been met and evidence towards meeting compliance is demonstrated.
Non-compliance	The condition requirements have not been met.
Not applicable	The condition is related to Project activities or aspects that have not commenced or are not relevant to the Project or work category.

5.1 Performance on General Conditions

The Proponent shall always maintain a copy of the Project Terms and Conditions at the site of operation.

- In compliance

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.

- In compliance: all active permits are contained in **Appendix C**.

The Proponent shall operate in accordance with all commitments stated in correspondence and materials provided as a part of the current application package:

  - **NIRB Part 1 Form, April 5, 2012;**
  - **NPC Application for Conformity, April 16, 2012**
  - **AANDC Land Use Permit Application, April 4, 2012;**
  - **Operations and Maintenance for Drinking Water, Sewage, Solid waste Disposal and**
  - **Waste Treatment Facilities, 2021; and,**
  - **Operating procedures for Eureka Land Reserve, March 1, 2011.**

- Incomplete compliance; See following sections detailing areas of incomplete and non-compliance.

The Proponent shall operate the site in accordance with all applicable Acts, Regulations and Guidelines.

- Incomplete compliance; See following sections detailing areas of incomplete and non-compliance.

5.2 Compliance with NIRB Screening Decisions

5.2.1 Waste Disposal/Incineration/Landfarms

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.

- In compliance: All ash is collected and stored in 302L salvage barrels and retrograded to a facility down south

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.

- In compliance: Garbage collected throughout the day is kept indoors in a garbage bin and incinerated every morning. No garbage is stored/kept outdoors.

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.

- Not applicable: This relates to the camp.

The Proponent shall ensure that no waste oil/grease is incinerated on site.

- In compliance: All waste oil/grease is stored in 302L salvage barrels and retrograded to a facility down south for disposal.

The Proponent shall remove and treat hydrocarbon contaminated soils/snow on site or transport them to an approved disposal site for treatment.

- In compliance: Contaminated snow or soil as a result of oil/fuel leaks or spills from construction equipment is first contained in place, then excavated and placed into 302L salvage barrels and retrograded to a facility down south for disposal. Contaminated soils may also be temporarily stockpiled prior to the construction of the landfarm.

The Proponent shall only treat petroleum and hydrocarbon contaminated soils using the landfarm facility. Materials contaminated with other substances such as glycol and heavy metals are not to be stored at the landfarm and shall only be disposed of at an authorized facility.

- Not Applicable: There is no operational landfarm on site.

5.2.2 Wastewater Disposal and Storage

The Proponent shall ensure required standards, set out in the Nunavut Water Board's Water Licence for this project are met prior to any discharge of collected water in the retention cell.

- Non-compliance:

- Laboratory analysis results received in July, August and September 2021 indicated Biological Oxygen Demand and Fecal coliforms in the sewage lagoon exceeded the effluent quality limits described in Water Licence for sewage lagoon discharge (EUR-8BC- EUR2131)
- Authorization to decant the sewage lagoon was requested to CIRNAC on July 15, 2021. Written authorization was not received as the parameters were exceeded however 1529m3 of effluent was discharged prematurely during that time period.
- CIRNAC and NWB were notified of the intent to decant the sewage lagoon inSeptember 2021. Parameters were still exceeded. Decanting occurred on September 11, 2021 and is now complete.

Proponent shall ensure that the equipment used in the landfarm operation for aeration, have been cleaned off within the landfarm facilities prior to exiting to prevent contaminated soil transfer.

- Not applicable: No operational landfarm on site.

The Proponent shall take appropriate dust suppression measures when conducting soil turning and removal.

- In compliance: In 2021, water from West Remus Creek was used as a dust suppressant on site.

All operation personnel shall be adequately trained prior to commencement of any operation in the landfarm facility. Operational personnel should also be trained in the operational guidelines and commitments made by the Proponent for this project.

- Not applicable: No operational landfarm on site.

5.2.3 Fuel and Chemical Storage

The Proponent shall ensure that storage of fuel and hazardous materials and re-fuelling of project equipment is conducted at 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.

- In compliance

The Proponent shall store all fuel and chemicals in such a manner that they are inaccessible to wildlife.

- In compliance:

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 at all locations. Appropriate spill response equipment and clean-up materials (e.g., shovels, pumps, barrels, drip pans, and absorbents) must be readily available during any transfer of fuel or hazardous substances, as well as at fuel caches, vehicle-maintenance areas and drill sites. Spill kits and secondary containment structures should accommodate 110% of the capacity of the largest fuel storage container within the cache.

- Incomplete compliance; On August 16, 2021, approximately 800 litres of a contractor's stored waste oil was released onto the ground. Upon discovery, the contractor immediately cleaned up the impacted soil and prevented the spill from spreading. Other than immediate impacts to the local surficial soil, no other detrimental outcome or effects to the environment were observed. The spill was

immediately reported to the NU spill line. Approximately 35 m3 of soil was impacted and moved to a bermed holding cell with a liner. The impacted soil will be transported offsite in 2022 and disposed of at a licensed facility. In order to prevent a similar event from occurring in the future, the contractor will store all single walled storage containers in a lined containment berm area. Single wall totes will also no longer be used by the contractor to store waste oil products. All remaining product has been transferred into double wall steel tanks.

The Proponent shall inspect and document the condition of all large fuel tanks on a weekly basis. All fuel and chemical storage containers must be clearly marked with the Proponent's name and examined for leaks immediately upon delivery.

- In compliance:

The Proponent shall flag all fuel caches on site, so they remain visible in the winter months.

- In compliance

The Proponent shall use drip pans or other equivalent device when refuelling equipment on site. The Proponent shall ensure that appropriate spill kit (e.g., shovels, absorbents, etc.) must be readily available during any transfer of fuel.

- In compliance

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.

- In compliance: The waste oil spill occurring on August 16, 2021 was reported to the NU Spill Line within 4 hours of discovery. Appropriate fuel and hazardous waste handling procedures and spill response procedures were followed. Training logs for personal are provided in **Appendix B**.

5.2.4 Water License Compliance

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.

- In compliance: Water for construction purposes such as dust suppression was obtained from West Remus Creek only. Camp water was obtained through the HAWS raw water reservoir pumphouse. Station creek was also used as a water source, the watercourse is non-fish bearing

The Proponent shall only discharge water according to NWB license requirements.

- Non-compliance: Effluent discharged from the sewage lagoon exceeded the effluent quality limits. See below for details.

Effluent discharged from the Sewage Treatment Facility at monitoring station EUR-3 shall not exceed effluent quality limits.

- Non-compliance:

- Laboratory analysis results received in July, August and September 2021 indicated Biological Oxygen Demand and Fecal coliforms in the sewage lagoon exceeded the effluent quality limits described in Water Licence for sewage lagoon discharge (EUR-8BC- EUR2131)
- Authorization to decant the sewage lagoon was requested to CIRNAC on July 15, 2021. Written authorization was not received as the parameters were exceeded however 1529m3 of effluent was discharged prematurely during that time period.
- CIRNAC and NWB were notified of the intent to decant the sewage lagoon in September 2021. Parameters were still exceeded. Decanting occurred on September 11, 2021 and is now complete.

The Proponent shall not open burn plastics, wood treated with preservatives, electric wire, Styrofoam, asbestos or painted wood to prevent the deposition of waste materials of incomplete combustion and/or leachate from contaminated ash residual, from impacting any surrounding waters, unless otherwise approved by the Board in writing.

- In compliance: To ensure compliance with the Water Licence requirements the following mitigation measures have been completed:
  - Signs have been installed next to the burning location. Directive is in effect and is being followed by station staff and visitors.
  - Station occupants and managers have been notified of the rules related to open burning near water bodies on site.

The Proponent shall not cause erosion to the banks of any body of water and shall provide necessary controls to prevent such erosion.

- In compliance: To ensure compliance with the Water License requirements the following mitigation measures have been or are in the process of being completed:
  - It is recommended that the banks will be repaired, and work has been completed in fall of 2020.
  - Increased signage has been installed at site to notify drivers of heavy vehicles.
  - ECCC will establish an exclusion zone around the raw water reservoir and the wastewater lagoon to prevent erosion.

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.

- In compliance: To ensure compliance with the Water License requirements the following mitigation measures have been completed:
  - Flow meters have been installed at the raw pump house on site, and after the portable pump near the lagoon and are currently in service.
  - Monitoring of the sewage lagoon is stringent and ongoing. ECCC management will be notified if wastewater levels come close to the limits indicated at site. CIRNAC and NWB were notified of the intent to discharge wastewater on September 11, 2021.

5.2.5 Temporary Camps

The Proponent shall ensure that all camps are located on gravel, sand or other durable land.

- Not applicable: In 2021, no temporary camps were erected.

The Proponent shall not erect camps or store material on the surface ice of lakes or streams.

- Not applicable: In 2021, no temporary camps were erected.

5.2.6 Roads and Transportation

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.

- In compliance

The Proponent shall implement suitable erosion and sediment suppression measures on disturbed areas in order to prevent sediment from entering any water body.

- In compliance: To date, there has not been a need to install sedimentation and erosion controls along the road or at the airstrip work site. Conditions are monitored continuously; silt fencing is available on site, if needed.

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

- In compliance: All vehicles are fitted with factory exhaust systems.

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.

- In compliance: In 2021, only water was used as a dust suppressant on site.

5.2.7 Aggregate Extraction and Quarrying

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

- In compliance: All quarry sites are properly flagged and staked and visible to land users. Full time survey support is also present and available to monitor ground disturbance, as required.

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

- In compliance: Quarrying activities occur above the high-water mark.

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

- In compliance: The use of silt fencing has been explored; however, has not been required on site. An earth beam has been constructed along the western edge of the approved quarry to isolate and separate the main channel of west Remus Creek from the worksite.

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.

- In compliance: There are no obstructions to drainage or waterways on site.

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

- In compliance: The use of silt fencing has been explored; however, has not been required on site. An earth beam has been constructed along the western edge of the approved quarry to isolate and separate the main channel of West Remus Creek from the worksite.

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.

- In compliance: Appropriate buffer zones have been installed around the periphery of the quarry sites.

The Proponent shall locate screening and crushing equipment on stable ground, at a location with ready access to stockpiles.

- In compliance

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.

- In compliance: In 2021, only water was used as a dust suppressant on site.

5.2.8 Aircraft Flight Restrictions

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.

- In compliance

The Proponent shall ensure that aircraft maintain a vertical distance of 1,000 metres and a horizontal distance of 1,500 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.

- In compliance

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

- Not applicable: In 2021, no emergency aircraft was needed.

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.

- Not applicable: Notice to Airmen (NOTAM) was generated during the runway construction project. NOTAM was removed once runway construction was completed.

5.3 Performance on Ecosystemic Conditions

5.3.1 General Wildlife

The Proponent and staff will complete bear and carnivore safety training.

- In compliance: Wildlife monitor training lead by Arctic Response Canada. Training records are contained in **Appendix B**

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

- In compliance: Safe Operating Procedures (SOPs), wildlife observations and responses are reviewed with the crews during orientation and/or at other appropriate times during the construction phase.

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.

- In compliance: Work site SOP's, wildlife observations and responses are included in these documents and are reviewed with the crews during orientation and/or at other appropriate times during the construction phase.

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.

- In compliance: Work site SOP's, wildlife observations and responses are included in these documents and are reviewed with the crews during orientation and/or at other appropriate times during the construction phase. Training logs for personnel are provided in **Appendix B**.

5.3.2 Migratory Birds and Raptors

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 metre 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.

- In compliance: In 2021, one instance of bird nesting occurred in the construction zone. Work in the area was delayed until the fledglings left the nest.
    - There is an Arctic tern nesting area southwest of the station at the delta of Station Creek. These nesting grounds are located in and immediately outside the control zone at the Eureka OHF and would feel the immediate impact of a spill. If a spill occurs, the protection strategy would include hazing to scare any birds in the area, or relocating the boom to protect the shoreline along the delta should containment prove ineffective.

5.3.3 Species at Risk

As per the Species at Risk Act and the WWHMP, species at risk must be documented and reported to the appropriate authorities.

- Not applicable: No SARA listed species were observed and/or reported on site.

5.3.4 Reclamation of Disturbed Areas

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

- Not applicable: Site is still in operation and no areas have been abandoned.

5.4 Performance on Socio-Economic Conditions

The Proponent should, to the extent possible, hire local people and consult with local residents regarding their activities in the region.

- In compliance: The ability to hire from local Inuit communities was not possible for the majority of the 2021 season due to Covid related travel restrictions from Nunavut communities. In spite of this, Nuna (the main contractor) provided employment to 11 individuals of Inuit heritage that were living in other locations. Three Wildlife Monitors were Inuit and residing in Inuvik, five others were from southern Canada, while one was from Yellowknife and one from Cambridge Bay. In total, these 11 Inuit personnel generated approximately 10% of the total manhours for the Nuna team in 2021.Community and Indigenous engagement activities are described in Section 2.

6. NIRB Site Visits and Inspections

In 2021, no formal inspector site visits occurred. The last inspector visit was conducted in July 2019 and a copy of the Inspection Report is provided in the 2020 NIRB Annual Report.

Ongoing work site inspections throughout the work season include inspections of all fuel tanks for leakage/damage. Areas of concern noted during these daily inspections are documented through the reporting system as either a Spill or Equipment Damage event.

7. Closure

Should NIRB have any questions or concerns regarding this document, please contact the undersigned.

Nadia Baker, B.Sc.H., P.Biol., R.P.Bio
Environmental Assessment and Permitting Specialist
nadia.baker@aecom.com
AECOM Canada Ltd.

References

Arcadis Canada Inc. (Arcadis), 2018:

Environmental Impact Assessment Addendum for the High Arctic Weather Station Project Improvements for: Construction of New Road, Construction of Water Crossing over Black Top Creek, and Development of New Quarry Site. March 2018. Prepared for Public Services and Procurement Canada.

Nunavut Impact Review Board (NIRB), 2018:

Screening Decision Report File No. 12XN020. NPC File No.: 148746 (Related to NPC File No.: 148232), Nunavut Impact Review Board.

Nunavut Impact Review Board (NIRB), 2020:

Proponent's Guide., NIRB Technical Guide Series. Nunavut Impact Review Board.

Nunavut Impact Review Board (NIRB), 2020:

S. Granchinho, personal communication, September 4, 2020.

Nunavut Impact Review Board (NIRB), 2020:

K. Morrison, personal communication, November 9, 2020.

AECOM Imagine it. Delivered.

Appendix A

Wildlife Log

Date	Time	Observer	Species	Location	Number	Juvenile	Animal activity	Wildlife monitor action
2021-06-08	9:01	Sean Acheson (Arctic Response)	Muskox	1 KM N of camp	15+		Grazing	Observed
2021-06-08	10:23	Sean Acheson (Arctic Response)	Fox	E of Burn barrel	1		Sleeping	Observed
2021-06-08	10:30	Sean Acheson (Arctic Response)	Muskox	1 km NE of Blacktop	10+		Grazing	Observed
2021-06-08	10:39	Sean Acheson (Arctic Response)	Seal	50-300m from shore	3		Sunning on ice	Observed
2021-06-08	10:55	Sean Acheson (Arctic Response)	Muskox	2 km east of Remus	19		Grazing	Observed
2021-06-08	12:49	Sean Acheson (Arctic Response)	Fox	50 m east of sea cans	1		Drinking	Observed
2021-06-08	13:05	Sean Acheson (Arctic Response)	Fox	Near burn pit	1		Scavenging	Observed
2021-06-08	14:37	Sean Acheson (Arctic Response)	Muskox	Northwest of west end of airstrip	9+		Grazing	Observed
2021-06-08	14:54	Sean Acheson (Arctic Response)	Wolves		5		Walking	Observed
2021-06-08	16:00	Sean Acheson (Arctic Response)	Wolves	Blacktop Creek	9		Sleeping/playing	Observed
2021-06-09	6:40	Sean Acheson (Arctic Response)	Muskox	Northwest of Nuna Camp	15+		Grazing	Observed
2021-06-09	7:05	Sean Acheson (Arctic Response)	Muskox	East of Nuna camp	7		Grazing	Observed
2021-06-09	8:40	Sean Acheson (Arctic Response)	Seal	Fjord	1		Sunning on ice	Observed
2021-06-09	8:53	Sean Acheson (Arctic Response)	Muskox	2 km east of Remus	6		Grazing	Observed
2021-06-09	10:17	Sean Acheson (Arctic Response)	Muskox		9		Grazing	Observed
2021-06-09	10:28	Sean Acheson (Arctic Response)	Seal	1 KM S of burn pit	1		Sunning on ice	Observed
2021-06-09	10:48	Sean Acheson (Arctic Response)	Muskox	4 km N of Blacktop	30+		Grazing	Observed
2021-06-09	10:50	Sean Acheson (Arctic Response)	Wolves	Moving W to E in camp	4		Walking	Observed
2021-06-09	17:14	Sean Acheson (Arctic Response)	Canada Geese	300 m E of Blacktop	2		Swimming	Observed
2021-06-10	15:58	Sean Acheson (Arctic Response)	Sandpiper	Remus	3		Flying	Observed
2021-06-10	6:46-7:32	Sean Acheson (Arctic Response)	Muskox	2 km west of camp	11		Grazing	Observed
2021-06-10	8:42-15:48	Sean Acheson (Arctic Response)	Muskox	NE of Remus	5		Grazing	Observed
2021-06-11	6:43	Sean Acheson (Arctic Response)	Muskox	200 m SW of burn pit	1		Grazing	Observed
2021-06-11	9:19	Sean Acheson (Arctic Response)	Muskox	1500 E of Remus	17		Grazing	Observed
2021-06-11	9:26	Sean Acheson (Arctic Response)	Muskox	1800 m E of Remus	5		Grazing	Observed
2021-06-11	16:57	Sean Acheson (Arctic Response)	Seal	800 m SW of Blacktop	1		Sunning on ice	Observed
2021-06-12	6:34	Sean Acheson (Arctic Response)	Muskox	1 km NE of airstrip	8		Grazing	Observed
2021-06-12	6:39	Sean Acheson (Arctic Response)	Muskox	300 m S of burn pit	1		Grazing	Observed
2021-06-12	6:55	Sean Acheson (Arctic Response)	Muskox	5km NW of camp	20+		Grazing	Observed
2021-06-12	8:13	Sean Acheson (Arctic Response)	Fox	Near burn pit	1		Running	Observed
2021-06-12	8:22	Sean Acheson (Arctic Response)	Seal	500 m out on ice near Blacktop	3		Sleeping	Observed
2021-06-12	8:51	Sean Acheson (Arctic Response)	Muskox	N of Remus	8		Grazing	Observed
2021-06-12	17:28	Sean Acheson (Arctic Response)	Muskox	6 km E of airstrip	10+		Grazing	Observed
2021-06-13	6:21	Sean Acheson (Arctic Response)	Muskox	S of burn pit	1		Grazing	Observed
2021-06-13	6:32	Sean Acheson (Arctic Response)	Wolves	S to N through camp	3		Walking	Test wolves reaction to veh intimidation
2021-06-13	7:05	Sean Acheson (Arctic Response)	Muskox	4 km NE of airstrip	9		Grazing	Observed
2021-06-13	7:27	Sean Acheson (Arctic Response)	Muskox	6 km NW of camp	4		Grazing	Observed
2021-06-13	9:40	Sean Acheson (Arctic Response)	Wolves	Sewage lagoon	7		Playing	Observed
2021-06-13	13:20	Sean Acheson (Arctic Response)	wolves	700 m E of airstrip	1		Running	Observed
2021-06-14	6:21	Sean Acheson (Arctic Response)	Muskox	7 km NW of camp	4		Grazing	Observed
2021-06-14	6:22	Sean Acheson (Arctic Response)	Muskox	6 km NE of airstrip	8		Grazing	Observed
2021-06-14	6:24	Sean Acheson (Arctic Response)	Muskox	300 m S of burn pit	1		Sleeping	Observed
2021-06-14	6:33	Sean Acheson (Arctic Response)	Seal	1 km S of camp	1		Sleeping	Observed
2021-06-14	6:38	Sean Acheson (Arctic Response)	Muskox	1 km NE of airstrip	3		Grazing	Observed
2021-06-14	7:13	Sean Acheson (Arctic Response)	Muskox	10 km SE of Remus	4		Grazing	Observed
2021-06-14	15:27	Sean Acheson (Arctic Response)	Seal	300 m on ice between Blacktop and Re	1		Sunning on ice	Observed

2021-06-14	16:08	Sean Acheson (Arctic Response)	Muskox	6 km E of camp	6		Grazing	Observed
2021-06-15	7:13	Sean Acheson (Arctic Response)	Muskox	300 m S of burn pit	1		Running	Observed
2021-06-15	10:29	Sean Acheson (Arctic Response)	Arctic hare	50 m W of sand pit	1		Running	Observed
2021-06-15	11:35	Sean Acheson (Arctic Response)	Red knot	W end of crusher	3		Feeding	Observed
2021-06-15	12:47	Sean Acheson (Arctic Response)	Fox	W end of airstrip	1		Hunting	Observed
2021-06-16	6:21	Sean Acheson (Arctic Response)	Muskox	3 km N of airstrip	18		Grazing	Observed
2021-06-16	7:52	Sean Acheson (Arctic Response)	Arctic hare	50 m N of road by mile 7	1		Sitting	Observed
2021-06-17	6:54	Sean Acheson (Arctic Response)	Muskox	6 km NW of airstrip	6		Grazing	Observed
2021-06-17	7:43	Sean Acheson (Arctic Response)	Red knot	W end of airstrip	1		Singing	Observed
2021-06-17	8:23	Sean Acheson (Arctic Response)	Wolves	1 KM S of burn pit	1		Running	Observed
2021-06-17	9:01	Sean Acheson (Arctic Response)	Muskox	1.5 km NE of airstrip	3		Grazing	Observed
2021-06-17	16:25	Sean Acheson (Arctic Response)	Wolves	Beach	4		Running	Observed
2021-06-18	6:25	Sean Acheson (Arctic Response)	Muskox	1.5 km NE of airstrip	3		Grazing	Observed
2021-06-18	6:37	Sean Acheson (Arctic Response)	Muskox	10 km NW of camp	10		Grazing	Observed
2021-06-18	10:44	Sean Acheson (Arctic Response)	Muskox	10 km NE of Remus	10		Grazing	Observed
2021-06-18	16:56	Sean Acheson (Arctic Response)	Muskox	8 km NE of camp	4		Grazing	Observed
2021-06-19	7:13	Sean Acheson (Arctic Response)	Muskox	2 km NE of airstrip	3		Grazing	Observed
2021-06-19	9:10	Sean Acheson (Arctic Response)	Wolves	No location specified	2		Walking	Used bear banger
2021-06-19	13:20	Sean Acheson (Arctic Response)	Muskox	9 km N of camp	5		Grazing	Observed
2021-06-20	8:48	Sean Acheson (Arctic Response)	Muskox	5 km NW of camp	14		Grazing	Observed
2021-06-20	8:53	Sean Acheson (Arctic Response)	Muskox	1 km N of burn pit	3		Grazing	Observed
2021-06-21	6:47	Sean Acheson (Arctic Response)	Muskox	8 km N of Blacktop	13		Grazing	Observed
2021-06-21	7:01	Sean Acheson (Arctic Response)	Muskox	6 km N up Blacktop creek	3		Grazing	Observed
2021-06-21	7:18	Sean Acheson (Arctic Response)	Muskox	3 km NW of camp	5		Grazing	Observed
2021-06-21	7:49	Sean Acheson (Arctic Response)	Muskox	9 km NW of camp	20		Grazing	Observed
2021-06-22	6:32	Sean Acheson (Arctic Response)	Muskox	2 km NE of camp	10		Grazing	Observed
2021-06-22	6:38	Sean Acheson (Arctic Response)	Wolves	Burn pit	5		Sleeping	Monitored
2021-06-22	9:21	Sean Acheson (Arctic Response)	Muskox	1.5 km N or burn barrel	3		Grazing	Observed
2021-06-22	9:47	Sean Acheson (Arctic Response)	Muskox	7 km N of Blacktop	17		Grazing	Observed
2021-06-23	6:51	Sean Acheson (Arctic Response)	Muskox	1km E of camp	3		Grazing	Observed
2021-06-23	6:56	Sean Acheson (Arctic Response)	Muskox	6km N of camp	14		Grazing	Observed
2021-06-23	7:02	Sean Acheson (Arctic Response)	Muskox	500m N of airstrip	9		Grazing	Observed
2021-06-23	7:45	Sean Acheson (Arctic Response)	Muskox	6km NW of camp	12		Grazing	Observed
2021-06-23	16:43	Sean Acheson (Arctic Response)	Wolves	Blacktop Creek	5		Hunting, attacked muskox	Intercept
2021-06-24	6:38	Sean Acheson (Arctic Response)	Muskox	3km N of camp	14		Grazing	Observed
2021-06-24	8:04	Sean Acheson (Arctic Response)	Muskox	7km N of airstrip	20		Grazing	Observed
2021-06-25	6:32	Sean Acheson (Arctic Response)	Seal	2 km S of camp	1		Sunning on ice	Observed
2021-06-25	6:34	Sean Acheson (Arctic Response)	Muskox	2km W of haul road	10		Grazing	Observed
2021-06-25	6:44	Sean Acheson (Arctic Response)	Muskox	10km N of airstrip	16		Grazing	Observed
2021-06-25	12:32	Sean Acheson (Arctic Response)	Muskox	6 km NE of camp	10		Grazing	Observed
2021-06-26	11:20	Sean Acheson (Arctic Response)	Muskox	1.5 NE of cresting hill	13		Grazing	Observed
2021-06-26	16:41	Sean Acheson (Arctic Response)	Seal	2km S of camp	1		Sunning on ice	Observed
2021-06-27	7:00	Sean Acheson (Arctic Response)	Muskox	5 km S of Blacktop	10		Grazing	Observed
2021-06-27	7:01	Sean Acheson (Arctic Response)	Arctic hare	1km N of Blacktop	1		Grazing	Observed
2021-06-27	8:53	Sean Acheson (Arctic Response)	Muskox	400w of airstrip	6	2	Grazing	Observed
2021-06-27	10:50	Sean Acheson (Arctic Response)	Wolves	Camp	1		Walking	Intercept
2021-06-27	16:27	Sean Acheson (Arctic Response)	Muskox	1.5km NW of camp	6		Grazing	Observed

2021-06-28	6:19	Sean Acheson (Arctic Response)	Muskox	50m W of airstrip	6		Sleeping	Observed
2021-06-28	7:17	Sean Acheson (Arctic Response)	Fox	N side of camp	1		Running	Intercept
2021-06-28	17:35	Sean Acheson (Arctic Response)	Muskox	2 km NE of burn pit	20		Grazing	Observed
2021-06-29	6:36	Sean Acheson (Arctic Response)	Fox	Burn pit	1		Scavenging	Observed
2021-06-29	8:50	Sean Acheson (Arctic Response)	Muskox	3 km N of airstrip	15		Grazing	Observed
2021-06-29	11:58	Sean Acheson (Arctic Response)	Muskox	200 W of airstrip	6	2	Grazing	Observed
2021-06-29	12:55	Sean Acheson (Arctic Response)	Muskox	1.5 km NW of ridgeline	6		Grazing	Observed
2021-06-29	13:24	Sean Acheson (Arctic Response)	Red knot	50m W of airstrip	1		Flying	Observed
2021-06-29	14:21	Sean Acheson (Arctic Response)	Red knot	25m W of airstrip	12		Feeding	Observed
2021-06-30	6:29	Sean Acheson (Arctic Response)	Muskox	5km N of airstrip	20		Grazing	Observed
2021-06-30	8:15	Sean Acheson (Arctic Response)	Muskox	1km E of airstrip	5	2	Grazing	Observed
2021-07-01	6:22	Sean Acheson (Arctic Response)	Muskox	500m NE of burn pit	6		Grazing	Observed
2021-07-01	13:52	Sean Acheson (Arctic Response)	Wolves	Moving on road from Blacktop	1		Walking	Observed
2021-07-02	6:19	Sean Acheson (Arctic Response)	Muskox	2km N of burn pit	15		Grazing	Observed
2021-07-02	6:28	Sean Acheson (Arctic Response)	Muskox	In valley N of airstrip	5		Grazing	Observed
2021-07-02	7:39	Sean Acheson (Arctic Response)	Muskox	6km N of airstrip	15		Grazing	Observed
2021-07-02	15:20	Sean Acheson (Arctic Response)	Fox	Burn pit	1		Scavenging	Observed
2021-07-02	15:47	Sean Acheson (Arctic Response)	Muskox	4.6km E on mountainside	13		Grazing	Observed
2021-07-03	6:23	Sean Acheson (Arctic Response)	Muskox	2km N of burn pit	15		Grazing	Observed
2021-07-03	7:19	Sean Acheson (Arctic Response)	Red knot	100m E of camp	4		Feeding	Observed
2021-07-03	15:46	Sean Acheson (Arctic Response)	Muskox	1km E of airstrip	6		Grazing	Observed
2021-07-04	8:01	Sean Acheson (Arctic Response)	Red knot	Airstrip	10		Flying	Observed
2021-07-04	13:30	Sean Acheson (Arctic Response)	Snow banting	Crusher	7	5	Nesting	Reported
2021-07-04	17:17	Sean Acheson (Arctic Response)	Wolves	Blacktop to airstrip	10		Hunting	Observed
2021-07-05	12:40	Sean Acheson (Arctic Response)	Muskox	1 km N of camp	12		Grazing	Observed
2021-07-06	6:33	Sean Acheson (Arctic Response)	Muskox	800 m W of Inukshuk N of camp	10		Grazing	Observed
2021-07-06	14:40	Sean Acheson (Arctic Response)	Wolves	Camp	5		Running	Observed
2021-07-18	9:50	Lex Schroeder (Nuna)	wolves	Camp	1		Walking	Observed
2021-08-02	8:00	Christine Firth (Arctic Response)	Muskox	3km N of camp	10		Grazing	Observed
2021-08-03	13:00	Jonathan MacDonald (Nuna)	wolves	E end of airstrip	1		Walking	Observed
2021-08-03	15:00	Christine Firth (Arctic Response)	Wolves	Burn pit	3		Walking	Observed
2021-09-01	17:00	William Day (Arctic Response)	Muskox	10km N of airstrip	21		Grazing	Observed
2021-09-02	6:30	William Day (Arctic Response)	Muskox	5km N of camp	7		Grazing	Observed
2021-09-02	7:30	William Day (Arctic Response)	Muskox	5km S of Remus	5		Grazing	Observed
2021-09-02	13:00	William Day (Arctic Response)	Muskox	N of airstrip	11		Sleeping	Observed
2021-09-02	14:30	William Day (Arctic Response)	Wolves	Road between Blacktop and Remus	1		Walking	Observed
2021-09-03	7:00	William Day (Arctic Response)	Muskox	NE of Camp	5		Grazing	Observed
2021-09-03	8:30	William Day (Arctic Response)	Arctic hare	Camp	1		Running	Observed
2021-09-03	12:00	William Day (Arctic Response)	Wolves	Camp	8		Walking	Discharged 2 bangers and 3 rubber bullets
2021-09-04	7:30	William Day (Arctic Response)	Muskox	W end of airstrip	5		Sleeping	Observed
2021-09-04	13:30	William Day (Arctic Response)	Muskox	No location specified	5		Grazing	Observed
2021-09-05	7:00	William Day (Arctic Response)	Muskox	No location specified	5		Grazing	Observed
2021-09-05	11:00	William Day (Arctic Response)	Muskox	No location specified	5		Sleeping	Observed
2021-09-06	6:30	William Day (Arctic Response)	wolves	Camp	5		Walking	Discharged banger
2021-09-07	5:30	William Day (Arctic Response)	Arctic hare	No location specified	3		Grazing	Observed
2021-09-07	5:30	William Day (Arctic Response)	Arctic hare	No location specified	3		Grazing	Observed
2021-09-07	9:00	William Day (Arctic Response)	Muskox	No location specified	18		Sleeping	Observed

2021-09-07	10:00	William Day (Arctic Response)	Muskox	No location specified	8		Sleeping	Observed
2021-09-08	6:45	William Day (Arctic Response)	Muskox	No location specified	8		Grazing	Observed
2021-09-08	15:30	William Day (Arctic Response)	Muskox	No location specified	16		Grazing	Observed
2021-09-08	16:00	William Day (Arctic Response)	Arctic hare	No location specified	3		Eating	Observed
2021-09-09	7:30	William Day (Arctic Response)	Arctic hare	No location specified	1		Grazing	Observed
2021-09-09	8:00	William Day (Arctic Response)	Muskox	No location specified	3		Grazing	Observed
2021-09-09	12:30	William Day (Arctic Response)	Arctic hare	No location specified	1		Grazing	Observed
2021-09-09	13:00	William Day (Arctic Response)	Muskox	No location specified	20		Grazing	Observed
2021-09-09	17:00	William Day (Arctic Response)	Arctic hare	No location specified	2		Grazing	Observed
2021-09-09	17:00	William Day (Arctic Response)	Muskox	No location specified	15		Grazing	Observed
2021-09-10	9:30	William Day (Arctic Response)	Wolves	No location specified	7		Sleeping	Observed
2021-09-10	11:00	William Day (Arctic Response)	Arctic hare	No location specified	2		Grazing	Observed
2021-09-10	13:00	William Day (Arctic Response)	Muskox	No location specified	8		Grazing	Observed
2021-09-10	15:00	William Day (Arctic Response)	Muskox	No location specified	20	4	Grazing	Observed
2021-09-10	17:00	William Day (Arctic Response)	Wolves	Camp	7		Walking	Discharged bear banger
2021-09-11	10:00	William Day (Arctic Response)	Muskox	No location specified	21	4	Grazing	Observed
2021-09-12	7:00	William Day (Arctic Response)	Muskox	No location specified	21	4	Sleeping	Observed
2021-09-12	12:30	William Day (Arctic Response)	Muskox	No location specified	27	4	Grazing	Observed
2021-09-12	15:30	William Day (Arctic Response)	Muskox	No location specified	32		Grazing	Observed
2021-09-13	6:30	William Day (Arctic Response)	Muskox	No location specified	17		Sleeping	Observed
2021-09-13	14:30	William Day (Arctic Response)	Fox	No location specified	1		Running	Observed
2021-09-13	14:30	William Day (Arctic Response)	Arctic hare	No location specified	3		Grazing	Observed
2021-09-13	16:30	William Day (Arctic Response)	Muskox	No location specified	9		Grazing	Observed
2021-09-15	6:20	Lex Schroeder (Nuna)	Muskox	100m E of camp	10+		Grazing	Observed
2021-09-15	9:45	Lex Schroeder (Nuna)	Muskox	50m W of airstrip	2		Laying down	Observed
2021-09-15	11:00	Lex Schroeder (Nuna)	Arctic hare	DND apron	1		Hopping	Observed
2021-09-15	19:30	Lex Schroeder (Nuna)	Muskox	50m S of camp	2		Grazing	Observed
2021-09-15	7:00	Mike O'Connell (Nuna)	Wolves	Blacktop Creek	7		Walking	Observed
2021-09-16	18:00	Lex Schroeder (Nuna)	Muskox	50m S of camp	50+		Grazing	Observed
2021-09-18	7:00	Lex Schroeder (Nuna)	Muskox	50m S of camp	20		Sleeping	Observed
2021-09-18	7:00	Lex Schroeder (Nuna)	Muskox	50m S of DND	15		Sleeping	Observed

AECOM Imagine it. Delivered.

