



**ᖃᑲᓂᓴᑦᓂᓴᑦᑕ ᐃᓴᓚᓂᓄᑦᑲᓂᓂᓴᓂᓴᑦ ᐅᓂᓂᓴᑦ
ᐃᑲᓂᓕᓚᓂᓄᑦ ᓂᓂᖃᑲᓂᓴᑦᓂᓴᑦ: 16YN048**

ᐸᓴᑲᓂᓴᑦᓂᓴᑦ ᓂᓂᖃᑲᓂᓴᑦᓂᓴᑦ: 148510

ᑦᓚᐃ 5, 2017

ᑭᓴᓂᓴᑦᓂᓴᑦ ᓄᓇᓂᓴᑦ ᐃᑲᓂᓕᓚᓂᓄᑦ ᑲᓂᓚᓂᓴᑦ ᖃᑲᓂᓴᓂᓴᑦᑕ ᑕᓚᐃᓂᓴᑦ ᑕᓂᓴᓂᓴᑦᓂᓴᑦ ᖃᑲᓂᓴᓂᓴᑦᓂᓴᑦ, ᐃᑲᓂᓕᓚᓂᓄᑦ ᐃᑕᓂᓴᓂᓴᑦ ᖃᑲᓂᓴᑦᓂᓴᑦᓂᓴᑦ ᑕᓂᓴᑦ ᓴᓚᑕᓂᓴᑦᓂᓴᑦ ᐸᓴᑕᓂᓴᑦᓂᓴᑦ ᓴᓚᓂᓴᑦ ᓴᓚᐃᓂᓴᑦᓂᓴᑦ ᓄᓇᑕᓂᓴᑦ ᑕᓚᓂᓴᑦᓂᓴᑦ ᓂᓴᑦᓂᓴᑦᓂᓴᑦᓂᓴᑦ ᖃᑲᓂᓴᑦᓂᓴᑦᓂᓴᑦ ᐃᑕᓂᓴᑦᓂᓴᑦᓂᓴᑦ ᓂᓂᖃᑲᓂᓴᑦᓂᓴᑦ 92(1)(a) ᓄᓇᓂᓴᑦ ᐸᓴᑕᓂᓴᑦ ᓴᓚᓂᓴᑦ ᖃᑲᓂᓴᑦᓂᓴᑦᓂᓴᑦ ᓴᓴᓂᓴᑦ (NuPPAA).

ᓚᓂᓴᑦ ᓴᓚᓂᓴᑦᓂᓴᑦ ᓚᓂᓴᑦᓂᓴᑦᓂᓴᑦ ᓂᓂᖃᑲᓂᓴᑦᓂᓴᑦ ᐃᑕᓂᓴᑦ, ᓄᓇᓂᓴᑦ ᐃᑲᓂᓕᓚᓂᓄᑦ ᑲᓂᓚᓂᓴᑦ ᖃᑲᓂᓴᑦᓂᓴᑦ ᑕᓂᓴᑦᓂᓴᑦ ᐃᑕᓂᓴᑦᓂᓴᑦᓂᓴᑦ, ᐃᑲᓂᓴᑦ ᐃᓂᓴᑦᓂᓴᑦ. ᓄᓇᓂᓴᑦ ᐃᑲᓂᓕᓚᓂᓄᑦ ᑲᓂᓚᓂᓴᑦ ᐅᓂᓴᑦ ᐃᑕᓂᓴᑦᓂᓴᑦᓂᓴᑦ ᓴᓂᓴᑦᓂᓴᑦᓂᓴᑦ ᖃᑲᓂᓴᑦᓂᓴᑦᓂᓴᑦ ᐃᓴᓚᓂᓴᑦᓂᓴᑦ ᐅᓂᓂᓴᑦ.

ᓄᓇᑕᓂᓴᑦᓂᓴᑦ ᖃᑲᓂᓴᑦᓂᓴᑦᓂᓴᑦ ᐃᓴᓚᓂᓄᑦᑲᓂᓂᓴᓂᓴᑦ ᐅᓂᓂᓴᑦᓂᓴᑦ

- 1) ᓚᓂᓴᓂᓴᑦ ᐃᓴᓂᓴᑦᓂᓴᑦ
- 2) ᓴᓚᓂᓴᑦᓂᓴᑦ ᑕᓂᓴᓂᓴᑦ
- 3) ᓴᓚᓂᓴᑦ ᖃᑲᓂᓴᓂᓴᑦ ᐃᑲᓂᓕᓚᓂᓄᑦ ᖃᑲᓂᓴᑦᓂᓴᑦᓂᓴᑦ
- 4) ᓴᓂᓴᑦᓂᓴᑦ ᐃᓴᓚᓂᓴᑦᓂᓴᑦ ᐃᑕᓂᓴᑦᓂᓴᑦ
- 5) ᐃᓴᓚᓂᓴᑦ ᐃᑲᓂᓕᓚᓂᓄᑦ
- 6) ᐃᑕᓂᓴᑦᓂᓴᑦ ᓴᓚᓂᓴᑦᓂᓴᑦ ᑕᐃᓴᑦ ᓚᓂᓴᑦ
- 7) ᐃᓴᓂᓴᑦᓂᓴᑦ ᖃᑲᓂᓴᑦᓂᓴᑦ ᐅᖃᓂᓴᑦᓂᓴᑦ
- 8) ᐃᓴᓂᓴᑦ ᐃᑲᓂᓕᓚᓂᓄᑦ ᐃᓴᓚᓂᓴᑦᓂᓴᑦ ᐃᑕᓂᓴᑦᓂᓴᑦ
- 9) ᓚᓂᓴᑦᓂᓴᑦ ᐃᑕᓂᓴᑦᓂᓴᑦ
- 10) ᓴᓂᓴᑦᓂᓴᑦ

