GUIDELINES AND PROCEDURES FOR CONDUCTING PROFESSIONAL ARCHAEOLOGICAL ASSESSMENTS IN NEW BRUNSWICK

Archaeological Services
Heritage Branch
Department of Culture, Tourism and Healthy Living

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English
Available on demand from

Mailing Address:
Archaeological Services
P.O. Box 6000
Fredericton, NB
E3B 5H1

Street Address:
Archaeological Services
Ground Floor,
225 King Street,
Fredericton, NB

http://www.gnb.ca/0131/archaeology/index-e.asp
http://www.gnb.ca/0131/archaeology/index-f.asp
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<td>AFRP:</td>
<td>ARCHAEOLOGICAL FIELD RESEARCH PERMIT</td>
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<td>APM:</td>
<td>ARCHAEOLOGICAL PROJECT MANUSCRIPT</td>
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<td>AS:</td>
<td>ARCHAEOLOGICAL SERVICES</td>
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<td>CEAA:</td>
<td>CANADIAN ENVIRONMENTAL ASSESSMENT ACT</td>
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<td>EIA:</td>
<td>ENVIRONMENTAL IMPACT ASSESSMENT</td>
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<tr>
<td>GPS:</td>
<td>GLOBAL POSITIONING SYSTEM</td>
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<tr>
<td>GNB:</td>
<td>GOVERNMENT OF NEW BRUNSWICK</td>
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<tr>
<td>HCA:</td>
<td>HERITAGE CONSERVATION ACT</td>
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<tr>
<td>HPS:</td>
<td>HISTORIC PLACES SECTION</td>
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<tr>
<td>AIA:</td>
<td>ARCHAEOLOGICAL IMPACT ASSESSMENT</td>
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<tr>
<td>MARI:</td>
<td>MARITIME ARCHAEOLOGICAL RESOURCE INVENTORY</td>
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<tr>
<td>SAP:</td>
<td>SITE ALTERATION PERMIT</td>
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1. INTRODUCTION

The procedures for conducting an Archaeological Impact Assessment (AIA) outlined in this document were prepared to assist heritage consultants and proponents in managing New Brunswick’s changing landscape with a view to conserving our non-renewable heritage resources. This guide was developed principally for projects, which because of their scope and nature, must undergo an Archaeological Impact Assessment. AIA policy and procedures are under continual review, and may be modified as the Government of New Brunswick’s (GNB) overall AIA process evolves and the archaeological guidelines/procedures and accepted field/research practices change.

For AIAs, representatives from Heritage Branch are available to meet with the proponent and/or their consultant(s) to provide clarification and interpretation of the process. It is the responsibility of the consultant and/or proponent to ensure that the most recent version of this document is followed.
1.1. **OBJECTIVES**

The Cultural Policy for New Brunswick, accepted by government in 2002, recognizes the Province’s responsibility in partnership with others to protect the cultural resources of New Brunswick. That Cultural Policy is in part a response to expanding global concepts of culture and heritage. Through its Heritage Branch, the Department of Culture, Tourism and Healthy Living coordinates and supports activities designed to protect and preserve heritage resources for future generations.

Heritage resources are non-renewable in the same manner that oil and gas reserves are non-renewable. The cost of preserving heritage resources can be estimated fairly precisely. However, the benefits, in terms of scientific value and the social value attached to such concepts as cultural tradition, national/cultural identity, patrimony and sovereignty are almost impossible to measure.

In recent years, all levels of government are becoming more aware of the potential economic value of heritage resources. With such pressures, it becomes even more imperative that measures be taken to preserve heritage resources.

Heritage Branch assists the provincial government, private industry and landowners in making decisions that will help to achieve environmentally sustainable development. When the benefits of a project are sufficient to outweigh the benefits of heritage preservation, the Branch’s primary concern is to work with the proponent in determining how the project may be implemented with minimal loss to heritage resource values. Where the loss of significant heritage resources cannot be avoided, the objective of the Heritage Branch is to ensure that appropriate measures are implemented so that as much information as possible can be recovered before resources are impacted, and that this information recovery be conducted according to accepted scientific standards as defined in the manual “*Standards for Conducting Archaeological Investigations in New Brunswick*.”
1.2. WHAT CONSTITUTES AN ARCHAEOLOGICAL SITE

The terrestrial and aquatic heritage resources in New Brunswick consist of artifacts, structures, the remains of vessels, and sites, used by the various inhabitants of the Province in over 11,000 years of human settlement.

**When Must a Heritage Resource be Recorded on a Maritime Archaeological Resource Inventory Form?**

When it qualifies under at least one of the following criteria, or is deemed significant by Archaeological Services:

- Any historic feature (foundation, wharf, etc.), large historic artifact scatter (10 or more artifacts per 2 metres$^2$) known or suspected to be 100 years or older.
- Any artifact scatter known or suspected to be 150 years or older.
- Any pre-1783 historic artifact find spot/feature location.
- Any wreck or abandoned vessel (ship, aircraft) known or suspected to be 50 years or older.
- Any remains of a vehicle (automobile or motorcycle) known or suspected to be 75 years or older.
- Any object/feature associated with the military history of New Brunswick.
- Any Pre-Contact artifact find spot, artifact scatter or feature.

Where post-1783 historic period resources are concerned, the final decision as to which sites must be recorded must be made in direct consultation with Archaeological Services.
1.3. **PROVINCIAL AND FEDERAL HERITAGE LEGISLATION**

The first legislation for the preservation and conservation of New Brunswick's heritage resources, was passed in 1954. The current legislation, adopted in 2010 is entitled the **Heritage Conservation Act (HCA)** which empowers the Minister responsible for the Department of Culture, Tourism and Healthy Living to administer archaeological resources in New Brunswick. The authority provided under the Act applies whether heritage resources are located on public or private land. A Permit issued by the Minister is required to excavate or alter in any way an archaeological site. In addition, Section 11(1) of the Act stipulates that *no person shall carry out archaeological or palaeontological field research unless he or she holds an archaeological or palaeontological field research permit.*

Section 5(1) of the HCA confers property, title and right of possession of an archaeological or burial object found after coming into force of the **Heritage Conservation Act (2010)** to the Crown.

A heritage resource found within a provincial park enjoys the additional protection provided under Regulation 85-104—**General Regulation** under the **Parks Act.**

**Regulation 87-83 of the Clean Environment Act**

The process of preparing and reviewing Archaeological Impact Assessment studies in New Brunswick is an integrated part of the environmental impact assessment and review process. For more information on the New Brunswick EIA process, please contact the Project Assessment Branch at the Department of Environment or visit their web site at: [http://www.gnb.ca/0009](http://www.gnb.ca/0009).

**Federal Legislation**

The following Federal Acts/Regulations govern some aspects of heritage resources in New Brunswick:

**Canadian Environmental Assessment Act (C-37) - 1992**

**Cultural Property Export and Import Act (C-51) – 1985**

**The Canada Shipping Act (C-26) – 2001 – Part 7**
1.4. ROLES AND RESPONSIBILITIES

1.4.1. Proponents and Consultants

The proponent is responsible for all costs associated with conducting the impact assessment study and redressing any adverse environmental effects identified. To reduce cost, identify concerns early, and promote flexibility in managing change, proponents are encouraged to consider heritage resource concerns in the project planning and design, and when possible to consult early with representatives from the Heritage Branch.

As participants in the archaeological assessment process, the heritage consultants are responsible for:

(a) complying with all requirements and conditions associated with an Archaeological Field Research Permit (AFRP) issued under the Heritage Conservation Act;

(b) adhering to the standards and guidelines contained in this document;

(c) adhering to the safety guidelines contained in Part XIII of Regulation 91-191 under the New Brunswick Occupational Health and Safety Act; and

(d) reporting and submitting the results and recommendations of archaeological resource impact studies to Archaeological Services for review.

Heritage consultants hired by the proponent typically design research strategies, conduct Archaeological Impact Assessment studies, and recommend courses of action. The responsibility for the final decisions concerning the management of heritage resources is vested with the Department of Culture, Tourism and Healthy Living.

Any individual doing archaeological field research in the Province of New Brunswick must hold a valid AFRP pursuant to the Heritage Conservation Act. This also applies to heritage consultants hired by the proponent, or subcontracted by an EIA consulting firm to carry out an Archaeological Impact Assessment that would involve “archaeological research” as defined by the Heritage Conservation Act (2010).

Applications for Archaeological Field Research Permits are submitted to Archaeological Services. A Permit is required for each separate project that the applicant wishes to undertake. (See Appendix A for AFRP Guidelines and Application template).
1.4.2. Heritage Branch Role

The Heritage Branch, of which Archaeological Services is part, exercises various responsibilities that include:

(a) setting Archaeological Impact Assessment and management policy, professional standards, and reporting requirements;

(b) reviewing project proposals to determine the proponent's level of involvement in Archaeological Impact Assessment process;

(c) processing AFRP applications and preparing Permits for approval by the Minister responsible for the Department of Culture, Tourism and Healthy Living;

(d) providing guidance or direction to the proponent/consultant throughout the heritage resource assessment process;

(e) providing access to master lists and maps of heritage resources;

(f) conducting periodic inspections of field aspects of Archaeological Impact Assessment and management studies for compliance with the Heritage Conservation Act and associated Regulations and Policies, and adherence to the terms and conditions of an Archaeological Field Research Permit;

(g) reviewing, and where necessary, providing comments on research proposals and reports for deficiencies, relevance, completeness, and objectivity;

(h) recommending terms and conditions to the appropriate ministry responsible for environmental impact assessment;

(i) recommending to the Minister responsible for the Department of Culture, Tourism and Healthy Living appropriate actions under the Heritage Conservation Act; and

(j) archiving reports and collections.
2. GUIDE TO HERITAGE RESOURCE EVALUATION FOR ARCHAEOLOGICAL IMPACT ASSESSMENTS

2.1. INTRODUCTION

All Archaeological Impact Assessments (AIAs) must answer these two basic questions:

1.) Based on the assessment are there archaeological resources within the boundaries of the project area?

2.) What impact(s) will the proposed project have on these resources?

There are a number of methodological approaches which may be applicable to conducting an AIA, including:

1.) Preliminary Investigation,

2.) Field Evaluation

3.) Assessment and Determination of Impact

4.) Monitoring or Systematic Data Recovery*

The consultant/proponent must develop an appropriate study format for the AIA.

An Archaeological Field Research Permit is mandatory when conducting a Preliminary Field Investigation, an Archaeological Survey, Archaeological Monitoring, an Archaeological Research Project, any Archaeologically-oriented Testing or Excavation and an Underwater Archaeological Survey or Excavation or Archaeological Mitigation. Unlike earlier versions of this guide, an AFRP is required to perform the Preliminary Field Investigation (e.g. first site visit) and as such it is mandatory that the Preliminary Investigation be conducted and overseen by an individual qualified to hold a Permit, so that an adequate level of professional expertise can be demonstrated to have been employed (see Appendix A).

* Separate AFRP Required

In order to address legislated privacy concerns and make field notes and reports available to future researchers/consultants, Archaeological Services requires that a release be provided by the Permitted Archaeologist, signed by all staff and field crew referenced in the notes/report. This release must state that the information collected and provided by the individual can be made available to individuals for scientific research.
2.2. **PRELIMINARY INVESTIGATION (PERMIT REQUIRED FOR ANY FIELD ACTIVITIES)**

The Preliminary Investigation for heritage resources is intended to identify and assess heritage resource potential or cultural sensitivity within a proposed project area.

Preliminary Investigations with respect to large scale development projects such as pipelines, hydro-electric dams, transmission lines, etc., are particularly important because of the quantity and diversity of the resources that could be impacted.

The Preliminary Investigation **must** include the following three steps, or an explanation of why one of these steps was not pursued:

1.) Documentary Research,

2.) Contacting Local Individuals and/or Groups,

3.) Preliminary Field Investigation (AFRP Required)

For projects in which there is no field component recommended, an AFRP is not required, but the consultant is expected to detail documentary/direct consultation research in the EIA document, along with the proposed justification for not conducting a field examination.
2.2.1. Documentary Research

Documentary research is a fundamental step for assessing the heritage resource potential of a project area. It is regarded as a key requirement of the Preliminary Investigation. One objective of documentary research is to gather information that can contribute to predictions regarding the potential range of site variability, density, and distribution in an area. Another objective of documentary research is to develop a broad evaluative framework within which the significance of heritage resources can be judged.

The first step in Documentary Research for an AIA must be to obtain the latest Archaeological Predictive Model/Recorded Sites mapping for the research area from Archaeological Services. This mapping is available for a fee and will provide the most recent available information on known or suspected archaeological resources within the area. The modelling also shows the areas defined as “High”, “Medium”, and “Low”; these predicted areas must be assessed in the field as per the requirements listed in the relevant sections of these Guidelines. No applications will be processed unless accompanied by the most recent Archaeological Predictive Model/Recorded Sites mapping for the study area in question.