Appendix B

Personnel Training Records

ARCTIC RESPONSE CANADA LTD.
Safety and Rescue Leaders
Training • Plans • Operations • Recovery

TRAINING OUTLINE

Wildlife Monitor Training

I. Description

This course is designed to train future wildlife monitors for employment with Arctic Response Canada. Arctic Response monitors not only function as wildlife safety personnel, but are also employed as emergency response personnel in remote work locations.

Classroom training focuses on medical training, rescue tactics, workplace safety, firearms regulations and safety, and theoretical knowledge of wildlife in the area of operations.

Field training emphasizes rescue techniques, aircraft operations, off road vehicle training, and practical deterrent and firearms training.

This training is comprised of:

a. 5 weeks of classroom and field training.

II. Required Prerequisites

Participants will need to be successful in the following training areas to be offered a position with Arctic Response Canada LTD

- Hold a valid firearms Possession and Acquisition License (PAL);
- Successfully pass breath alcohol and urine-based drug testing;
- Using a model **Remington 870 12 gauge shotgun**, demonstrate the following safe and correct firearm handling procedures:
    - o Safety precautions
    - o Load
    - o Unload

- Be physically capable of providing effective over watch duties given 12 hour work days and up to 3 week rotations that includes:
    - o Carrying a 12 gauge shotgun and backpack with essential equipment and supplies weighing up to 12 kg; and
    - o Providing proactive monitoring on-foot throughout the work day.

- Demonstrate an acceptable expertise regarding local area wildlife.

III. Evaluation

- Practical skills evaluation and written tests

IV. Completion Requirements

- Attend all training
- Achieve a passing grade on all written tests
- Demonstrate proficient grasp of all practical skills
- Pass all weapons handling tests

V. Re-currency

- Recommended 4 year recertification

VI. Prerequisites

- Nil

VII. Course Contents

- Standard First Aid
- Wilderness First Aid
- WSCC Supervisor
- Canadian Firearms Safety Course
- Workplace Hazardous Materials Information System
- Transportation of Dangerous Goods
- Fire Watch and Fire Extinguisher
- Aircraft Safety
- Aircraft Extrication and Rescue
- ATV / UTV Operator
- Predator Defense

Conclusion

- Course Review and Summary
- Course Critique

Certificate of Completion

is awarded to

William Day

For

Wildlife Monitor Program

Mike Rarog
Chief Instructor

Jesse Beland
Course Instructor

Certification Date: March 28, 2019
Expiry Date: march 28, 2022

Certificate of Completion

is awarded to

Christine Firth

For

Wildlife Monitor Program

Mike Rarog
Chief Instructor

Jesse Beland
Course Instructor

Certification Date: March 28, 2019
Expiry Date: March 28, 2022

Certificate of Completion

is awarded to

Wayne Gordon

For

Wildlife Monitor Program

Mike Rarog
Chief Instructor

Jesse Beland
Course Instructor

Certification Date: March 28, 2019
Expiry Date: March 28, 2022

AECOM Imagine it. Delivered.

Appendix C

Active Permits

Indigenous and Northern Affairs Canada
Affaires autochtones et du Nord Canada

Land Administration
P.O. Box 100
IQALUIT, NU X0A 0H0
Phone: 867-975-4283
FAX: 867-975-6445
Email: landsmining@aandc.gc.ca

August 8th, 2017

Environment & Climate Change Canada
160 Chemin Tour de L'isle
Montreal, QC
H3C 4G8

Dear Jean Philippe Cloutier-Dussault,

Re: Land Use Permit #N2017N0017
Type of Operation: Research Facility
Location: Eureka, Baffin, NU, NTS 49G

Enclosed is your copy of Land Use permit number N2017N0017, authorizing your project as described in your application dated July 4th, 2017. This permit replaces permit N2012N0012. Please note that all obligations and liabilities held under this permit have now been transferred to your new permit.

Your application has received a wide distribution to other Federal departments, Government of the Nunavut departments, communities in the area of your operation and concerned Inuit groups. In distributing your application the Nunavut Impact Review Board (NIRB) sought comments from these various agencies based on their area of expertise that will help ensure minimum negative impact on the environment. The issuance of this permit indicates that as a result of the NIRB environmental screening process it was decided that the potentially adverse environmental effects that may be caused by your proposal are mitigable with known technology and are not significant. The terms and conditions in the permit will, in our opinion, provide the necessary protection to the environment.

Please ensure that you adhere to the operating conditions, including all reporting requirements, annexed to your permit. Should you have any questions regarding any conditions of this permit, please contact Karen McIntyre at (867)-975-4283 or email landsmining@aandc.gc.ca.

Sincerely,

Tracey McCaie
Manager, Land Administration

cc: Manager, Field Operations
RMO - Baffin

Indigenous and Northern Affairs Canada | Affaires autochtones et du Nord Canada

LAND USE PERMIT
NORTHERN AFFAIRS PROGRAM

PERMIS D'UTILISATION DES TERRES
PROGRAMME DES AFFAIRES DU NORD

Permit Class - Permis Categorie	Permit No - NE de permis
A	N2017N0017

Subject to the Territorial Land Use Regulations and the terms and conditions in this permit, authority is hereby granted to:

Sous réserve du Règlement sur l'utilisation des terres territoriales et des conditions de ce permis:

Environment & Climate Change Canada
Permittee - Détenteur de permis

To proceed with the land use operation described in the application of:

Est autorisé à entreprendre les travaux d'exploitation des terres décrits dans la demande de permis du:

Signature	Date
Jena-Philippe Cloutier-Dussault	July 4th, 2017

Type of Land Use Operation - Genre de travaux d'exploitation des terres

Research Facility

Location - Emplacement

Eureka, Baffin, NU, NTS 49G

The conditions attached to this permit are incorporated into and form an integral part of the permit.

Les conditions attachées à ce permis en font partie intégrante.

This permit may be assigned, extended, discontinued, suspended or cancelled pursuant to the Territorial Land Use Regulations.

Ce permis peut faire l'objet d'une cession, d'une prolongation d'une cessation d'une suspension ou d'une annulation, en vertu du Règlement sur l'utilisation des terres territoriales.

Dated at
Date a **Iqaluit**

Engineer
Ingénieur

This
Ce **8th**

Day of
Jour de **August, 2017**.

Commencement Date
Date du déut des travaux **July 4th, 2017**

Expiry Date
Date d'achèvement **July 3rd, 2022**

NOTE

IT IS A CONDITION OF THIS PERMIT THAT THE PERMITTEE COMPLY WITH ANY OTHER APPLICABLE ACT, REGULATION, ORDINANCE BY - LAW OR ORDER DEFAULT HEREOF MAY RESULT IN SUSPENSION OR CANCELLATION OF THIS PERMIT.

REMARQUE

LE DÉTENTEUR DU PRÉSENT PERMIS DOIT SE CONFORMER À TOUT AUTRE RÈGLEMENT, LOI, DÉCRET RÈGLEMENT MUNICIPAL OU ARRÊTÉ APPLICABLE. LE MANQUEMENT À CETTE OBLIGATION POURRAIT DONNER LIEU À LA SUSPENSION OU À L'ANNULATION DU PERMIS.

Canada

CONDITIONS ANNEXED TO AND FORMING PART OF LAND USE PERMIT NUMBER N2017N0017

Failure to comply with any term and condition issued as part of this permit is an offence under the Territorial Lands Act. Every person who commits an offence is liable, on summary conviction, for a first offence, to a fine not exceeding $100 000, and for a second or subsequent offence, to a fine not exceeding $200 000. Please note that an offence that is committed on more than one day constitutes a separate offence for each day on which it is committed or continued.

31 (1) (a) – Location and Area

1.	The Permittee shall not conduct this land use operation on any land(s) not designated in the accepted application, unless otherwise authorized in writing by the Engineer.	AUTHORIZED AREA OF ACTIVITY
2.	a) The Permittee shall offset vehicle travel in areas without a snow covered surface. b) The Permittee shall confine the line to a maximum width of 10 metres unless otherwise authorized in writing by a Land Use Inspector.	OFFSET VEHICLE TRAVEL
3.	The Permittee shall locate all camps on gravel, sand or other durable land.	CAMP LOCATION
4.	The Permittee shall use existing campsite.	CAMP LOCATION
5.	The Permittee shall locate all lines, trails and rights-of-way to be constructed parallel to streams a minimum of thirty one (31) meters from any stream except at crossings unless otherwise authorized in writing by a Land Use Inspector.	PARALLELLING STREAMS
6.	The Permittee shall not erect camps or store/stage material on the surface of frozen streams or lakes including the immediate banks except what is for immediate use.	STORAGE ON ICE

31 (1) (b) – Time

7.	The Permittee's Field Supervisor shall contact or meet with a Land Use Inspector at the Department of Indigenous and Northern Affairs Canada, phone number (867) 975-4517; at least 48 hours prior to the commencement of this land use operation.	CONTACT INSPECTOR
8.	The Permittee shall advise a Land Use Inspector at least 10 days prior to the completion of the land use operation of: a) a plan for removal or storage of equipment and materials, and; b) when final clean-up and restoration of the lands used will be completed.	REPORTS BEFORE REMOVAL
9.	The Permittee's Field Supervisor shall provide notification of commencement of the land use operation within 10 days, to the Engineer at the Iqaluit office of the Department of Indigenous and Northern Affairs Canada either by emailing landsmining@aandc.gc.ca or by telephone at (867) 975-4283.	NOTICE TO ENGINEER

10.	The Permittee shall provide in writing to the Engineer, at least forty-eight (48) hours prior to commencement of this land use operation, the following information: a) person, or persons, in charge of the field operation to whom notices, orders, and reports may be served, b) alternates, and; c) all the indirect methods for contacting the above person(s).	IDENTIFY AGENT
11.	The Permittee shall submit an annual report to the Engineer by March 30 of each year of permitted activities. The annual report must contain, but not limited to, the following information: a) a technical summary of the activities undertaken for the year, b) a table and map showing the following items, if applicable, with exact coordinates in degree/min/sec format, in NAD 83: i. All drilling locations ii. All fuel caches iii. Any other locations where activities were conducted c) a work plan for the following year, d) any progressive reclamation work undertaken.	ANNUAL REPORTING
12.	The Permittee shall complete all clean-up and restoration of the lands used prior to the expiry date of this permit.	CLEAN-UP
13.	The Engineer reserves the right to impose closure to any area to the Permittee in periods when dangers to natural resources are severe.	CLOSURE

31 (1) (c) – Equipment

14.	The Permittee shall not use any equipment except of the type, size and number that is listed in the accepted application, unless otherwise authorized in writing by the Land Use Inspector.	ONLY APPROVED EQUIPMENT
15.	The Permittee shall use a forced-air fuel-fired incinerator to incinerate all combustible garbage and debris. If no incinerator is being established on site, garbage must be backhauled to an approved disposal facility.	INCINERATORS
16.	The Permittee shall keep all garbage and debris in a covered container until disposed of at an approved facility. Garbage must be stored in such a manner as to prevent access by wildlife.	GARBAGE CONTAINERS
17.	The Permittee shall ensure that appropriate spill response equipment and clean-up materials (e.g. shovels, pumps, barrels, drip pans, and absorbents) must be readily available during any transfer of fuel or hazardous substances, as well as at fuel caches and drill sites. All activities should be conducted according to the approved Spill Response Plan.	SPILL RESPONSE KIT

31 (1) (e) - Type, Location, Capacity and Operation of Facilities

18.	The Permittee shall not locate any sump within thirty one (31) metres of the normal high water mark of any water body. Sumps and areas designated for waste disposal shall be sufficiently bermed or otherwise contained to ensure that substances do not enter a waterway unless otherwise authorized.	SUMPS FROM WATER
19.	The Permittee shall backfill and restore all sumps prior to the expiry date of this permit or immediately following completion of activity.	BACKFILL SUMPS
20.	The Permittee shall: a) backfill sumps with sufficient material to ensure that no hollows or cavities result from settling of the material; b) Overlap the replaced material a minimum of one (1) metre beyond the edges of the existing sump wall.	BACKFILL SUMP OVERLAP
21.	The Permittee shall ensure that the land use area is kept clean and tidy at all times.	CLEAN WORK AREA

31 (1) (f) - Control or Prevention of Flooding, Erosion and Subsidence of Land

22.	The Permittee shall remove any obstruction to natural drainage caused by any part of this land use operation.	NATURAL DRAINAGE
23.	The Permittee shall not use the bed of streams for access routes except for the purpose of crossing the streams unless otherwise authorized by a Land Use Inspector.	STREAM BEDS ACCESS
24.	The Permittee shall install erosion and sediment mitigation measures on disturbed areas before, during and after construction and as the land use operation progresses.	EROSION CONTROL
25.	The Permittee shall prepare the site in such a manner as to prevent rutting of the ground surface.	PREVENTION OF RUTTING
26.	The Permittee 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.	VEHICLE MOVEMENT FREEZE-UP
27.	The Permittee shall suspend overland travel of equipment or vehicles if rutting occurs.	SUSPEND OVERLAND TRAVEL

31 (1) (g) - Use, Storage, Handling and Disposal of Chemical or Toxic Material

28.	The Permittee shall remove all garbage and debris from the area of the land use operation to a disposal site approved in writing by a Land Use Inspector.	REMOVE GARBAGE
29.	The Permittee shall deposit all sewage into a sump.	SEWAGE DISPOSAL

30.	The Permittee shall store all fuel and chemicals in such a manner as to prevent access by wildlife	STORAGE
31.	The Permittee shall incinerate all combustible wastes daily and remove ash from incineration activities.	GARBAGE DISPOSAL
32.	The Permittee shall backhaul and dispose all combustible waste petroleum products at an approved disposal facility unless there is an approved waste oil burner on site.	WASTE PETROLEUM DISPOSAL
33.	The Permittee shall backhaul and dispose of all hazardous wastes at an approved waste disposal facility.	WASTE CHEMICAL DISPOSAL
34.	The Permittee shall report all spills immediately in accordance with instructions contained in "NT-NU Spill Report" form and to the twenty four (24) hour spill report line (867)920-8130.	REPORT CHEMICAL AND PETROLEUM SPILLS
35.	The Permittee shall not allow petroleum products or chemicals to spread to surrounding lands or into water bodies.	CONTAINMENT OF PETROLEUM PRODUCTS AND CHEMICALS

31 (1) (h) - Wildlife and Fisheries Habitat

36.	The Permittee shall not unnecessarily damage wildlife habitat in conducting this land use operation.	HABITAT DAMAGE
37.	The Permittee shall not obstruct the movement of fish while conducting this land use operation.	FREE FISH MOVEMENT
38.	The Permittee shall not harass wildlife. This includes persistently worrying, chasing, or disturbing large groups of animals.	HARASSMENT OF WILDLIFE
39.	The Permittee shall not disturb or destroy the nests or eggs of any birds. If nests are encountered and/or identified, the Permittee shall take precaution to avoid further interaction and/or disturbance (e.g. a 100 meter buffer around the nests). If active nests are discovered (i.e. with eggs or young) the Permittee shall avoid these areas until nesting is complete and the young have left the nest.	WILDLIFE SENSITIVITY
40.	The Permittee shall not touch, feed or entice wildlife to approach by holding out of setting out decoys or any such devise, foodstuffs or bait of any kind.	WILDLIFE INTERACTIONS

31 (1) (k) - Petroleum Fuel Storage

41.	The Permittee shall not place any petroleum fuel storage containers within thirty-one (31) metres of the normal high water mark of any water body.	FUEL STORAGE
42.	The Permittee shall locate mobile fuel facilities on land when stationary for any period of time exceeding twelve (12) hours.	FUEL ON LAND

43.	The Permittee shall not allow petroleum products to spread to surrounding lands or into water bodies.	FUEL CONTAINMENT
44.	The Permittee shall: a) examine all fuel storage containers for leaks a minimum of once every seven (7) days during operations; b) repair all leaks immediately; c) examine all fuel storage containers for leaks immediately upon delivery.	CHECK FOR LEAKS
45.	The Permittee shall construct a dyke around each stationary fuel container where any one container, or group of fuel containers piped together, has a capacity exceeding 50,000 litres.	DYKE FUEL CONTAINERS
46.	The Permittee shall line the dyke and area enclosed by the dyke with a type of plastic film liner approved by the Engineer.	LINE DYKE
47.	The Permittee shall ensure that the dyke and the area enclosed by the dyke shall be impermeable to petroleum products at all times.	IMPERMEABLE DYKE
48.	The Permittee shall seal all container outlets except the outlet currently in use.	SEAL OUTLET
49.	The Permittee shall mark all fuel containers with the Permittee's name and the Land Use Permit number.	MARK CONTAINERS
50.	The Permittee 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 at all locations as well as re-fuelling stations. The volume of the berm area shall be 10% greater than the capacity of the largest fuel container placed therein.	SECONDARY CONTAINMENT
51.	The Permittee shall remove and treat hydrocarbon contaminated soils on site or transport them to an approved disposal site for treatment.	CONTAMINATED SOIL

31 (1) (m) - Matters Not Inconsistent with the Regulations

52.	The Permittee shall display a copy of this permit in a conspicuous place in each campsite established to carry out this land use operation.	DISPLAY PERMIT
53.	The Permittee shall keep on hand, at all times during this land use operation, a copy of the Land Use Permit.	COPY OF PERMIT
54.	The Permittee shall conspicuously display the land use permit number on all vehicles and equipment.	DISPLAY PERMIT NUMBER
55.	The Permittee shall abide by and comply with all applicable lawful rules, acts, regulations, and by-laws of Canada, Nunavut, any Municipal or regulatory body or authority having jurisdiction, the Nunavut Land Claim Agreement, and all other agreements, permits, licenses, and other instruments whatsoever related to the project.	ADHERENCE TO LAWFUL RULES, ACTS, REGS & BYLAWS

ARCHAELOGICAL & PALEONTOLOGICAL TERMS AND CONDITIONS

	"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. "paleontological site" means a site where a fossil is found. "fossil" includes: (a) natural casts (b) Preserved tracks, coprolites and plant remains; and (c) the preserved shells and exoskeletons of invertebrates and the eggs, teeth and bones of vertebrates.	DEFINITIONS
	The Permittee shall avoid any known or suspected archaeological and/or paleontological sites.	AVOIDANCE OF ARCHAELOGICAL AND/OR PALEONTOLOGICAL SITES
	The Permittee shall not remove, disturb, or displace any archaeological artifact or site, or any paleontological site or fossil.	DISTURBANCE OF ARCHAELOGICAL AND/OR PALEONTOLOGICAL SITE
	The Permittee shall immediately cease any activity should a suspected archaeological, paleontological, or burial site be discovered during the course of a land use operation. The Permittee is required to immediately contact the Land Administration division at Indigenous and Northern Affairs Canada at (867) 975-4283 or (867) 975-4285 or (867) 975-4280 as well as the Department of Culture and Heritage at (867) 934-2046 or (867) 975-5500 or 1 (866) 934-2035.	CEASE OPERATION OF LAND USE ACTIVTY

	Permission to resume land use operation must be obtained from the engineer. At such time the Engineer may, at his/her discretion, require that you have an archaeologist or palaeontologist perform the following functions: (a) Survey (b) Inventory and documentation of the archaeological or (c) Paleontological resources of the land use area (d) Assessment of potential for damage to archaeological or paleontological sites (e) Mitigation (f) Marking boundaries of archaeological or paleontological sites (g) Site restoration	
	The Permittee shall ensure that all persons working under the authority of the permit are aware of these conditions pertaining to archaeological sites and artifacts as well as paleontological sites and fossils.	KNOWLEDGE OF ARCHAELOGICAL AND PALEONTOLOGICAL TERMS AND CONDITIONS

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.

a) 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.

(b) 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.

(c) 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 periodically check the SARA registry (www.sararegistry.gc.ca) to get the current status of a species.

Terrestrial Species at Risk	COSEWIC Designation	Schedule of SARA	Government with Lead Management Responsibility
Eskimo Curlew	Endangered	Schedule 1	EC
Ivory Gull	Endangered	Schedule 1	EC
Ross' Gull	Threatened	Schedule 1	EC
Harlequin Duck (Eastern Population)	Special Concern	Schedule 1	EC
Rusty Blackbird	Special Concern	Schedule 1	Government of Nunavut
Felt-leaf Willow	Special Concern	Schedule 1	Government of Nunavut
Peregrine Falcon	Special Concern (*anatum-tundrius* complex)	Schedule 1 (*anatum*) Schedule 3 (*tundrius*)	Government of Nunavut
Short-eared Owl	Special Concern	Schedule 3	Government of Nunavut
Peary Caribou	Endangered	Schedule 1	Government of Nunavut
Barren-ground Caribou (Dolphin and Union population	Special Concern	Schedule 1	Government of Nunavut
Polar Bear	Special Concern	Schedule 1	Government of Nunavut
Red Knott (*rufa* subspecies)	Endangered	Pending	EC
Red Knot (*islandica* subspecies)	Special Concern	Pending	EC
Porsild's Bryum	Threatened	Pending	GN
Horned Grebe (Western population	Special Concern	Pending	EC
Grizzly Bear	Special Concern	Pending	Government of Nunavut
Wolverine (Western Population)	Special Concern	Pending	Government of Nunavut
Atlantic Cod. Arctic Lakes	Special Concern	No Schedule	DFO
Atlantic Walrus	Special Concern	Pending	DFO
Beluga Whale (Cumberland Sound population)	Threatened	Pending	DFO
Beluga Whale (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
Killer Whale (Northwest Atlantic / Eastern Arctic populations)	Special Concern	Pending	DFO
Narwhal	Special Concern	Pending	DFO

CONDITIONS ANNEXED TO AND FORMING PART OF LAND USE PERMIT NUMBER N2017N0017

Amended June 18, 2018

Failure to comply with any term and condition issued as part of this permit is an offence under the Territorial Lands Act. Every person who commits an offence is liable, on summary conviction, for a first offence, to a fine not exceeding $100 000, and for a second or subsequent offence, to a fine not exceeding $200 000. Please note that an offence that is committed on more than one day constitutes a separate offence for each day on which it is committed or continued.

31 (1) (a) – Location and Area

1.	The Permittee shall not conduct this land use operation on any land(s) not designated in the accepted application, unless otherwise authorized in writing by the Engineer.	AUTHORIZED AREA OF ACTIVITY
2.	a) The Permittee shall offset vehicle travel in areas without a snow covered surface. b) The Permittee shall confine the line to a maximum width of 10 metres unless otherwise authorized in writing by a Land Use Inspector.	OFFSET VEHICLE TRAVEL
3.	The Permittee shall locate all camps on gravel, sand or other durable land.	CAMP LOCATION
4.	The Permittee shall use existing campsite.	CAMP LOCATION
5.	The Permittee shall locate all lines, trails and rights-of-way to be constructed parallel to streams a minimum of thirty one (31) meters from any stream except at crossings unless otherwise authorized in writing by a Land Use Inspector.	PARALLELLING STREAMS
6.	The Permittee shall not erect camps or store/stage material on the surface of frozen streams or lakes including the immediate banks except what is for immediate use.	STORAGE ON ICE

31 (1) (b) – Time

7.	The Permittee's Field Supervisor shall contact or meet with a Land Use Inspector at the Department of Indigenous and Northern Affairs Canada, phone number (867) 975-4517; at least 48 hours prior to the commencement of this land use operation.	CONTACT INSPECTOR
8.	The Permittee shall advise a Land Use Inspector at least 10 days prior to the completion of the land use operation of: a) a plan for removal or storage of equipment and materials, and; b) when final clean-up and restoration of the lands used will be completed.	REPORTS BEFORE REMOVAL
9.	The Permittee's Field Supervisor shall provide notification of commencement of the land use operation within 10 days, to the Engineer at the Iqaluit office of the Department of Indigenous and Northern Affairs Canada either by emailing landsmining@aandc.gc.ca or by telephone at (867) 975-4283.	NOTICE TO ENGINEER

10.	The Permittee shall provide updated locations of the following activities, if applicable, related to this project to the Inspector and Engineer within 10 days of establishment : a) Campsite b) Fuel caches c) Airstrip d) Drill laydown area e) Quarry locations All coordinates must be provided in degree/min/sec format in NAD 83.	UPDATE LOCATIONS
11.	The Permittee shall provide in writing to the Engineer, at least forty-eight (48) hours prior to commencement of this land use operation, the following information: a) person, or persons, in charge of the field operation to whom notices, orders, and reports may be served, b) alternates, and; c) all the indirect methods for contacting the above person(s).	IDENTIFY AGENT
12.	The Permittee shall submit an annual report to the Engineer by March 30 of each year of permitted activities. The annual report must contain, but not limited to, the following information: a) a technical summary of the activities undertaken for the year, b) a table and map showing the following items, if applicable, with exact coordinates in degree/min/sec format, in NAD 83: i. All drilling locations ii. All fuel caches iii. Any other locations where activities were conducted c) a work plan for the following year, d) any progressive reclamation work undertaken.	ANNUAL REPORTING
13.	The Permittee shall complete all clean-up and restoration of the lands used prior to the expiry date of this permit.	CLEAN-UP
14.	The Engineer reserves the right to impose closure to any area to the Permittee in periods when dangers to natural resources are severe.	CLOSURE

31 (1) (c) – Equipment

15.	The Permittee shall not use any equipment except of the type, size and number that is listed in the accepted application, unless otherwise authorized in writing by the Land Use Inspector.	ONLY APPROVED EQUIPMENT

16.	The Permittee shall use a forced-air fuel-fired incinerator to incinerate all combustible garbage and debris. If no incinerator is being established on site, garbage must be backhauled to an approved disposal facility.	INCINERATORS
17.	The Permittee shall keep all garbage and debris in a covered container until disposed of at an approved facility. Garbage must be stored in such a manner as to prevent access by wildlife.	GARBAGE CONTAINERS
18.	The Permittee shall ensure that appropriate spill response equipment and clean-up materials (e.g. shovels, pumps, barrels, drip pans, and absorbents) must be readily available during any transfer of fuel or hazardous substances, as well as at fuel caches and drill sites. All activities should be conducted according to the approved Spill Response Plan.	SPILL RESPONSE KIT

31 (1) (d) - Methods and Techniques

19.	The Permittee shall ensure that there is no blasting of any kind under this quarry permit.	NO BLASTING

31 (1) (e) - Type, Location, Capacity and Operation of Facilities

20.	The Permittee shall not locate any sump within thirty one (31) metres of the normal high water mark of any water body. Sumps and areas designated for waste disposal shall be sufficiently bermed or otherwise contained to ensure that substances do not enter a waterway unless otherwise authorized.	SUMPS FROM WATER
21.	The Permittee shall backfill and restore all sumps prior to the expiry date of this permit or immediately following completion of activity.	BACKFILL SUMPS
22.	The Permittee shall: a) backfill sumps with sufficient material to ensure that no hollows or cavities result from settling of the material; b) Overlap the replaced material a minimum of one (1) metre beyond the edges of the existing sump wall.	BACKFILL SUMP OVERLAP
23.	The Permittee shall ensure that the land use area is kept clean and tidy at all times.	CLEAN WORK AREA
24.	The Permittee shall clearly stake and flag pit and quarry boundaries so they remain visible to other land users throughout the year and do not present a hazard to overland travel.	QUARRY IDENTIFICATION
25.	The Permittee shall not conduct any quarrying activity within thirty-one (31) meters of the high water mark of any water body.	LOCATION OF QUARRY ACTIVITY
26.	The Permittee shall locate any screening and crushing equipment to be utilized on stable ground, at a location with ready access to stockpiles.	LOCATION OF QUARRYING EQUIPMENT