ᓚᓂᓴᓂᓴᑦ ᐃᓴᓂᓴᑦᓂᓴᑦ

ᐅᓂᓴ ᑕᓂᓴᑦ ᓄᓇᓂᓴᑦ ᐃᑲᓂᓕᓚᓂᓄᑦ ᑲᓂᓚᓂᓴᑦ ᓄᓇᑕᓂᓴᑦᓂᓴᑦ ᐃᓂᓴᑦᓂᓴᑦ 12.2.5 ᓄᓇᓂᓴᑦ ᓄᓇᑕᓂᓴᑦ ᓄᓴᓂᓴᑦᓂᓴᑦᓂᓴᑦ ᐃᓴᓂᓴᑦ, ᐅᓂᓴᑦᓂᓴᑦ:

ቪዲዮ፣ ልዩ ልዩ ምርመራ ማድረግ ወይንም ለሌሎች ሰነድ ለመስጠት ማቅረብ ይቻላል። ለዚህ ምርመራ ማድረግ ለሌሎች ሰነድ ለመስጠት ማቅረብ ይቻላል። ለዚህ ምርመራ ማድረግ ለሌሎች ሰነድ ለመስጠት ማቅረብ ይቻላል።

በጠቅላላ ስልጠናው 12፣ ልዩ ልዩ ምርመራ 12.4.1 ላይ 12.4.4 ወይንም ለሌሎች ሰነድ ለመስጠት ማቅረብ ይቻላል። ለዚህ ምርመራ ማድረግ ለሌሎች ሰነድ ለመስጠት ማቅረብ ይቻላል። ለዚህ ምርመራ ማድረግ ለሌሎች ሰነድ ለመስጠት ማቅረብ ይቻላል።

ለሌሎች ሰነድ ለመስጠት ማቅረብ ይቻላል።

1. ለሌሎች ሰነድ ለመስጠት ማቅረብ ይቻላል።

ጋንታዎች ለሌሎች ሰነድ ለመስጠት ማቅረብ ይቻላል። ለዚህ ምርመራ ማድረግ ለሌሎች ሰነድ ለመስጠት ማቅረብ ይቻላል። ለዚህ ምርመራ ማድረግ ለሌሎች ሰነድ ለመስጠት ማቅረብ ይቻላል። ለዚህ ምርመራ ማድረግ ለሌሎች ሰነድ ለመስጠት ማቅረብ ይቻላል።

ጋንታዎች ለሌሎች ሰነድ ለመስጠት ማቅረብ ይቻላል። ለዚህ ምርመራ ማድረግ ለሌሎች ሰነድ ለመስጠት ማቅረብ ይቻላል። ለዚህ ምርመራ ማድረግ ለሌሎች ሰነድ ለመስጠት ማቅረብ ይቻላል። ለዚህ ምርመራ ማድረግ ለሌሎች ሰነድ ለመስጠት ማቅረብ ይቻላል።

- ዘወትር ጋንታዎች ለሌሎች ሰነድ ለመስጠት ማቅረብ ይቻላል። ለዚህ ምርመራ ማድረግ ለሌሎች ሰነድ ለመስጠት ማቅረብ ይቻላል። ለዚህ ምርመራ ማድረግ ለሌሎች ሰነድ ለመስጠት ማቅረብ ይቻላል።
 - ከጋንታዎች ለሌሎች ሰነድ ለመስጠት ማቅረብ ይቻላል። ለዚህ ምርመራ ማድረግ ለሌሎች ሰነድ ለመስጠት ማቅረብ ይቻላል።
 - ከጋንታዎች ለሌሎች ሰነድ ለመስጠት ማቅረብ ይቻላል። ለዚህ ምርመራ ማድረግ ለሌሎች ሰነድ ለመስጠት ማቅረብ ይቻላል።
- ጋንታዎች ለሌሎች ሰነድ ለመስጠት ማቅረብ ይቻላል። ለዚህ ምርመራ ማድረግ ለሌሎች ሰነድ ለመስጠት ማቅረብ ይቻላል። ለዚህ ምርመራ ማድረግ ለሌሎች ሰነድ ለመስጠት ማቅረብ ይቻላል።
- ጋንታዎች ለሌሎች ሰነድ ለመስጠት ማቅረብ ይቻላል። ለዚህ ምርመራ ማድረግ ለሌሎች ሰነድ ለመስጠት ማቅረብ ይቻላል። ለዚህ ምርመራ ማድረግ ለሌሎች ሰነድ ለመስጠት ማቅረብ ይቻላል።

APPENDIX A: PREVIOUSLY-SCREENED PROJECT PROPOSALS

The original project proposal NIRB (File No. 16YN048), was received by the NIRB on June 27, 2016 and was screened by the Board in accordance with Part 4, Article 12 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada* (Nunavut Agreement) and Part 3 of the *Nunavut Planning and Project Assessment Act* (NuPPAA). On August 22, 2016 the NIRB issued a screening decision under paragraph 92(1)(a) of the NuPPAA to then Minister of Indigenous and Northern Affairs which indicated that the proposed project could proceed subject to the NIRB's recommended project-specific terms and conditions.