The Documentary Research must include a thorough review of library and archival literature and other relevant data sources. Where applicable, research must include, but need not be limited to:

(a) a check of the Heritage Branch records including the New Brunswick Archaeological Site File, the Borden Map File, the Archaeological Projects Manuscripts, the Private Collections File, The New Brunswick Plane Crash Inventory, the New Brunswick Cemeteries Database, etc., relevant to the project area;

(b) a check, where relevant, of The Canadian Inventory of Historic Buildings, the records of the Receiver of Wrecks, Archaeological Services Shipwreck Inventory, the Inventory of Wrecks of the Canadian Coast Guard, and The Lloyds Register of Ships. The Ocean Mapping Group with the University of New Brunswick also has a web-based database of high-resolution multibeam sonar compilations of sea and riverbeds in many areas around New Brunswick which may be accessed at: http://www.omg.unb.ca/omg/Projects.html for providing a preliminary assessment of submerged landforms or larger shipwreck sites;

(c) a check of legal land survey records, military archival records, and other pertinent records and inventory files found at The National Archives of Canada, The New Brunswick Provincial Archives, the Centre d'études acadiennes (Université de Moncton), historical aerial photography collections maintained by the New Brunswick Department of Natural Resources; the archives of The New Brunswick Museum, the archives of the Harriet Irving Library, etc.;
2.2.1. Documentary Research (Continued)

(d) a review of all relevant published and unpublished reports of heritage investigations or surveys in the project area, or adjacent areas; published and unpublished sources on local and regional history, Pre-Contact history, architectural history, ethnography, cultural geography, and other pertinent disciplines; paleoecological studies to assess past environmental conditions (i.e. North American Pollen Database: http://www.ncdc.noaa.gov/paleo/ftp-pollen.html); and an examination and interpretation of aerial photographs, underwater side-scan or multibeam sonar images; and sub-bottom profiling.

(e) a cursory study of available literature/maps relating to the geological, geomorphological or hydrological history of the landform(s) in question. The consultant must identify known glacial and remnant hydrological features within the study area with a reference for each of the features identified (published or personal communication). This information will aid in assessing the potential for terrestrial and submerged sites of various time periods being present within the impacted area.

The AIA Report must list all sources consulted to complete the Documentary Research.
2.2.2. Contacting Local Individuals and/or Groups

The objective of contacting local individuals and/or groups is to compile information concerning the location, distribution, and significance of reported, and in some cases, unreported heritage resources. Interviews must be designed to elicit information and spoken histories which may facilitate reconstructing or confirming ethnographic and historic patterns of settlement, land use, and subsistence. The nearest First Nations communities must be approached to seek advice regarding information about the heritage of the project area. Local organizations, historical societies, collectors and specialists having local or regional expertise in the area's history, geology, pedology, and archaeology must also be consulted. An abbreviated transcript or actual audio/video of all interviews must be kept for submission to Archaeological Services along with the Final Report.

The diversity of landscapes and geology in New Brunswick make it extremely difficult for an archaeologist to accurately interpret all landforms. It is recognized by Archaeological Services that this area of assessment is a particular specialization and as such it is expected that wherever possible a geoarchaeologist or surficial geologist must be consulted or contracted to provide professional assessments of landforms or areas under AIA review. This assessment must seek to identify landforms which in the past would have been oriented such that they would qualify under one of the current criteria for high potential (Section 2.3.1.1). A geoarchaeologist or surficial geologist must also be consulted to aid in interpreting all landforms with Pre-Contact archaeological sites which are located or assessed during the AIA.

Local perceptions and attitudes may have a significant bearing on resource management decision-making, and therefore must be reported. This is especially true when there is strong local interest and concern regarding a particular heritage resource or group of such resources. Interviews with various persons can provide the researcher with an opportunity to document public or community attitudes towards potential impacts on local heritage resources which the proposed development may have.

Any film, notes, digital photos, transcripts or audio footage of interviews must be catalogued and submitted along with other field notes at the end of the project.

The AIA Report must list all people/sources interviewed along with professional credentials where applicable.
2.2.3 Preliminary Field Examination (Permit Required)

Preliminary field examination may involve a simple drive-by, walk-over or fly-over of the project area. The researcher will acquire first-hand exposure to the area’s geographical setting and topography which will provide an appreciation of the logistical requirements for the subsequent Field Evaluation. The preliminary field examination could be combined with contacting local individuals and/or groups in the area. An AFRP is required for a preliminary field examination. This allows for limited surface collecting and recording during the preliminary assessment, but testing and excavation are not to be undertaken until the results of the Preliminary Investigation are discussed with Archaeological Services and a testing methodology is agreed upon. An updated methodology must then be submitted to Archaeological Services to initiate an amendment to the existing Permit.
2.3. FIELD EVALUATION (Permit Required)

The nature and scope of the Field Evaluation are defined in part by the results of the Preliminary Investigation. All preliminary field assessments now require a valid AFRP, which can be amended to include additional field assessment activities such as archaeological testing. Imbedded in the field evaluation are decision-making steps where, based on the results obtained in the preceding steps, a decision to proceed with the next research steps will be made. The rationale for each of these decisions must be documented. A decision not to proceed with a subsequent investigative step must be made in consultation with Archaeological Services, and the rationale for this decision must be stated in the final report.

An archaeological field evaluation involves various archaeological field activities for which a valid New Brunswick Archaeological Field Research Permit is mandatory (see Appendix A). Complete on-site recording or documentation of each identified and/or evaluated archaeological site is also a requirement pursuant to the AFRP conditions. The Permit holder must turn over to Archaeological Services all of the artifacts collected; and provide legible copies or originals of all field notes, maps, drawings, catalogues, and photographs pertaining to the description and context of sites recorded and artifacts recovered under an AFRP prior to March 31st of the following year. All material recovered must be recorded, handled and catalogued in a manner previously approved by Archaeological Services.

All archaeologists (principal investigator, supervisors, field crew, students, volunteers) holding or working under an AFRP agree to adhere to the most current Guidelines and Procedures for Conducting Professional Archaeological Assessments in New Brunswick and Standards for Conducting Archaeological Field Investigations in New Brunswick. It is understood that the techniques and methods presented here are to be adhered to unless alternate methodologies are developed for a given project in consultation with Archaeological Services.

From time to time, Heritage Branch may require more intensive documentation and/or collection of certain types of artifacts or features being impacted by a development, if it is deemed that this information will be particularly beneficial to our understanding of a particular aspect of NB History. This increased documentation will be regarded as part of the mitigation of the site.

Proponents and researchers are responsible for the conservation of unstable artifacts in a timely manner. The decision as to which conservation measures are required must be made in consultation with the Curator of Collections – Archaeological Services, as Archaeological Services is understood to be the long-term curators of these objects. In projects where there is the potential to encounter historic or Pre-Contact organics/metals, a plan of action regarding conservation must be developed for dealing with the material in direct consultation with the Project Executive – Archaeological Resources and the Curator of Collections – Archaeological Services early in the assessment phase of the project.

Archaeological Services also requires a condition report be completed for all organic and unstable artifacts (as defined during consultation with Archaeological Services) encountered in the field. These reports are included in Appendix H of these guidelines or are available from Archaeological Services. The purpose of the condition report allows for documentation of the condition of the artifact from first discovery through the conservation process (if recommended) and final deposition with Archaeological Services.
2.3. **FIELD EVALUATION** (Continued)

For inspection purposes and to permit Archaeological Services to address project specific inquiries, all those holding an AFRP are required to report when they are conducting field operations. This can be done at anytime by calling and leaving a message at 453-3014 or by email. For multi-day projects a single message relaying the dates and times the permit holder and crew will be in the field will suffice. Consultants/researchers are asked to leave a contact number where they can be reached should Archaeological Services need to contact them. If fieldwork dates change, the permit holder is expected to notify Archaeological Services by leaving a new message at the same number *before* entering the field, emails may also be sent in place of the phone message to the Project Executive – Archaeological Resources.
2.3.1. Archaeological Survey

Archaeological survey refers to the inspection of the proposed project area using established archaeological procedures for locating, identifying, and recording archaeological sites. All areas surveyed as part of an AIA should be recorded using the GPS track-log (WAAS-enabled) which must be submitted to Archaeological Services with the final report. Assessments must be undertaken when the ground is completely visible (i.e. no snow-cover).

The approach used to survey an area varies depending on its size, the terrain, or the type of archaeological site one expects to find. The visibility of archaeological resources varies with topography, vegetation cover and prior disturbance; and research to date has shown that a significant portion of New Brunswick’s archaeological resources are deeply stratified sites. All surveys typically include a surface examination of the project area. The surface examination must include, but need not be limited to, a foot traverse along predefined linear transects as defined in Section 2.3.1.1; and an examination of all sub-surface exposures and erosional faces. For linear projects, such as highways, pipelines or transmission lines, a walk-over along the entire length of the linear project must be done. The walk-over must seek to identify all areas of elevated potential and document these sites (photography, notes and coordinates). This information must be available during follow-up consultations with Archaeological Services.

Ploughing of agricultural fields prior to conducting the survey can greatly increase the chance of locating archaeological resources. Ploughing must only be used where a plough zone exists and its depth has been determined through sub-surface testing. It is important that new ploughing does not go deeper than the existing plough zone. If this method is used, the field should be weathered by at least 10 millimetres of rain before final survey is undertaken.

In certain contexts, the use of technology such as ground penetrating radar, soil resistivity meters, metal detectors and electro-magnetic induction, will be valuable survey tools, and as such must be considered by consultants and researchers where appropriate as supplemental tools to aid in delineating or identifying sites. The operator of the geophysical instrument in question must demonstrate their experience in operating said equipment by citing or presenting the results of a prior geophysical survey in the AFRP application and in the final technical report. All archaeologically-oriented geophysical surveys must be conducted under an AFRP.

All archaeological resources encountered must be reported to Archaeological Services within 2 working days as per Section 2.3.1.2; the decision as to which of these are to be formally registered must be made in consultation with Archaeological Services if not referred to in Section 1.2 of this guide.
2.3.1.1. Systematic Subsurface Testing

Shovel testing is performed to measure a site's physical parameters. It consists of an established grid of holes excavated over an area deemed to have an elevated archaeological potential to evaluate whether archaeological deposits are present.

Shovel testing is generally performed by digging small (50 cm by 50 cm) test pits. This testing can also be performed using an auger (minimum 50-60 cm diameter to closely approximate manually excavated shovel test) in certain contexts with the consent of Archaeological Services. All soils from test units or auger holes must be screened using one-quarter inch (6 mm) mesh.

The presence and/or absence of cultural material in each shovel test is recorded and plotted on a scaled sketch of the grid system. The cultural materials from each hole are collected and recorded with the appropriate grid coordinates. The stratigraphy of at least one wall of each test pit must be recorded on a Shovel Test Pit Recording Form available from Archaeological Services and included as Appendix I. Attempts to determine site stratigraphy or extent of subsurface vertical disturbance should not be made solely based on this excavation method.

Shovel testing is not effective below approximately one metre depth. Consequently, at locations where deep alluvial deposits are present, at least one in every five test pits MUST be a 1 x 1 metre square excavated to 1.2 metre depth. If alluvium extends beyond 1.2 metre depth, a shovel test must be performed at the bottom of the 1 x 1 metre square pit. If this final depth of ca. 1.5 – 2 metres does not reach the projected final depth of the development, then the manual testing must be paired with the mechanized methodology described below.

For large-scale developments in alluvium where the projected impact is in excess of 1 metre in depth (settling ponds, cranberry bogs, large building foundations, etc.) testing must be done in concert with heavy equipment. A mechanical auger is the recommended method of assessing deep alluvial deposits. The auger bit must be at least 50-60 cm in diameter in order to maintain the standard testing intervals. If a small auger is to be used, the testing interval will be modified accordingly in consultation with Archaeological Services, but the same depth must be attained. The auger machine may excavate all test pits at once, leaving the material on the surface to be screened by the archaeological assessment team, but steps must be taken to cover exposed soil to prevent erosion and so as to avoid injury to people, animals or equipment. At a minimum, one deep borehole must be excavated for every 100 metres² of assessed area. This process is aimed at providing presence/absence data, if anything of archaeological import is discovered, the footprint of the development will be modified, otherwise the impacted area of the site will be further investigated. A generalized soil profile must be noted for each bore-hole.
2.3.1.1. Systematic Subsurface Testing (Continued)

Where HIGH POTENTIAL for sites exists, systematic subsurface testing will be performed. All systematic subsurface testing strategies MUST be developed in consultation with, and approved by Archaeological Services. Shovel testing is the most common method and is performed by digging 50 cm by 50 cm test pits at predefined intervals along systematically spaced linear transects over an area. All soils from test units must be screened using one-quarter inch (6 mm) mesh. Shovel testing is the recommended method of assessing all high potential areas. Archaeological monitoring will not be conducted on areas under development which have not been assessed beforehand through some level of manual testing. Inclement weather conditions or temporarily high water may require scheduling changes for a project but these conditions will not be considered a justification for not completing an assessment.

The following parameters define what is currently characterized as High Potential Areas. These criteria will likely continue to be modified over time as new information on site distributions come to light.

As a guide, a maximum of 5 metres spacing must be used (exceptions noted below) for the area to be affected by a project that:

(a) extends within 200 metres of a known Pre-Contact archaeological site, (10 metre testing interval);

(b) extends within 100 metres of a known historic archaeological site, (10 metre testing interval);

(c) extends within 50 metres of the banks or shores of a current or former body of water (i.e., river, lake, bay, etc.) – for areas between 50-80 metres from current or former body of water see: Medium Potential.