27.	The Permittee shall only treat petroleum and hydrocarbon contaminated soils at the landfarm facility. Materials contaminated with other substances must not be stored at the land farm and must be disposed of at an authorized facility.	LANDFARM OPERATIONS
28.	The Permittee shall ensure that all equipment used for aeration in the landfarm operation has been cleaned off within the landfarm facilities prior to exiting.	LANDFARM EQUIPMENT

31 (1) (f) - Control or Prevention of Flooding, Erosion and Subsidence of Land

29.	The Permittee shall remove any obstruction to natural drainage caused by any part of this land use operation.	NATURAL DRAINAGE
30.	The Permittee shall not use the bed of streams for access routes except for the purpose of crossing the streams unless otherwise authorized by a Land Use Inspector.	STREAM BEDS ACCESS
31.	The Permittee shall install erosion and sediment mitigation measures on disturbed areas before, during and after construction and as the land use operation progresses.	EROSION CONTROL
32.	The Permittee shall prepare the site in such a manner as to prevent rutting of the ground surface.	PREVENTION OF RUTTING
33.	The Permittee 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.	VEHICLE MOVEMENT FREEZE-UP
34.	The Permittee shall suspend overland travel of equipment or vehicles if rutting occurs.	SUSPEND OVERLAND TRAVEL

31 (1) (g) - Use, Storage, Handling and Disposal of Chemical or Toxic Material

35.	The Permittee shall remove all garbage and debris from the area of the land use operation to a disposal site approved in writing by a Land Use Inspector.	REMOVE GARBAGE
36.	The Permittee shall deposit all sewage into a sump.	SEWAGE DISPOSAL
37.	The Permittee shall store all fuel and chemicals in such a manner as to prevent access by wildlife	STORAGE
38.	The Permittee shall incinerate all combustible wastes daily and remove ash from incineration activities.	GARBAGE DISPOSAL
39.	The Permittee shall backhaul and dispose all combustible waste petroleum products at an approved disposal facility unless there is an approved waste oil burner on site.	WASTE PETROLEUM DISPOSAL

40.	The Permittee shall backhaul and dispose of all hazardous wastes at an approved waste disposal facility.	WASTE CHEMICAL DISPOSAL
41.	The Permittee shall report all spills immediately in accordance with instructions contained in "NT-NU Spill Report" form and to the twenty four (24) hour spill report line (867)920-8130.	REPORT CHEMICAL AND PETROLEUM SPILLS
42.	The Permittee shall not allow petroleum products or chemicals to spread to surrounding lands or into water bodies.	CONTAINMENT OF PETROLEUM PRODUCTS AND CHEMICALS

31 (1) (h) - Wildlife and Fisheries Habitat

43.	The Permittee shall not unnecessarily damage wildlife habitat in conducting this land use operation.	HABITAT DAMAGE
44.	The Permittee shall not obstruct the movement of fish while conducting this land use operation.	FREE FISH MOVEMENT
45.	The Permittee shall not harass wildlife. This includes persistently worrying, chasing, or disturbing large groups of animals.	HARASSMENT OF WILDLIFE
46.	The Permittee shall not disturb or destroy the nests or eggs of any birds. If nests are encountered and/or identified, the Permittee shall take precaution to avoid further interaction and/or disturbance (e.g. a 100 meter buffer around the nests). If active nests are discovered (i.e. with eggs or young) the Permittee shall avoid these areas until nesting is complete and the young have left the nest.	WILDLIFE SENSITIVITY
47.	The Permittee shall not touch, feed or entice wildlife to approach by holding out of setting out decoys or any such devise, foodstuffs or bait of any kind.	WILDLIFE INTERACTIONS

31 (1) (k) - Petroleum Fuel Storage

48.	The Permittee shall not place any petroleum fuel storage containers within thirty-one (31) metres of the normal high water mark of any water body.	FUEL STORAGE
49.	The Permittee shall locate mobile fuel facilities on land when stationary for any period of time exceeding twelve (12) hours.	FUEL ON LAND
50.	The Permittee shall not allow petroleum products to spread to surrounding lands or into water bodies.	FUEL CONTAINMENT
51.	The Permittee shall: a) examine all fuel storage containers for leaks a minimum of once every seven (7) days during operations; b) repair all leaks immediately; c) examine all fuel storage containers for leaks immediately upon delivery.	CHECK FOR LEAKS

52.	The Permittee shall construct a dyke around each stationary fuel container where any one container, or group of fuel containers piped together, has a capacity exceeding 50,000 litres.	DYKE FUEL CONTAINERS
53.	The Permittee shall line the dyke and area enclosed by the dyke with a type of plastic film liner approved by the Engineer.	LINE DYKE
54.	The Permittee shall ensure that the dyke and the area enclosed by the dyke shall be impermeable to petroleum products at all times.	IMPERMEABLE DYKE
55.	The Permittee shall seal all container outlets except the outlet currently in use.	SEAL OUTLET
56.	The Permittee shall mark all fuel containers with the Permittee's name and the Land Use Permit number.	MARK CONTAINERS
57.	The Permittee 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 at all locations as well as re-fuelling stations. The volume of the berm area shall be 10% greater than the capacity of the largest fuel container placed therein.	SECONDARY CONTAINMENT
58.	The Permittee shall remove and treat hydrocarbon contaminated soils on site or transport them to an approved disposal site for treatment.	CONTAMINATED SOIL

31 (1) (m) - Matters Not Inconsistent with the Regulations

59.	The Permittee shall display a copy of this permit in a conspicuous place in each campsite established to carry out this land use operation.	DISPLAY PERMIT
60.	The Permittee shall keep on hand, at all times during this land use operation, a copy of the Land Use Permit.	COPY OF PERMIT
61.	The Permittee shall conspicuously display the land use permit number on all vehicles and equipment.	DISPLAY PERMIT NUMBER
62.	The Permittee shall abide by and comply with all applicable lawful rules, acts, regulations, and by-laws of Canada, Nunavut, any Municipal or regulatory body or authority having jurisdiction, the Nunavut Land Claim Agreement, and all other agreements, permits, licenses, and other instruments whatsoever related to the project.	ADHERENCE TO LAWFUL RULES, ACTS, REGS & BYLAWS

ARCHAELOGICAL & PALEONTOLOGICAL TERMS AND CONDITIONS

	"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. "paleontological site" means a site where a fossil is found. "fossil" includes: (a) natural casts (b) Preserved tracks, coprolites and plant remains; and (c) the preserved shells and exoskeletons of invertebrates and the eggs, teeth and bones of vertebrates.	DEFINITIONS
	The Permittee shall avoid any known or suspected archaeological and/or paleontological sites.	AVOIDANCE OF ARCHAELOGICAL AND/OR PALEONTOLOGICAL SITES
	The Permittee shall not remove, disturb, or displace any archaeological artifact or site, or any paleontological site or fossil.	DISTURBANCE OF ARCHAELOGICAL AND/OR PALEONTOLOGICAL SITE
	The Permittee shall immediately cease any activity should a suspected archaeological, paleontological, or burial site be discovered during the course of a land use operation. The Permittee is required to immediately contact the Land Administration division at Indigenous and Northern Affairs Canada at (867) 975-4283 or (867) 975-4285 or (867) 975-4280 as well as the Department of Culture and Heritage at (867) 934-2046 or (867) 975-5500 or 1 (866) 934-2035.	CEASE OPERATION OF LAND USE ACTIVTY

	Permission to resume land use operation must be obtained from the engineer. At such time the Engineer may, at his/her discretion, require that you have an archaeologist or palaeontologist perform the following functions: (a) Survey (b) Inventory and documentation of the archaeological or (c) Paleontological resources of the land use area (d) Assessment of potential for damage to archaeological or paleontological sites (e) Mitigation (f) Marking boundaries of archaeological or paleontological sites (g) Site restoration	
	The Permittee shall ensure that all persons working under the authority of the permit are aware of these conditions pertaining to archaeological sites and artifacts as well as paleontological sites and fossils.	KNOWLEDGE OF ARCHAELOGICAL AND PALEONTOLOGICAL TERMS AND CONDITIONS

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.

a) 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.

(b) 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.

(c) 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 periodically check the SARA registry (www.sararegistry.gc.ca) to get the current status of a species.

Terrestrial Species at Risk	COSEWIC Designation	Schedule of SARA	Government with Lead Management Responsibility
Eskimo Curlew	Endangered	Schedule 1	EC
Ivory Gull	Endangered	Schedule 1	EC
Ross' Gull	Threatened	Schedule 1	EC
Harlequin Duck (Eastern Population)	Special Concern	Schedule 1	EC
Rusty Blackbird	Special Concern	Schedule 1	Government of Nunavut
Felt-leaf Willow	Special Concern	Schedule 1	Government of Nunavut
Peregrine Falcon	Special Concern (*anatun-tundrius* complex)	Schedule 1 (*anatum*) Schedule 3 (*tundrius*)	Government of Nunavut
Short-eared Owl	Special Concern	Schedule 3	Government of Nunavut
Peary Caribou	Endangered	Schedule 1	Government of Nunavut
Barren-ground Caribou (Dolphin and Union population	Special Concern	Schedule 1	Government of Nunavut
Polar Bear	Special Concern	Schedule 1	Government of Nunavut
Red Knott (*rufa* subspecies)	Endangered	Pending	EC
Red Knot (*islandica* subspecies)	Special Concern	Pending	EC
Porsild's Bryum	Threatened	Pending	GN
Horned Grebe (Western population	Special Concern	Pending	EC
Grizzly Bear	Special Concern	Pending	Government of Nunavut
Wolverine (Western Population)	Special Concern	Pending	Government of Nunavut
Atlantic Cod. Arctic Lakes	Special Concern	No Schedule	DFO
Atlantic Walrus	Special Concern	Pending	DFO
Beluga Whale (Cumberland Sound population)	Threatened	Pending	DFO
Beluga Whale (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
Killer Whale (Northwest Atlantic / Eastern Arctic populations)	Special Concern	Pending	DFO
Narwhal	Special Concern	Pending	DFO

TERRITORIAL QUARRYING REGULATIONS

QUARRYING PERMIT NO. 2021QP0001

Permit issued under Section 12(1) of Territorial Quarrying Regulations.

Environment & Climate Change Canada

of 160 Chemin Tour de L'isle, Montreal, QC H3C 4G8, is hereby authorized to take 449,800 cubic meters of Gravel from the lands described as follows: From one (1) Borrow area West Remus Creek, Eureka, Baffin, NT, NTS 49G

SUBJECT TO THE FOLLOWING CONDITIONS:

1. This permit expires 1 years from the date of issue or when the authorized quantity of material has been quarried or removed, whichever is the sooner.

2. This permit does not grant to the Permittee any exclusive right or leasehold interest in the land described herein.

3. This permit shall not be assigned.

4. All quarrying under this permit shall be carried out in accordance with the Nunavut Mining Safety Ordinance.

5. This permit is subject to the provisions of the Territorial Quarrying Regulations and the conditions set out herein. Failure to comply with the provisions of the Regulations and the conditions prescribed in this permit may result in cancellation of the permit in accordance with Section 12(5) of the Territorial Quarrying Regulations without prior notice to the Permittee.

6. The Permittee will identify the work area to the satisfaction of the Land Use Inspector prior to the removal of any material and any change in location will require prior approval of the Land Use Inspector.

7. The Permittee will not work any area worked by any other Permittee except as co-ordinated by the Land Use Inspector.

8. No material is to be removed from any land protected by a registered mineral claim, without the Permittee obtaining prior permission of the registered owner(s).

9. Prior to the tenth day of each month, the Permittee shall submit a report to the Land Use Inspector at **Iqaluit, Nunavut**, indicating the quantity of material quarried and the quantity of material removed from the site.

10. Upon expiration of this Permit, as prescribed in Condition One, the Permittee shall level the excavation and restore the lands to the satisfaction of the Land Use Inspector within 30 days of said expiration date or as may be authorized by the Land Use Inspector.

11. Land Use Permit **LUP # N2017N0017** and its operating conditions will apply.

Issued at Iqaluit, this 21st day of June, 2021.

Land Agent

TERRITORIAL QUARRYING REGULATIONS

QUARRYING PERMIT NO. 2020QP0002

Permit issued under Section 12(1) of Territorial Quarrying Regulations.

Environment & Climate Change Canada

of 160 Chemin Tour de L'Isle, Montreal, QC H3C 4G8, is hereby authorized to take 950 cubic meters of sand from the lands described as follows: From one (1) Borrow area West of Eureka HAWS, Baffin, NU, NTS 49G.

SUBJECT TO THE FOLLOWING CONDITIONS:

1. This permit expires thirty-six months from the date of issue or when the authorized quantity of material has been quarried or removed, whichever is the sooner.
2. This permit does not grant to the Permittee any exclusive right or leasehold interest in the land described herein.
3. This permit shall not be assigned.
4. All quarrying under this permit shall be carried out in accordance with the Nunavut Mining Safety Ordinance.
5. This permit is subject to the provisions of the Territorial Quarrying Regulations and the conditions set out herein. Failure to comply with the provisions of the Regulations and the conditions prescribed in this permit may result in cancellation of the permit in accordance with Section 12(5) of the Territorial Quarrying Regulations without prior notice to the Permittee.
6. The Permittee will identify the work area to the satisfaction of the Land Use Inspector prior to the removal of any material and any change in location will require prior approval of the Land Use Inspector.
7. The Permittee will not work any area worked by any other Permittee except as co-ordinated by the Land Use Inspector.
8. No material is to be removed from any land protected by a registered mineral claim, without the Permittee obtaining prior permission of the registered owner(s).
9. Prior to the tenth day of each month, the Permittee shall submit a report to the Land Use Inspector at Iqaluit, Nunavut, indicating the quantity of material quarried and the quantity of material removed from the site.
10. Upon expiration of this Permit, as prescribed in Condition One, the Permittee shall level the excavation and restore the lands to the satisfaction of the Land Use Inspector within 30 days of said expiration date or as may be authorized by the Land Use Inspector.
11. Land Use Permit LUP # N2017N002 and its operating conditions will apply.

Issued at Iqaluit, this 27th day of February, 2020.

Land Agent

Canada

ᓄᓇᕗᑦ ᐃᒪᓕᕆᔨᑦ ᑲᑎᒪᔨᖏᑦ
NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYINGI
OFFICE DES EAUX DU NUNAVUT

File No: 8BC-EUR2131

July 22, 2021

Asif Mohammed
Real Property Management Division
Environment & Climate Change Canada
867 Lakeshore Rd, GROUND
Office L128
Burlington, ON L7S 1A1

Email: asif.mohammed@canada.ca

RE: NWB Amended Renewal Water Licence No: 8BC-EUR2131

Dear Asif Mohammed:

Please find attached Amended Renewal Water Licence Licence No: 8BC-EUR2131 (Renewal Licence or Licence) issued to Environment and Climate Change Canada (ECCC) by the Nunavut Water Board (NWB or Board) pursuant to its authority under Article 13 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in Right of Canada* (*Nunavut Agreement*). The terms and conditions of the attached Licence related to the use of Water and the deposit of Waste are an integral part of this approval.

If the Licensee contemplates the continuing of this Undertaking after the Water Licence expires, it is the responsibility of the Licensee to apply to the NWB for a renewal water licence. The past performance of the Licensee, new documentation and information, and issues raised during a public hearing, if the NWB is required to hold one, will be used to determine the terms and conditions of the renewal Water Licence. Note that if the Licence expires before the NWB issues a new one, then the use of Water and the deposit of Waste must cease, or the Licensee may be in contravention of the *Nunavut Agreement* and the *Nunavut Waters and Nunavut Surface Rights Tribunal Act (NWNSRTA)*. However, the expiry or cancellation of a licence does not relieve the holder from any obligations imposed by the licence. The NWB recommends that an application for the renewal of this Licence be filed at least **three (3) months** prior to the Licence expiry date. It should be noted that in accordance with s. 75(1)(a) of the *Nunavut Planning and Project Assessment Act* (*NuPPAA*), the Board is not allowed to issue a permit or authorization for any project proposal that has not been submitted to the Nunavut Planning Commission (NPC) in accordance with s. 76 of *NuPPAA*.

If the Licensee contemplates or requires an amendment to this Licence, the NWB may decide, in the public's interest, to hold a public hearing. The Licensee should submit applications for amendment as soon as possible to give the NWB sufficient time to go through the amendment

process. The process and timing may vary depending on the scope of the amendment; however, a minimum of **sixty (60) days** is required from time of acceptance by the NWB. It is the responsibility of the Licensee to ensure that all application materials have been received and are acknowledged by the Manager of Licensing.

Sincerely,

Lootie Toomasie
Nunavut Water Board,
Chair

LT/ak/rqd

Enclosure: Licence No: 8BC-EUR2131

Cc: Distribution List – Qikiqtani

TABLE OF CONTENTS

DECISION

LICENCE NUMBER: 8BC-EUR2131

This is the decision of the Nunavut Water Board (NWB) with respect to an application dated June 18, 2021 for an amendment to Water Licence made by:

ENVIRONMENT AND CLIMATE CHANGE CANADA

to allow for the use of Water and the deposit of Waste during camp operations and activities related to the operation and routine maintenance of the federal weather and scientific station that include quarry expansion and operation, dust suppression, temporary storage of contaminated soils, runway surface repair, and construction of a new multi-purpose building at the Environment and Climate Change Canada's Eureka High Arctic Weather Station (HAWS) located on Ellesmere Island within the Qikiqtani Region, Nunavut, generally located at the geographical coordinates as follows:

Project Extents:

Latitude: 80° 0' 10.665" N	Longitude: 85° 54' 57.015" W
Latitude: 79° 59' 21.095" N	Longitude: 85° 57' 5.209" W
Latitude: 79° 57' 18.804" N	Longitude: 85° 18' 51.225" W
Latitude: 79° 56' 29.467" N	Longitude: 85° 21' 1.742" W

Camp Location(s):

Latitude: 79° 59' 29.268" N	Longitude: 85° 52' 17.112" W
Latitude: 79° 59' 21.851" N	Longitude: 85° 53' 59.853" W

DECISION

After having been satisfied that the Application is for a proposal that was previously reviewed by the Nunavut Planning Commission (NPC) and for which the conformity determinations, dated December 17, 2010, April 19, 2012, April 16, 2016, March 7, 2018, and January 22, 2021, remain applicable, as determined by the NPC[1], and as determined by the Nunavut Impact Review Board (NIRB)[2], a review of the Project is not required in accordance with s. 92(1)(a) of *NuPPAA*, the NWB decided that the application could proceed through the regulatory process. In accordance with s. 55.1 of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (*NWNSRTA* or *Act*) and Article 13 of the *Nunavut Agreement*, public notice of the Application was given and interested persons were invited to make representations to the NWB.

After reviewing the submission of the Applicant and considering the representations made by interested persons, the NWB, having given due regard to the facts and circumstances, the merits of the submissions made to it and to the purpose, scope and intent of the *Nunavut Agreement* and of the *Act*, waived the requirement to hold a public hearing, and determined that:

[1] Nunavut Planning Commission, Conformity Determination, February 9, 2021.
[2] Nunavut Impact Review Board (NIRB) Screening Determination, April 21, 2021.

Licence No: 8BC-EUR1621 be amended and renewed as Licence No: 8BC-EUR2131 subject to the terms and conditions contained therein. (Motion #: 2021-B1-08)

Signed this 22nd day of July, 2021 at Gjoa Haven, NU.

Lootie Toomasie
Nunavut Water Board,
Chair

LT/ak/rqd

WATER LICENCE NO: 8BC-EUR2131

I. BACKGROUND

The water licence amendment/renewal application (Application) being considered by the Nunavut Water Board (NWB or Board) was filed by Environment and Climate Change Canada (the Applicant, Licensee or ECCC) on June 18, 2021 to seek renewal of Type "B" Water Licence No: 8BC-EUR1621 resulting in the issuance of Water Licence No: 8BC-EUR21231 (Licence) for the Eureka High Arctic Weather Station (HAWS or Eureka) Project. The Project is located 425 km north-northwest of Grise Fiord within the Qikiqtani Region of Nunavut.

Facilities at Eureka include operation of water reservoir, pump-house, water crossings, sewage lagoon, several landfills and a landfarm, power-house, fuel storage facility, electrical-plumbing-carpentry facilities shops, accommodations and other buildings, maintenance garage, warehouses, quarry operation, runway surface repair, dust suppression, incinerator.

ECCC sought to continue the above stated activities. New activities included quarry expansion and temporary storage of contaminated soils.

II. FILE PROCEDURAL HISTORY

On February 6, 2005, the Nunavut Water Board issued a type "B" Water Licence 3BC-EUR0611 to Environment Canada (EC) to allow for the use of water, the disposal of waste and handling or storage of petroleum products or hazardous materials for the Eureka Weather Station. The Licence expired on January 30, 2011.

On June 7, 2011, the NWB issued a type "B" Water Licence 3BC-EUR1116 to EC to allow for the continued use of water and the disposal of waste for the Eureka High Arctic Weather Station (HAWS). The Licence expiry was set at June 7, 2016.

On July 14, 2015, Environment and Climate Change Canada (ECCC) sought to make amendments to the original scope of the licence and submitted an amendment application for Water Licence 3BC-EUR116. On January 20, 2016, the NWB distributed this application for a thirty (30) day review by interested parties. However, given the facts that the Licence was close to its expiration date, and the length of the time required of the review process, which is preceded by the NPC and NIRB review processes the Licensee was advised to withdraw the amendment application and submit a new, combined amendment/renewal application. On June 7, 2016 a combined amendment-renewal application (the Application) for the type "B" Water Licence 3BC-EUR116 was filed by ECCC, which was approved by the Board as licence No: 8BC-EUR1621 on August 11, 2016. On July 18, 2018, the NWB issued an amendment to the licence that authorized the use of water from additional water source (West Remus Creek) for dust suppression, construction of a haul road and water crossing over Blacktop Creek and the development of a new quarry.

On February 9, 2021, the Nunavut Planning Commission (NPC) issued a conformity determination stating that previous conformity determinations, dated December 17, 2010, April 19, 2012, April 16, 2016, March 7, 2018, and January 22, 2021, remain applicable. The NPC

deemed the Project proposal as conforming to the North Baffin Regional Use Plan. On April 21, 2021, the Nunavut Impact Review Board (NIRB) issued its screening determination that the review of the Project is not required in accordance with s. 92(1)(a) of *NuPPAA*.

On June 18, 2021, ECCC submitted an application package for a renewal and amendment of licence No: 8BC-EUR1621. The requested changes included water crossings, quarry expansion, and temporary storage of contaminated soil, as well as renewing the licence term to 2031.

III. GENERAL CONSIDERATIONS

Term of Licence
In accordance with the *Nunavut Waters and Nunavut Surface Rights Tribunal Act (NWNSRTA)* s. 45, the NWB may issue a licence for a term not exceeding twenty-five years. The Applicant requested extending the term of the Licence to August 2031. The NWB did not receive from public any objections or concerns with the requested term. Although the Board has accepted with the requested term, the Board would like to remind that the Licensee should do its best to comply with all terms and conditions of Licence. The Licensee is advised that the Renewal Licence No: 8BC-EUR2131 is to supersede the current Water Licence No: 8BC-EUR1621.

A. Scope, Definitions and Enforcement

Scope
The Licence is to allow for the use of water and the deposit of waste in support of activities related to the operation of the federal weather and scientific station that operation of water reservoir, pump-house, water crossings, sewage lagoon, several landfills and a landfarm, power-house, fuel storage facility, electrical-plumbing-carpentry facilities shops, accommodations and other buildings, maintenance garage, warehouses, quarry operation, runway surface repair, dust suppression, incinerator, construction of a new multi-purpose building, quarry expansion, and temporary storage of contaminated soils.

Enforcement
To ensure that the Licensee complies with the terms and conditions of the Licence, Inspectors designated and empowered by the Minister of Northern Affairs (Minister) may inspect or examine works, activities, and undertakings associated with the use of water and the deposit of waste for the purposes of exercising their powers in accordance with the *NWNSRTA*.[3]

Compliance
ECCC should note that compliance with the terms and conditions of this Licence does not necessarily absolve the Licensee from the responsibility to comply with all other applicable legislation, guidelines, and directives.

B. General Conditions

Part B of the Licence addresses the general terms and conditions that apply to the Undertaking,

[3] Sections 85-88 of the *NWNSRTA*.

such as annual report submission, protocols for handling documents related to the Licence, posting of signage at sites associated with the Undertaking, and more.

C. Conditions Applying to Water Use

The Licensee shall obtain all fresh water in amounts and from the sources described in Table 1 in Part C, Item 1. The volume of water for all purposes under this Licence shall not exceed ten thousand (10,000) cubic metres per year and two hundred and ninety-nine (299) cubic metres per day. The Eureka HAWS water reservoir is also the source of water for the Department of National Defense (DND)'s Canadian Force Station (CFS) Eureka. Water from the Eureka HAWS reservoir is trucked to the DND CFS-Eureka station and discharged into a cistern system. While there have been two new water sources authorized under this Licence, the total authorized withdrawal annual and daily rates remain the same.

D. Conditions Applying to Waste Disposal

Waste facilities at Eureka include a sewage lagoon, at least four solid waste disposal sites (landfills/dumps), a landfarm, and a temporary contaminated soil storage area. The sewage lagoon at the Eureka HAWS is a single cell, engineered retention lagoon and is located to the south of the complex in the immediate vicinity of the Fjord. The Licensee plans to construct a wastewater treatment plant in the future.
The wastewater is collected in a storage tank where the wastewater is pumped to the lagoon where solids are allowed to settle and limited decomposition takes place. The sewage lagoon is usually discharged twice a year, once at the beginning of July as capacity has been reached and again at the end of August in order to provide sufficient capacity to hold wastewater over the following winter months. The decanting process normally takes about 48 hours. Wastewater samples are collected at the discharge pipe. Samples are analyzed for biochemical oxygen demand (BOD5), total suspended solids (TSS), ammonia, fecal coliforms, pH, conductivity, metals, major cations, sulphates, oil and grease and total phenol.

East Landfill is used to contain non-organic/non-hazardous waste that cannot be incinerated and is located at the east end of the landing strip (79° 59.484'N and 85° 46.335'W). Non-hazardous ash from the incinerator is disposed of at this landfill. Drum Crushing site is located south of the runway (79° 59.374'N and 85° 55.586'W) and west of the East Landfill. This is a lined area used for crushing of drums prior to disposal. Previous records indicate that other landfills exist: Ash Landfill used to receive ash from the incineration of kitchen wastes (although since 2000 there has been no ash deposited at this site, which has been diverted to the East Landfill); Asbestos Landfill that received asbestos removed from buildings on site; and West Landfill that contained kitchen waste and buried fuel drums. The Licensee noted that other historic landfills could exist, but locating historical plans and drawings of these landfills proved unsuccessful.

In 2020, during runway repair, the Licensee discovered petroleum hydrocarbon-impacted soils while excavating the main apron area. Approximately 3,200 m^3 of contaminated soil were placed in a lined, bermed area. The stockpile area was constructed to the south of the airstrip, near an existing landfarm. The base liner was constructed from high-density polyethylene. Berms were constructed from native soil in the stockpile area. The Licensee did not receive the Board's

approval for the construction of this Temporary Contaminated Soil Storage. An as-built drawing was submitted with the Application. The Licensee stated that it retained "a consultant working on preparing a remedial options analysis and remedial action plan which tentatively includes a sampling plan to characterize the stockpile" in summer 2020. Thus, the Board included a provision for the Licensee to submit a remedial options analysis and remedial action plan with the 2021 Annual Report. The Board also included Effluent limits for any discharges from the Temporary Contaminated Soil Storage under Part D, Item 11.

Previously set limits for Effluent discharge from the Landfarm and Landfills remain unchanged in this Licence.

It should be noted that ECCC included the request for open burning of untreated wood. The Board granted the request and set a number of conditions for the Licensee to adhere during open burning of acceptable wood products.

E. Conditions Applying for Camps, Access Infrastructures and Operations

The Licensee shall implement the Plan entitled *Revised Quarry Operations Plan West Remus Creek, Eureka, Nunavut* prepared by Nuna East Ltd. and dated May 2021 as approved by the Board with the issuance of this Licence. In addition, the Board has approved the *Summary of Operations and Maintenance Procedures for Drinking Water, Sewage, Solid Waste Disposal and Waste Treatment Facilities* prepared by Public Services and Procurement Canada (PSPC) and dated June 2021.

F. Conditions Applying to Modifications

The Applicant is required to obtain permission from the NWB for modifications that do not meet the criteria of Part F, Item 1 of the Licence. As per Part F, Item 2, without written approval from the NWB, the Licensee shall not carry out these modifications. Changes that do not meet the definition of a Modification under the Licence or the requirements of Part F may be considered amendments to the Licence.

G. Conditions Applying to Spill Contingency Planning

The Board has approved the *Emergency Plan for Petroleum and Allied Petroleum Products* dated April 2021 that was submitted as additional information with the Application.

H. Conditions Applying to Closure and Reclamation or Temporary Closure

The Board has approved the *Interim Abandonment & Restoration Plan* prepared by Public Services and Procurement Canada (PSPC) and dated June 2021 that was submitted as additional information with the Application. At least one (1) year prior to final abandonment, the Licensee shall submit to the Board for approval in writing, a Final Abandonment and Restoration Plan. The Plan shall include, in addition to the content of the Interim Plan, the following:

a. A description of contaminated soils identified at the site through a completed Phase III Environmental Assessment and the procedures to mitigate the

contamination;

b. A summary of existing data for background levels of metals in the area, and identification of needs for verification of data;
c. A description of restoration activities outlined in the Interim Abandonment and Restoration Plan:
d. An implementation schedule for the completion of restoration; and
e. A detailed monitoring program.

I. Conditions Applying to the Monitoring Program

The requirement to submit for review of the Board, within ninety (90) days of issuance of this Licence, a revised Quality Assurance / Quality Control (QA/QC) Plan was transferred from the previous Licence. The Licensee committed to comply with the requirement. The QA/QC Plan shall include up to date sampling methods to all applicable standards, acceptable to an accredited laboratory as required by Part I, Item 8. The Plan shall include a cover letter from an accredited laboratory confirming acceptance of the Plan for analyses to be performed under this Licence.
Any modifications to the Monitoring Program may be made only upon written approval from the Board. Requests for changes to the Monitoring Program should be forwarded to the NWB in writing, and shall include justification and appropriate evidence to support the change.

NUNAVUT WATER BOARD
RENEWAL WATER LICENCE

Licence No: 8BC-EUR2131

Pursuant to the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* and the *Agreement Between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada*, the Nunavut Water Board, hereinafter referred to as the Board, hereby grants to

ENVIRONMENT AND CLIMATE CHANGE CANADA

(Licensee)

867 LAKESHORE RD, GROUND, OFFICE L128, BURLINGTON, ON, L7S 1A1

(Mailing Address)

hereinafter called the Licensee, the right to alter, divert or otherwise use water or dispose of Waste for a period subject to restrictions and conditions contained within this Licence Renewal-Amendment:

Licence Number/Type:	**8BC-EUR2131 / TYPE "B"**
Water Management Area:	**NANSEN AND EUREKA SOUNDS WATERSHED (59)**
Location:	**EUREKA HIGH ARCTIC WEATHER STATION (HAWS) QIKIQTANI REGION, NUNAVUT**
Classification:	**8. OTHER UNDERTAKING**
Purpose:	**DIRECT USE OF WATER AND DEPOSIT OF WASTE**
Quantity of Water use not to Exceed:	**TEN THOUSAND (10,000) CUBIC METRES PER ANNUM AT A MAXIMUM RATE OF TWO HUNDRED AND NINETY-NINE (299) CUBIC METRES PER DAY**
Date of Licence Issuance:	**JULY 22, 2021**
Expiry of Licence:	**JULY 21, 2031**

This Renewal Licence, issued and recorded at Gjoa Haven, Nunavut, includes and is subject to the annexed conditions.

