



SCREENING DECISION REPORT NIRB FILE No.: 26YN041

NPC File No.: 151201

October 8, 2026

Following the Nunavut Impact Review Board's (NIRB or Board) assessment of all materials provided, the NIRB is recommending that a review of University of Guelph's "Arctic Water Solutions: Harnessing Native Northern Plants for Nature-Based Wastewater Treatment in Canada's Arctic" 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, issued in accordance with s. 92(2)(a) of *NuPPAA*, 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.

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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*. The purpose of screening is provided for under Article 12, Section 12.4.1 of the *Nunavut Agreement* and s. 88 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 indicating one of three options:

- (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.

PROJECT OVERVIEW & THE NIRB ASSESSMENT PROCESS

On May 7, 2026, the NIRB received a referral to screen University of Guelph’s “Arctic Water Solutions: Harnessing Native Northern Plants for Nature-Based Wastewater Treatment in Canada’s Arctic” project proposal (NIRB File No: 26YN041) from the Nunavut Planning Commission (Commission), which noted that the project proposal is outside the area of an applicable land use plan. All documents received and pertaining to this project proposal can be accessed from the NIRB’s Public Registry by using any of the following search criteria or www.nirb.ca/project/126460.

- Project Name: Arctic Water Solutions: Harnessing Native Northern Plants for Nature-Based Wastewater Treatment in Canada’s Arctic
- NIRB File No.: 26YN041
- NIRB Application No.: 126460

Table 1: NIRB’s Assessment Process

Date	Stage
May 7, 2026	Receipt of project proposal and referral from the Commission
May 7, 2026	Pursuant to s. 144(1) of the <i>NuPPAA</i> the NIRB requested the Proponent complete an online application to address information required for Screening
June 19, 2026	Receipt of online application from Proponent
July 7, 2026	Request(s) to Proponent for additional information in order to carry out screening pursuant to s. s. 144(1) of the <i>NuPPAA</i>
July 31, 2026	Proponent responded to information request(s) and provided additional information
July 31, 2026	Scoping pursuant to s. 86(1) of the <i>NuPPAA</i>
August 4, 2026	Public engagement and comment request was issued in English with translations provided once available
August 25, 2026	Receipt of public comments
August 26, 2026	Proponent provided with an opportunity to address comments/concerns raised by public

Date	Stage
September 14, 2026	Pursuant to Article 12 s 12.4.5 of the <i>Nunavut Agreement</i> and s. 92(3) of the <i>NuPPAA</i> , an extension to the 45-day timeline for the provision of the Board's Report was requested from the Minister of Environment and Minister Responsible for Nunavut Arctic College
September 20, 2026	Proponent responded to comments/concerns raised by public
October 8, 2026	Issuance of Screening Decision Report

1. Project Scope

Location	Kitikmeot region, <i>within the municipal boundary of Cambridge Bay</i>
Objective	The Proponent intends to develop and optimize low-cost, scalable, and climate-adapted biofilters for wastewater treatment.
Timeline	Operations Phase: April 1, 2027, to March 1, 2028 Closure Phase: March 1, 2028, to June 1, 2028

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

- Collection of native plant species, such as mastodon flower and Arctic willow (fewer than 20 plants in total).
- Install approximately six pilot-scale biofilter systems near the Canadian High Arctic Research Station (CHARS), each would contain native plants, and layered biofilter media, composed of sand, gravel, and/or biochar. Each biofilter would be approximately 100 cm high and 60 cm in diameter.
- Pump wastewater from the CHARS triplex sewage holding tank and apply wastewater from CHARS housing onto each biofilter.
- Collect treated effluent from each biofilter in separate collection containers. Following the collection of samples, pump the remaining treated effluent back into the triplex sewage holding tank. No untreated or treated wastewater would be discharged to the ground.
- Biofilters would be monitored using environmental and water quality sensors, to continuously monitor system performance for measurements of soil moisture, turbidity, pH, and electrical conductivity.
- Transport effluent samples and selected plant samples to the University of Guelph for analysis.
- Remove all biofilters, sensors, temporary tanks, collection containers, and associated equipment by June 2028.