The Trent University's (Proponent) original "Impacts of Air Pollution on Terrestrial and Aquatic Ecosystems on Southern Baffin Island" project was located in the Qikiqtani (South Baffin) region, approximately 5 kilometres (km) north from Iqaluit. The Proponent indicated that it intended to conduct water, soil, and moss sampling to assess the impacts of air pollution on aquatic and terrestrial ecosystems. The program was proposed to take place in September 2016.

As set out in the project proposal, the scope of the previously screened project included the following undertakings, works, or activities:

- Collection of water samples (250 millilitres/lake) from up to 100 study lakes around Iqaluit and Kimmirut;
- Collection of moss samples (5 grams/site) and soil samples (3 x 100 grams/site) using a fixed volume core from up to 20 study sites around Iqaluit;
- Use of all-terrain vehicles to transport personnel and equipment to study sites around Iqaluit;
- Use of a helicopter to transport personnel and equipment from Iqaluit to study sites around Kimmirut;
- Use of fuel and chemicals to facilitate transportation operations;
- Collection of all wastes for disposal at appropriate municipal facilities; and
- Accommodations and use of facilities for up to two (2) personnel at the Nunavut Research Institute in Iqaluit.

Appendix B

Species at Risk in Nunavut

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

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

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

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

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

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

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

Updated: October 2016

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

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

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

² Environment Canada (EC) has a national role to play in the conservation and recovery of Species at Risk in Canada, as well as responsibility for management of birds described in the Migratory Birds Convention Act (MBCA). Day-to-day management of terrestrial species not covered in the MBCA is the responsibility of the Territorial Government. Populations that exist in National Parks are also managed under the authority of the Parks Canada Agency.

³ The *anatum* subspecies of Peregrine Falcon is listed on Schedule 1 of SARA as threatened. The *anatum* and *tundrius* subspecies of Peregrine Falcon were reassessed by COSEWIC in 2007 and combined into one subpopulation complex. This subpopulation complex was assessed by COSEWIC as Special Concern.

Appendix C
Archaeological and Palaeontological Resources Terms and Conditions for Land Use Permit Holders



INTRODUCTION

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

TERMS AND CONDITIONS

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

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

Note that the above-mentioned functions require either a Nunavut Archaeologist Permit or a Nunavut Palaeontologist Permit. CH is authorized by way of the *Nunavut and Archaeological and Palaeontological Site Regulations*¹ to issue such permits.

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

¹P.C. 2001-1111 14 June, 2001

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

Legal Framework

As stated in Article 33 of the *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

²s. 51(1)

the *Nunavut Archaeological and Palaeontological Sites Regulations*³, it is illegal to alter or disturb any palaeontological or archaeological site in Nunavut unless permission is first granted through the permitting process.

Definitions

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

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

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

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

“fossil” includes:

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

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

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

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

Introduction

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

CH is the Nunavut Government agency which oversees the protection and management of heritage resources in Nunavut, in partnership with land claim authorities, regulatory agencies, and the federal government. Its role in mitigating impacts of developments on heritage resources is as follows: to identify the need for an impact assessment and make recommendations to the appropriate regulatory agency; set the terms of reference for the study depending upon the scope of the development; suggest the names of qualified individuals

³ P.C. 2001-1111 14 June, 2001

prepared to undertake the study to the developer; issue an archaeologist or palaeontologist permit authorizing field work; assess the completeness of the study and its recommendations; and ensure that the developer complies with the recommendations.

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

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

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

Types of Development

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

- *Linear disturbances: including the construction of highways, roads, winter roads, transmission lines, and pipelines;*
- *Extractive disturbances: including mining, gravel removal, quarrying, and land filling;*
- *Impoundment disturbances: including dams, reservoirs, and tailings ponds;*
- *Intensive land use disturbances: including industrial, residential, commercial, recreational, and land reclamation work, and use of heritage resources as tourist developments.*

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

Types of Studies Undertaken to Preserve Heritage Resources

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

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

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

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

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

Assessment: At this stage, sufficient information concerning the numbers and locations of heritage resources will be available, as well as data to predict the forms and magnitude of impacts. Assessments provide information on the size, volume, complexity and content of a

heritage resource, which is used to rank the values of different sites or site types given current archaeological knowledge. As this information will shape subsequent mitigation program(s), great care is necessary during this phase.

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

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

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

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