Lootie Toomasie
Nunavut Water Board, Chair

PART A: SCOPE, DEFINITIONS AND ENFORCEMENT

1. Scope

This Licence allows for the use of Water and the deposit of Waste for an undertaking classified "Other" as per Schedule 1 of the *Regulations* at the Eureka High Arctic Weather Station (HAWS) Project, located approximately 425 km north-northwest of Grise Fiord within the Qikiqtani Region, Nunavut.

a. This Licence is issued subject to the conditions contained herein with respect to the taking of Water and the deposit of Waste of any type in any Waters or in any place under any conditions where such Waste or any other Waste that results from the deposits of such Waste may enter any Waters. Whenever new Regulations are made or existing *Regulations* are amended by the Governor in Council under the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*, or other statutes imposing more stringent conditions relating to the quantity or type of Waste that may be so deposited or under which any such Waste may be so deposited, this Licence shall be deemed, upon promulgation of such Regulations, to be subject to such requirements; and

b. Compliance with the terms and conditions of this Licence does not absolve the Licensee from responsibility for compliance with the requirements of all applicable Federal, Territorial and Municipal legislation.

2. Definitions

"**Act**" means the *Nunavut Waters and Nunavut Surface Rights Tribunal Act;*

"**Addendum**" means the supplemental text that is added to a full plan or report usually included at the end of the document and is not intended to require a full resubmission of the revised report;

"**Amendment**" means a change to original terms and conditions of this Licence requiring correction, addition or deletion of specific terms and conditions of the Licence; modifications inconsistent with the terms of the set terms and conditions of the Licence;

"**Applicant**" means the Licensee;

"**Appurtenant Undertaking**" means an undertaking in relation to which a use of Water or a deposit of Waste is permitted by a licence issued by the Board;

"**Board**" means the Nunavut Water Board established under the *Nunavut Agreement* and the *Nunavut Waters and Nunavut Surface Rights Tribunal Act;*

"**Effluent**" means treated or untreated liquid Waste material that is discharged into the environment from a structure such as a settling pond, landfarm or a treatment plant;

"**Engineer**" means a professional engineer registered to practice in Nunavut in

accordance with the *Consolidation of Engineers and Geoscientists Act S. Nu 2008, c.2* and the *Engineering and Geoscience Professions Act S.N.W.T. 2006, c.16 Amended by S.N.W.T. 2009, c.12*;

"**Fuel Storage and Transfer Area**" means the bulk fuel storage and the area around the connection point between a delivery truck, railcar, or vessel and bulk fuel as described in the *Emergency Plan for Storage Tank Systems of Petroleum and Allied Petroleum Products at Eureka High Arctic Weather Station (HAWS)* dated April 2021 and submitted with the application dated June 18, 2021;

"**Greywater**" means all liquid Wastes from showers, baths, sinks, kitchens and domestic washing facilities, but does not include toilet Wastes;

"**High Water Mark**" means the usual or average level to which a body of water rises at its highest point and remains for sufficient time so as to change the characteristics of the land (ref. Department of Fisheries and Oceans Canada, Operational Statement: Mineral Exploration Activities);

"**Inspector**" means an Inspector designated by the Minister under Section 85 (1) of the *Act*;

"**Landfarm Facility**" means the facility for the petroleum hydrocarbon contaminated soil treatment situated adjacent to the main complex area as referenced in application dated June 18, 2021;

"**Landfill**" means the facility designed to contain non-hazardous solid waste as described in the application dated June 18, 2021;

"**Licensee**" means the holder of this Licence;

"**Modification**" means an alteration to a physical work that introduces a new structure or eliminates an existing structure and does not alter the purpose or function of the work, but does not include an expansion;

"**Nunavut Agreement**" means the *"Agreement Between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada*", including its preamble and schedules, and any amendments to that agreement made pursuant to it;

"**Quarry or Quarries**" means the area of surface excavation for extracting rock material for use as construction materials in the development of infrastructure and facilities for the project as described in the application dated June 18, 2021;

"**Regulations**" means the *Nunavut Waters Regulations* SOR/2013-69 18th April, 2013;

"**Secondary Containment**" means an impermeable structure, external to and separate from primary containment, which prevents unplanned spills of hazardous materials and provides a minimum capacity of 110% of the original vessel. Where multiple vessels are stored within the containment, it must provide a minimum capacity equal to the sum of

the largest vessel and 10% of the aggregate volume of all other vessels located in the containment. This structure shall also provide containment and control of hoses and nozzles;

"**Sewage**" means all oilet Wastes and greywater;

"Sewage Treatment Facility" means the sewage lagoon as described in the application dated June 18, 2021;

"Solid Waste Disposal Facilities" means the structures and associated area designed to contain solid waste as described in the application dated June 18, 2021;

"**Spill Contingency Plan**" means a Plan developed to deal with unforeseen petroleum and hazardous materials events that may occur during the operations conducted under the Licence;

"**Sump or Sumps**" A structure or depression that collects, controls, and filters liquid Waste before it is released to the environment. This structure should be designed to prevent erosion while allowing percolation of liquid Waste;

"Temporary Contaminated Soil Storage" means the lined, bermed area for temporary storage of petroleum hydrocarbon contaminated soil (estimated quantity of 3,200 m^3) excavated from the main apron area of the airport in June 2020 as described in the application dated June 18, 2021;

"**Toilet Wastes**" means all human excreta and associated products, but does not include greywater;

"**Waste**" means, as defined in s. 4 of the *Act*, any substance that, by itself or in combination with other substances found in water, would have the effect of altering the quality of any water to which the substance is added to an extent that is detrimental to its use by people or by any animal, fish or plant, or any water that would have that effect because of the quantity or concentration of the substances contained in it or because it has been treated or changed, by heat or other means;

"**Waste Disposal Facilities**" means the Sewage Treatment Facility, Landfill, Temporary Contaminated Soil Storage, and Landfarm facilities;

"**Water**" **or** "**Waters**" means waters as defined in section 4 of the Act;

"**Water Supply Facility**" means the area and associated intake infrastructure at Station Creek, West Remus Creek, and Blacktop Creek, the reservoir, storage tanks and piping as described in the application dated June 18, 2021.

3. **Enforcement**

a. Failure to comply with this Licence will be a violation of the *Act*, subjecting the Licensee to the enforcement measures and the penalties provided for in the *Act*;

b. All inspection and enforcement services regarding this Licence will be provided by Inspectors appointed under the *Act*; and

c. For the purpose of enforcing this Licence and with respect to the use of water and deposit or discharge of Waste by the Licensee, Inspectors appointed under the *Act*, hold all powers, privileges and protections that are conferred upon them by the *Act* or by other applicable law.

PART B: GENERAL CONDITIONS

1. The Licensee shall file an Annual Report on the Appurtenant Undertaking with the Board no later than March 31st of the year following the calendar year being reported, containing the following information:

   a. A summary report of Water use and Waste disposal activities;
   b. Quantity of Water (in cubic metres/day) obtained for domestic and other purposes from all sources for the reporting period;
   c. Quantity of Waste disposed of on on-site Waste Disposal Facilities;
   d. Quantity of Waste backhauled to an approved facility for disposal;
   e. A list of unauthorized discharges and a summary of follow-up actions taken;
   f. Any revisions to the management plans, as required by Part B, Item 6, submitted in the form of an Addendum;
   g. A description of all progressive and or final reclamation work undertaken, including photographic records of site conditions before, during and after completion of operations;
   h. A summary of all information requested and results of the Monitoring Program;
   i. A list of seeps originating from quarry activities, water quality monitoring results, and measures taken to prevent the flow of seep into nearby water bodies;
   j. GPS co-ordinates (in degrees, minutes and seconds of latitude and longitude) for the locations of all temporary camps established in support of the project if the actual coordinates differ from that provided in the Application;
   k. A summary, including photographic records before, during and after any relevant construction activities or Modifications and/or major maintenance work carried out on facilities under this Licence and an outline of any work anticipated for the next year;
   l. Detailed discussion on the performance, installation, and evaluation, including the use of photographic record, of the primary and secondary containment functions used in fuel storage to safeguard impacts to freshwaters;
   m. A summary of public consultation/participation, describing consultation with local organizations and residents of the nearby communities, if any were conducted;
   n. Any other details on Water use or Waste disposal requested by the Board by the 1st November of the year being reported.

2. The Licensee shall notify the NWB of any changes in operating plans or conditions associated with this Project at least thirty (30) days prior to any such change.

3. The Licensee shall install flow meters or other such devices, or implement suitable methods required for the measuring of Water volumes as required under Part J, Item 1.

4. The Licensee shall, for all Plans submitted under this Licence, include a proposed timetable for implementation. Plans submitted, cannot be undertaken without subsequent written Board approval and direction. The Board may alter or modify a Plan if necessary to achieve the legislative objectives and will notify the Licensee in writing of acceptance, rejection or alteration of the Plan.

5. The Licensee shall, for all Plans submitted under this Licence, implement the Plan as approved by the Board in writing.

6. The Licensee shall review the Plans referred to in this Licence, as required by changes in operation and/or technology, and modify the Plan accordingly. Revisions to the Plans shall be submitted in the form of an Addendum to be included with the Annual Report.

7. Every Plan to be carried out pursuant to the terms and conditions of this Licence shall become a part of this Licence, and any additional terms and conditions imposed upon approval of a Plan by the Board become part of this Licence. All terms and conditions of the Licence should be contemplated in the development of a Plan where appropriate.

8. The Licensee shall ensure a copy of this Licence is maintained at the site of operations at all times. Any communication with respect to this Licence shall be made in writing to the attention of:

(a) Manager of Licensing:
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU X0B 1J0
Telephone: (867) 360-6338
Fax: (867) 360-6369
Email: licensing@nwb-oen.ca

(b) Inspector Contact:
Manager of Field Operations, CIRNA
Nunavut District, Nunavut Region
P.O. Box 100
Iqaluit, NU X0A 0H0
Telephone: (867) 975-4284
Fax: (867) 979-6445

9. The Licensee shall submit an electronic copy of all reports, studies, and plans to the Board. Reports or studies submitted to the Board by the Licensee shall include a detailed executive summary in Inuktitut.

10. The Licensee shall ensure that all documents or correspondence submitted by the Licensee to the NWB are received and acknowledged by the Manager of Licensing.

11. This Licence is assignable as provided for in Section 44 of the *Act*.

12. The expiry or cancellation of this Licence does not relieve the Licensee from any obligation imposed by the Licence, or any other regulatory requirement.

PART C: CONDITIONS APPLYING TO WATER USE

1. The Licensee shall obtain all fresh Water in amounts and from the sources described in Table 1. The volume of Water used for all purposes under this Licence shall not exceed ten thousand (10,000) cubic metres per year and two hundred and ninety-nine (299) cubic metres per day.

Table 1: Water Use Authorized for all Purposes

Source	Volume (m^3/year)	Purpose
Station Creek	8,775	Domestic camp and other use
West Remus Creek	800	Dust suppression
Blacktop Creek	425	Dust suppression
Annual Total	**10,000 m^3**	
Daily total	**299 m^3**	

2. A freeboard of 1.0 metre, or as recommended by a qualified geotechnical Engineer and as approved by the Board, shall be maintained at all dykes and earth-fill structures associated with the Water Supply Facilities.

3. The Licensee shall submit to the Board for approval in writing, the following information at least thirty (30) days prior to the use of Water of a sufficient volume that the source water body may be drawn down: volume required, hydrological overview of the water body, details of impacts, and proposed mitigation measures.

4. The Licensee shall equip all water intake hoses with a screen of an appropriate mesh size to ensure that fish are not entrained and shall withdraw Water at a rate such that fish do not become impinged on the screen.

5. The Licensee shall not conduct any work below the ordinary High Water Mark of any water body unless approved by the Board in writing.

6. The Licensee shall not cause erosion to the banks of any water body and shall provide necessary controls to prevent such erosion.

7. Sediment and erosion control measures shall be implemented prior to and maintained during the undertaking to prevent entry of sediment into Water.

PART D: CONDITIONS APPLYING TO WASTE DISPOSAL

1. The Licensee shall locate areas designated for Waste disposal at a minimum distance of thirty-one (31) metres from the ordinary High Water Mark of any water body such that the quality, quantity or flow of Water is not impaired, unless otherwise approved by the Board in writing.

2. The Licensee shall dispose of and contain all non-combustible solid wastes at the appropriate landfill of the Solid Waste Disposal Facilities or as otherwise approved by the Board.

3. The Licensee is authorized to dispose of all acceptable food Waste, paper Waste and untreated wood products in an incinerator.

4. The Licensee shall backhaul and dispose of all hazardous Wastes, Waste oil and non-combustible Waste generated through the course of the operation at a licensed Waste disposal site.

5. The Licensee shall not open burn plastics, wood treated with preservatives, electric wire, Styrofoam, asbestos or painted wood to prevent the deposition of Waste materials of incomplete combustion and/or leachate from contaminated ash residual, from impacting any surrounding Waters, unless otherwise approved by the Board in writing.

6. The Licensee is authorized to open burn untreated wood as per following conditions:.

    a. The Licensee shall follow the *Government of Nunavut Department of Environment, Environmental Guideline for the Burning and Incineration of Solid Waste* (January 2012) and shall not allow the open burning of plastics, wood treated with preservatives, electrical wire, Styrofoam, asbestos or painted wood;
    b. Solid waste that is conditionally suitable for open burning is untreated wood wastes only;
    c. Wood and other acceptable products will be kept as dry as possible before and during burning;
    d. The size of the burn pile will be minimized, and a "**hot burn**" maintained to create an efficient burn using consistent/constant feed rates to avoid over-feeding and damping the fire;
    e. Burning will only be undertaken during favorable weather conditions (i.e. will not be undertaken during periods of extreme wind or during wet rain conditions);
    f. Fires will be completely extinguished to ensure that any smoldering of material does not persist;
    g. The burn pits are to be located on appropriate surfaces (bedrock, gravel or sand) and in areas such that impacts to surface water and groundwater drainage do not occur;
    h. The burn pits are constructed, operated and maintained so that any materials to be disposed of are contained during the process, including ashes;
    i. Any residual waste and ashes be collected and disposed of in an appropriate, approved facility; and

j. Surface water runoff from the burn pit areas shall be managed to prevent any direct or indirect flow into a water body and that no additional impacts to water, including groundwater, are created.

7. The Licensee shall provide to the Board documented authorization from all communities in Nunavut receiving Wastes from HAWS Project prior to any backhauling and disposal of Wastes to those communities.

8. The Licensee shall maintain records of all Waste backhauled and records of confirmation of proper disposal of backhauled Waste. These records shall be made available to an Inspector upon request.

9. The Licensee shall direct all Sewage to the Sewage Treatment Facility or as otherwise approved by the Board in writing.

10. Effluent discharged from the Sewage Treatment Facility at monitoring station EUR-3 shall not exceed the following Effluent quality limits:

Parameter	Maximum Concentration of any Grab Sample
Biochemical Oxygen Demand BOD_5	100 mg/L
Total Suspended Solids	120 mg/L
Fecal Coliforms	1 x 10^6 CFU/100 mL
pH	between 6.0 and 9.0
Oil and grease	No visible sheen

11. Effluent discharge from the Landfarm Facility at Monitoring Program Station EUR-4 and Temporary Contaminated Soil Storage at Monitoring Program Station EUR-6 shall not exceed the following Effluent quality limits:

Parameter	Maximum Concentration of any Grab Sample
Benzene	370 (µg/L)
Toluene	2 (µg/L)
Ethylbenzene	90 (µg/L)
Lead	1(µg/L)
Phenols	20 (µg /L)
Oil and Grease	15 (mg/L) and no visible sheen
pH	Between 6.0 and 9.0

12. If Effluent does not meet the Effluent quality limits of Part D, Items 10 and 11, it shall be considered hazardous waste and disposed of off-site at an approved facility.

13. A freeboard of 1.0 metre, or as recommended by a qualified geotechnical Engineer and as approved by the Board in writing, shall be maintained at all dams, dykes and earth-fill structures associated with the Sewage Treatment Facility, Temporary Contaminated Soil Storage or Landfarm Facility.

14. The Licensee shall provide at least ten (10) days written notification to an Inspector, prior to initiating any Effluent discharge from the Sewage Treatment Facility, Temporary Contaminated Soil Storage and Landfarm Facility.

15. The Licensee shall maintain the Waste Disposal Facilities to the satisfaction of the Inspector and operate in such a manner as to prevent structural failure.

16. The Licensee shall, prior to the removal of any treated soil for future use, confirm with the Government of Nunavut, Environmental Protection Service that the soils have been treated to meet all legislatively-required treatment objectives.

17. The Licensee shall not mix or blend soils for the expressed purpose of attaining the specific limits of the relevant quality criteria.

18. The Licensee shall submit a remedial options analysis and remedial action plan for Board approval for the Temporary Contaminated Soil Storage within the 2021 Annual Report.

PART E: CONDITIONS FOR CAMPS, ACCESS INFRASTRUCTURES AND OPERATIONS

1. The Licensee shall implement the *Revised Quarry Operations Plan West Remus Creek, Eureka, Nunavut Nuna East Ltd*. dated May 2021 as approved by the Board with the issuance of this Licence.

2. The Licensee shall implement the *Summary of Operations and Maintenance Procedures for Drinking Water, Sewage, Solid Waste Disposal and Waste Treatment Facilities* dated June 2021 as approved by the Board with the issuance of this Licence.

3. The Licensee shall not erect camps or store material on the surface of frozen streams or lakes including the immediate banks except what is for immediate use. Camps shall be located such as to minimize impacts on surface drainage.

4. All surface runoff and/or discharge from drainage management systems, during the construction of any facilities and infrastructure associated with this Project, including from quarry development at Monitoring Program Station EUR-5, referred to in Part I, Item 1, shall not exceed the following Effluent quality limits:

Parameter	Maximum Concentration of any Grab Sample
Total Suspended Solids	50 mg/L
Oil and Grease	15 mg/L and no visible sheen
pH	Between 6.0 and 9.5

5. The Licensee shall only use aggregate for construction of infrastructure or facilities under this Licence that is demonstrated to be not potentially acid generating, non-metal leaching and free of contaminants by, carrying out appropriate analyses and retaining the results

and reports for reference for submission on request by the NWB or an Inspector, or have the results submitted with the Annual Report.

6. The Licensee shall construct all winter lake and stream crossings, including ice bridges, entirely of Water, ice or snow. The Licensee shall minimize disturbance by locating ice bridges in an area that requires the minimum approach grading and the shortest crossing route. Stream crossings shall be removed or the ice notched prior to spring break-up.

7. The Licensee shall not conduct any land-based activity within thirty-one (31) metres of the ordinary High Water Mark of any water body, unless otherwise approved by the Board.

8. Stream crossing shall be a minimum of five hundred (500) meters from spawning areas.

9. The Licensee shall locate stream crossings to minimize approach grades. Approaches shall be stabilized during construction and upon completion of the project, to control runoff, erosion and subsequent siltation to any water body.

10. The Licensee shall limit any in-stream activity to low water periods. In-stream activity is prohibited during fish migration.

11. The Licensee shall not cut any stream bank or remove any material from below the ordinary High Water Mark of any water body.

12. With respect to access road, pad construction or other earthworks, the deposition of debris or sediment into or onto any water body is prohibited. These materials shall be disposed a distance of at least thirty one (31) metres from the ordinary High Water Mark in such a fashion that they do not enter the Water.

13. The Licensee shall not mobilize heavy equipment or vehicles for trenching or other activities unless the ground surface is capable of fully supporting the equipment or vehicles without rutting or gouging. Overland travel of equipment or vehicles shall be suspended if rutting occurs.

14. The Licensee shall, during periods of flow and following a major precipitation event, conduct water quality testing on a monthly basis, of any significant water seeps in contact with the roads, earthworks and any flows originating from quarries for criteria listed under Part E, Item 4.

15. The Licensee shall maintain a minimum of thirty-one (31) metres undisturbed buffer zone between the periphery of quarry sites and the ordinary High Water Mark of any water body unless otherwise approved by the Bard in writing.

16. The Licensee shall not excavate and/or remove material from the quarry beyond a depth of one (1) metre above the ordinary High Water Mark or above the groundwater table, to prevent the potential contamination of groundwater.

17. A Geotechnical inspection of all engineered facilities related to the management of Water and Waste shall be carried out upon request of an Inspector. The Engineer's report shall be submitted to the Board within sixty (60) days of the inspection, including a covering letter from the Licensee outlining an implementation plan addressing each of the Engineer's recommendations.

18. The Licensee shall perform more frequent inspections of the engineered facilities at the request of an Inspector.

PART F: CONDITIONS APPLYING TO MODIFICATIONS

1. The Licensee may, without written consent from the Board, carry out Modifications to the Water Supply Facility and Waste Disposal Facilities provided that such Modifications are consistent with the terms of this Licence and the following requirements are met:

    a. the Licensee has notified the Board in writing of such proposed Modifications at least sixty (60) days prior to beginning the Modifications;
    b. such Modifications do not place the Licensee in contravention of the Licence or the *Act*;
    c. such Modifications are consistent with the NIRB Screening Decision;
    d. the Board has not, during the sixty (60) days following notification of the proposed Modifications, informed the Licensee that review of the proposal will require more than sixty (60) days; and
    e. the Board has not rejected the proposed Modifications.

2. Modifications for which all of the conditions referred to in Part F, Item 1 have not been met can be carried out only with written approval from the Board.

3. The Licensee shall provide as-built plans and drawings of the Modifications referred to in this Licence within ninety (90) days of completion of the Modification. These plans and drawings shall be stamped by an Engineer.

PART G: CONDITIONS APPLYING TO SPILL CONTINGENCY PLANNING

1. The Licensee shall implement the *Emergency Plan for Petroleum and Allied Petroleum Products* dated April 2021 as approved by the Board with the issuance of this Licence.

2. The Licensee shall prevent any chemicals, petroleum products or Wastes associated with the project from entering Water. All Sumps and fuel caches shall be located at a distance of at least thirty-one (31) metres from the ordinary High Water Mark of any adjacent water body and inspected on a regular basis.

3. The Licensee shall conduct any equipment maintenance and servicing in designated areas and shall implement special procedures (such as the use of drip pans) to manage motor fluids and other Waste and contain potential spills.

4. If during the term of this Licence, an unauthorized discharge of Waste occurs, or if such a discharge is foreseeable, the Licensee shall:

   a. Employ the approved Spill Contingency Plan;
   b. Report the spill immediately to the NWT/NU 24-Hour Spill Line at (867) 920-8130 and to the Inspector at (867) 975-4295; and
   c. For each spill occurrence, submit to the Inspector, no later than thirty (30) days after initially reporting the event, a detailed report that will include the amount and type of spilled product, the GPS location of the spill, and the measures taken to contain and clean up the spill site.

5. The Licensee shall, in addition to Part G, Item 4, regardless of the quantity of releases of harmful substances, report to the NWT/NU 24-Hour Spill Line, if the release is near or into a water body.

PART H: CONDITIONS APPLYING TO CLOSURE AND RECLAMATION OR TEMPORARY CLOSURE

1. The Board has approved the *Interim Abandonment & Restoration Plan* dated June 2021 that was submitted as additional information with the Application.

2. At least one (1) year prior to final abandonment, the Licensee shall submit to the Board for approval in writing, a Final Abandonment and Restoration Plan. The Plan shall include, in addition to the content of the Interim Plan, the following:

   f. A description of contaminated soils identified at the site through a completed Phase III Environmental Assessment and the procedures to mitigate the contamination;
   g. A summary of existing data for background levels of metals in the area, and identification of needs for verification of data;
   h. A description of restoration activities outlined in the Interim Abandonment and Restoration Plan:
   i. An implementation schedule for the completion of restoration; and
   j. A detailed monitoring program.

3. The Licensee shall implement the Final Abandonment and Restoration Plan as approved by the Board.

4. The Licensee shall complete the restoration work within the time schedule specified in the Plan, or as subsequently revised and approved by the Board in writing.

5. The Licensee shall carry out progressive reclamation of any components of the project no longer required for the Licensee's operations.

6. Areas that have been contaminated by hydrocarbons from normal fuel transfer procedures shall be reclaimed to meet objectives as outlined in the Government of Nunavut's Environmental Guideline for Site Remediation, 2010. The use of reclaimed soils for the

purpose of back fill or general site grading may be carried out only upon consultation and approval by the Government of Nunavut, Department of Environment and an Inspector.

7. All disturbed areas shall be contoured and stabilized upon completion of work and restored to a pre-disturbed state.

PART I: CONDITIONS APPLYING TO THE MONITORING PROGRAM

1. The Licensee shall maintain Monitoring Stations at the following locations:

Monitoring Program Station ID	Description	Status
EUR-1	Raw water supply prior to treatment at Station Creek	Active (Volume)
EUR-2	Runoff from the Solid Waste Disposal Facilities	Active (Quality)
EUR-3	Effluent discharge from the Sewage Lagoon to the ocean	Active (Quality, Volume)
	Quantity in cubic metres of sludge removed from the Sewage Lagoon	
EUR-4	Effluent Discharge from the Landfarm	Active (Quality)
EUR-5	Runoff from the quarry development at the exit point of ditches designed to collect and hold runoff water prior to release.	Active (Quality)
EUR-6	Effluent Discharge from the Temporary Contaminated Soil Storage	Active (Quality)
EUR-7	Raw water supply at West Remus Creek	Active (Volume)
EUR-8	Raw water supply at Blacktop Creek	Active (Volume)

2. The Licensee shall measure and record in cubic metres, the daily, monthly and annual quantities of water pumped from Station Creek during the annual recharge of the Eureka water reservoir at Monitoring Program Station EUR-1, from West Remus Creek during dust suppression at Monitoring Program Station EUR-7, and from Blacktop Creek during dust suppression at Monitoring Program Station EUR-8.

3. The Licensee shall measure and record in cubic metres the monthly quantities of water utilized for facility operations, for all purposes.

4. The Licensee shall measure and record in cubic metres the daily quantities of effluent pumped from the Sewage Treatment Facility during release to the environment.

5. The Licensee shall analyze samples prior to the release of Effluent from the Sewage Treatment Facility at EUR-3, for the purpose of demonstrating compliance with the parameters listed under Part D, Item 10.

6. The Licensee shall sample monthly at Monitoring Program Stations EUR-2, EUR-3, EUR-4 and EUR-6 during periods of observed flow and annual discharges. Samples shall be analyzed for the following parameters:

BOD_5	Fecal Coliforms
Total Suspended Solids	pH
Conductivity	Nitrate-Nitrite
Oil and Grease (visual)	Ammonia Nitrogen
Total Phenols	Total Alkalinity
Total Hardness	Calcium
Magnesium	Potassium
Sodium	Sulphate
Chloride	Total Organic Carbon (TOC)
Total Cadmium	Total Zinc
Total Cobalt	Total Iron
Total Chromium	Total Manganese
Total Copper	Total Nickel
Total Aluminum	Total Lead
Total Mercury	Total Arsenic

7. All sampling, sample preservation and analyses shall be conducted in accordance with methods prescribed in the current edition of *Standard Methods for the Examination of Water and Wastewater*, or by such other methods approved by the Board in writing.

8. All analyses shall be performed in a laboratory accredited according to ISO/IEC Standard 17025. The accreditation shall be current and in good standing.

9. Licensee shall submit for review of the Board, within ninety (90) days of issuance of this Licence, a revised Quality Assurance / Quality Control (QA/QC) Plan that includes field and laboratory procedures for sampling and analysis. The Plan shall include up to date sampling methods to all applicable standards, acceptable to an accredited laboratory as required by Part I, Item 8. The Plan submission shall include a cover letter from an accredited laboratory confirming acceptance of the Plan for analyses to be performed under this Licence.

10. The Licensee shall annually review the QA/QC Plan submitted under Part I, Item 9 and modify it as required by changes in operations and technology. Revised Plan shall be

submitted to the NWB for review, with an approval letter from an accredited lab confirming adherence to standards set in Part I, Items 7 and 8.

11. Modifications to the Monitoring Program may be made only upon written approval from the Board. Requests for changes to the Monitoring Program should be forwarded to the NWB in writing, and shall include justification and appropriate evidence to support the change.

12. The Licensee shall include in the Annual Report required under Part B, Item 1 all data, monitoring results and information required by this Part.

SCREENING DECISION REPORT
NIRB FILE No.: 21UN002

NPC File No.: 149440

April 21, 2021

Following the Nunavut Impact Review Board's (NIRB or Board) assessment of all materials provided, the NIRB is recommending that a review of Environment and Climate Change Canada's (ECCC) "Building Demolition and Temporary Camp at Eureka High Arctic Weather Station" is not required pursuant to Article 12, Section 12.4.4(a) of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada* (*Nunavut Agreement*) and s. 92(1)(a) of the *Nunavut Planning and Project Assessment Act*, S.C. 2013, c. 14, s. 2 (*NuPPAA*).

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

OUTLINE OF SCREENING DECISION REPORT

REGULATORY FRAMEWORK

The primary objectives of the NIRB are set out in Article 12, Section 12.2.5 of the *Nunavut Agreement* and are confirmed by s. 23 of the *NuPPAA*:

> *Nunavut Agreement*, Article 12, Section 12.2.5: In carrying out its functions, the primary objectives of NIRB shall be at all times to protect and promote the existing and future well-being of the residents and communities of the Nunavut Settlement Area, and to protect the ecosystemic integrity of the Nunavut Settlement Area. NIRB shall take into account the well-being of the residents of Canada outside the Nunavut Settlement Area.

The purpose of screening is provided for under Article 12, Section 12.4.1 of the *Nunavut Agreement* and s. 88 of the *NuPPAA* which states:

> *NuPPAA*, s. 88: The purpose of screening a project is to determine whether the project has the potential to result in significant ecosystemic or socio-economic impacts and, accordingly, whether it requires a review by the Board…

To determine whether a review of a project is required, the NIRB is guided by the considerations as set out under Article 12, Section12.4.2(a) and (b) of the *Nunavut Agreement* and s. 89(1) of *NuPPAA* which states:

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

It is noted that under Article 12, Section 12.4.2(c) and s. 89(2) of the *NuPPAA* provides that the considerations set out in s.89(1)(a) prevail over the considerations set out in s. 89(1)(b) of the *NuPPAA*.

As set out under Article 12, Section 12.4.4 of the *Nunavut Agreement* and s. 92(1) of the *NuPPAA*, upon conclusion of the screening process, the Board must provide its written report the Minister. The contents of the NIRB's report are specified under *NuPPAA*:

NuPPAA, s. 92(1): The Board must submit a written report to the responsible Minister containing a description of the project that specifies its scope and indicating that:

(a) a review of the project is not required;

(b) a review of the project is required; or

(c) the project should be modified or abandoned.

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

NuPPAA, s. 92(2) In its report, the Board may also

(a) recommend specific terms and conditions to apply in respect of a project that it determines may be carried out without a review.