(d) extends within 100 metres from the current or former confluence of two watercourses, the current or former head of tide or the current or former inlet/outlet of a lake;

(e) extends onto an active or former floodplain (as determined by most recent and detailed surficial geology maps or data showing alluvial deposits);

(f) extends onto a flat, terrace or intervale located within 100 metres of a river;
2.3.1.1. Systematic Subsurface Testing (Continued)

(g) extends on or cut through existing or former beaches, remnant terraces or strategic vistas (i.e. a prominent point on an otherwise undifferentiated landscape directly overlooking watercourses or river valleys);

(h) extends within 30 metres of a depression, earth or stone mound or non-agricultural rock pile.

(i) extends into an area, which based on the local geology or history, has the potential for Pre-Contact and/or early historic stone quarries (See Section 2.2.2).

(j) extends to within 30 metres of any unnamed watercourse which is shown on a 1:50,000 topographic map of the area and flows into a named watercourse or any named body of water, (if a consultant or researcher finds upon field evaluation that the watercourse should not be deemed High or Medium Potential, then they must provide the rationale for this assessment to Archaeological Services before the decision is made to not test the watercourse).

(k) meets one of the above criteria but is in a submerged setting, which will be physically impacted by the project.

Where MEDIUM POTENTIAL for sites exists, systematic subsurface testing will be performed. All systematic subsurface testing strategies MUST be developed in consultation with, and approved by Archaeological Services. Shovel testing is the most common method and is performed by digging 50 cm by 50 cm test pits at predefined intervals along systematically spaced linear transects over an area. All soils from test units must be screened using one-quarter inch (6 mm) mesh. Shovel testing is the recommended method of assessing all medium potential areas. Archaeological monitoring may be conducted in some areas under development which may be of marginal concern (but not before some degree of archaeological testing).

The following parameters define what is currently characterized as Medium Potential Areas. These criteria will likely continue to be modified over time as new information on site distributions come to light.

As a guide, a maximum of 10 metres spacing must be used (exceptions noted) for the area to be affected by a project that:

(l) extends within 80 metres of the banks or shores of a current or former (well-documented) body of water (e.g., brook, stream, river, lake, bay, inlet) – the first 50 metres are regarded as High Potential, the last 30 metres will be assessed as Medium Potential;

(m) extends onto relatively flat ground within 30 metres of a floodplain;
2.3.1.1. Systematic Subsurface Testing (Continued)

For all other locations within the project area that in the judgement of the consultant or Archaeological Services may hold potential for the presence of archaeological resources, the spacing must be a maximum of 10 metres.

Where LOW POTENTIAL for sites exists, a 100% walkover of all impacted areas (directly impacted terrain – footprints, road beds etc.) must be conducted (GPS Track Log required). This walkover should seek to confirm that no visible cultural material is present within the project area. Bedrock exposures must be examined for suitability as a possible shelter or flaked/ground tool stone source. If unsure, samples must be collected to obtain a second opinion. The consultant must also seek to identify glacial or former marine features (kame terraces, eskers, raised beaches, wave-cut terraces) not shown on maps of the area which could be conducive to human occupation.

For non-linear impacted areas measuring more than 1 hectare, Archaeological Services requires that all impacted areas be walked in a series of transects, the distance between the transects is defined by the following:

a.) for dense undergrowth (fir, alder thickets) the maximum distance permitted between transects is 10 metres.

b.) for intermittent vegetation (mature forest, sporadic vegetation) the maximum distance permitted between transects is 20 metres.

c.) for open ground (bogs, clear-cuts, fields) the maximum distance permitted between transects is 30 metres.

The above walkover interval figures are based on experimental values established in the field by Archaeological Services’ staff.

The results of Documentary Research and Contacting Local Individuals and/or Groups will be important considerations in the assessment of otherwise Low Potential areas.
2.3.1.2. When a Site is Found

An Archaeological survey includes the complete documentation (as defined by this guide) of each identified site. All archaeological sites in New Brunswick are to be recorded on the Maritime Archaeological Resource Inventory (MARI) form available from Archaeological Services or online at: (http://www.gnb.ca/0131/archaeology/AIA.asp). Instructions for completing MARI forms are also available and must be consulted. If features are present at the site, these are recorded on a separate Feature Record form (also available from Archaeological Services). If shipwrecks or abandoned vessels are encountered during an assessment or survey, they are to be recorded on a MARI form as well as the supplemental Submerged Resources Recording Form available in Appendix E or from Archaeological Services directly.

It is expected that Archaeological Services will be notified within 2 business days (by contacting the Sites Database Manager by phone at 453-2782, or by email) of a site being found. As part of this notification Archaeological Services requires that the first, second and third pages of the draft MARI form must be submitted along with a 1:50,000 map showing the site location within 5 days of a site being located. A Borden Number will be assigned to the site by Archaeological Services at the earliest convenience.

At a minimum, the use of a WAAS-Enabled Global Positioning System (GPS) is required to accurately determine all site coordinates. Archaeological Services requires coordinates to be submitted in NAD83 or WGS84 format (indicate which datum used) and in Degrees/Minutes/Seconds format (Longitude/Latitude). Wherever possible new sites must be delineated with multiple coordinates or a GPS track-log (submitted to Archaeological Services).

Once completed, the original MARI Forms and ancillary forms (Feature Record and/or Submerged Resources form) must be forwarded to Archaeological Services. Archaeological Services will then assign a Borden identification code. Borden identification codes are only assigned by Archaeological Services staff. A temporary site referencing system is available for use in the field prior to receiving Borden numbers, and is outlined in the MARI Form instructions. Consultants can use the Temporary Site Number to reference archaeological sites in the AIA Report if a Borden code has not yet been issued.

Consultants/researchers may suggest names for historic period archaeological sites they record. However, only Archaeological Services staff will assign permanent names to archaeological sites. No names should be suggested/assigned to an archaeological site with a First Nations component.

Archaeologists are expected to submit updated MARI forms or append new information to existing MARI forms after site visits or whenever additional work or artifacts are collected from a known site.
2.3.1.3. Surface Collecting

Unless a site is exceptionally large an attempt should be made to collect a major portion of the surface materials present, as an intensive, controlled collection of surface materials will allow for a more accurate assessment of the age and size of the site. Delineating the extent of a large surface scatter of artifacts can be performed before collection with a handheld GPS. If a site is very large, intensive surface collecting must be reserved for full scale data recovery if mitigation is required. Cataloguing and recording of the surface-collected items is done on a New Brunswick Archaeological Specimen Record form using the established format, or on other forms if these meet with the approval of Archaeological Services. The analysis of the collected material constitutes one step in determining the significance of a site.
2.3.1.4. Site Evaluative Testing and Delineation

The objective of evaluative testing once a site has been found is to gain a sufficient impression of the physical parameters, content, and structure of an archaeological site so that a reliable assessment of integrity and significance can be made. Evaluative test excavation also permits accurate cost estimates for full-scale excavation should this mitigative measure be deemed necessary.

Evaluative testing must be performed at sites containing subsurface cultural deposits within the area to be impacted. Evaluative testing must not be interpreted as a full-scale data recovery or a mitigative operation since it is not intended to alleviate adverse impacts or resolve conflicts with a proposed project. The appropriate number of units to excavate for evaluation purposes will vary depending on the particular characteristics of a site, especially its horizontal and vertical dimensions and structural complexity. Decisions as to the scope and extent of evaluative testing must be made in consultation with Archaeological Services.

Identifying and carefully collecting samples for faunal analysis, paleobotanical analysis, radiocarbon or dendrochronological dating must be a major goal of all controlled test excavations. Methodology for identifying and collecting samples for the above analytical components must be developed early in project planning and disseminated to all staff in the field. Consultants carrying out Archaeological Impact Assessments must budget for analytical techniques in their project cost assessment and in their Project Proposals/Permit Applications. It is the responsibility of the proponent to cover all costs associated with analysis and dating of samples as part of a site assessment. The decision as to which samples should be analyzed or submitted for radiometric or dendrochronological dating must be made in consultation with Archaeological Services. Section 3.2.1.3 provides guidance for the level of analysis typically required under an AIA, should full-scale mitigation be required. Similar budgetary considerations should be allotted for the assessment phase of the project. If no analytical procedures are required then the proponent is absolved of these costs.

In addition, consultants should be familiar with paleobotanical analysis, stable isotope analysis, protein residue, pollen analysis, remnant magnetism, thermoluminescence dating and other standard analytical techniques which might aid in assessing an impacted site, or addressing a specific concern or question about the site.

Two procedures are employed in evaluative testing:

1.) Shovel Testing

2.) Controlled Test Excavation.

* Because of the importance of C-14 Dating to excavated assemblages, no researcher/site visitor shall smoke/eat, drink non-water substances within 30 metres of a site with open test pits or excavation units. Smoking/eating is also not permitted on areas of a site where there is potential for future research. Archaeological Services recommends that if smoking/eating or drinking anything other than water is to occur on an active site, it be carried out off-site in a common area with butts/garbage being disposed of in a common receptacle. This smoking/eating area must be included on site maps for future reference. For the same reasons, smoking/eating or drinking non-water drinks must not occur on any sites visited or located during an archaeological survey. In instances where it is not possible to stay 30 metres away from a site, then it is expected that the field crew will keep the maximum distance possible between them and any open units during these activities.
2.3.1.4.1. Shovel Testing

Shovel testing is performed to measure a site's physical parameters. It consists of an established grid of holes excavated to evaluate the horizontal extent of a site's subsurface archaeological deposits.

Shovel testing is generally performed by digging small (50 cm by 50 cm) test pits. This testing can also be performed using an auger (minimum 50-60 cm diameter to closely approximate manually excavated shovel test) in certain contexts with the consent of Archaeological Services. All soils from test units or auger holes must be screened using one-quarter inch (6 mm) mesh.

The presence and/or absence of cultural material in each shovel test is recorded and plotted on a scaled sketch of the grid system. The cultural materials from each hole are collected and recorded with the appropriate grid coordinates. The stratigraphy of at least one wall of each test pit must be recorded on a Shovel Test Pit Recording Form available from Archaeological Services and included here (Appendix I). Attempts to determine site stratigraphy or extent of subsurface vertical disturbance must not be made solely based on this excavation method.

Shovel testing is not effective below approximately one metre depth. Consequently, at locations where deep alluvial deposits are present, at least one in every five test pits MUST be a 1 x 1 metre square excavated to 1.2 metre depth. If alluvium extends beyond 1.2 metre depth, a shovel test must be performed at the bottom of the 1 x 1 metre square pit. If this final depth of ca. 1.5 – 2 m does not reach the projected final depth of the development, then the manual testing must be paired with the mechanized methodology described below.

All testing will be carried out to archaeological bottom (i.e. glacial till, bedrock, marine clay or the water-table). If a rock or large root is encountered which bars further progress in a given test pit, the test pit must be repeated 1 m away from the target area (in the most convenient direction). If the second pit also encounters an obstacle barring further progress, the next test pit in the series may be excavated. All test pits must be fully documented (photos, notes and sketch of one profile for each test pit).

Archaeological field notes (journal form) must be taken by all permitted archaeologists and must be turned over along with other documentation at the end of Permit period.

All archaeological test pits/units/features and/or artifact photographs must include a scale (size of scale indicated in the notes or on the scale itself). Wherever possible attempts should be made to evenly shade units in direct sunlight (using a tarp or second individual) to ensure photographs can be viewed and interpreted later.

Copies of permits, site maps, field notes and other documentation must be available for inspection if requested by a Ministerial Inspector. For more information on what must be presented if requested during a regulatory inspection, see Appendix J.
2.3.1.4.2. Controlled Test Excavation

Controlled test excavation of a portion of an archaeological site is performed by excavating pits that are at least one by one metre in size. **A minimum of one controlled test unit must be excavated for every 100 metres$^2$ of site area as has been determined by shovel testing.** Recording of the data recovered must be done on forms approved by Archaeological Services.

Controlled test excavation must involve:

(a) controlled excavation by stratigraphic or arbitrary levels;

(b) mapping, photographing, measuring, and recording horizontal and vertical provenience of all artifacts or other relevant materials observed within each excavation unit; and

(c) drawing and photographing stratigraphy and features exposed in the walls of an excavation unit.

For an excavation exceeding 1.2 metres in depth, consultants and researchers are referred to the safety guidelines contained in *Part XIII of Regulation 91-191* under the New Brunswick *Occupational Health and Safety Act*.

Natural and artificial exposures such as stream-banks and road cuts may be used to supplement excavation units.

The subsequent detailed analysis and interpretation of the recovered materials and the context in which they were found forms the basis for determining site significance.
2.3.2. Underwater Archaeological Survey

Underwater archaeological survey refers to the process by which underwater archaeological sites are located, identified, and recorded. Underwater archaeological sites can refer to submerged shipwrecks, inundated archaeological sites of either Pre-Contact or post-contact origin, or anything else of cultural significance that is located underwater.

A valid Archaeological Field Research Permit is required to conduct an underwater archaeological survey. The approach to be used for physically locating underwater heritage resources will vary depending on the water's depth, currents, temperature, visibility, bottom type, and vegetation. The size of the area to be affected, and the type of resources one expects to find are equally important considerations. Any developments which have the potential to impact on underwater cultural resources will require the consultant to ensure that these resources are identified and the information is presented to Archaeological Services in order to jointly develop a strategy to proceed.