2. Inclusion or Exclusion to Scoping List

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

3. Public Comments and Concerns

As outlined in Table 1 above, notices regarding the NIRB's screening of this project proposal were distributed to community organizations as well as to relevant federal and territorial government agencies, Inuit organizations and other parties with a request for interested parties to provide the Board with any comments or concerns 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 August 25, 2026, the NIRB received comments from the following interested parties:

Table 2: Comments Received

Commenting Party	NIRB Doc ID No.
Kitikmeot Inuit Association (KitIA)	362787
Government of Nunavut (GN)	362792
Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)	362862

a. Summary of Comments and Concerns Received

The following provides a summary of the comments and concerns received by the NIRB in relation to the Arctic Water Solutions: Harnessing Native Northern Plants for Nature-Based Wastewater Treatment in Canada's Arctic project proposal:

KitIA

- Encourage the development of spill response measures, including proper equipment and materials, for the collection and use of effluent.
- Encourage the hiring of local Inuit Beneficiaries to help support the project. Locating and collecting local plants described for the project would be beneficial for the members of the community and project proponent.

GN

- Reviewed the proposed project and related documents and has no comments or concerns to raise at this time.

CIRNAC

Regarding freeze-thaw containment integrity and permafrost protection, recommend:

- Implementing measures to prevent freezing and the release of wastewater from biofilters, piping, and collection containers during unattended periods;

- Providing adequate secondary containment to prevent wastewater from entering surrounding lands or waters;
- Inspecting the biofilters, piping, collection containers, and containment areas regularly for leaks or damage; and
- Maintaining appropriate spill-response procedures and cleanup materials at the Project site.

Regarding biochar media quality and substrate contaminant management, recommend:

- Conducting pre-deployment laboratory characterization on all biochar media batches such as total elemental analysis for heavy metals, and PAH quantification, etc.;
- Demonstrating that biochar media parameters conform to Canadian Council of Ministers of the Environment Soil Quality Guidelines for Environmental Health prior to field delivery; and
- Utilizing impermeable catchment trays or secondary containment beneath all filter units during operation and media handling.

Regarding native plant harvesting and active-layer permafrost thermal protection, recommend:

- Using existing access routes and minimizing disturbance to surrounding vegetation;
- Backfilling and restoring collection areas to a stable condition immediately following plant removal;
- Replacing salvaged surface material and vegetation over disturbed areas, where practical, to promote revegetation and protect the ground surface; and
- Inspecting collection areas following restoration and addressing any erosion, settlement, or other instability resulting from Project activities.

Regarding consultation with interested parties, recommend:

- Continue engaging with the Hamlet of Cambridge Bay, the Ekaluktutiak Hunters & Trappers Organization, and any other relevant organizations and individuals regarding its project proposal.

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

No concerns or comments were received with respect to Inuit Qaujimaningit or Indigenous and Community knowledge in relation to the proposed project. However, Inuit Qaujimaningit and Indigenous and community knowledge is incorporated into the terms and conditions recommended below based on information collected from prior and similar projects, data collected and mapped by the Commission, and other available sources.

5. Proponent's Response to Public Comments and Concerns

Due to the comments, and questions received from parties, the NIRB provided an opportunity for the Proponent to respond. The following is a summary of the Proponent's response to concerns:

Response to KitIA

Regarding waste management:

- The biofilter design now incorporates multiple layers of spill prevention and containment. Each biofilter column (plastic tube) is housed within a modified plastic barrel serving as a

secondary containment vessel (double-layer design). This double-layer configuration ensures that any accidental release of effluent is captured before it can contact the land surface.

- Wastewater treatment experiments will only be conducted under direct supervision of the University of Guelph team. Dedicated spill-response equipment and materials (absorbent pads, containment barriers, PPE) will be maintained on site at all times during wastewater treatment experiments. A spill response procedure will be prepared prior to field deployment and communicated to all project personnel.