PROJECT REFERRAL

On January 22, 2021 the NIRB received a referral to screen ECCC's "Building Demolition and Temporary Camp at Eureka High Arctic Weather Station" project proposal from the Nunavut Planning Commission (Commission), with an accompanying positive conformity determination with the North Baffin Regional Land Use Plan. The Commission noted that the current project proposal is a significant modification to the previous conformity determinations issued on December 17, 2010, April 19, 2012, April 16, 2016 and March 7, 2018 because of it including the installation of new temporary camps and bulk petroleum fuel storage facilities.

Pursuant to Article 12, Sections 12.4.1 and 12.4.4 of the *Nunavut Agreemen*t and s. 87 of the *NuPPAA*, the NIRB commenced screening this project proposal and assigned it file number **21UN002**.

PROJECT OVERVIEW & THE NIRB ASSESSMENT PROCESS

1. Screening Process Timelines

The following key stages were completed for the screening process:

Date	Stage
January 22, 2021	Receipt of project proposal and positive conformity determination (North Baffin Regional Land Use Plan) from the Commission.
January 25, 2021	Request to complete public registry online and provide information pursuant to s. 144(1) of the *NuPPAA*
February 3, 2021	Request to Proponent for additional information in order to carry out screening pursuant to s. s. 144(1) of the *NuPPAA*
February 17, 2021	Proponent responded to information request(s) and provided additional information
February 17, 2021	Scoping pursuant to s. 86(1) of the *NuPPAA*

Date	Stage
February 26, 2021	Public engagement and comment request
March 19, 2021	Receipt of public comments
March 22, 2021	Proponent provided with an opportunity to address comments/concerns raised by public
April 6, 2021	Proponent responded to comments/concerns raised by public
April 6, 2021	Ministerial extension requested from the Minister of Northern Affairs
April 21, 2021	Issuance of Screening Decision Report

2. Project Scope

All documents received and pertaining to this project proposal can be accessed from the NIRB's online public registry at www.nirb.ca/project/125581.

Project:	Building Demolition and Temporary Camp at Eureka High Arctic Weather Station				
Region:	Qikiqtani (North Baffin)				
Location:	Eureka High Arctic Weather Station				
Closest Community:	Grise Fiord	**Distance (approximate)**	400 kilometres (km)	**Direction**	North
Summary of Project Description:	The Proponent intends to conduct various activities at the Eureka High Arctic Weather Station. Activities include the demolition of some infrastructure, and construction of temporary camps.				
Project Proposed Timeline:	July 2021 to October 2024				

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

- Demolition of various structures and infrastructure at the Eureka High Arctic Weather Station (HAWS);
- Use of heavy equipment for project activities;
- Building of a temporary camp for approximately twenty staff. The temporary camp will include:
  - Power generators;
  - Fuel storage facilities;
  - Garbage disposal facilities;
  - Heating and cooling units; and
  - Necessary appliances and furniture.
- Construction of non-hazardous waste disposal facility for disposal of wastes from building decommissioning and other operations;
  - Disposal of hazardous materials offsite, nonhazardous materials onsite and the burning of untreated and unpainted wood.

- Use and storage of fuel (approximately 442,000 L) for project activities; and
- Food and paper waste to be incinerated on site within existing facility.

3. Inclusion or Exclusion to Scoping List

The NIRB has identified no additional works or activities in relation to the project proposal. As a result, the NIRB proceeded with screening the project based on the scope as described above. While the project is planned to be conducted concurrent with other activities proposed to be carried out by the Proponent at the HAWS site[1], this project is not considered to be integrally linked with other proposed activities.

4. Public Comments and Concerns

Notice regarding the NIRB's screening of this project proposal was distributed on February 26, 2021 to community organizations in Grise Fiord, 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 March 19, 2021 regarding:

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

On or before March 19, 2021 the NIRB received comments from the following interested parties:

- **Crown – Indigenous Relations and Northern Affairs Canada**

a. Summary of Public Comments and Concerns Received during the Public comment period of this file

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

Crown – Indigenous Relations and Northern Affairs Canada

- Notes that it is unclear why the second proposed project is not included in the current application, due to their related and complementary nature. CIRNAC recommends that the Proponent provide rationale for the second proposed project, related to the construction of a new non-hazardous disposal facility, and this Project being applied for separately;
- Recommends that if the new non-hazardous waste facility is required for project activities, that the Proponent submit the design and construction plans to the NIRB to collect comments from interested parties prior to the start of project activities;

[1] NIRB File Nos. 21QN005 and 21XN012

- Recommends that the Proponent clarify what the 12 tonnes of Hazardous waste will be used for, how long it is expected to remain on site, and how the Proponent intends to process the waste;
- Recommends that the plans listed be submitted to the NIRB to collect comments from interested parties prior to the start of project activities;
- Recommends that the Proponent clarify if there is asbestos in the buildings targeted to be demolished, and if so, whether the Building Deconstruction/Decontamination Plan will encompass specific measures for mitigating potential impact that may result from demolition of any buildings that may contain asbestos;
- Recommends that the Proponent indicate the expected volume of water to be drawn for the proposed activities;
- Recommends that the Proponent request permit information from the Government of Nunavut's Department of Culture and Heritage;
- Recommends that the Proponent prioritize the employment and training of local Inuit beneficiaries throughout its implementation of project activities.
- Recommends that the Proponent maintain open communication with the Hamlet of Grise Fiord, the Iviq Hunters and Trappers Organization, community members, an local organizations that have an interest in project activities. Issues that should be considered in consultation activities include:
    - Incorporation of Inuit knowledge or Inuit Qaujimajatuqangit into project activities;
    - Training and employment opportunities for community members; and
    - Regular updates on the status of the project activities.

b. Comments and Concerns with respect to Inuit Qaujimaningit, Traditional, and Community Knowledge

No concerns or comments were received with respect to Inuit Qaujimaningit or traditional and community knowledge in relation to the proposed project.

5. Proponent's Response to Public Comments and Concerns

On March 22, 2021, due to the concerns and questions identified in the comments received from parties, the NIRB provided an opportunity for the Proponent to respond to the concerns raised during the commenting period. The following is a summary of the Proponent's response to concerns as received on April 6, 2021:

- In response to comments regarding rationale for the second proposed project to be separate from this proposed project, the Proponent noted that the second proposed project was not included in the current application as the project was not far enough in its planning development in comparison to this project.
- In response to clarify what the 12 tonnes of hazardous waste will be used for, the Proponent indicated that the 12 tonnes of waste identified is timber from onsite power poles and existing buildings proposed to be demolished. The Proponent also noted that should the timber be found to be hazardous, it would be shipped offsite for disposal.

- In response to a request that all plans be submitted to the NIRB to collect comments from interested parties, the Proponent noted that all plans will be part of the construction tender process and a requirement for the successful contractor to provide to ensure compliance with regulations and execution of mitigation measures.
- In response to concerns regarding asbestos within the buildings and if the plans will encompass specific mitigation measures for this, the Proponent confirmed that there is asbestos in the buildings. The guidelines and code of practice will be followed to mitigate potential impact for those buildings which contain asbestos. Once removed, asbestos will be appropriately containerized and disposed at an approved location.
- In response to a request that the Proponent indicate the expected volume of water to be extracted, the Proponent noted that this Project will not exceed the water usage limits that have already been authorized.
- In response to concerns regarding requesting permit information from the Government of Nunavut, the Proponent stated that on March 11, 2021 a permit request for archeological work was submitted to the Government of Nunavut's Department of Culture and Heritage.
- In response to comments regarding prioritizing the employment and training of local Inuit throughout the project, the Proponent noted that local Inuit will be hired to provide ongoing wildlife monitoring and support during the archeological impact assessment, as well as throughout the project. Furthermore, these groups, as well as other interested organizations, communities, and Inuit businesses will also be further notified prior to any procurement/employment opportunities are made public. Also notes that all contractors bidding on the Project will be asked to provide an Inuit Benefits Plan with their proposal. The plan should demonstrate how they will project employment, training and sub-contracting opportunities for Inuit community members and businesses throughout the course of the project.
- In response to recommendations that the Proponent maintain open communication, the Proponent noted that they will provide annual updates on the status of the Project activities to the community of Grise Fiord, the Iviq Hunters and Trappers Organization and any other communities or groups that have expressed interest. Also noting again that local Inuit will be hired to provide ongoing wildlife monitoring and support during the archeological impact assessment, as well as throughout the project.

6. Time of Report Extension

As a result of the time required to allow the Proponent to respond to comments and concerns received by parties, the NIRB was not able to provide its screening decision report to the responsible Minister within 45 days as required by Article 12, Section 12.4.5 of the *Nunavut Agreement* and s. 92(3) of the *NuPPAA*. Therefore, on April 6, 2021 the NIRB wrote to the Minister of Northern Affairs, Government of Canada, seeking an extension to the 45-day timeline for the provision of the Board's Report.

ASSESSMENT OF THE PROJECT PROPOSAL IN ACCORDANCE WITH PART 3 OF *NUPPAA*

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

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

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

Factor	Comment
The size of the geographic area, including the size of wildlife habitats, likely to be affected by the impacts.	▪ The physical footprint of the proposed project consists of a temporary camp and facilities as well as demolition of infrastructure at the Eureka High Arctic Weather Station. ▪ The proposed project would take place within habitats of far-ranging wildlife species such as migratory and non-migratory birds, arctic fox, arctic hare and Species at Risk such as Polar Bears.
The ecosystemic sensitivity of that area.	▪ No specific areas of ecosystemic sensitivity have been identified by the Proponent within the physical footprint of the proposed project.
The historical, cultural and archaeological significance of that area.	▪ No specific areas of historical, cultural and archaeological significance have been identified by the Proponent within the physical footprint of the proposed project.
The size of the human and the animal populations likely to be affected by the impacts.	▪ The proposed project is unlikely to result in impacts to local human and animal populations.
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.	▪ A zone of influence of up to 30 km from the most potentially-disruptive project activities was selected for the NIRB's assessment. ▪ With adherence to the relevant regulatory requirements and application of the mitigation measures recommended by the NIRB, no significant residual effects are expected to occur.
The cumulative impacts that could result from the impacts of the project combined with those of any other project that has been carried out, is being carried out or is likely to be carried out.	▪ The NIRB has not identified any past, present, and reasonably foreseeable projects at this time; however, the mitigation measures recommended by the NIRB have been designed to reduce cumulative effects should projects occur in the area in the future.
Any other factor that the Board considers relevant to the assessment of the significance of impacts.	▪ No other relevant factors were identified.

VIEWS OF THE BOARD

In considering the factors as set out above in the screening of the project proposal, the NIRB has identified a number of issues below and respectfully provide the following views regarding whether or not the proposed project has the potential to result in significant impacts. In addition, the NIRB has proposed terms and conditions that would mitigate the potential adverse impacts identified.

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

Ecosystem, wildlife habitat and Inuit harvesting activities:

Valued Component	Terrestrial wildlife such as migratory and non-migratory birds, Arctic fox, Arctic hare, and Species at Risk such as Polar Bears from project activities
Potential effects:	Potential adverse effects to terrestrial wildlife such as migratory and non-migratory birds, Arctic fox, Arctic hare, and Species at Risk such as Polar Bears from noise and visual disturbance generated from the temporary camp activities, incinerating activities, as well as the demolition of infrastructure.
Nature of Impacts:	The potential for impacts is considered to be limited due to infrequent and temporary activities and any resulting impacts would be expected to be reversible
Mitigating Factors:	Proponent proposes to ensure camp is established with minimal impact to wildlife. The proposed activities are taking place at the existing HAWS facility, and thus additional impacts are expected to be minimal.
Proposed Terms and Conditions:	Waste Management – 6 and 7 Wildlife General – 18 through 21 Migratory Birds and Raptor Disturbance – 22 through 25
Related Acts and/or Regulations:	1. The *Migratory Birds Convention Act* and *Migratory Birds Regulations* (http://laws-lois.justice.gc.ca/eng/acts/M-7.01/). 2. 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. 3. The *Wildlife Act (Nunavut)* and its corresponding regulations (http://www.canlii.org/en/nu/laws/stat/snu-2003-c-26/latest/snu-2003-c-26.html).

Valued Component	Land, terrestrial vegetation, and ground stability
Potential effects:	Potential adverse impacts to the ground stability, vegetation quality, and terrain due to demolition operations, moving of equipment and personnel and temporary camp activities.

Nature of Impacts:	The potential for impacts is considered to be limited if regulations and best practices for demolition operations are followed. The potential for disturbance due to other activities is considered to be minimal due to the localized and temporary nature of the activities.
Mitigating Factors:	The Proponent also has committed to developing a *Spill Contingency Plan* that would be implemented as required. Further, combustible disturbance to the land would be minimal and waste generated by the project would be disposed of properly. Noncombustible and hazardous waste would be taken for proper disposal.
Proposed Terms and Conditions:	Waste Management – 6 and 7 Fuel and Chemical Storage – 8 through 17 Road and Ground Disturbance – 26 Land Use and Restoration of Disturbed Areas – 27 through 31 Camps – 32 and 33
Related Acts and/or Regulations:	N/A

Valued Component	Public and traditional land use activities
Potential effects:	No specific concerns or impacts to public and traditional land use activities in the area have been identified, however, the Board is recommending terms and conditions to ensure project activities are informed by available Inuit Qaujimaningit and that project activities do not interfere with Inuit wildlife harvesting or traditional land use activities.
Nature of Impacts:	Potential for impacts is considered to be minimal due to the location of the project.
Mitigating Factors:	Proponent will follow the Wildlife and Wildlife Habitat Management Plan to minimize impacts to wildlife and has committed to executing its work in a way that minimizes the negative effects to wildlife.
Proposed Terms and Conditions:	Other – 34 through 36
Related Acts and/or Regulations:	N/A

Socio-economic effects on northerners:

Valued Component	Historical, archeological, and heritage sites
Potential effects:	No historical sites in the proposed project area were identified by the Proponent, however, the Board is recommending terms and conditions to ensure project activities are informed by available Inuit Qaujimaningit and that project activities do not negatively effect historical or heritage sites.
Nature of Impacts:	The potential for impacts are considered minimal as the area has no historical, archeological, and heritage sites that have been previously

	identified. The nature of the proposed project operations are unlikely to impact any unknown archeological sites.
Mitigating Factors:	As noted, the Board is recommending terms and conditions to ensure that project activities do not negatively effect historical or heritage sites.
Proposed Terms and Conditions:	Other – 34 and 35
Related Acts and/or Regulations:	1. 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**.

Significant public concern:

Valued Component	Public concern
Potential effects:	No significant public concern was expressed during the public commenting period for this file, however, the Board recommends terms and conditions to ensure project activities do not interfere with Inuit wildlife harvesting or traditional land use activities, to the extent possible hire local people and access local services where possible, and to ensure planned activities in the area utilizes available Inuit Qaujimaningit.
Nature of Impacts:	The potential for impacts is considered to be minimal as long as the Proponent follows the recommended terms and conditions.
Mitigating Factors:	Given the distance from the closest community, direct impacts on Inuit are considered highly unlikely and are addressed through the proposed terms and conditions.
Proposed Terms and Conditions:	Other – 34 through 36
Related Acts and/or Regulations:	N/A

Technological innovations for which the effects are unknown:

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

Administrative Conditions:

To encourage compliance with applicable regulatory requirements and assist the Board and responsible authorities with compliance and effects monitoring for project activities, the following project-specific terms and conditions have been recommended: 1-5.

In considering the above factors and subject to the Proponent's compliance with the terms and conditions necessary to mitigate against the potential adverse environmental and social effects, the Board is of the view that the proposed project is unlikely to cause significant public concern and its adverse ecosystemic and socioeconomic impacts are unlikely to be significant, or are highly predictable and can be adequately mitigated by known technologies.

The Board is recommending the following specific terms and conditions to apply in respect of the project:

General

1. Environment and Climate Change Canada (the Proponent) shall maintain a copy of the Project Terms and Conditions at the site of operation at all times and make it accessible to enforcement officers upon request.
2. The Proponent shall operate in accordance with all commitments stated in correspondence provided to the Nunavut Planning Commission (NPC File No.: 149440) and the NIRB (Online Application Form, February 17, 2021). This information should be accessible to enforcement officers upon request.
3. The Proponent shall operate the site in accordance with all applicable Acts, Regulations and Guidelines.
4. The Proponent shall ensure that it meets the standards and/or limits as set out in the authorizing agencies' permits or licences as required for this project.
5. The Proponent shall ensure that all personnel, staff and contractors are adequately trained prior to commencement of all project activities, and shall be made aware of all operational plans, management plans, guidelines and Proponent commitments relating to the project.

Waste Management

6. The Proponent shall manage all hazardous and non-hazardous waste including food, domestic wastes, debris and petroleum-based chemicals (e.g., greases, gasoline, glycol-based antifreeze) in such a manner to avoid release into the environment and access to wildlife at all times until disposed of appropriately or at an approved facility.
7. The Proponent shall incinerate all combustible wastes as needed and dispose of as required by the appropriate authorizing agencies. All non-combustible wastes from the project site shall be removed to an approved facility for disposal.

Fuel and Chemical Storage

8. The Proponent shall locate all fuel and other hazardous materials a minimum distance away from the high-water mark of any water body and environmentally sensitive areas as required by the appropriate authorizing agencies. The materials shall be stored in such a manner as to prevent their release into the environment.
9. 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.
10. The Proponent shall ensure that re-fuelling of all equipment occurs a minimum distance away from the high-water mark of any water body as required by the appropriate authorizing agencies.

11. Fuel and hazardous material storage areas and fuel lines should be clearly marked with signs or flagging to avoid accidental breaks and punctures, and to ensure areas remain visible during the winter months.
12. All fuel and chemical storage containers must be clearly marked with the Proponent's name for ease of identification.
13. The Proponent shall routinely inspect and document the conditions of fuel and hazardous material storage containers and containment areas as required by the appropriate authorizing agencies. Fuel containment areas shall be kept clear of debris, water and snow to facilitate inspections for leaks.
14. The Proponent shall have a Spill Contingency Plan in place at all fuel storage or transfer locations and shall ensure that appropriate spill response equipment and clean-up materials (e.g., shovels, pumps, barrels, drip pans, and absorbents) are readily available.
15. The Proponent shall follow the authorizing agencies' direction for management and removal of hazardous materials and wastes (e.g., contaminated soils, sediment and waste oil).
16. The Proponent shall ensure that wildlife deterrent systems are utilized at the time of a spill incident in order to avoid wildlife (terrestrial or marine) and migratory birds from being contaminated.
17. The Proponent shall ensure that all spills of fuel or other deleterious materials of 100 litres or more must be reported immediately to the 24-hour Spill Line at (867) 920-8130.

Wildlife – General

18. The Proponent shall not substantially alter or damage or destroy any wildlife habitat in conducting this operation unless otherwise authorized by the appropriate authorizing agencies.
19. The Proponent shall not chase, weary, harass or molest wildlife. This includes persistently circling, chasing, hovering over, pursuing or in any other way harass wildlife, or disturbing large groups of animals.
20. The Proponent shall not hunt or fish, unless proper Nunavut authorizations have been acquired.
21. The Proponent shall ensure that all wildlife have the right-of-way on any roads or trails. Vehicles are required to slow down or stop and wait to permit the free and unrestricted movement of wildlife across roads or trails at any location.

Migratory Birds and Raptors Disturbance

22. The Proponent shall carry out all phases of the project in a manner that protects migratory birds and avoids harming, killing or disturbing migratory birds or destroying, disturbing or taking their nests or eggs. In this regard, the Proponent shall take into account Environment and Climate Change Canada's *Avoidance Guidelines*. The Proponent's actions in applying the *Avoidance Guidelines* shall be in compliance with the *Migratory Birds Convention Act, 1994* and with the *Species at Risk Act*.

23. The Proponent shall not disturb or destroy the nests or eggs of any birds. If active nests of any birds are discovered or located (i.e., with eggs or young), the Proponent shall avoid these areas until nesting is complete and the young have naturally left the vicinity of the nest by establishing a protection buffer zone[2] appropriate for the species and the surrounding habitat.
24. The Proponent shall avoid the seaward site of seabird colonies and areas used by flocks of migrating waterfowl, a minimum distance away on the recommendation of the appropriate authorizing agencies.
25. The Proponent shall not pursue seabirds or waterbirds swimming on the water surface and shall avoid concentrations of these birds if encountered on the water.

Road and Ground Disturbance

26. 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.

Land Use and Restoration of Disturbed Areas

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

Camps

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

Other

34. 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.
35. The Proponent shall ensure that project activities do not interfere with Inuit wildlife harvesting or traditional land use activities.

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

36. The Proponent should, to the extent possible, hire local people and access local services where possible.

OTHER NIRB CONCERNS AND RECOMMENDATIONS

In addition to the project-specific terms and conditions, the Board is recommending the following:

Change in Project Scope

1. Responsible authorities or Proponent shall notify the Nunavut Planning Commission and/or Parks Canada as appropriate, and the NIRB of any changes in operating plans or conditions, including phase advancement, associated with this project prior to any such change.

Copy of licences, etc. to the Board and Commission

2. The NIRB respectfully requests that responsible authorities submit a copy of each licence, permit or other authorization issued for the Project to the NIRB to assist in enabling possible project monitoring that may be required. Please forward a copy of the licences, permits and/or other authorizations to the NIRB directly at info@nirb.ca or upload a copy to the NIRB's online registry at www.nirb.ca.

Use of Inuit Qaujimaningit

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

Bear and Carnivore Safety

4. The Proponent should review the Government of Nunavut's booklet on Bear Safety, which can be downloaded from this link: http://gov.nu.ca/sites/default/files/bear_safety_-_reducing_bear-people_conflicts_in_nunavut.pdf. Further information on bear/carnivore detection and deterrent techniques can be found in the "*Safety in Grizzly and Black Bear Country*" pamphlet, which can be downloaded from this link: https://www.enr.gov.nt.ca/sites/enr/files/resources/safety_in_grizzly_and_black_bear_country_english.pdf.

5. There are Polar Bear and grizzly bear safety resources available from the Bear Smart Society with videos on Polar Bear safety available in English, French and Inuktitut at http://www.bearsmart.com/play/safety-in-polar-bear-country/. Information can also be obtained from Parks Canada's website on bear safety at the following link: http://www.pc.gc.ca/eng/pn-np/nu/quttinirpaaq/visit/visit6/d.aspx or in reviewing the "*Safety in Polar Bear Country*" pamphlet, which can be downloaded from the following link: http://www.pc.gc.ca/eng/pn-np/nu/quttinirpaaq/visit/visit6/~/media/pn-np/nu/auyuittuq/pdf/shared/PolarBearSafety_English.ashx.

6. Any problem wildlife or any interaction with carnivores should be reported immediately to the local Government of Nunavut, Department of Environment Conservation Office (Conservation Officer of Grise Fiord, phone: (867) 980-4164).

Species at Risk

7. The Proponent review Environment and Climate Change Canada's "Environment Assessment Best Practice Guide for Wildlife at Risk in Canada", available at the following link: http://www.sararegistry.gc.ca/virtual_sara/files/policies/EA%20Best%20Practices%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

8. The Proponent review Canadian Wildlife Services' "Key migratory bird terrestrial habitat sites in the Northwest Territories and Nunavut", available at the following link: http://publications.gc.ca/site/eng/317630/publication.html and "Key marine habitat sites for migratory birds in Nunavut and the Northwest Territories", available at the following link: http://publications.gc.ca/site/eng/392824/publication.html. The guide provides information to the Proponent on key terrestrial and marine habitat areas that are essential to the welfare of various migratory bird species in Canada.

9. For further information on how to protect migratory birds, their nests and eggs when planning or carrying out project activities, consult Environment and Climate Change Canada's Incidental Take web page and the fact sheet "Planning Ahead to Reduce the Risk of Detrimental Effects to Migratory Birds, and their Nests and Eggs" available at: http://publications.gc.ca/collections/collection_2013/ec/CW66-324-2013-eng.pdf.

Incineration of Wastes

10. 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.

CONCLUSION

The foregoing constitutes the Board's screening decision with respect to the Environment and Climate Change Canada's "Building Demolition and Temporary Camp at Eureka High Arctic Weather Station". The NIRB remains available for consultation with the Minister regarding this report as necessary.

Dated April 21, 2021 at Baker Lake, NU.

Kaviq Kaluraq, Chairperson

Attachments: Appendix A: Species at Risk in Nunavut
Appendix B: Archaeological and Palaeontological Resources Terms and Conditions for Land Use Permit Holders

APPENDIX A: SPECIES AT RISK IN NUNAVUT

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

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

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

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

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

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

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

Updated: September 2019

Terrestrial Species at Risk[3]	COSEWIC Designation	Schedule of SARA	Government Organization with Primary Management Responsibility[4]
Migratory Birds			
Buff-breasted Sandpiper	Special Concern	Schedule 1	Environment and Climate Change Canada (ECCC)
Common Nighthawk	Threatened	Schedule 1	ECCC
Eskimo Curlew	Endangered	Schedule 1	ECCC
Harlequin Duck	Special Concern	Schedule 1	ECCC
Harris's Sparrow	Special Concern	Schedule 1	ECCC
Horned Grebe	Special Concern	Schedule 1	ECCC
Ivory Gull	Endangered	Schedule 1	ECCC
Olive-sided Flycatcher	Threatened	Schedule 1	ECCC
Peregrine Falcon	Special Concern	Schedule 1	ECCC
Red Knot Islandica Subspecies	Special Concern	Schedule 1	ECCC
Red-necked Phalarope	Special Concern	Schedule 1	ECCC
Ross's Gull	Threatened	Schedule 1	ECCC
Rusty Blackbird	Special Concern	Schedule 1	ECCC
Short-eared Owl	Special Concern	Schedule 1	ECCC
Vegetation			
Porsild's Bryum	Threatened	Schedule 1	Government of Nunavut (GN)
Arthropods			
Transverse Lady Beetle	Special Concern	No Schedule	GN
Terrestrial Wildlife			
Caribou (Dolphin and Union Population)	Endangered	Schedule 1	GN
Caribou (Barren-ground Population)	Threatened	No Schedule	GN
Caribou (Torngat Mountains Population)	Endangered	No Schedule	GN
Grizzly Bear (Western Population)	Special Concern	Schedule 1	ECCC
Peary Caribou	Endangered	Schedule 1	GN
Polar Bear	Special Concern	Schedule 1	ECCC
Wolverine	Special Concern	Schedule 1	GN
Marine Wildlife			
Atlantic Walrus (High Arctic Population)	Special Concern	No Schedule	Fisheries and Oceans Canada (DFO)
Atlantic Walrus (Central/Low Arctic Population)	Special Concern	No Schedule	DFO
Beluga Whale (Cumberland Sound Population)	Threatened	Schedule 1	DFO
Beluga Whale (Eastern Hudson Bay Population)	Endangered	No Schedule	DFO

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

4 Environment and Climate Change Canada (ECCC) has a national role to play in the conservation and recovery of Species at Risk in Canada, as well as responsibility for management of birds described in the Migratory Birds Convention Act (MBCA). Day-to-day management of terrestrial species not covered in the MBCA is the responsibility of the Territorial Government. Populations that exist in National Parks are also managed under the authority of the Parks Canada Agency.

Terrestrial Species at Risk[3]	COSEWIC Designation	Schedule of SARA	Government Organization with Primary Management Responsibility[4]
Beluga Whale (Eastern High Arctic-Baffin Bay Population)	Special Concern	No Schedule	DFO
Beluga Whale (Western Hudson Bay Population)	Special Concern	No Schedule	DFO
Fish			
Atlantic Cod (Arctic Lakes Population)	Special Concern	No Schedule	DFO
Fourhorn Sculpin (Freshwater Form)	Data Deficient	Schedule 3	DFO
Lumpfish	Threatened	No Schedule	DFO
Thorny Skate	Special Concern	No Schedule	DFO

APPENDIX B: ARCHAEOLOGICAL AND PALAEONTOLOGICAL RESOURCES TERMS AND CONDITIONS FOR LAND USE PERMIT HOLDERS

INTRODUCTION

The Department of Culture and Heritage (CH) routinely reviews land use applications sent to the Nunavut Water Board, Nunavut Impact Review Board and the Indigenous and Northern Affairs Canada. These terms and conditions provide general direction to the permittee/proponent regarding the appropriate actions to be taken to ensure the permittee/proponent carries out its role in the protection of Nunavut's archaeological and palaeontological resources.

TERMS AND CONDITIONS

1) The permittee/proponent shall have a professional archaeologist and/or palaeontologist perform the following **Functions** associated with the **Types of Development** listed below or similar development activities:

	Types of Development (See Guidelines below)	**Function** (See Guidelines below)
a)	Large scale prospecting	Archaeological/Palaeontological Overview Assessment
b)	Diamond drilling for exploration or geotechnical purpose or planning of linear disturbances	Archaeological/Palaeontological Overview Assessment and/or Inventory and Documentation and/or Mitigation
c)	Construction of linear disturbances, Extractive disturbances, Impounding disturbances and other land disturbance activities	Archaeological/Palaeontological Overview Assessment and/or Inventory and Documentation and/or Mitigation

Note that the above-mentioned functions require either a Nunavut Archaeologist Permit or a Nunavut Palaeontologist Permit. CH is authorized by way of the *Nunavut and Archaeological and Palaeontological Site Regulations*[5] to issue such permits.

[5] P.C. 2001-1111 14 June, 2001

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

3) The permittee/proponent shall not remove, disturb, or displace any archaeological artifact or site, or any fossil or palaeontological site.

4) The permittee/proponent shall immediately contact CH at (867) 934-2046 or (867) 975-5500 should an archaeological site or specimen, or a palaeontological site or fossil, be encountered or disturbed by any land use activity.

5) The permittee/proponent shall immediately cease any activity that disturbs an archaeological or palaeontological site encountered during the course of a land use operation until permitted to proceed with the authorization of CH.

6) The permittee/proponent shall follow the direction of CH in restoring disturbed archaeological or palaeontological sites to an acceptable condition. If these conditions are attached to either a Class A or B Permit under the Territorial Lands Act Indigenous and Northern Affairs Canada directions will also be followed.

7) The permittee/proponent shall provide all information requested by CH concerning all archaeological sites or artifacts and all palaeontological sites and fossils encountered in the course of any land use activity.

8) The permittee/proponent shall make best efforts to ensure that all persons working under its authority are aware of these conditions concerning archaeological sites and artifacts and palaeontological sites and fossils.

9) If a list of recorded archaeological and/or palaeontological sites is provided to the permittee/proponent by CH as part of the review of the land use application the permittee/proponent shall avoid the archaeological and/or palaeontological sites listed.

10) Should a list of recorded sites be provided to the permittee/proponent, the information is provided solely for the purpose of the proponent's land use activities as described in the land use application, and must otherwise be treated confidentially by the proponent.

Legal Framework

As stated in Article 33 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada* (*Nunavut Agreement*):

Where an application is made for a land use permit in the Nunavut Settlement Area, and there are reasonable grounds to believe that there could be sites of archaeological importance on the lands affected, no land use permit shall be issued without written consent of the Designated Agency. Such consent shall not be unreasonably withheld. [33.5.12]

Each land use permit referred to in Section 33.5.12 shall specify the plans and methods of archeological site protection and restoration to be followed by the permit holder, and any other conditions the Designated Agency may deem fit. [33.5.13]

Palaeontology and Archaeology

Under the *Nunavut Act*[6], the federal government can make regulations for the protection, care and preservation of palaeontological and archaeological sites and specimens in Nunavut. Under the *Nunavut Archaeological and Palaeontological Sites Regulations*[7], 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

[6] s. 51(1)
[7] P.C. 2001-1111 14 June, 2001

the federal government. Its role in mitigating impacts of developments on heritage resources is as follows: to identify the need for an impact assessment and make recommendations to the appropriate regulatory agency; set the terms of reference for the study depending upon the scope of the development; suggest the names of qualified individuals prepared to undertake the study to the developer; issue an archaeologist or palaeontologist permit authorizing field work; assess the completeness of the study and its recommendations; and ensure that the developer complies with the recommendations.