Underwater archaeology is a specialized and potentially cost-intensive pursuit, however, developments in remote sensing (side-scan sonar, multibeam sonar, sub-bottom profiling) allow for a large area to be surveyed quickly and at a reasonable expense. It also permits non-diving archaeologists to review the data for submerged landforms or cultural material. Potential targets can then be investigated by an archaeologist or a commercial diver with a video camera. All survey data must be interpreted in consultation with Archaeological Services. Commercial divers swimming video transects for other purposes (biological studies) may be used to supplement the underwater archaeology (identifying bottom composition), but due to the lack of coverage, these will not be accepted as a complete assessment. In no circumstance will an undocumented (video) swim-over of an area be accepted as an assessment of an area as all material must ultimately be reviewed by the permitted project archaeologist. For a list of the minimum required scanning resolutions for side-scan sonar surveys, see Appendix F. For a rationale for requiring side-scan versus other forms of underwater remote sensing see: (Brissette et al. 1999).

The names, qualifications and affiliations of all sub-consultants or commercial divers contracted to conduct underwater surveys or reconnaissance must be included in the final report on the project.

All underwater archaeological sites found have to be recorded using Maritime Archaeological Resource Inventory (MARI) forms and ancillary Feature Record form. Shipwrecks must also be recorded using the supplemental New Brunswick Submerged Archaeological Resources Registration Form.

Reference

2.3.3. Built Heritage Resources Inventory (Consult Directly with Historic Places Section)

For any assessment regarding Built Heritage please contact Heritage Branch (Historic Places) regarding guidelines and directions at 453-2324. The results of the Built Heritage Inventory are not to be included in the Archaeological Impact Assessment report.
3. IMPACT ASSESSMENT AND MITIGATION

3.1. IMPACT

Impact on a heritage resource may be broadly defined as the net change between the integrity of a resource with the proposed development and without. This change may be either beneficial or adverse. All impacts must be addressed in the AIA study.
3.1.1. Beneficial Impact

Beneficial impacts occur when a proposed development actively protects, preserves, or enhances a heritage resource. For example, development may have a beneficial effect by removing or lessening natural site erosion. In other cases, the public or economic significance of a heritage resource may be enhanced by actions which facilitate non-destructive public use of a site.
3.1.2. Adverse Impact

Adverse impacts occur under conditions that include:

(a) destruction or alteration of all or part of a heritage resource;
(b) isolation of a site from its natural setting;
(c) introduction of physical, chemical, visual, audible, or atmospheric elements that are out-of-character with the heritage resource and its setting.

Adverse effects can be more specifically defined as direct or indirect impacts.

**Direct impacts** are the immediately demonstrable effects of a project which can be attributed to particular land modifying actions. They are directly caused by, and occur at the same time and location as the project. The immediate consequence of excavation during construction is an example of a direct impact.

**Indirect impacts** result from activities other than actual project actions. Nevertheless, they are clearly induced by a project and would not occur without it. Indirect impacts normally occur at the same time as the development, but not necessarily in the immediate project area. For example, the accelerated erosion of an archaeological site resulting from alterations in normal flow patterns downstream from a project site would be an indirect impact. Increased vandalism of heritage resources, resulting from improved or newly introduced access, is also considered an indirect impact.

Indirect impacts can also be related to other factors, such as socioeconomic changes in an area. Changes in land use or population density such as increased urban, industrial, agricultural, or recreational development are sources of potential adverse impact on heritage resources. Over time, these impacts can have greater adverse effect than the more rapid direct changes. Indirect impacts however, are much more difficult to assess and quantify than those impacts of a direct nature.
3.1.3. Level of Effects

Once all project-related impacts are identified, it is necessary to determine their individual and/or combined level of effect on heritage resources in the AIA study. The assessment is intended to determine the extent or degree to which future opportunities for scientific research, preservation, or public appreciation are foreclosed or otherwise adversely affected by a proposed project. In doing so, the assessment provides a reasonable indication of the relative significance or level of an impact. Normally, the assessment must follow site evaluation since it is important to know what heritage values may be adversely affected.

The assessment may include careful consideration of the level-of-effect, with the goal of answering the question: “What impact(s) will the proposed project have on these resources?”

Archaeological Services prefers a text-based assessment rather than matrices or tables.
3.2. MITIGATION (Permit Required)

Mitigation measures pertain to situations where unavoidable conflicts between heritage resources and a proposed development are identified.

Mitigation refers to measures that reduce adverse effects of project construction, operation, and maintenance on heritage resource values. Actions designed to prevent or avoid adverse impacts are also regarded as mitigation. In principle, mitigation measures are preferable to compensation.

The costs of implementing mitigation measures to counter the negative effects are part of the cost of the project. The proponent is responsible for all impact management costs.
3.2.1. Mitigation (Requires a Separate AFRP)

Various options for mitigation are available. Deciding on which mitigation measure(s) must be implemented in any specific case depends on:

(a) the significance of the heritage resource;

(b) the nature of the impact;

(c) the relative effectiveness of the mitigation measure;

(d) the research and resource management priorities and needs;

(e) the project objectives, conditions and constraints.

Since our main aim is the effective preservation of our heritage resources, some degree of surveillance is usually required during implementation to document the results of mitigation efforts.
3.2.1.1. Project Design Changes

An important means of mitigation of adverse project impacts on heritage resources is to institute changes in the design or location of a project, or to alter the level of development intensity. Avoidance is always the preferred mitigation measure as it ensures complete in situ protection of the heritage resource.

Impacts can be avoided by relocating project facilities such as construction camps, stockpiles and excavation spoils, or by re-aligning linear developments such as oil and gas pipelines, transmission lines, railways, and roads. Fences or other suitable barriers must be an added precaution where heritage resources are located close to a construction area.

Reducing the effects of project actions on heritage resources can be accomplished by decreasing the amount of development or by using construction practices which minimize ground disturbance. Examples include restricting the use of heavy machinery on an archaeological site, clearing the land when the ground is frozen, or using smaller and fewer project buildings or only those without subsurface foundations.
3.2.1.2. Site Protection

Heritage preservation can also be achieved through measures that prevent or forestall site destruction. Site protection measures could include protective covering, stabilization, and physical barriers including suitable buffer zone. The feasibility and suitability of implementing a protective measure will require consultation with Heritage Branch and all stakeholders.

Vandalism, perhaps an indirect consequence of a project, may be precipitated by disclosing a site location or by facilitating public access. Site vandalism is primarily an educational problem. One approach is to conduct information programs.

As per the *Heritage Conservation Act* (2010) a Permit to Alter is required prior to any alteration of an archaeological site in New Brunswick. An application form is available online at: [https://www.pwx1.snb.ca/snb7001/e/1000/CSS-FOL-SNB-22-0053E.pdf](https://www.pwx1.snb.ca/snb7001/e/1000/CSS-FOL-SNB-22-0053E.pdf) or in Appendix K. A Permit to Alter may be substituted by an Archaeological Field Research Permit submitted by a qualified professional archaeologist. A Site Alteration Permit may be required for certain site protection measures.
3.2.1.3. Systematic Data Recovery

The scientific and systematic investigation and recovery of data from archaeological sites represents a third, but less desirable, mitigation option. The recovery process itself is destructive, foreclosing any future opportunities for scientific research, preservation or public appreciation. Proper data recovery and analysis is also very time-consuming and expensive. Moreover, recovery costs are often difficult to estimate accurately. Systematic data recovery must be considered only as a last resort when both avoidance and site protection measures are impractical.

Where data recovery is the only viable mitigation option, research proposals must be submitted to Archaeological Services for approval. Proper permits and Permits such as the New Brunswick Archaeological Field Research Permit must be secured prior to commencement. All systematic data recovery operations require a valid project specific AFRP, separate from the Permit issued for the AIA.

Systematic data recovery of archaeological sites may involve:

(a) a complete or partial systematic surface collection, excavation, or both;

(b) a comparative analysis and interpretation of content and contextual information;

(c) production of an investigative report.

Proper conservation of material must be arranged beforehand, and a conservation plan must be developed with the Curator of Collections and Project Executive – Archaeological Services.

At no point should block lifting of any component of a site be used to speed up excavation or data recovery. Block lifting must only be used in specific contexts (e.g. to collect a portion or all of a feature or a cluster of artifacts) for more careful study in the lab. Bulk sampling of excavated sediments is encouraged, but a strategy must be formulated in consultation with Archaeological Services.

No attempt should be made at excavating through frozen archaeological matrix. If thawing of the target matrix cannot be performed then recovery must cease until such time as the matrices thaw either due to changing weather conditions or a successful strategy is found to thaw the sediments.

The validity of post-excision analytical procedures require that artifacts be properly handled from first discovery through the analytical process. In many cases it is best not to clean artifacts or organics to be tested, and if absolutely necessary to do so with a previously unused synthetic brush without water.
3.2.1.3. Systematic Data Recovery (Continued)

To allow for a cursory assessment of ecofacts, and permit more detailed analysis of a site by researchers at a later date, consultants **must** collect soil samples from hearths, wells, burials, privies, living floors and middens. The samples should represent at minimum 10% of the total feature area for the above noted features. For instances in which the feature is very large (more than 2 metres²) and 10% of the total feature would represent too large a soil volume to sample, a sampling strategy should be developed in consultation with Archaeological Services. For a mitigation project, all soils from these features **must** be bagged and floated by the excavator or a qualified paleobotanical expert (apart from the 10% sampled). If the feature is more than 1 metre², then a sampling strategy should be employed whereby at least 1 metre² of soil from the feature is floated.

The smallest size of mesh used in flotation must be a minimum of 425 microns, (althoughnylons are an accepted proxy). Care must be taken to avoid cross-contamination of samples during flotation and drying. Unless the consultant is qualified to analyze the ecofacts, they are encouraged to obtain the services of an individual trained or experienced in paleobotanical analysis. Consultants should include a consideration for paleobotanical analysis in all Project Proposals and Permit Applications where there is the potential to encounter Pre-Contact or pre-1783 features (like those noted above).

Any faunal remains recovered from a pre-1783 feature must also be examined by a qualified zooarchaeologist or archaeologist with demonstrated experience in faunal analysis. A statistically valid sample of these remains must be reported.

Archaeological Services will accept the analysis of a statistically valid sample of all subsistence-related material for all features encountered during mitigation, when 100% analysis is not possible or impractical. Any unanalysed sediment, faunal remains or float should be catalogued and submitted to Archaeological Services at the end of the project.
3.2.1.3. Systematic Data Recovery (Continued)

In Project Proposals and Archaeological Field Research Permit applications, proponents are obliged to budget 5% of the total cost of the Archaeological Impact Assessment for analysis, dating and conservation of all recovered materials (minimum $1000). The decision as to which analytical techniques, conservation measures or dating methods will be required must be made in consultation with Archaeological Services. The cost of cataloguing, cleaning and describing artifacts collected during this project are not included in this amount. In the event that Archaeological Services, in consultation with the proponent, determines that no further analytical measures are warranted for the material collected as part of the AIA, then the proponent is absolved of these costs.

As mitigation will necessitate the development of a distinctive methodology, separate from that employed during the Archaeological Impact Assessment phase, all mitigation must be conducted under a separate AFRP, applied for once the decision to mitigate has been made in consultation with Archaeological Services.

For Pre-Contact archaeological sites, any formal tools or utilized/retouched debitage must be recovered using unused powder-free gloves along with associated soil matrix. It is very important that the tools not be handled in any other manner to permit the use of emerging analytical techniques sensitive to minute levels of contamination. Cleaning and sample extraction for these artifacts can be arranged with Archaeological Services.
3.3. **ARCHAEOLOGICAL MONITORING (Permit Required)**

Archaeological Monitoring refers to the process of having a qualified professional archaeologist or archaeological technician carefully observe the removal of any potential archaeological matrix (usually by mechanical means) in an area deemed by the consultant and Archaeological Services to have an elevated potential for archaeological resources, but which remains unidentified or undefined despite attempts to identify these resources through traditional archaeological methods (see sections 2.2 and 2.3).

Ideally, all heritage resources should be identified during the Field Evaluation phase. Since most archaeological sites lie hidden from view underground, attaining 100% level of confidence is rarely achievable, especially when dealing with large projects. Monitoring provides, and must only be considered, as a last resort for identifying archaeological sites and mitigating the impacts a project will have on these resources.

Monitoring is also a recommended mitigation measure where a heritage resource, although intentionally avoided by construction or other activity, is situated close (within 20 metres) to the area of impact. This is especially true if there is uncertainty concerning the real extent of the site (an attempt must have been made to delineate the existing site), the effectiveness of a site protection measure, or the magnitude, severity, or duration of an impact.

**In all cases where a monitoring program is implemented, contingency plans or protocols must be prepared to deal with the eventuality of accidental discovery of archaeological resources or human remains.** These protocols can be drafted in point form or in a flow chart format and would spell out the course of actions and the responsibilities of all parties involved. Examples of protocols for accidental discovery of archaeological resources and human remains are contained in Appendices B and C respectively.