Regarding community involvement:

- As suggested, we will actively recruit community members, including Elders, to assist with locating and collecting native Arctic plant species for transplantation into the biofilters. Their knowledge of the local landscape and plant communities would be invaluable to this work, and their involvement aligns with the spirit of community-based research we seek to foster. We welcome continued engagement with KitIA to facilitate local hiring and are committed to identifying meaningful training and employment opportunities for Inuit Beneficiaries throughout the duration of the project.

Response to **GN**

- The University of Guelph research team thanks the Government of Nunavut for reviewing the project proposal and for confirming that no comments or concerns are raised at this time.

Response to **CIRNAC**

Regarding freeze-thaw containment integrity and permafrost protection:

- Freeze protection: During the non-experimental periods, tap water irrigation will be limited to the minimum volume needed to sustain plant survival, with the outlet pipe closed to retain moisture within the media/biofilter. During winter, when temperatures remain consistently below freezing and plants are dormant, tap water irrigation will be stopped entirely to prevent pipe freezing and ice accumulation within the system.
- Secondary containment (double-layer design): Each biofilter column is housed within a modified plastic barrel to prevent any potential accidental spill on the land.
- Regular inspections: Wastewater experiments will only be conducted when the University of Guelph team is present on site. During intervals between site visits, CHARS staff will conduct periodic visual inspections of the biofilters, piping, and containment barrels using an inspection checklist to be provided by the research team.
- Spill response: Dedicated spill-response equipment and materials, including absorbent pads, containment barriers, and PPE, will be maintained on site throughout all experimental periods. A spill response plan will be prepared prior to field deployment and communicated to all project personnel and relevant CHARS staff.

Regarding biochar media quality and substrate contaminant management:

- Pre-deployment characterization: Prior to field deployment, all biochar batches will undergo laboratory characterization, including analysis of inorganic and organic contaminants such as heavy metals and PAHs.

- Guideline conformance: The biochar media to be used in this project is commercially produced and certified in Canada and is approved for agricultural use by the Canadian Food Inspection Agency (CFIA). Biochar characterization results will be assessed against the CCME Soil Quality Guidelines for the Protection of Environmental Health prior to field delivery.

Regarding native plant harvesting and active-layer permafrost thermal protection:

- Plant species and collection location: Plants will be harvested on-site at or near CHARS from locally abundant, weedy species (e.g., *Tephrosia palustris*) that colonise disturbed ground. These species are small in stature (15– 150 cm tall) and are not ecologically sensitive, being widely distributed in sewage lagoons and wetland areas across the region. Fewer than 20 individual plants will be collected for the entire experiment, limiting the overall footprint of disturbance.
- Non-destructive collection: Existing access routes will be used to reach collection sites, minimising disturbance to surrounding vegetation. Plants will be removed carefully by hand tools only, with the root ball and surrounding soil kept as intact as possible to support successful transplantation and subsequent site restoration.
- Immediate site restoration: Collection areas will be backfilled and restored to a stable condition immediately following plant removal. Salvaged surface material will be replaced over disturbed areas where practical.
- Post-restoration inspection: Collection and restoration sites will be inspected following restoration activities to identify and address any erosion, settlement, or instability. At the end of the experiment, all harvested plants will be returned to their original collection locations as requested.

Regarding consultation with interested parties:

- Inuit Qaujimajatuqangit (IQ) and community knowledge: We will seek guidance from local knowledge holders on plant species identification, appropriate conduct on the land, and any sites of cultural or environmental significance in the project area. Wherever possible, we will recruit local community members to assist in locating and collecting native plants, consistent with the encouragement expressed by KitIA, and are committed to identifying meaningful training and employment opportunities throughout the project.
- Wildlife and environmental disturbance: Operations are confined to the existing CHARS station grounds near the triplex. All activities will be conducted in a manner that minimises disturbance to wildlife and the surrounding environment, and any issues observed will be documented and reported promptly to the appropriate parties.
- Cultural and archaeological sites: Consultation with the Cambridge Bay community has already been initiated. During an initial site visit in July 2026, we met with the Chief Administrative Officer (CAO) of the Hamlet of Cambridge Bay to discuss the project. We have also engaged with KitIA, including a meeting with the Senior Lands Officer and a formal review of and response to KitIA's comments submitted to NIRB. Outreach to the Ekaluktutiak Hunters and Trappers Organization (EHTO) has been initiated and we will continue to pursue a meeting with their representatives.
- Employment, training, and procurement: We are committed to exploring local hiring opportunities, particularly for plant collection and routine system support, consistent with

the encouragement expressed by KitIA. Materials and supplies will be procured from local and Inuit-owned businesses in Cambridge Bay wherever possible.