The primary regulatory agencies that CH provides information and assistance to are the Nunavut Impact Review Board, for development activities proposed for Inuit Owned Lands (as defined in Section 1.1.1 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada* (*Nunavut Agreement*)), and the Indigenous and Northern Affairs Canada, for development activities proposed for federal Crown Lands.

A developer is the initiator of a land use activity. It is the obligation of the developer to ensure that a qualified archaeologist or palaeontologist is hired to perform the required study and that provisions of the contract with the archaeologist or palaeontologist allow permit requirements to be met; i.e. fieldwork, collections management, artifact and specimen conservation, and report preparation. On the recommendation of the contract archaeologist or palaeontologist in the field and the Government of Nunavut, the developer shall implement avoidance or mitigative measures to protect heritage resources or to salvage the information they contain through excavation, analysis, and report writing. The developer assumes all costs associated with the study in its entirety.

Through his or her active participation and supervision of the study, the contract archaeologist or palaeontologist is accountable for the quality of work undertaken and the quality of the report produced. Facilities to conduct fieldwork, analysis, and report preparation should be available to this individual through institutional, agency, or company affiliations. Responsibility for the curation of objects recovered during field work while under study and for documents generated in the course of the study as well as remittance of artifacts, specimens and documents to the repository specified on the permit accrue to the contract archaeologist or palaeontologist. This individual is also bound by the legal requirements of the *Nunavut Archaeological and Palaeontological Sites Regulations*.

Types of Development

In general, those developments that cause concern for the safety of heritage resources will include one or more of the following kinds of surface disturbances. These categories, in combination, are comprehensive of the major kinds of developments commonly proposed in Nunavut. For any single development proposal, several kinds of these disturbances may be involved

- *Linear disturbances: including the construction of highways, roads, winter roads, transmission lines, and pipelines;*
- *Extractive disturbances: including mining, gravel removal, quarrying, and land filling;*
- *Impoundment disturbances: including dams, reservoirs, and tailings ponds;*

- *Intensive land use disturbances: including industrial, residential, commercial, recreational, and land reclamation work, and use of heritage resources as tourist developments.*

- *Mineral, oil and gas exploration: establishment of camps, temporary airstrips, access routes, well sites, or quarries all have potential for impacting heritage resources.*

Types of Studies Undertaken to Preserve Heritage Resources

Overview: An overview study of heritage resources should be conducted at the same time as the development project is being designed or its feasibility addressed. They usually lack specificity with regard to the exact location(s) and form(s) of impact and involve limited, if any, field surveys. Their main aim is to accumulate, evaluate, and synthesize the existing knowledge of the heritage of the known area of impact. The overview study provides managers with baseline data from which recommendations for future research and forecasts of potential impacts can be made. A Class I Permit is required for this type of study if field surveys are undertaken.

Reconnaissance: This is done to provide a judgmental appraisal of a region sufficient to provide the developer, the consultant, and government managers with recommendations for further development planning. This study may be implemented as a preliminary step to inventory and assessment investigations except in cases where a reconnaissance may indicate a very low or negligible heritage resource potential. Alternately, in the case of small-scale or linear developments, an inventory study may be recommended and obviate the need for a reconnaissance.

The main goal of a reconnaissance study is to provide baseline data for the verification of the presence of potential heritage resources, the determination of impacts to these resources, the generation of terms of reference for further studies and, if required, the advancement of preliminary mitigative and compensatory plans. The results of reconnaissance studies are primarily useful for the selection of alternatives and secondarily as a means of identifying impacts that must be mitigated after the final siting and design of the development project. Depending on the scope of the study, a Class 1 or Class 2 Permit is required for this type of investigation.

Inventory: A resource inventory is generally conducted at that stage in a project's development at which the geographical area(s) likely to sustain direct, indirect, and perceived impacts can be well defined. This requires systematic and intensive fieldwork to ascertain the effects of all possible and alternate construction components on heritage resources. All heritage sites must be recorded on Government of Nunavut Site Survey forms. Sufficient information must be amassed from field, library and archival components of the study to generate a predictive model of the heritage resource base that will:

- allow the identification of research and conservation opportunities;
- enable the developer to make planning decisions and recognize their likely effects on the known or predicted resources; and
- make the developer aware of the expenditures, which may be required for subsequent studies and mitigation. A Class 1 or 2 permit is required.

Assessment: At this stage, sufficient information concerning the numbers and locations of heritage resources will be available, as well as data to predict the forms and magnitude of impacts. Assessments provide information on the size, volume, complexity and content of a heritage resource, which is used to rank the values of different sites or site types given current archaeological knowledge. As this information will shape subsequent mitigation program(s), great care is necessary during this phase.

Mitigation: This refers to the amelioration of adverse impacts to heritage resources and involves the avoidance of impact through the redesign or relocation of a development or its components; the protection of the resource by constructing physical facilities; or, the scientific investigation and recovery of information from the resource by excavation or other method. The type(s) of appropriate mitigative measures are dictated by their viability in the context of the development project. Mitigation strategies must be developed in consultation with, and approved by, the Department of Culture and Heritage. It is important to note that mitigation activities should be initiated as far in advance of the construction of the development as possible.

Surveillance and monitoring: These may be required as part of the mitigation program.

Surveillance may be conducted during the construction phase of a project to ensure that the developer has complied with the recommendations.

Monitoring involves identification and inspection of residual and long-term impacts of a development (i.e. shoreline stability of a reservoir); or the use of impacts to disclose the presence of heritage resources, for example, the uncovering of buried sites during the construction of a pipeline.

SCREENING DECISION REPORT
NIRB FILE No.: 21QN005

NPC File No.: 149457

April 21, 2021

Following the Nunavut Impact Review Board's (NIRB or Board) assessment of all materials provided, the NIRB is recommending that a review of Environment and Climate Change Canada's (ECCC) "West Remus Creek Quarry Expansion" is not required pursuant to Article 12, Section 12.4.4(a) of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada* (*Nunavut Agreement*) and s. 92(1)(a) of the *Nunavut Planning and Project Assessment Act*, S.C. 2013, c. 14, s. 2 (*NuPPAA*).

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

OUTLINE OF SCREENING DECISION REPORT

REGULATORY FRAMEWORK

The primary objectives of the NIRB are set out in Article 12, Section 12.2.5 of the *Nunavut Agreement* and are confirmed by s. 23 of the *NuPPAA*:

> *Nunavut Agreement*, Article 12, Section 12.2.5: In carrying out its functions, the primary objectives of NIRB shall be at all times to protect and promote the existing and future well-being of the residents and communities of the Nunavut Settlement Area, and to protect the ecosystemic integrity of the Nunavut Settlement Area. NIRB shall take into account the well-being of the residents of Canada outside the Nunavut Settlement Area.

The purpose of screening is provided for under Article 12, Section 12.4.1 of the *Nunavut Agreement* and s. 88 of the *NuPPAA* which states:

> *NuPPAA*, s. 88: The purpose of screening a project is to determine whether the project has the potential to result in significant ecosystemic or socio-economic impacts and, accordingly, whether it requires a review by the Board…

To determine whether a review of a project is required, the NIRB is guided by the considerations as set out under Article 12, Section12.4.2(a) and (b) of the *Nunavut Agreement* and s. 89(1) of *NuPPAA* which states:

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

It is noted that under Article 12, Section 12.4.2(c) and s. 89(2) of the *NuPPAA* provides that the considerations set out in s.89(1)(a) prevail over the considerations set out in s. 89(1)(b) of the *NuPPAA*.

As set out under Article 12, Section 12.4.4 of the *Nunavut Agreement* and s. 92(1) of the *NuPPAA*, upon conclusion of the screening process, the Board must provide its written report the Minister. The contents of the NIRB's report are specified under *NuPPAA*:

NuPPAA, s. 92(1): The Board must submit a written report to the responsible Minister containing a description of the project that specifies its scope and indicating that:

(a) a review of the project is not required;

(b) a review of the project is required; or

(c) the project should be modified or abandoned.

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

NuPPAA, s. 92(2) In its report, the Board may also

(a) recommend specific terms and conditions to apply in respect of a project that it determines may be carried out without a review.

PROJECT REFERRAL

On February 9, 2021 the NIRB received a referral to screen ECCC's "West Remus Creek Quarry Expansion" project proposal from the Nunavut Planning Commission (Commission), with an accompanying positive conformity determination with the North Baffin Regional Land Use Plan.

Pursuant to Article 12, Sections 12.4.1 and 12.4.4 of the *Nunavut Agreemen*t and s. 87 of the *NuPPAA*, the NIRB commenced screening this project proposal and assigned it file number **21QN005**.

PROJECT OVERVIEW & THE NIRB ASSESSMENT PROCESS

1. Screening Process Timelines

The following key stages were completed for the screening process:

Date	Stage
February 9, 2021	Receipt of project proposal and positive conformity determination (North Baffin Regional Land Use Plan) from the Commission.
February 15, 2021	Request to complete public registry online and provide information pursuant to s. 144(1) of the *NuPPAA*
February 23, 2021	Request to Proponent for additional information in order to carry out screening pursuant to s. s. 144(1) of the *NuPPAA*
March 1, 2021	Proponent responded to information request(s) and provided additional information
March 1, 2021	Scoping pursuant to s. 86(1) of the *NuPPAA*
March 18, 2021	Public engagement and comment request
April 8, 2021	Receipt of public comments
April 21, 2021	Issuance of Screening Decision Report

2. Project Scope

All documents received and pertaining to this project proposal can be accessed from the NIRB's online public registry at www.nirb.ca/project/125587.

Project:	West Remus Creek Quarry Expansion				
Region:	Qikiqtani (North Baffin)				
Location:	Eureka High Arctic Weather Station				
Closest Community:	Grise Fiord	**Distance (approximate)**	400 kilometres (km)	**Direction**	North
Summary of Project Description:	The Proponent intends to conduct an expansion of the quarry at West Remus Creek is needed as the additional aggregate required is not available within the current permitted boundaries.				
Project Proposed Timeline:	July 2021 to October 2025				

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

- Conducting geotechnical surveys to determine the area of an expansion of the quarry;
- Conducting an archeological assessment of the expansion area;
- Expansion of West Remus Creek Quarry;
    - Three (3) areas proposed for expansion: the primary expansion area is east of the quarry and north of Remus Creek, the two others are east of the quarry and south of Remus Creek;
    - Use of various heavy equipment to expand quarry site;
- Potential construction of two temporary culvert stream crossings in the case that acceptable aggregate grade is not available in the primary expansion area;
- Use and storage of fuel (approximately 478,000 L) for project activities;
- Food and paper waste to be incinerated on site within existing facility; and
- Hazardous and non-combustible wastes to be properly disposed of off-site at an appropriate facility.

3. Inclusion or Exclusion to Scoping List

The NIRB has identified no additional works or activities in relation to the project proposal. As a result, the NIRB proceeded with screening the project based on the scope as described above.

4. Public Comments and Concerns

Notice regarding the NIRB's screening of this project proposal was distributed on March 18, 2021 to community organizations in Grise Fiord, 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 April 8, 2021 regarding:

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

On or before April 8, 2021 the NIRB received comments from the following interested parties:

- **Crown – Indigenous Relations and Northern Affairs Canada**

a. Summary of Public Comments and Concerns Received during the Public comment period of this file

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

Crown – Indigenous Relations and Northern Affairs Canada

- Recommends that the Proponent prioritize the employment and training of local Inuit when implementing project activities. Such efforts will allow for positive effects to be realized by community members and the local Inuit population.
- Recommends that the Proponent maintain open communication with the Hamlet of Grise Fiord and the Iviq Hunters and Trappers Organization, as well as other community members and organizations which may have an interest in the project's activities. Issues that should be considered as part of any consultation activities include:
    - Incorporation of Inuit knowledge or Inuit Qaujimajatuqangit into project activities;
    - Mitigation measures designed to prevent any disturbance to wildlife and the environment;
    - The experience of community members who participate in traditional and non-traditional activities in close proximity to the project area;
    - Training and employment opportunities for community members; and
    - Regular updates on the status of project activities.

b. Comments and Concerns with respect to Inuit Qaujimaningit, Traditional, and Community Knowledge

No concerns or comments were received with respect to Inuit Qaujimaningit or traditional and community knowledge in relation to the proposed project.

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

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

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

Factor	Comment
The size of the geographic area, including the size of wildlife habitats, likely to be affected by the impacts.	▪ The physical footprint of the proposed project components is within the Eureka High Arctic Weather Station footprint. ▪ The proposed project would take place within habitats of far-ranging wildlife species such as migratory and non-migratory birds, Arctic fox, Arctic hare and Species at Risk such as Polar Bears.
The ecosystemic sensitivity of that area.	▪ No specific areas of ecosystemic sensitivity have been identified by the Proponent within the physical footprint of the proposed project.
The historical, cultural and archaeological significance of that area.	▪ No specific areas of historical, cultural and archaeological significance have been identified by the Proponent within the physical footprint of the proposed project.
The size of the human and the animal populations likely to be affected by the impacts.	▪ The proposed project is unlikely to result in impacts to local human and animal populations.
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.	▪ A zone of influence of up to 30 km from the most potentially-disruptive project activities was selected for the NIRB's assessment. ▪ With adherence to the relevant regulatory requirements and application of the mitigation measures recommended by the NIRB, no significant residual effects are expected to occur.
The cumulative impacts that could result from the impacts of the project combined with those of any other project that has been carried out, is being carried out or is likely to be carried out.	▪ The NIRB has not identified any past, present, and reasonably foreseeable projects at this time; however, the mitigation measures recommended by the NIRB have been designed to reduce cumulative effects should projects occur in the area in the future.

Factor	Comment
Any other factor that the Board considers relevant to the assessment of the significance of impacts.	▪ The project is necessary to provide significant aggregate for the continued maintenance and operation of the HAWS facility.

VIEWS OF THE BOARD

In considering the factors as set out above in the screening of the project proposal, the NIRB has identified a number of issues below and respectfully provide the following views regarding whether or not the proposed project has the potential to result in significant impacts. In addition, the NIRB has proposed terms and conditions that would mitigate the potential adverse impacts identified.

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

Ecosystem, wildlife habitat and Inuit harvesting activities:

Valued Component	Terrestrial wildlife such as migratory and non-migratory birds, Arctic fox, Arctic hare and Species at Risk such as Polar Bears from quarry activities
Potential effects:	Potential adverse effects to terrestrial wildlife such as migratory and non-migratory birds, Arctic fox, Arctic hare and Species at Risk such as Polar Bears from noise and visual disturbance generated from the transportation of personnel and equipment via heavy equipment to the quarry sites as well as quarry activities
Nature of Impacts:	The potential for impacts is considered to be limited due to infrequent and temporary activities and any resulting impacts would be expected to be reversible
Mitigating Factors:	The Proponent commits to hiring a local field assistant to monitor for disturbance to terrestrial wildlife
Proposed Terms and Conditions:	Wildlife General – 20 through 25 Migratory Birds and Raptors Disturbance – 26 though 29 Road and Ground Disturbance – 30 Aggregate Removal within Existing and New Quarries – 31 through 35
Related Acts and/or Regulations:	1. The *Migratory Birds Convention Act* and *Migratory Birds Regulations* (http://laws-lois.justice.gc.ca/eng/acts/M-7.01/). 2. 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. 3. The *Wildlife Act (Nunavut)* and its corresponding regulations (http://www.canlii.org/en/nu/laws/stat/snu-2003-c-26/latest/snu-2003-c-26.html).

Valued Component	Fish and fish habitat and surface water quality
Potential effects:	Potential adverse impacts to fish, water, and the aquatic environment due to quarry operations and the storage, transportation and use of fuel and chemicals.
Nature of Impacts:	The potential for impacts is considered to be limited and mostly reversible if regulations and best practices for quarry operations and storage and use of fuel and chemicals are followed.
Mitigating Factors:	The Proponent has developed a Regulatory Compliance and Environmental Management Plan which contains the Spill Plan for the project. Further, the Proponent has committed to make available adequate spill response equipment materials, have personnel present at all times during fuel transfer, and to maintain fuel storage and transfer within secondary containment. The Board is also recommending terms and conditions and it is expected that these terms and conditions would mitigate any potential adverse impacts to water quality, fish and fish habitat in the direct project area and areas adjacent to the proposed project.
Proposed Terms and Conditions:	Waste Management – 6 and 7 Fuel and Chemical Storage – 8 through 17 Wildlife General – 20 though 25
Related Acts and/or 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 *Transportation of Dangerous Goods Act* (http://laws-lois.justice.gc.ca/eng/acts/t-19.01/) and the *Transportation of Dangerous Goods Regulations* (http://www.tc.gc.ca/eng/tdg/clear-tofc-211.htm). 4. The *Canadian Environmental Protection Act* (http://lawslois.justice.gc.ca/eng/acts/C-15.31/).

Valued Component	Land, terrestrial vegetation, and ground stability
Potential effects:	Potential adverse impacts to the ground stability, vegetation quality, and terrain due to moving of equipment and personnel and quarry activities.
Nature of Impacts:	The potential for impacts is considered to be limited if regulations and best practices for quarry operations are followed. The potential for disturbance due to other activities is considered to be minimal due to the localized and temporary nature of the activities.
Mitigating Factors:	The Proponent also has committed to developing a *Spill Contingency Plan* that would be implemented as required. Further, combustible disturbance to the land would be minimal and waste generated by the

	project would be disposed of properly. Noncombustible and hazardous waste would be taken for proper disposal.
Proposed Terms and Conditions:	Waste Management – 6 and 7 Fuel and Chemical Storage – 8 through 17 Road and Ground Disturbance – 30 Aggregate Removal within Existing and New Quarries – 31 through 35 Land Use and Restoration of Disturbed Areas – 36 through 39
Related Acts and/or Regulations:	N/A

Valued Component	Air Quality
Potential effects:	There is potential for adverse effects to air quality in the immediate vicinity of the quarry due to an increase in fugitive dust and emissions from equipment on site and incineration activities
Nature of Impacts:	The potential for impacts to air quality is considered to be moderate due to the limited period of site activity and mitigable through application of dust suppressants and mitigation measures.
Mitigating Factors:	It is recommended that the potential adverse impacts from the quarrying activities may be mitigated by ensuring the Proponent undertakes appropriate dust suppression as well as comply with appropriate mitigation measures.
Proposed Terms and Conditions:	Waste Management – 6 and 7 Air Quality – 18 and 19 Road and Ground Disturbance – 30 Aggregate Removal within Existing and New Quarries – 31 through 35
Related Acts and/or Regulations:	N/A

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

Socio-economic effects on northerners:

Valued Component	Historical, archeological, and heritage sites
Potential effects:	No historical sites in the proposed project area were identified by the Proponent, however, the Board is recommending terms and conditions to ensure project activities are informed by available Inuit Qaujimaningit and that project activities do not negatively effect historical or heritage sites.
Nature of Impacts:	The potential for impacts are considered minimal as the area has no historical, archeological, and heritage sites that have been previously identified. The nature of the proposed project operations are unlikely to impact any unknown archeological sites.
Mitigating Factors:	As noted, the Board is recommending terms and conditions to ensure that project activities do not negatively effect historical or heritage sites.
Proposed Terms and Conditions:	Other – 40 and 41
Related Acts and/or Regulations:	1. 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**.

Significant public concern:

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

Technological innovations for which the effects are unknown:

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

Administrative Conditions:

To encourage compliance with applicable regulatory requirements and assist the Board and responsible authorities with compliance and effects monitoring for project activities, the following project-specific terms and conditions have been recommended: 1-5.

In considering the above factors and subject to the Proponent's compliance with the terms and conditions necessary to mitigate against the potential adverse environmental and social effects, the Board is of the view that the proposed project is unlikely to cause significant public concern and its adverse ecosystemic and socioeconomic impacts are unlikely to be significant, or are highly predictable and can be adequately mitigated by known technologies.

RECOMMENDED PROJECT-SPECIFIC TERMS AND CONDITIONS

The Board is recommending the following specific terms and conditions to apply in respect of the project:

General

1. Environment and Climate Change Canada (the Proponent) shall maintain a copy of the Project Terms and Conditions at the site of operation at all times and make it accessible to enforcement officers upon request.
2. The Proponent shall operate in accordance with all commitments stated in correspondence provided to the Nunavut Planning Commission (NPC File No.: 149457) and the NIRB (Online Application Form, March 1, 2021). This information should be accessible to enforcement officers upon request.
3. The Proponent shall operate the site in accordance with all applicable Acts, Regulations and Guidelines.
4. The Proponent shall ensure that it meets the standards and/or limits as set out in the authorizing agencies' permits or licences as required for this project.
5. The Proponent shall ensure that all personnel, staff and contractors are adequately trained prior to commencement of all project activities, and shall be made aware of all operational plans, management plans, guidelines and Proponent commitments relating to the project.

Waste Management

6. The Proponent shall manage all hazardous and non-hazardous waste including food, domestic wastes, debris and petroleum-based chemicals (e.g., greases, gasoline, glycol-based antifreeze) in such a manner to avoid release into the environment and access to wildlife at all times until disposed of appropriately or at an approved facility.
7. The Proponent shall incinerate all combustible wastes as needed and dispose of as required by the appropriate authorizing agencies. All non-combustible wastes from the project site shall be removed to an approved facility for disposal.

Fuel and Chemical Storage

8. The Proponent shall locate all fuel and other hazardous materials a minimum distance away from the high-water mark of any water body and environmentally sensitive areas as required by the appropriate authorizing agencies. The materials shall be stored in such a manner as to prevent their release into the environment.
9. 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.
10. The Proponent shall ensure that re-fuelling of all equipment occurs a minimum distance away from the high-water mark of any water body as required by the appropriate authorizing agencies.
11. Fuel and hazardous material storage areas and fuel lines should be clearly marked with signs or flagging to avoid accidental breaks and punctures, and to ensure areas remain visible during the winter months.
12. All fuel and chemical storage containers must be clearly marked with the Proponent's name for ease of identification.
13. The Proponent shall routinely inspect and document the conditions of fuel and hazardous material storage containers and containment areas as required by the appropriate authorizing agencies. Fuel containment areas shall be kept clear of debris, water and snow to facilitate inspections for leaks.
14. The Proponent shall have a Spill Contingency Plan in place at all fuel storage or transfer locations and shall ensure that appropriate spill response equipment and clean-up materials (e.g., shovels, pumps, barrels, drip pans, and absorbents) are readily available.
15. The Proponent shall follow the authorizing agencies' direction for management and removal of hazardous materials and wastes (e.g., contaminated soils, sediment and waste oil).
16. The Proponent shall ensure that wildlife deterrent systems are utilized at the time of a spill incident in order to avoid wildlife (terrestrial or marine) and migratory birds from being contaminated.
17. The Proponent shall ensure that all spills of fuel or other deleterious materials of 100 litres or more must be reported immediately to the 24-hour Spill Line at (867) 920-8130.

Air Quality

18. The Proponent shall take appropriate dust suppression measures in conducting all activities for this Project including using approved dust suppression additives and techniques as necessary to maintain ambient air quality.
19. The Proponent shall eliminate unnecessary idling to reduce greenhouse gas emissions as much as possible.

Wildlife – General

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

Migratory Birds and Raptors Disturbance

26. The Proponent shall carry out all phases of the project in a manner that protects migratory birds and avoids harming, killing or disturbing migratory birds or destroying, disturbing or taking their nests or eggs. In this regard, the Proponent shall take into account Environment and Climate Change Canada's *Avoidance Guidelines*. The Proponent's actions in applying the *Avoidance Guidelines* shall be in compliance with the *Migratory Birds Convention Act, 1994* and with the *Species at Risk Act*.
27. The Proponent shall not disturb or destroy the nests or eggs of any birds. If active nests of any birds are discovered or located (i.e., with eggs or young), the Proponent shall avoid these areas until nesting is complete and the young have naturally left the vicinity of the nest by establishing a protection buffer zone[1] appropriate for the species and the surrounding habitat.
28. The Proponent shall avoid the seaward site of seabird colonies and areas used by flocks of migrating waterfowl, a minimum distance away on the recommendation of the appropriate authorizing agencies.
29. The Proponent shall not pursue seabirds or waterbirds swimming on the water surface and shall avoid concentrations of these birds if encountered on the water.

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

Road and Ground Disturbance

30. 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.

Aggregate Removal within Existing and New Quarries

31. The Proponent shall not remove any material from below the ordinary highwater mark of any lake or stream and shall maintain an undisturbed buffer zone as required by the appropriate authorizing agencies between quarry site and any highwater mark of any water body to ensure erosion control.
32. The Proponent shall install silt fences/curtains down stream of any quarry activities.
33. 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.
34. The Proponent shall locate screening and crushing equipment on stable ground, at a location with ready access to stockpiles.
35. The Proponent shall clearly stake and flag pit and quarry boundaries, so they remain visible to other land users.

Land Use and Restoration of Disturbed Areas

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

Other

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

OTHER NIRB CONCERNS AND RECOMMENDATIONS

In addition to the project-specific terms and conditions, the Board is recommending the following:

Change in Project Scope

1. Responsible authorities or Proponent shall notify the Nunavut Planning Commission and/or Parks Canada as appropriate, and the NIRB of any changes in operating plans or conditions, including phase advancement, associated with this project prior to any such change.

Copy of licences, etc. to the Board and Commission

2. The NIRB respectfully requests that responsible authorities submit a copy of each licence, permit or other authorization issued for the Project to the NIRB to assist in enabling possible project monitoring that may be required. Please forward a copy of the licences, permits and/or other authorizations to the NIRB directly at info@nirb.ca or upload a copy to the NIRB's online registry at www.nirb.ca.

Use of Inuit Qaujimaningit

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

Bear and Carnivore Safety

4. The Proponent should review the Government of Nunavut's booklet on Bear Safety, which can be downloaded from this link: http://gov.nu.ca/sites/default/files/bear_safety_-_reducing_bear-people_conflicts_in_nunavut.pdf. Further information on bear/carnivore detection and deterrent techniques can be found in the "*Safety in Grizzly and Black Bear Country*" pamphlet, which can be downloaded from this link: https://www.enr.gov.nt.ca/sites/enr/files/resources/safety_in_grizzly_and_black_bear_country_english.pdf.

5. There are Polar Bear and grizzly bear safety resources available from the Bear Smart Society with videos on Polar Bear safety available in English, French and Inuktitut at http://www.bearsmart.com/play/safety-in-polar-bear-country/. Information can also be obtained from Parks Canada's website on bear safety at the following link: http://www.pc.gc.ca/eng/pn-np/nu/quttinirpaaq/visit/visit6/d.aspx or in reviewing the "*Safety in Polar Bear Country*" pamphlet, which can be downloaded from the following link: http://www.pc.gc.ca/eng/pn-np/nu/quttinirpaaq/visit/visit6/~/media/pn-np/nu/auyuittuq/pdf/shared/PolarBearSafety_English.ashx.

6. Any problem wildlife or any interaction with carnivores should be reported immediately to the local Government of Nunavut, Department of Environment Conservation Office (Conservation Officer of Grise Fiord, phone: (867) 980-4614).

Species at Risk

7. The Proponent review Environment and Climate Change Canada's "Environment Assessment Best Practice Guide for Wildlife at Risk in Canada", available at the following link:

http://www.sararegistry.gc.ca/virtual_sara/files/policies/EA%20Best%20Practices%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

8. The Proponent review Canadian Wildlife Services' "Key migratory bird terrestrial habitat sites in the Northwest Territories and Nunavut", available at the following link: http://publications.gc.ca/site/eng/317630/publication.html and "Key marine habitat sites for migratory birds in Nunavut and the Northwest Territories", available at the following link: http://publications.gc.ca/site/eng/392824/publication.html. The guide provides information to the Proponent on key terrestrial and marine habitat areas that are essential to the welfare of various migratory bird species in Canada.

9. For further information on how to protect migratory birds, their nests and eggs when planning or carrying out project activities, consult Environment and Climate Change Canada's Incidental Take web page and the fact sheet "Planning Ahead to Reduce the Risk of Detrimental Effects to Migratory Birds, and their Nests and Eggs" available at: http://publications.gc.ca/collections/collection_2013/ec/CW66-324-2013-eng.pdf.

Incineration of Wastes

10. 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.

CONCLUSION

The foregoing constitutes the Board's screening decision with respect to the Environment and Climate Change Canada's "West Remus Creek Quarry Expansion". The NIRB remains available for consultation with the Minister regarding this report as necessary.

Dated April 21, 2021 at Baker Lake, NU.

M. Kaluraq

Kaviq Kaluraq, Chairperson

Attachments: Appendix A: Species at Risk in Nunavut
Appendix B: Archaeological and Palaeontological Resources Terms and Conditions for Land Use Permit Holders

APPENDIX A: SPECIES AT RISK IN NUNAVUT

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

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

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

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

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

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

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

Updated: September 2019

Terrestrial Species at Risk[2]	COSEWIC Designation	Schedule of SARA	Government Organization with Primary Management Responsibility[3]
Migratory Birds			
Buff-breasted Sandpiper	Special Concern	Schedule 1	Environment and Climate Change Canada (ECCC)
Common Nighthawk	Threatened	Schedule 1	ECCC
Eskimo Curlew	Endangered	Schedule 1	ECCC
Harlequin Duck	Special Concern	Schedule 1	ECCC
Harris's Sparrow	Special Concern	Schedule 1	ECCC
Horned Grebe	Special Concern	Schedule 1	ECCC
Ivory Gull	Endangered	Schedule 1	ECCC
Olive-sided Flycatcher	Threatened	Schedule 1	ECCC
Peregrine Falcon	Special Concern	Schedule 1	ECCC
Red Knot Islandica Subspecies	Special Concern	Schedule 1	ECCC
Red-necked Phalarope	Special Concern	Schedule 1	ECCC
Ross's Gull	Threatened	Schedule 1	ECCC
Rusty Blackbird	Special Concern	Schedule 1	ECCC
Short-eared Owl	Special Concern	Schedule 1	ECCC
Vegetation			
Porsild's Bryum	Threatened	Schedule 1	Government of Nunavut (GN)
Arthropods			
Transverse Lady Beetle	Special Concern	No Schedule	GN
Terrestrial Wildlife			
Caribou (Dolphin and Union Population)	Endangered	Schedule 1	GN
Caribou (Barren-ground Population)	Threatened	No Schedule	GN
Caribou (Torngat Mountains Population)	Endangered	No Schedule	GN
Grizzly Bear (Western Population)	Special Concern	Schedule 1	ECCC
Peary Caribou	Endangered	Schedule 1	GN
Polar Bear	Special Concern	Schedule 1	ECCC
Wolverine	Special Concern	Schedule 1	GN
Marine Wildlife			
Atlantic Walrus (High Arctic Population)	Special Concern	No Schedule	Fisheries and Oceans Canada (DFO)
Atlantic Walrus (Central/Low Arctic Population)	Special Concern	No Schedule	DFO
Beluga Whale (Cumberland Sound Population)	Threatened	Schedule 1	DFO
Beluga Whale (Eastern Hudson Bay Population)	Endangered	No Schedule	DFO

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

3 Environment and Climate Change Canada (ECCC) has a national role to play in the conservation and recovery of Species at Risk in Canada, as well as responsibility for management of birds described in the Migratory Birds Convention Act (MBCA). Day-to-day management of terrestrial species not covered in the MBCA is the responsibility of the Territorial Government. Populations that exist in National Parks are also managed under the authority of the Parks Canada Agency.