Like all other aspects of professional archaeology in New Brunswick, Archaeological Monitoring requires a valid AFRP. AFRPs for Archaeological Monitoring are a separate class of Permit which have a distinct set of requirements. The permitting requirements for Archaeological Monitoring can be found in Appendix A. The proponent is responsible for the cost of monitoring.

While monitoring, an archaeologist is expected to identify and record certain features. These include:

(a) Generalized soil profile with major soil divisions and noteworthy aspects of the profile depicted.

(b) Document any historic period structures/layers (photo, notes, dimensions), and notify Archaeological Services if the monitor suspects that the object/feature/artifact may fall under one of the criteria described in Section 1.2.

(c) Samples must be taken of any objects (organics and artifacts) or sediment which are unrecognized by the monitor to be assessed by a qualified individual.

(d) Photography and notes which characterize soil and artifacts encountered.
3.3. ARCHAEOLOGICAL MONITORING (Continued)

(e) If anything falling under the criteria for significance (Section 1.2) is encountered, work must cease and the findings must be discussed with Archaeological Services.

(f) Any complete historic period artifacts (i.e. ceramics/glass) with dates or labels must be collected/catalogued and submitted to Archaeological Services. These artifacts will be used to expand the reference collection maintained by Archaeological Services for the use of students, researchers and consultants.

At no point should on-lookers or construction crew be allowed to take any artifacts (i.e. bottles, ceramics, etc.). This behaviour devalues the resource in the eyes of non-archaeologists and promotes the illicit trade of excavated cultural property.

Archaeological Monitoring must be performed by an individual who has been issued an AFRP specifically for monitoring the project in question.
4. REPORTING REQUIREMENTS TO ARCHAEOLOGICAL SERVICES

Appendix D contains the accepted format for AIA reports. Letter reports are acceptable, but must address all of the topics addressed in Appendix D. All reports must be submitted to Archaeological Services as both digital and hard-copy.

Appendix D contains the acceptable format for the AIA Report. For AIA conducted as a component of an EIA study, it is acceptable that the AIA findings are incorporated in the EIA report. However, consultants must ensure that the information required and outlined in Appendix D is included in the EIA report. Regardless of the vehicle of submission, Archaeological Services requires the report ultimately be submitted on its own (hard-copy and digital copy) as a partial fulfillment of the AFRP requirements.

Permit holders are reminded that regardless of the nature of the Permit, originals or legible copies of all field notes, transcripts/audio/video of all interviews conducted during the project, any raw data (side-scan, video footage, photographs, artifact catalogues etc.) and artifacts are to be turned over to Archaeological Services along with the final report, unless an alternate arrangement is made with Archaeological Services for the short-term curation of collections for research and study.
APPENDIX A: ARCHAEOLOGICAL FIELD RESEARCH PERMIT GUIDELINES

The development of criteria by the Minister for an Archaeological Field Research Permit under the authority of Section 13(1) of the Heritage Conservation Act is in keeping with its responsibility to safeguard our diminishing archaeological resources and to ensure that any exploitation of these resources by the archaeological community is of the highest standards. In addition, the Archaeological Field Research Permit (AFRP) will ensure that the information recovered from archaeological sites will become a permanent part of our heritage and that the archaeological materials themselves will be available for future generations. These archaeological materials are taken to include artifacts and any field notes, maps, video, diagrams, catalogues, and photographs that describe the context from which the artifacts were removed.

An AFRP will be required for each separate project that the applicant wishes to undertake; no blanket AFRP will be issued. A project is defined as an individual piece of archaeological research designed to learn something about the past. The final decision on what constitutes a project or several projects will be at the discretion of the Minister responsible for New Brunswick Department of Culture, Tourism and Healthy Living. Several AFRPs, however, may be held concurrently. A clear distinction will be made between those archaeological research projects undertaken for the purpose of better understanding our heritage, and those undertaken as part of an environmental/heritage impact study.

An AFRP application template is included at the end of this Appendix.
1. Minimum Professional Qualifications of the Applicant

The professional qualifications of the applicant are the most important consideration given the intrusive nature of archaeological inquiry. As a result the professional qualifications listed here will be strictly assessed and enforced. As a minimum, the applicant must possess the following:

1. Minimum of an MA in Archaeology or an MA in Anthropological Archaeology, or have held a solo AFRP in New Brunswick before February 2004 and possess a minimum of a BA with a specialty in Archaeology/Anthropology and five years of experience conducting fieldwork in New Brunswick. As of March 31, 2013, all applicants will have a minimum of an MA in Anthropological Archaeology or Archaeology or be a Registered Professional Archaeologist (RPA). As of March 31, 2014, all Permit applicants must be a Registered Professional Archaeologist (RPA). Archaeological Services recognizes other graduate degrees from accredited universities or colleges provided the applicant can demonstrate that the program was relevant, research-oriented and involved the production of a substantial thesis or dissertation as a requirement for completion of the program.

   -and-

2. At least 2 years experience in cultural resource management or fieldwork-oriented archaeological research, including two months minimum supervisory experience.

   -and-

3. At least 6 months experience participating in Archaeological Fieldwork in New Brunswick.

   -and-

4. Compliance with all previous AFRP Permit requirements and Permit/Permit requirements of other Jurisdictions.

   -and-

5. Specific experience in the type of project the applicant is applying for a permit for (i.e. shell-midden, historic site, underwater archaeology, site in an alluvial setting etc.). If the applicant cannot demonstrate experience in an area for which he/she is applying for a Permit, the applicant must include a letter from someone with this experience who has agreed to provide oversight of the applicant’s project. This person agrees to accept responsibility for the methodology with the applicant and must therefore be intimately involved in developing the methodology and reviewing the results in consultation with Archaeological Services.

First Time Applicants

For first-time applicants, or applicants not meeting the above requirements it is expected that you will gain the experience or qualifications required prior to applying for a Permit.

Applicants falling into this category must submit proof that they meet the above qualifications i.e. a copy of their degree and completed thesis or dissertation (if not already in Archaeological Services reference collection).
1. Minimum Qualifications of the Applicant (Continued)

Applicants must provide a recent copy of their CV listing all relevant experience along with at least one recent academic, corporate and governmental (if coming from another jurisdiction – this must be someone who handles licensing or permitting) individual who will be contacted to attest to the applicant’s experience and that the applicant is in good professional standing (if from a different jurisdiction) and the applicant’s suitability for the AFRP for which she/he is applying.

Overall Comments

Recipients of AFRPs are expected to be present for all field activities. If a situation arises in which the applicant is not available to be on site, then an alternate temporary supervisor (permittable) may be appointed in consultation with Archaeological Services.

The applicant will ultimately be responsible for the content and quality of all steps of the AIA or research project. If an applicant has two or more AFRPs concurrently it is expected that fieldwork will be scheduled at different times, unless the sites are located within a 30 minute commute of one another. In these cases the applicant must split the day between each of the sites and have an approved supervisor on each site for when the applicant is on the other site.

For AIAs no application will be approved with more than one applicant. Multiple AFRPs will not be issued for an AIA under separate Permit-holders. One Permitted individual alone must be responsible for conducting and supervising all field activities under an AIA. The single exception will be Archaeological Monitoring, whereby multiple qualified individuals may share monitoring duties on a single project, but must do so under separate Monitoring Permits. No individual will undertake field activities unless they are a Permit-holder or are under the direct supervision of the Permit-holder (or a temporary supervisor approved by Archaeological Services).

Archaeological Monitoring Permit

Individuals seeking to obtain a Permit for archaeological monitoring must meet the following professional qualifications:

(a) Meets the qualifications of the standard AFRP;

-or-

(b) Minimum BA in Anthropological Archaeology/Archaeology with an archaeological field school and 3 years experience (at least 1 year in the region) with participation in archaeological excavations.
2. Assessment of the Application

All archaeological consultants and researchers are expected to demonstrate on every new application for an AFRP that they meet the minimum qualification requirements, and that they have access to the resources necessary to bring the AIA study or research project to its desired or expected conclusion. The Minister may refuse to grant an AFRP where, in the opinion of the Minister, the applicant’s research design, resources, credentials and/or experience do not match the complexity of the project for which the AFRP is sought.

The Minister may also refuse to grant an AFRP if the applicant has failed to meet such terms and conditions as the Minister has specified on a previously held Permit.
3. Conditions

Conditions will be attached to the Permit. These normally deal with reporting requirements, deadlines and custodial care of artifacts and project related records. It is also a condition of all Permits that the final report and field notes will become public information 1 year after the deadline for submissions (i.e. March 31st of the following year). All radiocarbon dates run as part of an AFRP will also be submitted to Archaeological Services with the final report. If a radiocarbon date is included in a document pending publication, then an arrangement can be made with Archaeological Services to withhold the radiocarbon date until the material in question is published. Copyright will remain with the author, but the information contained within the report will be available to all researchers and consultants. Access to the public will be restricted where reports contain personal information or sensitive information about site locations.

All consultants/researchers applying for an AFRP agree that all reports, field notes, and audio visual data submitted as part of an AFRP may be made available digitally to researchers, consultants and where deemed appropriate, the public.

The publishing rights to a body of research collected under an AFRP shall rest with the Permit holder for a period of 5 years from the deadline of the final report. After this period, the information will be deemed public and all proprietary rights to raw data collected under the AFRP will be waived.
4. Reporting Required under an AFRP

4.1 The Final Report (Hard Copy and Digital Copy [i.e. Word or PDF format] required)

This is the final report for the AFRP; it is due on March 31 of the year following the field research (i.e. at the expiration of the AFRP). It must include the following:

i) A discussion of the methods and procedures followed in data collection, and a description of the field studies undertaken.

ii) Detailed description of all heritage resource sites on Maritime Archaeological Resource Inventory (MARI) forms provided by Archaeological Services.

iii) All sites will be referenced by appropriate archaeological site designation code (Borden) as issued by Archaeological Services.

iv) All cultural materials relevant to the evaluation of site significance will be described, and illustrations of diagnostic characteristics will be provided where necessary.

v) All site contexts, including features, important stratification, samples recovered, etc. will be described.

The above-listed final report requirements are general and apply to all types of AFRPs. Please refer to Appendix D for proper final report format for an AFRP obtained to conduct an AIA.

Legible copies or originals of all field notes, survey data (terrestrial and aquatic), interview transcripts/audio/video, photographs and artifacts are to be submitted along with the Final Report.

In order to address legislated privacy concerns and make field notes and reports available to future researchers/consultants, Archaeological Services requires that a release be provided by the Permitted Archaeologist, signed by all staff and field crew referenced in the notes/report. This release must state that the information collected and provided by the individual can be made available to individuals for scientific research.
5. Disposition of Artifacts

All archaeological objects collected under permit must be transferred to Archaeological Services at the end of the permit period with a complete digital database (FileMaker Pro, Excel, etc.) and paper catalogue following the format of the prescribed Archaeological Specimen form (Appendix I). It is the responsibility of the applicant to properly handle, care for and curate collected artifacts during the period between collection and transfer to Archaeological Services. Conservation issues must be addressed by the applicant prior to the artifact transfer (conservation or restoration). A condition report should be filled out for every unstable artifact (metal, faunal, organic, etc.) at time of collection and prior to transfer.

For projects where there is the potential to encounter historic or Pre-Contact organics/metals, direct consultation with the Curator of Collections – Archaeological Services is required.

As a matter of professional practice it is expected that all New Brunswick artifacts (anything archaeological collected from a location which would be considered an archaeological site under Section 1.2) collected by or in the possession of a professional archaeologist seeking to apply for an AFRP in the province will be deposited with Archaeological Services or another approved New Brunswick institution along with any supporting information. Family heirlooms (something inherited from an ancestor, friend or relative) are not included in this requirement, but they must be documented as a private collection with Archaeological Services.

Archaeological Services also requests that any private collections and/or resources encountered by a professional archaeologist while under an AFRP be reported for documentary purposes. The private collectors will be contacted by Archaeological Services to ask if they would permit the documentation of their collection for research purposes.

Archaeological Services does not consider human remains to be artifacts. In the event that human remains are encountered, proponents/consultants/researchers are asked to refer to Appendix C: “Sample Protocol for Accidental Discovery of Human Remains.” A report, summarizing the results of any analysis conducted on the human remains should be submitted to Archaeological Services as soon as it is completed. All photographs, notes, etc. relating to the context in which the remains were recovered must be submitted along with the Final Report.
ARCHAEOLOGICAL FIELD RESEARCH PERMIT APPLICATION TEMPLATE
(ARCHAEOLOGICAL IMPACT ASSESSMENT PHASE)
(Attach a copy of Applicant’s curriculum vitae and Thesis or Dissertation if First-Time Applicant)

NAME (Degree(s), Professional Registration(s)):

ADDRESS:

OCCUPATION:

EMPLOYER:

PROJECT TITLE:

PROJECT TYPE: (Impact Study or Monitoring)

SUMMARY OF PROJECT:
   Name of Proponent:
   Description of the development project
   - Nature of land disturbances in relation to sites
   - Scheduling
   - Size of area to be disturbed
   - Name(s) of Landowner(s) (if less than 10 properties affected)

PREDICTIVE MODELLING FOR THE PROJECT AREA (Obtained from Archaeological Services)

LOCATION OF PROJECT:

PLANNED FIELDWORK START/END:

BACKGROUND RESEARCH ON STUDY AREA:

AIA ASSESSMENT AND FIELDWORK PROPOSAL:
   a) Scope and objectives of the proposed assessment
   b) Work already completed or in progress (should be purely non-field assessment at this point)

METHODOLOGY
   - Proposed sampling strategy and field methodology
   - Anticipated size of field crew
   - Name of person(s) who will supervise in the Applicant’s short-term absence (attach curriculum vitae of each person who will supervise)
   - Name of conservator or conservation facility (attach minutes of consultation with Archaeological Services regarding conservation/collection strategy).
   - Name of facility and personnel available for post-field analysis (Attach qualifications of individuals conducting this analysis).