- Regular updates: We commit to providing regular updates on project activities to all relevant parties, including the Hamlet of Cambridge Bay, KitIA, the Ekaluktutiak Hunters and Trappers Organization, CHARS staff, and other interested parties, throughout the duration of the project.

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. Table 3. The Board took particular care to consider Inuit Qaujimaningit, Indigenous and Community Knowledge in carrying out its assessment and determination of the significance of impacts.

Table 3: Summary of the Board's Assessment of Factors s. 90 *NuPPAA*

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 limited to the project area within the municipal boundary of Cambridge Bay. ▪ 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, given the limited scale, short duration, and proposed mitigation measures.
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 1 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	▪ The NIRB has not identified any past, present, and reasonably foreseeable projects at this time; however, the Board has recommended terms and conditions along with mitigation measures

Factor	Comment
being carried out or is likely to be carried out.	designed with consideration for the potential for cumulative effects in the Board Views section.
Any other factor that the Board considers relevant to the assessment of the significance of impacts.	No other relevant factors were identified; however, see below for Regulatory Requirements mandating mitigation and/or reporting.

Regulatory Requirements

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

Acts and Regulations

1. The *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (<http://laws-lois.justice.gc.ca/eng/acts/n-28.8/>).
2. 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**.

Other Applicable Guidelines

3. Environmental Guidelines for the Management of Contaminated Sites, Department of the Environment, Government of Nunavut, Revised December 2014 (https://www.gov.nu.ca/sites/default/files/contaminated_sites_remediation_2014.pdf).
4. 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).

Views of the Board

In considering the above factors, the Board has identified the following and respectfully provides its views regarding whether or not the proposed project has the potential to result in significant impacts. The NIRB has also proposed terms and conditions that would mitigate the potential adverse impacts identified.

Ecosystem, wildlife habitat and Inuit harvesting activities:

Valued Component	Freshwater
Potential effects:	Potential adverse effects to freshwater systems may occur from the collection, transportation, and the use of wastewater for the project activities.
Nature of Impacts:	The potential for impacts is considered to be limited due to the frequency of proposed activities and limited amount of wastewater use proposed, any resulting impacts would be expected to be contained and reversible.
Mitigating Factors:	The Proponent has noted that wastewater samples would be handled, stored, and transported using appropriate containment and biosafety procedures to minimize the risk of spills, releases, or exposure. Only the volume of wastewater necessary for the proposed project would be used,

	any excess treated or untreated wastewater would be returned to the originating source or other approved disposal locations.
Proposed Terms and Conditions:	Water courses/Water bodies – 6 Waste Management – 7 Fuel and Chemical Storage – 8

Valued Component	Vegetation, Land, Soils, and Permafrost
Potential effects:	Potential adverse effects to vegetation, land, soils, and permafrost may occur from the collection and use of local plants, sand, gravel, and/or biochar, as well as the potential for leakage during the unattended deployment of biofilters.
Nature of Impacts:	The potential for impacts is considered to be limited due to the scale and the temporary nature of the project.
Mitigating Factors:	The Proponent has committed to using a double layer biofilter design, with each biofilter column placed inside a modified plastic barrel for secondary containment. Spill-response materials would also be kept on site during wastewater treatment activities, and a spill response procedure would be prepared before field deployment. To limit disturbance from plant collection, the Proponent would use existing access routes where possible and restore disturbed areas to a stable condition after plants are removed.
Proposed Terms and Conditions:	Waste Management – 7 Fuel and Chemical Storage – 8 Wildlife – General – 9 Land Use and Restoration of Disturbed Areas – 10 through 13

Valued Component	Public and Traditional Land Use
Potential effects:	No specific concerns or impacts to public and traditional land use activities in the area have been identified.
Nature of Impacts:	The potential for impacts to public and traditional land use is expected to be limited, given the small scale of the project and its proposed location within the community of Cambridge Bay.
Mitigating Factors:	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.
Proposed Terms and Conditions:	Heritage Sites – 14 and 15 Other – 16 and 17

Socio-economic effects on northerners:

Valued Component	Socio-economic
Potential effects:	Limited positive effects may occur through short-term opportunities for community participation, and potential for local hiring during field activities.