Terrestrial Species at Risk[2]	COSEWIC Designation	Schedule of SARA	Government Organization with Primary Management Responsibility[3]
Beluga Whale (Eastern High Arctic-Baffin Bay Population)	Special Concern	No Schedule	DFO
Beluga Whale (Western Hudson Bay Population)	Special Concern	No Schedule	DFO
Fish			
Atlantic Cod (Arctic Lakes Population)	Special Concern	No Schedule	DFO
Fourhorn Sculpin (Freshwater Form)	Data Deficient	Schedule 3	DFO
Lumpfish	Threatened	No Schedule	DFO
Thorny Skate	Special Concern	No Schedule	DFO

APPENDIX B: ARCHAEOLOGICAL AND PALAEONTOLOGICAL RESOURCES TERMS AND CONDITIONS FOR LAND USE PERMIT HOLDERS

INTRODUCTION

The Department of Culture and Heritage (CH) routinely reviews land use applications sent to the Nunavut Water Board, Nunavut Impact Review Board and the Indigenous and Northern Affairs Canada. These terms and conditions provide general direction to the permittee/proponent regarding the appropriate actions to be taken to ensure the permittee/proponent carries out its role in the protection of Nunavut's archaeological and palaeontological resources.

TERMS AND CONDITIONS

1) The permittee/proponent shall have a professional archaeologist and/or palaeontologist perform the following **Functions** associated with the **Types of Development** listed below or similar development activities:

	Types of Development (See Guidelines below)	**Function** (See Guidelines below)
a)	Large scale prospecting	Archaeological/Palaeontological Overview Assessment
b)	Diamond drilling for exploration or geotechnical purpose or planning of linear disturbances	Archaeological/Palaeontological Overview Assessment and/or Inventory and Documentation and/or Mitigation
c)	Construction of linear disturbances, Extractive disturbances, Impounding disturbances and other land disturbance activities	Archaeological/Palaeontological Overview Assessment and/or Inventory and Documentation and/or Mitigation

Note that the above-mentioned functions require either a Nunavut Archaeologist Permit or a Nunavut Palaeontologist Permit. CH is authorized by way of the *Nunavut and Archaeological and Palaeontological Site Regulations*[4] to issue such permits.

[4] P.C. 2001-1111 14 June, 2001

2) The permittee/proponent shall not operate any vehicle over a known or suspected archaeological or palaeontological site.
3) The permittee/proponent shall not remove, disturb, or displace any archaeological artifact or site, or any fossil or palaeontological site.
4) The permittee/proponent shall immediately contact CH at (867) 934-2046 or (867) 975-5500 should an archaeological site or specimen, or a palaeontological site or fossil, be encountered or disturbed by any land use activity.
5) The permittee/proponent shall immediately cease any activity that disturbs an archaeological or palaeontological site encountered during the course of a land use operation until permitted to proceed with the authorization of CH.
6) The permittee/proponent shall follow the direction of CH in restoring disturbed archaeological or palaeontological sites to an acceptable condition. If these conditions are attached to either a Class A or B Permit under the Territorial Lands Act Indigenous and Northern Affairs Canada directions will also be followed.
7) The permittee/proponent shall provide all information requested by CH concerning all archaeological sites or artifacts and all palaeontological sites and fossils encountered in the course of any land use activity.
8) The permittee/proponent shall make best efforts to ensure that all persons working under its authority are aware of these conditions concerning archaeological sites and artifacts and palaeontological sites and fossils.
9) If a list of recorded archaeological and/or palaeontological sites is provided to the permittee/proponent by CH as part of the review of the land use application the permittee/proponent shall avoid the archaeological and/or palaeontological sites listed.
10) Should a list of recorded sites be provided to the permittee/proponent, the information is provided solely for the purpose of the proponent's land use activities as described in the land use application, and must otherwise be treated confidentially by the proponent.

Legal Framework

As stated in Article 33 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada* (*Nunavut Agreement*):

Where an application is made for a land use permit in the Nunavut Settlement Area, and there are reasonable grounds to believe that there could be sites of archaeological importance on the lands affected, no land use permit shall be issued without written consent of the Designated Agency. Such consent shall not be unreasonably withheld. [33.5.12]

Each land use permit referred to in Section 33.5.12 shall specify the plans and methods of archeological site protection and restoration to be followed by the permit holder, and any other conditions the Designated Agency may deem fit. [33.5.13]

Palaeontology and Archaeology

Under the *Nunavut Act*[5], the federal government can make regulations for the protection, care and preservation of palaeontological and archaeological sites and specimens in Nunavut. Under the *Nunavut Archaeological and Palaeontological Sites Regulations*[6], it is illegal to alter or disturb any palaeontological or archaeological site in Nunavut unless permission is first granted through the permitting process.

Definitions
As defined in the *Nunavut Archaeological and Palaeontological Sites Regulations*, the following definitions apply:

> *"archaeological site" means a place where an archaeological artifact is found.*
>
> *"archaeological artifact" means any tangible evidence of human activity that is more than 50 years old and in respect of which an unbroken chain of possession or regular pattern of usage cannot be demonstrated, and includes a Denesuline archaeological specimen referred to in section 40.4.9 of the Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada (Nunavut Agreement).*
>
> *"palaeontological site" means a site where a fossil is found.*
>
> *"fossil" includes:*
> *Fossil means the hardened or preserved remains or impression of previously living organisms or vegetation and includes:*
> *(a) natural casts;*
> *(b) preserved tracks, coprolites and plant remains; and*
> *(c) the preserved shells and exoskeletons of invertebrates and the preserved eggs, teeth and bones of vertebrates.*

Guidelines for Developers for the Protection of Archaeological Resources in the Nunavut Territory

(**Note:** Partial document only, complete document at: www.ch.gov.nu.ca/en/Archaeology.aspx)

Introduction
The following guidelines have been formulated to ensure that the impacts of proposed developments upon heritage resources are assessed and mitigated before ground surface altering activities occur. Heritage resources are defined as, but not limited to, archaeological and historical sites, burial grounds, palaeontological sites, historic buildings and cairns Effective collaboration between the developer, the Department of Culture, and Heritage (CH), and the contract archaeologist(s) will ensure proper preservation of heritage resources in the Nunavut Territory. The roles of each are briefly described.

CH is the Nunavut Government agency which oversees the protection and management of heritage resources in Nunavut, in partnership with land claim authorities, regulatory agencies, and

[5] s. 51(1)
[6] P.C. 2001-1111 14 June, 2001

the federal government. Its role in mitigating impacts of developments on heritage resources is as follows: to identify the need for an impact assessment and make recommendations to the appropriate regulatory agency; set the terms of reference for the study depending upon the scope of the development; suggest the names of qualified individuals prepared to undertake the study to the developer; issue an archaeologist or palaeontologist permit authorizing field work; assess the completeness of the study and its recommendations; and ensure that the developer complies with the recommendations.

The primary regulatory agencies that CH provides information and assistance to are the Nunavut Impact Review Board, for development activities proposed for Inuit Owned Lands (as defined in Section 1.1.1 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada* (*Nunavut Agreement*)), and the Indigenous and Northern Affairs Canada, for development activities proposed for federal Crown Lands.

A developer is the initiator of a land use activity. It is the obligation of the developer to ensure that a qualified archaeologist or palaeontologist is hired to perform the required study and that provisions of the contract with the archaeologist or palaeontologist allow permit requirements to be met; i.e. fieldwork, collections management, artifact and specimen conservation, and report preparation. On the recommendation of the contract archaeologist or palaeontologist in the field and the Government of Nunavut, the developer shall implement avoidance or mitigative measures to protect heritage resources or to salvage the information they contain through excavation, analysis, and report writing. The developer assumes all costs associated with the study in its entirety.

Through his or her active participation and supervision of the study, the contract archaeologist or palaeontologist is accountable for the quality of work undertaken and the quality of the report produced. Facilities to conduct fieldwork, analysis, and report preparation should be available to this individual through institutional, agency, or company affiliations. Responsibility for the curation of objects recovered during field work while under study and for documents generated in the course of the study as well as remittance of artifacts, specimens and documents to the repository specified on the permit accrue to the contract archaeologist or palaeontologist. This individual is also bound by the legal requirements of the *Nunavut Archaeological and Palaeontological Sites Regulations*.

Types of Development

In general, those developments that cause concern for the safety of heritage resources will include one or more of the following kinds of surface disturbances. These categories, in combination, are comprehensive of the major kinds of developments commonly proposed in Nunavut. For any single development proposal, several kinds of these disturbances may be involved

- *Linear disturbances: including the construction of highways, roads, winter roads, transmission lines, and pipelines;*
- *Extractive disturbances: including mining, gravel removal, quarrying, and land filling;*
- *Impoundment disturbances: including dams, reservoirs, and tailings ponds;*

- *Intensive land use disturbances: including industrial, residential, commercial, recreational, and land reclamation work, and use of heritage resources as tourist developments.*

- *Mineral, oil and gas exploration: establishment of camps, temporary airstrips, access routes, well sites, or quarries all have potential for impacting heritage resources*.

Types of Studies Undertaken to Preserve Heritage Resources

Overview: An overview study of heritage resources should be conducted at the same time as the development project is being designed or its feasibility addressed. They usually lack specificity with regard to the exact location(s) and form(s) of impact and involve limited, if any, field surveys. Their main aim is to accumulate, evaluate, and synthesize the existing knowledge of the heritage of the known area of impact. The overview study provides managers with baseline data from which recommendations for future research and forecasts of potential impacts can be made. A Class I Permit is required for this type of study if field surveys are undertaken.

Reconnaissance: This is done to provide a judgmental appraisal of a region sufficient to provide the developer, the consultant, and government managers with recommendations for further development planning. This study may be implemented as a preliminary step to inventory and assessment investigations except in cases where a reconnaissance may indicate a very low or negligible heritage resource potential. Alternately, in the case of small-scale or linear developments, an inventory study may be recommended and obviate the need for a reconnaissance.

The main goal of a reconnaissance study is to provide baseline data for the verification of the presence of potential heritage resources, the determination of impacts to these resources, the generation of terms of reference for further studies and, if required, the advancement of preliminary mitigative and compensatory plans. The results of reconnaissance studies are primarily useful for the selection of alternatives and secondarily as a means of identifying impacts that must be mitigated after the final siting and design of the development project. Depending on the scope of the study, a Class 1 or Class 2 Permit is required for this type of investigation.

Inventory: A resource inventory is generally conducted at that stage in a project's development at which the geographical area(s) likely to sustain direct, indirect, and perceived impacts can be well defined. This requires systematic and intensive fieldwork to ascertain the effects of all possible and alternate construction components on heritage resources. All heritage sites must be recorded on Government of Nunavut Site Survey forms. Sufficient information must be amassed from field, library and archival components of the study to generate a predictive model of the heritage resource base that will:

- allow the identification of research and conservation opportunities;
- enable the developer to make planning decisions and recognize their likely effects on the known or predicted resources; and
- make the developer aware of the expenditures, which may be required for subsequent studies and mitigation. A Class 1 or 2 permit is required.

Assessment: At this stage, sufficient information concerning the numbers and locations of heritage resources will be available, as well as data to predict the forms and magnitude of impacts. Assessments provide information on the size, volume, complexity and content of a heritage resource, which is used to rank the values of different sites or site types given current archaeological knowledge. As this information will shape subsequent mitigation program(s), great care is necessary during this phase.

Mitigation: This refers to the amelioration of adverse impacts to heritage resources and involves the avoidance of impact through the redesign or relocation of a development or its components; the protection of the resource by constructing physical facilities; or, the scientific investigation and recovery of information from the resource by excavation or other method. The type(s) of appropriate mitigative measures are dictated by their viability in the context of the development project. Mitigation strategies must be developed in consultation with, and approved by, the Department of Culture and Heritage. It is important to note that mitigation activities should be initiated as far in advance of the construction of the development as possible.

Surveillance and monitoring: These may be required as part of the mitigation program.

Surveillance may be conducted during the construction phase of a project to ensure that the developer has complied with the recommendations.

Monitoring involves identification and inspection of residual and long-term impacts of a development (i.e. shoreline stability of a reservoir); or the use of impacts to disclose the presence of heritage resources, for example, the uncovering of buried sites during the construction of a pipeline.

SCREENING DECISION REPORT
NIRB FILE No.: 21XN012

NPC File No.: 149476

May 13, 2021

Following the Nunavut Impact Review Board's (NIRB or Board) assessment of all materials provided, the NIRB is recommending that a review of Environment and Climate Change Canada's (ECCC) "Landfarm, Solid Waste Non-Hazardous Facility, Water and Sewage Treatment Infrastructure Upgrades for the Eureka High Arctic Weather Station" is not required pursuant to Article 12, Section 12.4.4(a) of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada* (*Nunavut Agreement*) and s. 92(1)(a) of the *Nunavut Planning and Project Assessment Act*, S.C. 2013, c. 14, s. 2 (*NuPPAA*).

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

OUTLINE OF SCREENING DECISION REPORT

REGULATORY FRAMEWORK

The primary objectives of the NIRB are set out in Article 12, Section 12.2.5 of the *Nunavut Agreement* and are confirmed by s. 23 of the *NuPPAA*:

> *Nunavut Agreement*, Article 12, Section 12.2.5: In carrying out its functions, the primary objectives of NIRB shall be at all times to protect and promote the existing and future well-being of the residents and communities of the Nunavut Settlement Area, and to protect the ecosystemic integrity of the Nunavut Settlement Area. NIRB shall take into account the well-being of the residents of Canada outside the Nunavut Settlement Area.

The purpose of screening is provided for under Article 12, Section 12.4.1 of the *Nunavut Agreement* and s. 88 of the *NuPPAA* which states:

> *NuPPAA*, s. 88: The purpose of screening a project is to determine whether the project has the potential to result in significant ecosystemic or socio-economic impacts and, accordingly, whether it requires a review by the Board.

To determine whether a review of a project is required, the NIRB is guided by the considerations as set out under Article 12, Section12.4.2(a) and (b) of the *Nunavut Agreement* and s. 89(1) of *NuPPAA* which states:

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

It is noted that under Article 12, Section 12.4.2(c) and s. 89(2) of the *NuPPAA* provides that the considerations set out in s.89(1)(a) prevail over the considerations set out in s. 89(1)(b) of the *NuPPAA*.

As set out under Article 12, Section 12.4.4 of the *Nunavut Agreement* and s. 92(1) of the *NuPPAA*, upon conclusion of the screening process, the Board must provide its written report the Minister. The contents of the NIRB's report are specified under *NuPPAA*:

NuPPAA, s. 92(1): The Board must submit a written report to the responsible Minister containing a description of the project that specifies its scope and indicating that:

(a) a review of the project is not required;

(b) a review of the project is required; or

(c) the project should be modified or abandoned.

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

NuPPAA, s. 92(2) In its report, the Board may also

(a) recommend specific terms and conditions to apply in respect of a project that it determines may be carried out without a review.

PROJECT REFERRAL

On February 22, 2021 the NIRB received a referral to screen ECCC's "Landfarm, Solid Waste Non-Hazardous Facility, Water and Sewage Treatment Infrastructure Upgrades for the Eureka High Arctic Weather Station" project proposal from the Nunavut Planning Commission (Commission), with an accompanying positive conformity determination with the North Baffin Regional Land Use Plan. The Commission noted that the current project proposal is a significant modification to the previous conformity determinations issued on December 17, 2010, April 19, 2012, April 16, 2016, March 7, 2018, January 22, 2021 and most recently on February 9, 2021 because it involves new activities including: the construction of a new landfarm, a solid waste facility, a new raw water storage reservoir, and a new wastewater treatment plant.

Pursuant to Article 12, Sections 12.4.1 and 12.4.4 of the *Nunavut Agreemen*t and s. 87 of the *NuPPAA*, the NIRB commenced screening this project proposal and assigned it file number **21XN012**.

PROJECT OVERVIEW & THE NIRB ASSESSMENT PROCESS

1. Screening Process Timelines

The following key stages were completed for the screening process:

Date	Stage
February 22, 2021	Receipt of project proposal and positive conformity determination (North Baffin Regional Land Use Plan) from the Commission.
February 22, 2021	Request to complete public registry online and provide information pursuant to s. 144(1) of the *NuPPAA*
March 4, 2021	Receipt of online application from Proponent
March 4, 2021	Scoping pursuant to s. 86(1) of the *NuPPAA*
March 18, 2021	Public engagement and comment request

Date	Stage
April 8, 2021	Receipt of public comments
April 14, 2021	Proponent provided with an opportunity to address comments/concerns raised by public
April 26, 2021	Proponent responded to comments/concerns raised by public
April 28, 2021	Ministerial extension requested from the Minister of Northern Affairs
May 13, 2021	Issuance of Screening Decision Report

2. Project Scope

All documents received and pertaining to this project proposal can be accessed from the NIRB's online public registry at www.nirb.ca/project/125586.

Project:	Landfarm, Solid Waste Non-Hazardous Facility, Water and Sewage Treatment Infrastructure Upgrades at the Eureka High Arctic Weather Station				
Region:	Qikiqtani (North Baffin)				
Location:	Eureka High Arctic Weather Station				
Closest Community:	Grise Fiord	**Distance (approximate)**	400 kilometres (km)	**Direction**	North
Summary of Project Description:	The Proponent intends to construct a new landfarm, a Non-Hazardous Solid Waste Facility and intends to upgrade the Water and Sewage Treatment Infrastructures.				
Project Proposed Timeline:	August 2021 to 2042				

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

- Conducting an archeological assessment for all potentially affected areas that haven't been previously assessed;
    - If any archeological areas of significance are identified, they will be protected through mitigation measures approved by the Department of Culture and Heritage.
- Use of heavy equipment for project activities;
- Construction of a new landfarm to store and treat an estimated amount of 4,500-6,000m³ of contaminated soils;
- Construction of a Non-Hazardous Solid Waste Facility to store waste from the demolition of various structures and infrastructure;
- Development of a new raw water storage reservoir and associated infrastructure, as well as incorporation of the existing raw water storage reservoir;
    - A new packaged wastewater treatment plant will also be constructed.
- Withdrawal of water from Black Top Creek and West Remus Creek to support station construction, dust suppression, and temporary camp use;
- Use and storage of fuel (approximately 741,000 L) for project activities;

- Food and paper waste to be incinerated on site within existing facility; and
- Hazardous and non-combustible wastes to be properly disposed of off-site at an appropriate facility.

3. Inclusion or Exclusion to Scoping List

The NIRB has identified no additional works or activities in relation to the project proposal. As a result, the NIRB proceeded with screening the project based on the scope as described above.

4. Public Comments and Concerns

Notice regarding the NIRB's screening of this project proposal was distributed on March 18, 2021 to community organizations in Grise Fiord, 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 April 8, 2021 regarding:

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

On or before April 8, 2021 the NIRB received comments from the following interested parties:

- **Crown-Indigenous Relations and Northern Affairs Canada**

a. Summary of Public Comments and Concerns Received during the Public comment period of this file

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

Crown-Indigenous Relations and Northern Affairs Canada

- Recommends that the Proponent follow measures to aid in mitigation of potential environmental impacts from the non-hazardous waste facility and landfarm activities;
- Clarify information regarding contaminated soils and treatment and disposal methods of the expected combustible waste;
- Recommends that the Proponent employ and train local Inuit, as well as maintain open communication with all interested parties throughout the life of the project;
- Notes that the Environmental Protection Plan should be sent to interested parties to comment on prior to commencement of activities can potentially lower risk involved in potential project activities.

b. Comments and Concerns with respect to Inuit Qaujimaningit, Traditional, and Community Knowledge

No concerns or comments were received with respect to Inuit Qaujimaningit or traditional and community knowledge in relation to the proposed project.

5. Proponent's Response to Public Comments and Concerns

On April 8, 2021, due to the concerns and questions identified in the comments received from parties, the NIRB provided an opportunity for the Proponent to respond to the concerns raised during the commenting period. The following is a summary of the Proponent's response to concerns as received on April 26, 2021:

- In response to recommended mitigation measures for non-hazardous waste facility and landfarm activities, the Proponent noted appreciation and the suggested measures will be considered for integration into the Project's planning phase;
- In response to comments regarding treatment and disposal methods of combustible waste, the Proponent noted that 5,000 lbs of combustible wastes ash will be deposited in the existing solid waste facility and also noted that the wastes and disposal method are still within design stages, however it is anticipated that waste will be de-watered and disposed in either the existing solid waste facility or off-site, at an approved location;
- In response to concerns regarding the Environmental Protection Plan being sent to interested parties for review, the Proponent noted the plan will be part of the construction tender process and a requirement for the successful contractor to provide, to ensure compliance with regulations and execution of mitigation measures;
- In response to concerns regarding the Proponent prioritizing the employment and training of local Inuit, the Proponent noted that local Inuit individuals will be hired throughout the duration of the project. Furthermore, these groups, as well as other interested organizations, communities and Inuit businesses, will also be further notified prior to any procurement/employment opportunities being made public.

6. Time of Report Extension

As a result of the time required to accommodate opportunity for the Proponent to respond to concerns raised during the public commenting period, the NIRB was not able to provide its screening decision report to the responsible Minister within 45 days as required by Article 12, Section 12.4.5 of the *Nunavut Agreement* and s. 92(3) of the *NuPPAA*. Therefore, on April 27, 2021 the NIRB wrote to the Minister of Northern Affairs, Government of Canada, seeking an extension to the 45-day timeline for the provision of the Board's Report.

ASSESSMENT OF THE PROJECT PROPOSAL IN ACCORDANCE WITH PART 3 OF *NUPPAA*

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

Accordingly, the assessment of impact significance was based on the analysis of those factors that are set out under s. 90 of the *NuPPAA*. The Board took particular care to take into account Inuit

Qaujimaningit, traditional and community knowledge in carrying out its assessment and determination of the significance of impacts.

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

Factor	Comment
The size of the geographic area, including the size of wildlife habitats, likely to be affected by the impacts.	▪ The physical footprint of the proposed project components is within the Eureka High Arctic Weather Station footprint. ▪ The proposed project would take place within habitats of far-ranging wildlife species such as migratory and non-migratory birds, Arctic fox, Arctic hare, and Species at Risk such as Polar Bears.
The ecosystemic sensitivity of that area.	▪ No specific areas of ecosystemic sensitivity have been identified by the Proponent within the physical footprint of the proposed project.
The historical, cultural and archaeological significance of that area.	▪ No specific areas of historical, cultural and archaeological significance have been identified by the Proponent within the physical footprint of the proposed project.
The size of the human and the animal populations likely to be affected by the impacts.	▪ The proposed project is unlikely to result in impacts to local human and animal populations.
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.	▪ A zone of influence of up to 20 km from the most potentially-disruptive project activities was selected for the NIRB's assessment. ▪ With adherence to the relevant regulatory requirements and application of the mitigation measures recommended by the NIRB, no significant residual effects are expected to occur.
The cumulative impacts that could result from the impacts of the project combined with those of any other project that has been carried out, is being carried out or is likely to be carried out.	▪ The NIRB has not identified any past, present, and reasonably foreseeable projects at this time; however, the mitigation measures recommended by the NIRB have been designed to reduce cumulative effects should projects occur in the area in the future.
Any other factor that the Board considers relevant to the assessment of the significance of impacts.	▪ The proposed project would update the waste management facilities at HAWS thus reducing potential impacts on the environment from the facility's activities.

VIEWS OF THE BOARD

In considering the factors as set out above in the screening of the project proposal, the NIRB has identified a number of issues below and respectfully provide the following views regarding whether or not the proposed project has the potential to result in significant impacts. In addition, the NIRB has proposed terms and conditions that would mitigate the potential adverse impacts identified.

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

Ecosystem, wildlife habitat and Inuit harvesting activities:

Valued Component	Terrestrial wildlife such as migratory and non-migratory birds, Arctic fox, Arctic hare, and Species at Risk such as Polar Bears from project activities
Potential effects:	Potential adverse effects to terrestrial wildlife such as migratory and non-migratory birds, Arctic fox, Arctic hare, and Species at Risk such as Polar Bears from noise and visual disturbance generated from the construction activities, incinerating activities, as well as the development of a new raw water storage reservoir, landfarm, and landfill.
Nature of Impacts:	The potential for impacts is considered to be limited due to infrequent and temporary activities and any resulting impacts would be expected to be reversible
Mitigating Factors:	Proponent proposes to ensure construction activities occur with minimal impact to wildlife. The proposed activities are taking place at the existing HAWS facility, and thus additional impacts are expected to be minimal.
Proposed Terms and Conditions:	Waste Management – 9 and 10 Wildlife General – 24 through 28 Migratory Birds and Raptor Disturbance – 29 and 30
Related Acts and/or Regulations:	1. The *Migratory Birds Convention Act* and *Migratory Birds Regulations* (http://laws-lois.justice.gc.ca/eng/acts/M-7.01/). 2. 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. 3. The *Wildlife Act (Nunavut)* and its corresponding regulations (http://www.canlii.org/en/nu/laws/stat/snu-2003-c-26/latest/snu-2003-c-26.html).

Valued Component	Land, terrestrial vegetation, and ground stability
Potential effects:	Potential adverse impacts to the ground stability, vegetation quality, and terrain due to the removal of contaminated soils, creation of a landfarm and landfill, moving of equipment and personnel, and construction activities.
Nature of Impacts:	The potential for impacts is considered to be limited if regulations and best practices for construction operations and landfill and landfarm operations are followed. The potential for disturbance due to other activities is considered to be minimal due to the localized and temporary nature of the activities.
Mitigating Factors:	The Proponent also has committed to developing a *Spill Contingency Plan* that would be implemented as required. Further, combustible disturbance to the land would be minimal and waste generated by the project would be disposed of properly. Noncombustible and hazardous waste would be taken for proper disposal.
Proposed Terms and Conditions:	Waste Management – 9 and 10 Fuel and Chemical Storage – 11 through 20 Landfarm Operations – 21 and 22 Landfill Operations - 23 Road and Ground Disturbance – 31 Land Use and Restoration of Disturbed Areas – 32 through 36
Related Acts and/or Regulations:	1. Environmental Guidelines for the Management of Contaminated Sites, Department of the Environment, Government of Nunauvt, Revised December 2014 (http://www.gov.nu.ca/sites/default/files/contaminated_sites_remediation_2014.pdf). 2. Environmental Guideline for Contaminated Site Remediation, Department of the Environment, Government of Nunavut; Revised March 2009 (https://www.gov.nu.ca/sites/default/files/Guideline%20Contaminated%20Site%20Site%20Remediation.pdf). 3. Solid Waste Management for Northern and Remote Communities (Environment and Climate Change Canada, 2017) (https://www.canada.ca/en/environment-climate-change/services/managing-reducing-waste/municipal-solid/environment/northern-remote-communities.html).

Valued Component	Environment (land, water and air)
Potential effects:	Potential negative effects from the establishment of a landfarm and landfill.
Nature of Impacts:	Landfarm and landfill operations could increase risks of contamination in the environment from waste and contaminated soils.

Mitigating Factors:	Adhering to the NIRB's terms and conditions as well as regulations and the respective authorizations for the operation of landfarm and landfill activities would allow for the safe operation of these facilities.
Proposed Terms and Conditions:	Landfarm Operations – 21 and 22 Landfill Operations - 23
Related Acts and/or Regulations:	1. Environmental Guidelines for the Management of Contaminated Sites, Department of the Environment, Government of Nunauvt, Revised December 2014 (http://www.gov.nu.ca/sites/default/files/contaminated_sites_remediation_2014.pdf). 2. Environmental Guideline for Contaminated Site Remediation, Department of the Environment, Government of Nunavut; Revised March 2009 (https://www.gov.nu.ca/sites/default/files/Guideline%20Contaminated%20Site%20Site%20Remediation.pdf). 3. Environmental Guidelines for the Management of Hazardous Waste, Government of Nunavut, Revised October 2010 (https://www.gov.nu.ca/sites/default/files/Guideline%20-%20General%20Management%20of%20Hazardous%20Waste%20%28revised%20Oct%202010%29_0.pdf). 4. Solid Waste Management for Northern and Remote Communities (Environment and Climate Change Canada, 2017) (https://www.canada.ca/en/environment-climate-change/services/managing-reducing-waste/municipal-solid/environment/northern-remote-communities.html).

Valued Component	Environment (land, water and air)
Potential effects:	Potential positive effects from the remediation activities including the identification and removal of hazardous wastes, uncontrolled wastes, and contaminated soil remediation.
Nature of Impacts:	Treating and removing contaminated soils, removing and disposing of structures and disposing of hazardous waste and site debris will reduce some of the environmental risks at the Eureka High Arctic Weather Station which could contribute to more serious contamination and environmental degradation without intervention.
Mitigating Factors:	Adhering to the NIRB's terms and conditions as well as the respective authorizations, it is expected that the project would provide an increase to the ecosystemic and environmental integrity of the area.
Proposed Terms and Conditions:	Landfarm Operations – 21 and 22 Landfill Operations - 23 Land Use and Restoration of Disturbed Areas – 32 through 36

Related Acts and/or Regulations:	1. Environmental Guidelines for the Management of Contaminated Sites, Department of the Environment, Government of Nunauvt, Revised December 2014 (http://www.gov.nu.ca/sites/default/files/contaminated_sites_remediation_2014.pdf). 2. Environmental Guideline for Contaminated Site Remediation, Department of the Environment, Government of Nunavut; Revised March 2009 (https://www.gov.nu.ca/sites/default/files/Guideline%20Contaminated%20Site%20Site%20Remediation.pdf). 3. Environmental Guidelines for the Management of Hazardous Waste, Government of Nunavut, Revised October 2010 (https://www.gov.nu.ca/sites/default/files/Guideline%20-%20General%20Management%20of%20Hazardous%20Waste%20%28revised%20Oct%202010%29_0.pdf). 4. Solid Waste Management for Northern and Remote Communities (Environment and Climate Change Canada, 2017) (https://www.canada.ca/en/environment-climate-change/services/managing-reducing-waste/municipal-solid/environment/northern-remote-communities.html).

Valued Component	Water and Fish Habitat
Potential effects:	Potential impacts to water quantity and quality and fish habitat due to the withdrawal of water from West Remus and Black Top Creeks
Nature of Impacts:	The potential for impacts is applicable to a small geographic area and considered to be low probability, and low in magnitude, infrequent, and reversible. Standard operating procedures would mitigate most risks.
Mitigating Factors:	The Proponent will be required to abide by the terms of the amended water license issued by the Nunavut Water Board and any requirements of the Department of Fisheries and Oceans.
Proposed Terms and Conditions:	Other – 37 and 28
Related Acts and/or 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/).

Valued Component	Public and traditional land use activities
Potential effects:	No specific concerns or impacts to public and traditional land use activities in the area have been identified, however, the Board is recommending terms and conditions to ensure project activities are informed by available Inuit Qaujimaningit and that project activities do not interfere with Inuit wildlife harvesting or traditional land use

	activities.
Nature of Impacts:	Potential for impacts is considered to be minimal due to the location of the project.
Mitigating Factors:	Proponent will follow the Wildlife and Wildlife Habitat Management Plan to minimize impacts to wildlife and has committed to executing its work in a way that minimizes the negative effects to wildlife.
Proposed Terms and Conditions:	Other – 37 through 39
Related Acts and/or Regulations:	N/A

Socio-economic effects on northerners:

Valued Component	Historical, archeological, and heritage sites
Potential effects:	No historical sites in the proposed project area were identified by the Proponent, however, the Board is recommending terms and conditions to ensure project activities are informed by available Inuit Qaujimaningit and that project activities do not negatively effect historical or heritage sites.
Nature of Impacts:	The Proponent has committed to conducting an archeological assessment for all areas that haven't been previously assessed.
Mitigating Factors:	As noted, the Board is recommending terms and conditions to ensure that project activities do not negatively effect historical or heritage sites.
Proposed Terms and Conditions:	Other – 37 and 38
Related Acts and/or Regulations:	1. 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**.