BUDGET BREAKDOWN (Internal Use For Permit Assessment Only, No Public Disclosure):
   a) Percentage/Amount of Budget Allocated for Background Study
   b) Percentage/Amount of Budget Allocated for Field Assessment/Testing
   c) Percentage/Amount of Budget Allocated for Dating/Conservation of Material Recovered During Assessment Phase
   d) Percentage/Amount of Budget Allocated to Processing and Analysis of Material Recovered During Assessment Phase

_________________________________________________________            ___________________________  
SIGNATURE OF APPLICANT                                             DATE

_________________________________________________________            ___________________________  
SIGNATURE OF REPRESENTATIVE FOR PROPONENT                                          DATE
(Must be senior in the proponent’s company, or responsible for project)
(This individual will be included in all project-related correspondence)

* ATTACH CONTACT INFORMATION FOR REPRESENTATIVE OF PROPONENT

- 53 -
ARCHEOLOGICAL FIELD RESEARCH PERMIT APPLICATION TEMPLATE
(ARCHEOLOGICAL MITIGATION PHASE)

(Attach a copy of Applicant’s curriculum vitae and Thesis or Dissertation if First-Time Applicant)

NAME (Degree(s), Professional Registration(s)):

ADDRESS:

OCCUPATION:

EMPLOYER:

PROJECT TITLE:

PROJECT TYPE: (Monitoring or Mitigative Archaeological Excavation)

SUMMARY OF PROJECT:

Name of Proponent:
- Description of the development project
- Nature of land disturbances in relation to sites
- Scheduling
- Size of area to be disturbed
- Name(s) of Landowner(s) (if less than 10 properties affected)

LOCATION OF PROJECT:

PREDICTIVE MODELLING FOR THE PROJECT AREA (Provided by Archaeological Services)

PLANNED FIELDWORK START/END:

ADDITIONAL BACKGROUND INFORMATION (IF AVAILABLE):

AIA ASSESSMENT AND FIELDWORK PROPOSAL:

a) Scope and objectives of the proposed assessment
b) Work already completed or in progress (should be purely non-field assessment at this point)

METHODOLOGY

- Proposed sampling strategy and field methodology
- Anticipated size of field crew
- Name of person(s) who will supervise in the Applicant’s short-term absence (attach curriculum vitae of each person who will supervise)
- Name of conservator or conservation facility (attach minutes of consultation with Archaeological Services regarding conservation/collection strategy) (For excavation and monitoring).
- Name of facility and personnel available for post-field analysis (Attach qualifications of individuals conducting this analysis).

BUDGET BREAKDOWN (Internal Use For Permit Assessment Only, No Public Disclosure):

a) Percentage/Amount of Budget Allocated for Monitoring (if applicable)
b) Percentage/Amount of Budget Allocated for Archaeological Excavation (if applicable)
c) Percentage/Amount of Budget Allocated for Dating/Conservation of Material Recovered During Monitoring or Mitigation
d) Percentage/Amount of Budget Allocated to Processing and Analysis of Material Recovered During Monitoring or Mitigation

_________________________________________  __________________________________________
SIGNATURE OF APPLICANT                        DATE

_________________________________________  __________________________________________
SIGNATURE OF REPRESENTATIVE FOR PROPONENT     DATE

(Must be senior in the proponent’s company, or responsible for project)
(This individual will be included in all project-related correspondence)

* ATTACH CONTACT INFORMATION FOR REPRESENTATIVE OF PROPONENT

- 54 -
APPENDIX B: SAMPLE PROTOCOL FOR ACCIDENTAL DISCOVERY OF ARCHAEOLOGICAL RESOURCES FOR PROJECTS UNDER AN EIA*

This is an example of the protocol to follow in situations where archaeological resources are detected during construction or Archaeological Monitoring. These procedures can be tailored to meet the specific requirements of a project with the approval of Archaeological Services, Heritage Branch, Department of Culture, Tourism and Healthy Living.

Applicable Legislation:
- New Brunswick Heritage Conservation Act

Agencies Involved:
- Archaeological Services, Heritage Branch, Department of Culture, Tourism and Healthy Living

Protocol to Follow in the Event of Discovery of Archaeological Resources OTHER than Human Remains:

- Identification
  All construction personnel are responsible for reporting any unusual materials unearthed during construction activities to the Construction Supervisor.

- Stop Work
  In those situations where the find is believed to be an archaeological resource, the Construction Supervisor will immediately stop work in the vicinity of the find and notify her/his immediate supervisor. As per the Heritage Conservation Act the find must be reported to Archaeological Services.

- Investigation
  The archaeologist permitted for the project will immediately investigate the find and if it is determined to be an archaeological artifact or feature must consult with Archaeological Services at (506) 453-3014.

- Mitigation
  An appropriate mitigation strategy will be developed and implemented in consultation with Archaeological Services. Input may be sought from First Nation representatives, typically from the closest First Nation community.

  No person, other than one authorized by the Minister responsible for the Department of Culture, Tourism and Healthy Living may move, destroy, damage, deface, obliterate, alter, add to, mark or in any other way interfere with an archaeological resource.

Resuming Work:
  Work can only resume in the vicinity of the find when authorized by the Environmental Manager and/or the Construction Manager once clearance has been received from Archaeological Services.

* Adapted from the protocol prepared by Washburn & Gillis Associates Ltd. for the Fredericton to Moncton Trans-Canada Highway Project, 1998.
APPENDIX C: SAMPLE PROTOCOL FOR ACCIDENTAL DISCOVERY OF HUMAN REMAINS*

This is an example of the protocol to follow for handling situations where human remains are detected during construction. These procedures can be tailored to meet the specific requirements of a project with the approval of Archaeological Services, Heritage Branch, Department of Culture, Tourism and Healthy Living.

Human remains will basically fall into the following four categories:

• Legal evidence
  All human remains that are discovered must be initially treated as potential forensic evidence.

• Cemeteries registered under the New Brunswick Cemetery Companies Act

• Historic Cemeteries and Family plots
  These include human remains buried in currently neglected and overgrown early twentieth century cemeteries and family plots. Living relatives or descendants may exist.

• Archaeological remains
  Archaeological human remains include Pre-Contact human remains and historic period remains that were interred as a result of religious/social burial practices. Pre-Contact human remains may occur as a single burial or as multiple burials such as unrecorded First Nations burial sites. Historic period archaeological human remains typically occur in historic cemeteries and long forgotten (pre-twentieth century) family plots.

Section 182(b) of the Criminal Code of Canada states: “Every one who improperly or indecently interferes with or offers any indignity to a dead human body or human remains, whether buried or not, is guilty of an indictable offence and liable to imprisonment for a term not exceeding five years.”

Section 11 of the Heritage Conservation Act prohibits the alteration of any burial ground without an Archaeological Site Alteration Permit.

Agencies Involved:
  Depending on the circumstances surrounding the discovery of human remains, several agencies may be involved and include:

• Lead police agency (RCMP or municipal police force)
  The lead police agency will decide what course of action to initiate.

• Regional Coroner’s Office
  The Coroner’s Office may become involved in criminal investigations and in determining the cause of death.

• Chief Medical Officer’s Office
  The interest of the Chief Medical Officer relates to health issues.

• Archaeological Services, Heritage Branch, Department of Culture, Tourism and Healthy Living.
  If it is determined that the human remains are not associated with a forensic matter or recent mishap, Archaeological Services will be consulted to determine the proper course of action. Pre-Contact burials are an extremely sensitive issue and will require the involvement of First Nations representatives, typically from the closest First Nations community.
Protocol to Follow in the Event of Discovery of Human Remains, or Evidence of Burials:

• Halt all Activities

Halt all activities in the vicinity (minimum 10 metre x 10 metre area) of the human remains at once. Until determined otherwise, the remains must be treated as evidence in a forensic investigation. If the remains are found in the bucket of heavy equipment, the bucket must not be emptied as physical evidence may be destroyed. When remains are found during monitoring/testing, the potential for additional burials must be acknowledged and future monitoring/testing strategies must reflect this elevated potential.

• Secure the Area

The area must immediately be designated as Out of Bounds to all personnel and the public. Depending on the weather and other conditions, the human remains discovered must be provided with non-intrusive protection, such as covering with a cloth or canvas tarp (non-plastic preferred). All personnel and traffic must exit the site by one common non-intrusive path. Curiosity seekers must be kept off the site.

• Inform the Lead Police Agency (RCMP or municipal police force)

The nearest detachment of the lead police agency must be informed immediately. For reasons of site security and sensitivity, it is recommended not to use a cell phone. Upon verbal description of the situation the lead police agency may dispense with a site visit to view the site/remains. Typically, the lead police agency is on the scene in less than 24 hours. The lead police agency will make a decision as to whether the Coroner and/or Archaeological Services must be involved.

The lead police agency specialists may be called to determine if the situation is associated with a crime or an archaeological feature. If it is concluded to be related to a crime, the lead police agency specialist will inform the Coroner, collect data, and remove the remains.

If the lead police agency determines the situation not to be associated with a criminal matter, then Archaeological Services will be consulted at (506) 453-3014 to determine the proper course of action in consultation with stakeholders.

If Archaeological Services determines that the human remains are not associated with an archaeological feature but still have to be removed, certificates of removal are required from both the Coroner’s Office and the Chief Medical Officer of New Brunswick.

Resuming Work:

Work can only resume in the vicinity of the discovery once clearance has been received from all of the authorities and agencies concerned.

* Adapted from the protocol prepared by Washburn & Gillis Associates Ltd. for the Fredericton to Moncton Trans-Canada Highway Project, 1998.
APPENDIX D: AIA REPORT FORMAT

ARCHAEOLOGICAL IMPACT ASSESSMENT REPORT

Introduction
The introduction must include:

(a) the proponent's name and general nature of the project,
(b) the objective and scope of detailed impact assessment,
(c) the persons conducting the assessment and the kinds of professional expertise involved,
(d) the New Brunswick Archaeological Field Research Permit number under which the research activities were authorized, if applicable,
(e) the dates and duration of the study,
(f) the organizational format of the report.
(g) all resources (e.g., archival, journals) consulted in preparation for and during the study (these sources must be itemized).

Proposed Project
This section must contain a brief discussion of the proposed project. Engineering plans, photos, and other illustrative materials, must be used to discuss:

(a) boundaries of the project area including locations of all ancillary activities and facilities,
(b) the projected extent and level of land alteration or disturbance,
(c) project scheduling.

Project Area
This section must contain a brief description of the project area as identified for the purpose of this AIA study. Emphasis should be placed on relating the project area to the natural and cultural environments. Description of the project area must include:

(a) biophysical features such as physiography, drainage, fauna, and flora;
(b) a discussion of past and present ecological conditions that bear upon human settlement and land use;
(c) past and present land use practices;
(d) the condition of the land, particularly the extent of alteration from agricultural activity, forest harvesting, or other intensive land uses; and
(e) weather conditions and patterns, particularly as they relate to or affect the conduct and scheduling of fieldwork (e.g. water-levels, ground freezing, frost crystal formation in exposed archaeological matrix)
APPENDIX D: AIA REPORT FORMAT (Continued)

Methodology
The research plan and the precise methods and equipment used to implement the plan must be outlined. The proposed strategy and methodology for each step of the preliminary investigation and resource inventory must be described in detail.

Findings
This section will present the detailed results of the AIA study including: Preliminary Investigation, Resource Inventory, Resource Evaluation, and Impact Identification and Assessment.

Preliminary Investigation
This section must include the results of the Documentary Research, Contacting Local Individuals and/or Groups, and Preliminary Field Examination conducted.

Resource Inventory
This section must contain the results of Field Evaluation (i.e., the results of the Archaeological Survey, the Underwater Archaeological Survey). It must include where applicable:

(a) maps showing areas surveyed, and indicating the level of survey intensity,
(b) maps showing all recorded heritage resources in relation to the proposed project,
(c) the number of heritage resources recorded and the total anticipated in the project area,
(d) a brief narrative or tabular description of each site including present condition and use, distinguishing features, and its general relationship to the regional environment and cultural setting,
(e) a description of the evaluative testing procedures used at each site, including sampling strategy, unit dimensions, test frequency, recording, mapping, and data recovery,
(f) maps showing locations of evaluative testing units for each site,
(g) a qualitative and quantitative summary of all cultural material or features observed or collected,
APPENDIX D: AIA REPORT FORMAT (Continued)

(h) an interpretation of the heritage resource inventory including observed spatial patterning of sites in the project area, temporal, functional, and contextual characteristics, and comparisons with other local or regional resources,

(i) an explanation of negative results such as where and why were heritage resources absent in areas suspected of having moderate to high resource potential (evidence of disturbance, age of landform etc.),

(j) any further predictions concerning potential resource variability, density, distribution and importance in the project area.