Nature of Impacts:	Potential impacts are expected to be minor, localized, and short-term, given the small scale of the project and limited personnel requirements.
Mitigating Factors:	The Proponent has indicated that the project would involve CHARS staff and local community partners. The Proponent also noted that community members, including Elders, may be recruited to assist with locating and collecting native Arctic plant species, and that opportunities for local hiring and community involvement would be considered during the project.
Proposed Terms and Conditions:	Other – 18

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 regulatory requirements and the terms and conditions necessary to mitigate against the potential adverse environmental and social effects, the Board is of the view that the proposed project is unlikely to cause significant public concern and its adverse ecosystemic and socioeconomic impacts are unlikely to be significant, or are highly predictable and can be adequately mitigated by known technologies.

RECOMMENDED PROJECT-SPECIFIC TERMS AND CONDITIONS

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

General

1. The University of Guelph (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.: 151201) and the NIRB (Online Application Form, July 30, 2026). 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 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

7. 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.

Fuel and Chemical Storage

8. 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).

Wildlife – General

9. 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.

Land Use and Restoration of Disturbed Areas

10. The Proponent shall use existing trails where possible during project activities on the land.
11. The Proponent shall ensure that the land use area is kept clean and tidy at all times.
12. 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.
13. 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.

Heritage Sites

14. The Proponent shall ensure that archaeological and paleontological sites are not purposely or inadvertently disturbed as a result of project activities.
15. No activities shall be conducted in the vicinity (50 metres buffer zone) of any archaeological/historical sites. If archaeological sites or features are encountered, activities shall immediately be interrupted and moved away from this location. Each site encountered needs to be recorded and reported to the Government of Nunavut-Department of Culture and Heritage.

Other

16. 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.
17. The Proponent shall ensure that project activities do not interfere with Inuit wildlife harvesting or traditional land use activities.
18. 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, and reports 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.

CONCLUSION

The foregoing constitutes the Board's screening decision with respect to the University of Guelph's "Arctic Water Solutions: Harnessing Native Northern Plants for Nature-Based Wastewater Treatment in Canada's Arctic". The NIRB remains available for consultation with the Minister regarding this report as necessary.

Dated October 8, 2026 at Iqaluit, NU.



Albert Ehloak, Chairperson

Attachments: Appendix B: Archaeological and Palaeontological Resources Terms and Conditions for Land Use Permit Holders

APPENDIX A: ARCHAEOLOGICAL AND PALAEOONTOLOGICAL 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*¹ to issue such permits.

¹ 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*², 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*³, it is illegal to alter or disturb any palaeontological or archaeological site in Nunavut unless permission is first granted through the permitting process.

Definitions

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

“archaeological site” means a place where an archaeological artifact is found.

“archaeological artifact” means any tangible evidence of human activity that is more than 50 years old and in respect of which an unbroken chain of possession or regular pattern of usage cannot be demonstrated, and includes a Denesuline archaeological specimen referred to in section 40.4.9 of the Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada (Nunavut Agreement).

“palaeontological site” means a site where a fossil is found.

“fossil” includes:

Fossil means the hardened or preserved remains or impression of previously living organisms or vegetation and includes:

- (a) natural casts;*
- (b) preserved tracks, coprolites and plant remains; and*
- (c) the preserved shells and exoskeletons of invertebrates and the preserved eggs, teeth and bones of vertebrates.*

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

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

Introduction

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

² s. 51(1)

³ P.C. 2001-1111 14 June, 2001

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

The primary regulatory agencies that CH provides information and assistance to are the Nunavut Impact Review Board, for development activities proposed for Inuit Owned Lands (as defined in Section 1.1.1 of the *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.