Valued Component	Local hiring, contracting and economic impact
Potential effects:	Potential positive impacts from the hiring of local community members for various projects and activities.
Nature of Impacts:	Potential for impacts is considered to be positive if the Proponent adheres to its commitment to hiring locally to the extent possible.
Mitigating Factors:	The Board is recommending terms and conditions to ensure that the Proponent continues to inform the communities of the ongoing site activities and to ensure community members are aware of and best able to successfully connect with hiring opportunities.
Proposed Terms and Conditions:	Other – 37 and 39
Related Acts and/or Regulations:	N/A

Significant public concern:

Valued Component	Public concern
Potential effects:	No significant public concern was expressed during the public commenting period for this file, however, the Board recommends terms and conditions to ensure project activities do not interfere with Inuit wildlife harvesting or traditional land use activities, to the extent possible hire local people and access local services where possible, and to ensure planned activities in the area utilizes available Inuit Qaujimaningit.
Nature of Impacts:	The potential for impacts is considered to be minimal as long as the Proponent follows the recommended terms and conditions.
Mitigating Factors:	Given the distance from the closest community, direct impacts on Inuit are considered highly unlikely and are addressed through the proposed terms and conditions.
Proposed Terms and Conditions:	Other – 37 through 39
Related Acts and/or Regulations:	N/A

Technological innovations for which the effects are unknown:

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

Administrative Conditions:

To encourage compliance with applicable regulatory requirements and assist the Board and responsible authorities with compliance and effects monitoring for project activities, the following project-specific terms and conditions have been recommended: 1-5.

In considering the above factors and subject to the Proponent's compliance with the terms and conditions necessary to mitigate against the potential adverse environmental and social effects, the Board is of the view that the proposed project is unlikely to cause significant public concern and its adverse ecosystemic and socioeconomic impacts are unlikely to be significant, or are highly predictable and can be adequately mitigated by known technologies.

RECOMMENDED PROJECT-SPECIFIC TERMS AND CONDITIONS

The Board is recommending the following specific terms and conditions to apply in respect of the project:

General

1. Environment and Climate Change Canada (the Proponent) shall maintain a copy of the Project Terms and Conditions at the site of operation at all times and make it accessible to enforcement officers upon request.
2. The Proponent shall operate in accordance with all commitments stated in correspondence provided to the Nunavut Planning Commission (NPC File No.: 149476) and the NIRB

(Online Application Form, March 4, 2021). This information should be accessible to enforcement officers upon request.

3. The Proponent shall operate the site in accordance with all applicable Acts, Regulations and Guidelines.
4. The Proponent shall ensure that it meets the standards and/or limits as set out in the authorizing agencies' permits or licences as required for this project.
5. The Proponent shall ensure that all personnel, staff and contractors are adequately trained prior to commencement of all project activities, and shall be made aware of all operational plans, management plans, guidelines and Proponent commitments relating to the project.

Water courses/Water bodies (including fresh and marine waters)

6. The Proponent shall not extract water from any fish-bearing water body 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 otherwise authorized by the appropriate authorizing agency.
7. The Proponent shall ensure that no disturbance of the stream bed, lake bed or the banks of any definable watercourse be permitted, except where deemed necessary for maintaining project-specific operational commitments or approved by a responsible authority in cases of spill management.
8. The Proponent shall not deposit, nor permit the deposit of any fuel, chemicals, wastes (including wastewater) or sediment into any water body. The Proponent should have in place an Emergency Spill Response Plan that is approved by the appropriate authorizing agency(ies).

Waste Management

9. The Proponent shall manage all hazardous and non-hazardous waste including food, domestic wastes, debris and petroleum-based chemicals (e.g., greases, gasoline, glycol-based antifreeze) in such a manner to avoid release into the environment and access to wildlife at all times until disposed of appropriately or at an approved facility.
10. The Proponent shall incinerate all combustible wastes as needed and dispose of as required by the appropriate authorizing agencies. All non-combustible wastes from the project site shall be removed to an approved facility for disposal.

Fuel and Chemical Storage

11. The Proponent shall locate all fuel and other hazardous materials a minimum distance away from the high-water mark of any water body and environmentally sensitive areas as required by the appropriate authorizing agencies. The materials shall be stored in such a manner as to prevent their release into the environment.
12. 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.

13. The Proponent shall ensure that re-fuelling of all equipment occurs a minimum distance away from the high-water mark of any water body as required by the appropriate authorizing agencies.
14. Fuel and hazardous material storage areas and fuel lines should be clearly marked with signs or flagging to avoid accidental breaks and punctures, and to ensure areas remain visible during the winter months.
15. All fuel and chemical storage containers must be clearly marked with the Proponent's name for ease of identification.
16. The Proponent shall routinely inspect and document the conditions of fuel and hazardous material storage containers and containment areas as required by the appropriate authorizing agencies. Fuel containment areas shall be kept clear of debris, water and snow to facilitate inspections for leaks.
17. The Proponent shall have a Spill Contingency Plan in place at all fuel storage or transfer locations and shall ensure that appropriate spill response equipment and clean-up materials (e.g., shovels, pumps, barrels, drip pans, and absorbents) are readily available.
18. The Proponent shall follow the authorizing agencies' direction for management and removal of hazardous materials and wastes (e.g., contaminated soils, sediment and waste oil).
19. The Proponent shall ensure that wildlife deterrent systems are utilized at the time of a spill incident in order to avoid wildlife (terrestrial or marine) and migratory birds from being contaminated.
20. The Proponent shall ensure that all spills of fuel or other deleterious materials of 100 litres or more must be reported immediately to the 24-hour Spill Line at (867) 920-8130.

Landfarm Operations

21. 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.
22. 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.

Landfill Operations

23. 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.

Wildlife – General

24. The Proponent shall not substantially alter or damage or destroy any wildlife habitat in conducting this operation unless otherwise authorized by the appropriate authorizing agencies.

25. The Proponent shall not chase, weary, harass or molest wildlife. This includes persistently circling, chasing, hovering over, pursuing or in any other way harass wildlife, or disturbing large groups of animals.
26. The Proponent shall not hunt or fish, unless proper Nunavut authorizations have been acquired.
27. The Proponent shall ensure that all wildlife have the right-of-way on any roads or trails. Vehicles are required to slow down or stop and wait to permit the free and unrestricted movement of wildlife across roads or trails at any location.
28. The Proponent shall enforce safe speed limits for vehicles travelling along the road to ensure drivers have sufficient time to react in a safe manner if wildlife are encountered on or adjacent to the road or trail.

Migratory Birds and Raptors Disturbance

29. The Proponent shall carry out all phases of the project in a manner that protects migratory birds and avoids harming, killing or disturbing migratory birds or destroying, disturbing or taking their nests or eggs. In this regard, the Proponent shall take into account Environment and Climate Change Canada's *Avoidance Guidelines*. The Proponent's actions in applying the *Avoidance Guidelines* shall be in compliance with the *Migratory Birds Convention Act, 1994* and with the *Species at Risk Act*.
30. The Proponent shall not disturb or destroy the nests or eggs of any birds. If active nests of any birds are discovered or located (i.e., with eggs or young), the Proponent shall avoid these areas until nesting is complete and the young have naturally left the vicinity of the nest by establishing a protection buffer zone[1] appropriate for the species and the surrounding habitat.

Road and Ground Disturbance

31. 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.

Land Use and Restoration of Disturbed Areas

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

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

Other

37. 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.
38. The Proponent shall ensure that project activities do not interfere with Inuit wildlife harvesting or traditional land use activities.
39. The Proponent should, to the extent possible, hire local people and access local services where possible.

OTHER NIRB CONCERNS AND RECOMMENDATIONS

In addition to the project-specific terms and conditions, the Board is recommending the following:

Change in Project Scope

1. Responsible authorities or Proponent shall notify the Nunavut Planning Commission and/or Parks Canada as appropriate, and the NIRB of any changes in operating plans or conditions, including phase advancement, associated with this project prior to any such change.

Copy of licences, etc. to the Board and Commission

2. The NIRB respectfully requests that responsible authorities submit a copy of each licence, permit or other authorization issued for the Project to the NIRB to assist in enabling possible project monitoring that may be required. Please forward a copy of the licences, permits and/or other authorizations to the NIRB directly at info@nirb.ca or upload a copy to the NIRB's online registry at www.nirb.ca.

Use of Inuit Qaujimaningit

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

Bear and Carnivore Safety

4. The Proponent should review the Government of Nunavut's booklet on Bear Safety, which can be downloaded from this link: http://gov.nu.ca/sites/default/files/bear_safety_-_reducing_bear-people_conflicts_in_nunavut.pdf. Further information on bear/carnivore detection and deterrent techniques can be found in the "*Safety in Grizzly and Black Bear Country*" pamphlet, which can be downloaded from this link: https://www.enr.gov.nt.ca/sites/enr/files/resources/safety_in_grizzly_and_black_bear_country_english.pdf.

5. There are Polar Bear and grizzly bear safety resources available from the Bear Smart Society with videos on Polar Bear safety available in English, French and Inuktitut at http://www.bearsmart.com/play/safety-in-polar-bear-country/. Information can also be

obtained from Parks Canada's website on bear safety at the following link: http://www.pc.gc.ca/eng/pn-np/nu/quttinirpaaq/visit/visit6/d.aspx or in reviewing the "*Safety in Polar Bear Country*" pamphlet, which can be downloaded from the following link: http://www.pc.gc.ca/eng/pn-np/nu/quttinirpaaq/visit/visit6/~/media/pn-np/nu/auyuittuq/pdf/shared/PolarBearSafety_English.ashx.

6. Any problem wildlife or any interaction with carnivores should be reported immediately to the local Government of Nunavut, Department of Environment Conservation Office (Conservation Officer of Grise Fiord, phone: (867) 980-4164).

Species at Risk

7. The Proponent review Environment and Climate Change Canada's "Environment Assessment Best Practice Guide for Wildlife at Risk in Canada", available at the following link: http://www.sararegistry.gc.ca/virtual_sara/files/policies/EA%20Best%20Practices%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

8. The Proponent review Canadian Wildlife Services' "Key migratory bird terrestrial habitat sites in the Northwest Territories and Nunavut", available at the following link: http://publications.gc.ca/site/eng/317630/publication.html and "Key marine habitat sites for migratory birds in Nunavut and the Northwest Territories", available at the following link: http://publications.gc.ca/site/eng/392824/publication.html. The guide provides information to the Proponent on key terrestrial and marine habitat areas that are essential to the welfare of various migratory bird species in Canada.

9. For further information on how to protect migratory birds, their nests and eggs when planning or carrying out project activities, consult Environment and Climate Change Canada's Incidental Take web page and the fact sheet "Planning Ahead to Reduce the Risk of Detrimental Effects to Migratory Birds, and their Nests and Eggs" available at: http://publications.gc.ca/collections/collection_2013/ec/CW66-324-2013-eng.pdf.

CONCLUSION

The foregoing constitutes the Board's screening decision with respect to the Environment and Climate Change Canada's "Landfarm, Solid Waste Non-Hazardous Facility, Water and Sewage Treatment Infrastructure Upgrades for the Eureka High Arctic Weather Station". The NIRB remains available for consultation with the Minister regarding this report as necessary.

Dated May 13, 2021 at Baker Lake, NU.

Kaviq Kaluraq, Chairperson

Attachments: Appendix A: Species at Risk in Nunavut
Appendix B: Archaeological and Palaeontological Resources Terms and Conditions for Land Use Permit Holders

APPENDIX A: SPECIES AT RISK IN NUNAVUT

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

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

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

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

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

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

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

Updated: September 2019

Terrestrial Species at Risk[2]	COSEWIC Designation	Schedule of SARA	Government Organization with Primary Management Responsibility[3]
Migratory Birds			
Buff-breasted Sandpiper	Special Concern	Schedule 1	Environment and Climate Change Canada (ECCC)
Common Nighthawk	Threatened	Schedule 1	ECCC
Eskimo Curlew	Endangered	Schedule 1	ECCC
Harlequin Duck	Special Concern	Schedule 1	ECCC
Harris's Sparrow	Special Concern	Schedule 1	ECCC
Horned Grebe	Special Concern	Schedule 1	ECCC
Ivory Gull	Endangered	Schedule 1	ECCC
Olive-sided Flycatcher	Threatened	Schedule 1	ECCC
Peregrine Falcon	Special Concern	Schedule 1	ECCC
Red Knot Islandica Subspecies	Special Concern	Schedule 1	ECCC
Red-necked Phalarope	Special Concern	Schedule 1	ECCC
Ross's Gull	Threatened	Schedule 1	ECCC
Rusty Blackbird	Special Concern	Schedule 1	ECCC
Short-eared Owl	Special Concern	Schedule 1	ECCC
Vegetation			
Porsild's Bryum	Threatened	Schedule 1	Government of Nunavut (GN)
Arthropods			
Transverse Lady Beetle	Special Concern	No Schedule	GN
Terrestrial Wildlife			
Caribou (Dolphin and Union Population)	Endangered	Schedule 1	GN
Caribou (Barren-ground Population)	Threatened	No Schedule	GN
Caribou (Torngat Mountains Population)	Endangered	No Schedule	GN
Grizzly Bear (Western Population)	Special Concern	Schedule 1	ECCC
Peary Caribou	Endangered	Schedule 1	GN
Polar Bear	Special Concern	Schedule 1	ECCC
Wolverine	Special Concern	Schedule 1	GN
Marine Wildlife			
Atlantic Walrus (High Arctic Population)	Special Concern	No Schedule	Fisheries and Oceans Canada (DFO)
Atlantic Walrus (Central/Low Arctic Population)	Special Concern	No Schedule	DFO
Beluga Whale (Cumberland Sound Population)	Threatened	Schedule 1	DFO
Beluga Whale (Eastern Hudson Bay Population)	Endangered	No Schedule	DFO

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

3 Environment and Climate Change Canada (ECCC) has a national role to play in the conservation and recovery of Species at Risk in Canada, as well as responsibility for management of birds described in the Migratory Birds Convention Act (MBCA). Day-to-day management of terrestrial species not covered in the MBCA is the responsibility of the Territorial Government. Populations that exist in National Parks are also managed under the authority of the Parks Canada Agency.

Terrestrial Species at Risk[2]	COSEWIC Designation	Schedule of SARA	Government Organization with Primary Management Responsibility[3]
Beluga Whale (Eastern High Arctic-Baffin Bay Population)	Special Concern	No Schedule	DFO
Beluga Whale (Western Hudson Bay Population)	Special Concern	No Schedule	DFO
Fish			
Atlantic Cod (Arctic Lakes Population)	Special Concern	No Schedule	DFO
Fourhorn Sculpin (Freshwater Form)	Data Deficient	Schedule 3	DFO
Lumpfish	Threatened	No Schedule	DFO
Thorny Skate	Special Concern	No Schedule	DFO

APPENDIX B: ARCHAEOLOGICAL AND PALAEONTOLOGICAL RESOURCES TERMS AND CONDITIONS FOR LAND USE PERMIT HOLDERS

INTRODUCTION

The Department of Culture and Heritage (CH) routinely reviews land use applications sent to the Nunavut Water Board, Nunavut Impact Review Board and the Indigenous and Northern Affairs Canada. These terms and conditions provide general direction to the permittee/proponent regarding the appropriate actions to be taken to ensure the permittee/proponent carries out its role in the protection of Nunavut's archaeological and palaeontological resources.

TERMS AND CONDITIONS

1) The permittee/proponent shall have a professional archaeologist and/or palaeontologist perform the following **Functions** associated with the **Types of Development** listed below or similar development activities:

	Types of Development (See Guidelines below)	**Function** (See Guidelines below)
a)	Large scale prospecting	Archaeological/Palaeontological Overview Assessment
b)	Diamond drilling for exploration or geotechnical purpose or planning of linear disturbances	Archaeological/Palaeontological Overview Assessment and/or Inventory and Documentation and/or Mitigation
c)	Construction of linear disturbances, Extractive disturbances, Impounding disturbances and other land disturbance activities	Archaeological/Palaeontological Overview Assessment and/or Inventory and Documentation and/or Mitigation

Note that the above-mentioned functions require either a Nunavut Archaeologist Permit or a Nunavut Palaeontologist Permit. CH is authorized by way of the *Nunavut and Archaeological and Palaeontological Site Regulations*[4] to issue such permits.

[4] P.C. 2001-1111 14 June, 2001

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

3) The permittee/proponent shall not remove, disturb, or displace any archaeological artifact or site, or any fossil or palaeontological site.

4) The permittee/proponent shall immediately contact CH at (867) 934-2046 or (867) 975-5500 should an archaeological site or specimen, or a palaeontological site or fossil, be encountered or disturbed by any land use activity.

5) The permittee/proponent shall immediately cease any activity that disturbs an archaeological or palaeontological site encountered during the course of a land use operation until permitted to proceed with the authorization of CH.

6) The permittee/proponent shall follow the direction of CH in restoring disturbed archaeological or palaeontological sites to an acceptable condition. If these conditions are attached to either a Class A or B Permit under the Territorial Lands Act Indigenous and Northern Affairs Canada directions will also be followed.

7) The permittee/proponent shall provide all information requested by CH concerning all archaeological sites or artifacts and all palaeontological sites and fossils encountered in the course of any land use activity.

8) The permittee/proponent shall make best efforts to ensure that all persons working under its authority are aware of these conditions concerning archaeological sites and artifacts and palaeontological sites and fossils.

9) If a list of recorded archaeological and/or palaeontological sites is provided to the permittee/proponent by CH as part of the review of the land use application the permittee/proponent shall avoid the archaeological and/or palaeontological sites listed.

10) Should a list of recorded sites be provided to the permittee/proponent, the information is provided solely for the purpose of the proponent's land use activities as described in the land use application, and must otherwise be treated confidentially by the proponent.

Legal Framework

As stated in Article 33 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada* (*Nunavut Agreement*):

Where an application is made for a land use permit in the Nunavut Settlement Area, and there are reasonable grounds to believe that there could be sites of archaeological importance on the lands affected, no land use permit shall be issued without written consent of the Designated Agency. Such consent shall not be unreasonably withheld. [33.5.12]

Each land use permit referred to in Section 33.5.12 shall specify the plans and methods of archeological site protection and restoration to be followed by the permit holder, and any other conditions the Designated Agency may deem fit. [33.5.13]

Palaeontology and Archaeology
Under the *Nunavut Act*[5], the federal government can make regulations for the protection, care and preservation of palaeontological and archaeological sites and specimens in Nunavut. Under the *Nunavut Archaeological and Palaeontological Sites Regulations*[6], it is illegal to alter or disturb any palaeontological or archaeological site in Nunavut unless permission is first granted through the permitting process.

Definitions
As defined in the *Nunavut Archaeological and Palaeontological Sites Regulations*, the following definitions apply:

> *"archaeological site" means a place where an archaeological artifact is found.*
>
> *"archaeological artifact" means any tangible evidence of human activity that is more than 50 years old and in respect of which an unbroken chain of possession or regular pattern of usage cannot be demonstrated, and includes a Denesuline archaeological specimen referred to in section 40.4.9 of the Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada (Nunavut Agreement).*
>
> *"palaeontological site" means a site where a fossil is found.*
>
> *"fossil" includes:*
> *Fossil means the hardened or preserved remains or impression of previously living organisms or vegetation and includes:*
> *(a) natural casts;*
> *(b) preserved tracks, coprolites and plant remains; and*
> *(c) the preserved shells and exoskeletons of invertebrates and the preserved eggs, teeth and bones of vertebrates.*

Guidelines for Developers for the Protection of Archaeological Resources in the Nunavut Territory

(**Note:** Partial document only, complete document at: www.ch.gov.nu.ca/en/Archaeology.aspx)

Introduction
The following guidelines have been formulated to ensure that the impacts of proposed developments upon heritage resources are assessed and mitigated before ground surface altering activities occur. Heritage resources are defined as, but not limited to, archaeological and historical sites, burial grounds, palaeontological sites, historic buildings and cairns Effective collaboration between the developer, the Department of Culture, and Heritage (CH), and the contract archaeologist(s) will ensure proper preservation of heritage resources in the Nunavut Territory. The roles of each are briefly described.

CH is the Nunavut Government agency which oversees the protection and management of

[5] s. 51(1)
[6] P.C. 2001-1111 14 June, 2001

heritage resources in Nunavut, in partnership with land claim authorities, regulatory agencies, and the federal government. Its role in mitigating impacts of developments on heritage resources is as follows: to identify the need for an impact assessment and make recommendations to the appropriate regulatory agency; set the terms of reference for the study depending upon the scope of the development; suggest the names of qualified individuals prepared to undertake the study to the developer; issue an archaeologist or palaeontologist permit authorizing field work; assess the completeness of the study and its recommendations; and ensure that the developer complies with the recommendations.

The primary regulatory agencies that CH provides information and assistance to are the Nunavut Impact Review Board, for development activities proposed for Inuit Owned Lands (as defined in Section 1.1.1 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada* (*Nunavut Agreement*)), and the Indigenous and Northern Affairs Canada, for development activities proposed for federal Crown Lands.

A developer is the initiator of a land use activity. It is the obligation of the developer to ensure that a qualified archaeologist or palaeontologist is hired to perform the required study and that provisions of the contract with the archaeologist or palaeontologist allow permit requirements to be met; i.e. fieldwork, collections management, artifact and specimen conservation, and report preparation. On the recommendation of the contract archaeologist or palaeontologist in the field and the Government of Nunavut, the developer shall implement avoidance or mitigative measures to protect heritage resources or to salvage the information they contain through excavation, analysis, and report writing. The developer assumes all costs associated with the study in its entirety.

Through his or her active participation and supervision of the study, the contract archaeologist or palaeontologist is accountable for the quality of work undertaken and the quality of the report produced. Facilities to conduct fieldwork, analysis, and report preparation should be available to this individual through institutional, agency, or company affiliations. Responsibility for the curation of objects recovered during field work while under study and for documents generated in the course of the study as well as remittance of artifacts, specimens and documents to the repository specified on the permit accrue to the contract archaeologist or palaeontologist. This individual is also bound by the legal requirements of the *Nunavut Archaeological and Palaeontological Sites Regulations*.

Types of Development

In general, those developments that cause concern for the safety of heritage resources will include one or more of the following kinds of surface disturbances. These categories, in combination, are comprehensive of the major kinds of developments commonly proposed in Nunavut. For any single development proposal, several kinds of these disturbances may be involved

- *Linear disturbances: including the construction of highways, roads, winter roads, transmission lines, and pipelines;*
- *Extractive disturbances: including mining, gravel removal, quarrying, and land filling;*

- *Impoundment disturbances: including dams, reservoirs, and tailings ponds;*
- *Intensive land use disturbances: including industrial, residential, commercial, recreational, and land reclamation work, and use of heritage resources as tourist developments.*
- *Mineral, oil and gas exploration: establishment of camps, temporary airstrips, access routes, well sites, or quarries all have potential for impacting heritage resources*.

Types of Studies Undertaken to Preserve Heritage Resources

Overview: An overview study of heritage resources should be conducted at the same time as the development project is being designed or its feasibility addressed. They usually lack specificity with regard to the exact location(s) and form(s) of impact and involve limited, if any, field surveys. Their main aim is to accumulate, evaluate, and synthesize the existing knowledge of the heritage of the known area of impact. The overview study provides managers with baseline data from which recommendations for future research and forecasts of potential impacts can be made. A Class I Permit is required for this type of study if field surveys are undertaken.

Reconnaissance: This is done to provide a judgmental appraisal of a region sufficient to provide the developer, the consultant, and government managers with recommendations for further development planning. This study may be implemented as a preliminary step to inventory and assessment investigations except in cases where a reconnaissance may indicate a very low or negligible heritage resource potential. Alternately, in the case of small-scale or linear developments, an inventory study may be recommended and obviate the need for a reconnaissance.

The main goal of a reconnaissance study is to provide baseline data for the verification of the presence of potential heritage resources, the determination of impacts to these resources, the generation of terms of reference for further studies and, if required, the advancement of preliminary mitigative and compensatory plans. The results of reconnaissance studies are primarily useful for the selection of alternatives and secondarily as a means of identifying impacts that must be mitigated after the final siting and design of the development project. Depending on the scope of the study, a Class 1 or Class 2 Permit is required for this type of investigation.

Inventory: A resource inventory is generally conducted at that stage in a project's development at which the geographical area(s) likely to sustain direct, indirect, and perceived impacts can be well defined. This requires systematic and intensive fieldwork to ascertain the effects of all possible and alternate construction components on heritage resources. All heritage sites must be recorded on Government of Nunavut Site Survey forms. Sufficient information must be amassed from field, library and archival components of the study to generate a predictive model of the heritage resource base that will:

- allow the identification of research and conservation opportunities;
- enable the developer to make planning decisions and recognize their likely effects on the known or predicted resources; and

- make the developer aware of the expenditures, which may be required for subsequent studies and mitigation. A Class 1 or 2 permit is required.

Assessment: At this stage, sufficient information concerning the numbers and locations of heritage resources will be available, as well as data to predict the forms and magnitude of impacts. Assessments provide information on the size, volume, complexity and content of a heritage resource, which is used to rank the values of different sites or site types given current archaeological knowledge. As this information will shape subsequent mitigation program(s), great care is necessary during this phase.

Mitigation: This refers to the amelioration of adverse impacts to heritage resources and involves the avoidance of impact through the redesign or relocation of a development or its components; the protection of the resource by constructing physical facilities; or, the scientific investigation and recovery of information from the resource by excavation or other method. The type(s) of appropriate mitigative measures are dictated by their viability in the context of the development project. Mitigation strategies must be developed in consultation with, and approved by, the Department of Culture and Heritage. It is important to note that mitigation activities should be initiated as far in advance of the construction of the development as possible.

Surveillance and monitoring: These may be required as part of the mitigation program.

Surveillance may be conducted during the construction phase of a project to ensure that the developer has complied with the recommendations.

Monitoring involves identification and inspection of residual and long-term impacts of a development (i.e. shoreline stability of a reservoir); or the use of impacts to disclose the presence of heritage resources, for example, the uncovering of buried sites during the construction of a pipeline.

Fisheries and Oceans Canada | Pêches et Océans Canada

Ontario and Prairie Region
Fish and Fish Habitat Protection Program
867 Lakeshore Road
Burlington, Ontario
L7S 1A1

Région de l'Ontario et des Prairies
Programme de protection du poisson et de son habitat
867 chemin Lakeshore
Burlington, Ontario
L7S 1A1

March 24, 2021

Your file *Votre référence*

Our file *Notre référence*

21-HCAA-00295

Jean-Phillipe Cloutier-Dussault
Environment and Climate Change Canada
160, chemin du Tour-de-l'Isle
Montreal, Quebec H3C 4G8

Subject: Temporary Culverts, Remus Creek, Baffin Region (21-HCAA-00295) – Implementation of Measures to Avoid and Mitigate the Potential for Prohibited Effects to Fish and Fish Habitat

Dear Jean-Phillipe Cloutier-Dussault:

The Fish and Fish Habitat Protection Program (the Program) of Fisheries and Oceans Canada (DFO) received your proposal on January 22, 2021. We understand that you propose to:

- Install up to three (3) temporary culverts of maximum size 0.6x12m on each of two watercourse crossings on Remus Creek and West Remus Creek to allow construction access to the High Arctic Weather Station until October 2025 (total maximum footprint = 140m^2);
- Minimally grade the channel, as necessary for culvert installation.
- Isolate work area from flowing water to prevent sedementation of the watercourse.

Our review considered the following information:

- Request for Review form and supporting information submitted by Robin Reese, AECOM, via email on January 22, 2021.
- Additional information submitted by Robin Reese, AECOM, via email on March 18, 2021.

Your proposal has been reviewed to determine whether it is likely to result in:

- the death of fish by means other than fishing and the harmful alteration, disruption or destruction of fish habitat which are prohibited under subsections 34.4(1) and 35(1) of the *Fisheries Act*; and,
- effects to listed aquatic species at risk, any part of their critical habitat or the residences of their individuals in a manner which is prohibited under sections 32, 33 and subsection 58(1) of the *Species at Risk Act*.

Canada

The aforementioned impacts are prohibited unless authorized under their respective legislation and regulations.

To avoid and mitigate the potential for prohibited effects to fish and fish habitat (as listed above), we recommend implementing the measures listed below:

- Conduct in-water undertakings and activities during periods of low flow;
- Limit the duration of in-water works, undertakings and activities so that it does not diminish the ability of fish to carry out one or more of their life processes (spawning, rearing, feeding, migrating);
- Restore stream geomorphology (i.e., restore the bed and banks, gradient and contour of the waterbody) to its initial state;
- Replace/restore any other disturbed habitat features and remediate any areas impacted by the work, undertaking or activity;
- Develop and implement a Sediment Control Plan to minimize sedimentation of the waterbody during all phases of the work, undertaking or activity;
    - Conduct all in-water works, undertakings or activities in isolation of open or flowing water to reduce the introduction of sediment into the watercourse;
    - Schedule work to avoid wet, windy and rainy periods (and heed weather advisories);
    - Operate machinery on land in stable dry areas;
    - Monitor the watercourse to observe signs of sedimentation during all phases of the work, undertaking or activity and take corrective action;
    - Dispose and stabilize all dredged material above the high water mark of nearby waterbodies to prevent entry in the water;
- Develop and implement a response plan to avoid a spill of deleterious substances.

Provided that you incorporate these measures into your plans, the Program is of the view that your proposal will not require an authorization the *Fisheries Act*, the *Aquatic Invasive Species Regulations* or the *Species at Risk Act*.

Should your plans change or if you have omitted some information in your proposal, further review by the Program may be required. Consult our website (http://www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html) or consult with a qualified environmental consultant to determine if further review may be necessary. It remains your responsibility to remain in compliance with the *Fisheries Act*, avoid prohibited effects on listed aquatic species at risk, any part of their critical habitat or the residences of their individuals, and prevent the introduction of non-indigenous species.

It is also your *Duty to Notify* DFO if you have caused, or are about to cause, the death of fish by means other than fishing and/or the harmful alteration, disruption or destruction of fish habitat. Such notifications should be directed to FisheriesProtection@dfo-mpo.gc.ca or 1-855-852-8320.

Please notify this office at least 10 days before starting your project. A copy of this letter should be kept on site while the work is in progress. It remains your responsibility to meet all other federal, territorial, provincial and municipal requirements that apply to your proposal.

If you have any questions with the content of this letter, please contact Deborah Silver at our Burlington office at 365-323-0247 or deborah.silver@dfo-mpo.gc.ca. Please refer to the file number referenced above when corresponding with the Program.

Yours sincerely,

Deborah Silver
Biologist, Triage and Planning
Fish and Fish Habitat Protection Program

CC:
Robin Reese, AECOM, robin.reese@aecom.com
Laura MacKay, Public Services & Procurement Canada, Laura.MacKay@pwgsc-tpsgc.gc.ca

Environment and Climate Change Canada
Environnement et Changement climatique Canada

Canada