Resource Significance and Integrity Evaluation

The relative significance and integrity of each evaluated site must be presented here. The discussion must include where applicable:

(a) specific criteria used to measure relative site significance and integrity;
(b) site-specific assessments in tabular form,
(c) a map illustrating heritage resources of high, medium, and low significance in relation to the proposed project.

Impact Identification and Assessment

This section must contain a comprehensive statement of impacts and a thorough assessment of their level of effect. An impact matrix relating development actions to recorded heritage resources is recommended. The impact assessment may include:

(a) a map of the project delineating areas of direct, indirect, and potential impact and showing all recorded heritage resources,
(b) impacts which have occurred to date during exploration, engineering, and other feasibility studies,
(c) the level of effect of project impacts on heritage values,
(d) areas of uncertainty regarding the impact assessment,
(e) a schedule relating the timing of impacts to development phases,
(f) impacts and the rate of resource depletion expected without the proposed project.
APPENDIX D: AIA REPORT FORMAT (Continued)

Conclusion and Recommendations

The proponent's recommendations for managing unavoidable adverse impacts on heritage resources are presented here. Mitigation measures must be stated for each impacted site. Recommendations must be presented in sufficient detail to allow Archaeological Services and Historic Places Section (where relevant) to comment on their appropriateness. This section must also include where applicable:

(a) a reference to those heritage resources which can be avoided by project design modifications,
(b) a discussion of the process used to select an impact management action from among various possible alternative actions for any specific site,
(c) justification for not recommending site-specific action,
(d) recommendations or a tentative schedule for conducting surveillance, monitoring, or both during project implementation and operation.

References Cited

A comprehensive list of all literary sources cited in the report such as publications, documents and records must be presented in this section. The reference list must also include names and dates of all personal communications (i.e., all sources consulted during the Preliminary Investigation).

Appendices

A variety of items must be appended to the report including where applicable:

(a) a copy of the consultant's terms of reference for detailed impact assessment study,
(b) appropriate tables, charts, graphs, maps, photos, site forms, and other supportive materials,
(c) field notes, if referred to in text (A standalone copy must also be presented for inclusion in the relevant APM).

Release Form

Release forms signed by the permitted archaeologist and all individuals involved in the project or named in the report or supporting documentation.

* Proponents and Consultants are reminded to submit all reports as a hard copy and digitally (as a Word document or PDF).
Archaeological Monitoring Reports

All AFRP reports for monitoring must address the above topics. If negative results are found during monitoring this must be reported. If an area is assessed as disturbed, the justification (with supporting evidence) of this assessment must be provided.

Archaeological Services also requires a sketch-plan showing an exposed profile which ideally shows all major features, soil layers or evidence of disturbance. The site map must show the area monitored along with the location of the recorded profile.
APPENDIX E: SUMBERGED RESOURCES RECORDING FORM.

NEW BRUNSWICK
SUBMERGED HISTORIC ARCHAEOLOGICAL RESOURCE(S)
REGISTRATION FORM

<table>
<thead>
<tr>
<th>Borden Number:</th>
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</thead>
<tbody>
<tr>
<td>*Land/Water Body Name:</td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th>*Date:</th>
<th>*Compiler:</th>
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<tbody>
<tr>
<td>Time Received: (To Be Completed By AS Staff):</td>
<td></td>
</tr>
<tr>
<td>Date Received: (To Be Completed By AS Staff):</td>
<td></td>
</tr>
</tbody>
</table>

SUBMERGED RESOURCE(S) SITE DESIGNATION

| Submerged Resource(s) Name: |
| Field/ Temporary ID: |
| *Site Type |

SUBMERGED RESOURCE(S) SITE LOCATION

| *1:50,000 NTSC Map Number: |
| *UTM: Zone | Easting | Northing |
| Latitude: | Longitude: | Elevation (ft/m): |
| Other Maps: | Type: |

| *Location Description (General to Specific): |

| Approach (For Relocation Purposes): |

*Mandatory Information for Official Borden Number designation. Revised 05/2012
**SUBMERGED RESOURCE(S) SITE DESCRIPTION**

*Narrative Description:*

*Submerged Resource(s) Site Dimensions*
- *Length:* M *Direction: x *Width:* M *Direction:*
- *Method of Horizontal Measurement:*
- *Depth:* M *Method of Vertical Measurement:*

**Water Resources (Type):**  
**Distance:**  
**Permanence:**

**Water Depth:**

**Water Conditions:**

**SUBMERGED RESOURCE(S) DESCRIPTION**

*Narrative Description:*

*Describe the archaeological resource sufficiently to identify its temporal association and the integrity of its physical remains. Any historic information you have on the resource and the circumstances of its loss will assist Archaeological Services in making its evaluation.*

*Method of Collection(s):*

*Location of Resource (Temporary/Permanent):*

**SUBMERGED RESOURCE(S) SITE AGE**

*Dates:*  
*Dating Method:*

*Mandatory information for Official Borden Number designation.  
Revised 05/2012*
SUBMERGED RESOURCE(S) SITE RECORDERS

| *Date Recorded: | *Affiliation Phone Number: |
| *Name: | *Affiliation E-mail: |
| *Affiliation: | Revisited By: |
| *Affiliation Address: | |

Date Revisited: 

SUBMERGED RESOURCE(S) SITE HISTORY

Previous Work *(Done on Submerged Resource(s)):

LAND OWNERSHIP

*Owner:

*Address:

RESEARCH REFERENCES

*Items/Documents Used In Research *(Specify):

*Mandatory Information for Official Borden Number designation.  Revised 05/2012
NTSC MAP

*Map Name:
*Series:
*Date:

Insert 1:50,000 NTSC Map

HIGHLIGHTING SUBMERGED RESOURCE(S)
LOCATION AND BOUNDARIES

CANADIAN HYDROGRAPHIC SURVEY CHART

*Chart Description:
Attach a copy of the relevant Canadian Hydrographic Survey Chart indicating the location of the resource(s).

*INSERT CHART

*Mandatory information for Official Borden Number designation. Revised 05/2012
<table>
<thead>
<tr>
<th>PHOTOGRAPH(S)</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Photograph Description(s):</td>
</tr>
</tbody>
</table>

*INSERT PHOTOGRAPH(S)*

*Mandatory information for Official Borden Number designation.*  
Revised 05/2012
**CONTINUATION/ ADDENDUM SHEET**

*Label all additional pages by corresponding headings.*

*(e.g. Submerged Resource(s) Site Description, Submerged Resource(s) Site History, Research References, etc.)*

*Mandatory information for Official Borden Number designation.*

Revised 05/2012
APPENDIX F: MINIMUM SIDE-SCAN SONAR STANDARDS.

Low frequency scanning is recommended for the initial assessment of the project area; however the minimum accepted scanning frequency permitted is 300 kHz. For any objects identified during this initial scanning phase which may be of cultural origin on the bottom, a detailed pass with a frequency of at least 700 kHz is required.

Archaeological Services requires 100% coverage of all impacted underwater areas within the project area. This data must be provided to Archaeological Services in both print (large scale maps) and geo-referenced digital files (all major file formats accepted).
APPENDIX G: MARITIME ARCHAEOLOGICAL INVENTORY RECORDING GUIDE AND FORM.
MARITIME ARCHAEOLOGICAL RESOURCE INVENTORY GUIDE

This guide to the Maritime Archaeological Resource Inventory is designed to help you report your site visit in a manner consistent with other researchers. A report form should be filled out on each distinct site visit, unless your work involves a number of repeat visits over a relatively short time span. In that case, one form should suffice. The purpose of the form is to provide a series of “snapshots” that will help managers and researchers recognize changes to the site over time. Please ensure that you fill out the box on the top right corner of the first page, as this will help us track the site reports chronologically. Do not fill in the Borden Number unless you have been provided the number by the managing agency.

To help us with our work, please fill in the “Date Form Filled Out” box at the top right corner of page 1. Also, indicate the province in which the site falls by circling the appropriate abbreviation.

A. SITE NAME, LOCATION AND ACCESS

A1 SUGGESTED SITE NAME
   Give a suggested site name. Chose a name that is specific to the site or the general geographic location (e.g., Fairfield Church, Grass Lake 2, Eel Weir Camp).

A2 TEMPORARY SITE NUMBER
   Temporary site identification number you assigned in the field when a Borden designation is not available. It is usually expressed as follows using part of your permit or license number. Eg. 1997NS14-01

A3 PERMIT/LICENSE NUMBER
   Provide the permit or license number under which the site was investigated.

A4 PERMIT/LICENSE TYPE
   Where appropriate, name the permit or license type under which your work was conducted.

A5 WHEN DID YOU GATHER THE INFORMATION FOR THIS REPORT?
   In the format DD/MM/YYYY, give the start and end dates for your site investigation.

A6 ADDITIONAL INFORMATION AND/OR RESOURCES
   Check one or more of the boxes to indicate the existence of additional information and whether or not it was submitted with the form. If additional comments are required, describe them if Section E.

A7 ACTIVITY
   Check one or more of the boxes to indicate the level of activity that you carried out under your permit. “Monitoring” is when the site is visited to assess the impacts caused by natural or cultural agents. “Surveillance” is when the site is visited to ensure that the conditions imposed or mitigation approved as a result of an EIA study are being followed.

A8 COUNTY
   Give the name of the county(s) in which the site is found.

A9 LOCATION DESCRIPTION
   Provide a brief geographic description of the location of the site. Use compass headings. DO NOT use “...on the left bank of the river.”

Eg. The site is located on the east bank of the Saint John River, approximately 1 km north of the TCH bridge at Hartland. It is immediately south of the mouth of Nopaddle Creek.
A10 LOCATION ACCESS
Provide a brief description of how the site can be accessed from the nearest numbered highway. Where possible, use both road numbers and local road/street names to describe how to reach the site. Remember that this information will be needed to guide future researchers to the area of the site.

Eg. Take Highway 102 south to Halifax to where it runs onto Bayers Road at 1st traffic lights on Romans Avenue. Continue on Bayers approx. 1 km to Oxford Street, turn right and go approx. 1.5 km to Jubilee Road. Turn left on Jubilee and go 1.1 km to end at Summer St. Turn left, enter parking lot on right. Leave your vehicle in the lot, and walk south to the walkway beside the large brick building. Follow the path to the left & up the stairs, at top turn right and continue up stairs to doors. Enter doors, go about 20 metres to ramp on left, go up ramp, turn right at end and follow hallway to the corner. The site is in the corner on the right.

A11 SITE LOCATION MAP NUMBER
Indicate the map number and attach a photocopied section of the NTS 1:50000 map sheet showing the location of the site described by this form. Do not enlarge the map using a photocopier, as this distorts the map and changes the scale. A map of this scale does not allow precise placement of locations. This map should show the location and general boundaries of the Site Access Map, which is required in A12.

A12 SITE ACCESS MAP
Indicate the map number and attach a photocopied section of a 1:10000 map sheet showing your access route as described in A10. This map should show the location of the Site Plan, as required in part F.

A13 SITE POSITION
Provide the precise location of the site using Latitude/Longitude (degrees, minutes, decimal minutes) or UTM grid coordinates (Grid Zone designation, 100 000 M. Square identification, and 6 digit grid reference). NAD83 or WGS84 Datum for Longitude and Latitude (indicate datum).

Eg. Latitude 44 ° 38’ . 23.45” N Longitude 63 ° 35’ . 11.13” W

or

Zone 20TKE E 434 N 536

A14 METHOD(S) OF DETERMINING LOCATION
Check one or more of the boxes, and/or provide a brief comment. If the Site Position was calculated from a Map and/or Aerial Photo, indicate the scale.

Eg. A 1:10000 aerial photograph shows the location of the site, which is to small or difficult to pinpoint on a map. Because positional data is not contained on the aerial photograph, the exact location must be noted on the map before positional data can be determined. In this case, the map scale and aerial photo scale would be indicated, and a statement in “Other” would tell how the positional information was determined --“Aerial photo to map”.

A15 SITE ELEVATION
Provide the elevation range of the site in metres above sea level.

A16 METHOD(S) OF DETERMINING ELEVATION
Check one or more of the boxes, and/or provide a brief comment. If the Site Elevation was calculated from a Map and/or Aerial Photo, indicate the scale.

Eg. A 1:10000 aerial photograph shows the location of the site. Because elevational data is not contained on the aerial photograph, the exact location must be noted on the map before the data can be determined. In this case, the map scale and aerial photo scale would be indicated, and a statement in “Other” would tell how the elevational information was determined --“Aerial
photo to map”.

A17 OTHER MAP(S)
List the numbers and series of any other maps, which show the area of the site.

A18 AERIAL PHOTO NUMBER(S)
List the numbers and series of any other aerial photographs, which show the area of the site.

A19 PROPERTY IDENTIFIER NUMBER(S)
If known, list the Property Identifier Number(s) for the properties on which the land is situated.

A20 PROPERTY TYPE
If known, check one or more of the boxes

A21 NEAREST FIRST NATION COMMUNITY
Give the name of the nearest First Nation community, and indicate whether or not they have been contacted in the course of your work (if applicable)

B. SITE ENVIRONMENT

B1 NATURAL REGION #
If available, give the number assigned to the Natural Region in which the site is located. In Nova Scotia use the Natural History of Nova Scotia Theme Region Number for the Provincial Region. Use the Canadian Wildlife Service’s Biophysical Regions of Canada System for the Federal Natural Region number.

B2 HABITAT DESCRIPTION
Check one or more of the boxes, and provide a brief comment for more site-specific habitat information under Additional Habitat Description.

Eg. This area shows significant disturbance, with paved areas, buildings, extensive lawns, flowerbeds and planted non-native tree species. The trees range in height from about 8 to 20 metres.

C. SITE DESCRIPTION

C1 PERIOD
Check one or more (for multi-component sites) of the boxes. Add a short note to describe the basis of your assessment (artifacts, structures, oral history, etc.)

C2 TRADITION
Check one or more (for multi-component sites) of the boxes. If none of the boxes are appropriate, use “Other”.

C3 SITE FUNCTION
Check one or more of the boxes.

C4 GENERAL SITE DESCRIPTION
Give a brief description of the site, building on the information provided in the previous sections.

C5 NUMBER OF FEATURES OBSERVED
Give the number of features observed during this visit. Fill out and attach a separate FEATURE RECORD form for each feature.
C6 Observed Site Dimensions
Give the length and width of the site in metres, based upon features observed during this visit.

C7 Estimated Site Dimensions
Give the estimated length and width of the site in metres.

C8 Distance to Water
If a watercourse is in the immediate vicinity, provide the distance between the water and the nearest part of the site in metres.

C9 Orientation to Water
Check one of the boxes.

C10 Destructive Agents
Check one or more of the boxes, identifying whether the threat is an existing one, or one that may be anticipated in the future. If necessary, use “Other”. Also, give a brief comment on how you arrived at your assessment.

D. Reporter Information

D1 Reporter’s Name
Provide your full name, with middle initial.

D2 Mailing Address
Provide your current mailing address.

D3 Postal Code

D4 Phone (H)

D5 Phone (W)

D6 Fax

D7 E-Mail

D8 Affiliation

D9 How did you find the site?
Check one or more of the boxes, and/or provide a brief comment.

D10 Contact’s Name
If available, provide the full name, with middle initial, of the individual who brought the site to your attention.

D11 Mailing Address
If available, provide the current mailing address of the individual who brought the site to your attention.

D12 Postal Code

D13 Phone (H)

D14 Phone (W)
E. REFERENCES FOR ADDITIONAL INFORMATION AND/OR RESOURCES AVAILABLE
   Use this space to list references and location for each instance a box was checked to identify the
   existence of additional information and/or resources in A6.

F. SITE PLAN
   Beginning at a reference point shown on the Site Access Map (A12), sketch a plan of the site.
   Indicate the approximate scale and the direction of north.

G. REMARKS
   Use this area to add additional remarks. If there was insufficient space to provide information under
   one of the earlier subject headings, indicate the heading number and continue the comments in this
   space.
MARITIME ARCHAEOLOGICAL RESOURCE INVENTORY

Borden No.: __________
(TO BE ISSUED BY DESIGNATED PROVINCIAL AUTHORITY)

A. SITE NAME, LOCATION AND ACCESS

A1 SUGGESTED SITE NAME ____________________________

A2 TEMPORARY SITE NUMBER ____________________________

A3 PERMIT/LICENSE NUMBER ____________________________

A4 PERMIT/LICENSE TYPE ____________________________

A5 WHEN DID YOU GATHER THE INFORMATION FOR THIS REPORT?

_____ / / __________ through _____ / / _____

A6 ADDITIONAL INFORMATION AND/OR RESOURCES:
(References can be listed in Section E.)

<table>
<thead>
<tr>
<th>Video Footage</th>
<th>Maps / Plans</th>
<th>Still Photos</th>
<th>Drawings</th>
<th>Archival Information</th>
<th>Artifacts</th>
<th>Articles</th>
<th>Contacts</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Submitted</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Available</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A7 ACTIVITY

a) Surface collecting ☐

b) Surface recording ☐

c) Site Revisit ☐

d) Subsurface testing ☐

e) Extensive excavation ☐

f) Monitoring ☐

g) Surveillance ☐

h) Other: ____________________________ ☐

A8 COUNTY ____________________________

A9 LOCATION DESCRIPTION

__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________

Version: July 29, 2004 NB

Date Form Filled Out (YYYY/MM/DD)

/ /
A10 LOCATION ACCESS


A11 SITE LOCATION MAP NUMBER (Attach photocopied section of NTS 1:50000 scale map and indicate the site location. Make sure that the map number is indicated, eg. 21H16).

A12 SITE ACCESS MAP NUMBER (Attach photocopied section of a larger scale map and show your access route to the site location. Make sure that the map number and scale is indicated) Scale:

A13 SITE POSITION
UTM (eg. 20TK 1447 5362) Zone ______________ E __________ N
Latitude ___________° __________’ __________’ N Longitude __________° __________’ __________’ W

A14 METHOD(S) OF DETERMINING LOCATION and/or position.
Projection __________________________ Datum __________________________

GPS ☐ Total Station ☐
Differential GPS ☐ Estimate from description ☐
Map (scale =1: _____________) ☐
Aerial Photo (scale =1: _____________) ☐ Other (please specify) ☐

A15 SITE ELEVATION
Elevation _______________ m. (A.S.L.) to _______________ m. (A.S.L.)

A16 METHOD(S) OF DETERMINING ELEVATION
Projection __________________________ Datum __________________________

GPS ☐ Total Station ☐
Differential GPS ☐ Geodetic Marker ( # _______________ ) ☐
Map (scale =1: _____________) ☐ Estimate from description ☐
Aerial Photo (scale =1: _____________) ☐
Other (please specify)

A17 OTHER MAP(S)

A18 AERIAL PHOTO NUMBER(S)

A19 PROPERTY IDENTIFIER NUMBER(S)

A20 PROPERTY TYPE Private ☐ Federal Crown ☐ Provincial Crown ☐ First Nation Land ☐ Unknown ☐

A21 NEAREST FIRST NATION COMMUNITY (if applicable)

Contacted ? Yes ☐ No ☐

B. SITE ENVIRONMENT

B1 NATURAL REGION # ___________________________ NATURAL REGION # ___________________________

Version: July 29, 2004 NB
### B2 HABITAT DESCRIPTION (please check those appropriate)

<table>
<thead>
<tr>
<th>(Provincial)</th>
<th>(Federal)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Offshore</strong></td>
<td>Freshwater</td>
</tr>
<tr>
<td>1.1 Open Water</td>
<td>3.1 Open-Water Lotic (Rivers and Streams)</td>
</tr>
<tr>
<td>1.2 Benthic</td>
<td>3.2 Open-Water Lentic (Lakes and Ponds)</td>
</tr>
<tr>
<td><strong>Coastal</strong></td>
<td>3.3 Bottom Lotic (Rivers and Streams)</td>
</tr>
<tr>
<td>2.1 Rocky Shore</td>
<td>3.4 Bottom Lentic (Lakes and Ponds)</td>
</tr>
<tr>
<td>2.2 Boulder/Cobble Shore</td>
<td>3.5 Water's Edge Lotic (Rivers and Streams)</td>
</tr>
<tr>
<td>2.3 Sandy Shore</td>
<td>3.6 Water's Edge Lentic (Lakes and Ponds)</td>
</tr>
<tr>
<td>2.4 Mud Flat</td>
<td>Freshwater Wetland</td>
</tr>
<tr>
<td>2.5 Tidal Marsh</td>
<td>4.1 Bog</td>
</tr>
<tr>
<td>2.6 Dune System</td>
<td>4.2 Fen</td>
</tr>
<tr>
<td><strong>Terrestrial Unforested</strong></td>
<td>4.3 Swamp</td>
</tr>
<tr>
<td>5.1 Barren</td>
<td>4.4 Freshwater Marsh (Inland)</td>
</tr>
<tr>
<td>5.2 Oldfield</td>
<td>6.1 Hardwood Forest</td>
</tr>
<tr>
<td>5.3 Cliff and Bank</td>
<td>6.2 Softwood Forest</td>
</tr>
<tr>
<td>5.4 Talus Slope</td>
<td>6.3 Mixedwood Forest</td>
</tr>
<tr>
<td>5.5 Cave</td>
<td></td>
</tr>
</tbody>
</table>

Additional Habitat Description


### C. SITE DESCRIPTION

#### C1 PERIOD

<table>
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<tr>
<th>Period</th>
<th>(Provincial)</th>
<th>(Federal)</th>
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<tbody>
<tr>
<td>Palaeo-Indian (&gt; 7000 BC)</td>
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<td>Contact (1500 - 1694)</td>
</tr>
<tr>
<td>Early/Middle Archaic (7000 BC - 4000 BC)</td>
<td></td>
<td>Colonial (1604 - 1867)</td>
</tr>
<tr>
<td>Late Archaic (4000BC - 1000 BC)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maritime Woodland (1000 BC - 1500 AD)</td>
<td></td>
<td>Post-Confederation (1867 +)</td>
</tr>
</tbody>
</table>

Basis of identification


### C2 TRADITION

<table>
<thead>
<tr>
<th>Tradition</th>
<th>(Provincial)</th>
<th>(Federal)</th>
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<tbody>
<tr>
<td>Palaeo-Indian</td>
<td></td>
<td>Jamaican Maroon</td>
</tr>
<tr>
<td>Early Maritime Archaic</td>
<td></td>
<td>Planter</td>
</tr>
<tr>
<td>Laurentian Archaic</td>
<td></td>
<td>Loyalist</td>
</tr>
<tr>
<td>Shield Archaic</td>
<td></td>
<td>Black Loyalist</td>
</tr>
<tr>
<td>Late Maritime Archaic</td>
<td></td>
<td>German</td>
</tr>
<tr>
<td>Susquehanna</td>
<td></td>
<td>Irish</td>
</tr>
<tr>
<td>Early Woodland</td>
<td></td>
<td>Unspecified</td>
</tr>
<tr>
<td>Other</td>
<td></td>
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</tr>
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</table>

### C3 SITE FUNCTION

<table>
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<tr>
<th>Function</th>
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<tbody>
<tr>
<td>Aeroplane</td>
<td></td>
<td>Religious/Sacred</td>
</tr>
<tr>
<td>Agricultural</td>
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<td>Residence</td>
</tr>
<tr>
<td>Commercial</td>
<td></td>
<td>Settlement</td>
</tr>
<tr>
<td>Construction</td>
<td></td>
<td>Transportation</td>
</tr>
<tr>
<td>Extractive</td>
<td></td>
<td>Underdetermined</td>
</tr>
<tr>
<td>Fishing</td>
<td></td>
<td>Vessel</td>
</tr>
<tr>
<td>Forestry</td>
<td></td>
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</tr>
</tbody>
</table>

Version: July 29, 2004 NB
C4 GENERAL SITE DESCRIPTION


C5 NUMBER OF FEATURES OBSERVED (Fill out and attach a separate FEATURE RECORD form for each feature)

C6 OBSERVED SITE DIMENSIONS

<table>
<thead>
<tr>
<th>Length</th>
<th>m</th>
<th>Width</th>
<th>m</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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</tbody>
</table>

C7 ESTIMATED SITE DIMENSIONS

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<th>m</th>
<th>Width</th>
<th>m</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

C8 DISTANCE TO WATER

<table>
<thead>
<tr>
<th>m</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

C9 ORIENTATION TO WATER

| Perpendicular | ☐ | Parallel | ☐ | Not applicable | ☐ |

C10 DESTRUCTIVE AGENTS

<table>
<thead>
<tr>
<th>a</th>
<th>Natural</th>
<th>High</th>
<th>Medium</th>
<th>Low</th>
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<tbody>
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<td></td>
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<td>Future</td>
<td>Existing</td>
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<tr>
<td></td>
<td>Marine Erosion</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td></td>
<td>Lacustrine Erosion</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td></td>
<td>Vegetation Growth</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td></td>
<td>Bioturbation</td>
<td>☐</td>
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<table>
<thead>
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<th>Medium</th>
<th>Low</th>
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<td>Existing</td>
<td>Future</td>
<td>Existing</td>
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<td>Construction</td>
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<td>Transportation</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td></td>
<td>Forestry</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td></td>
<td>Mining/Quarrying</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td></td>
<td>Dam/reservoir</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td></td>
<td>Vandalism</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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<td>Site Visitation</td>
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<td>Other</td>
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<td>☐</td>
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</tbody>
</table>

BASIS OF ASSESSMENT


D. REPORTER INFORMATION

D1 REPORTER’S NAME
(Your name)


D2 MAILING ADDRESS


D3 POSTAL CODE


D4 PHONE (H)


D5 PHONE (W)


D6 FAX


D7 E-MAIL


D8 AFFILIATION


Version: July 29, 2004 MB
D9  HOW DID YOU FIND THE SITE?

<table>
<thead>
<tr>
<th>Chance Find</th>
<th>Field Survey</th>
<th>Local Contacts</th>
<th>Map Or Chart</th>
<th>Historical Research</th>
<th>Existing Site Records</th>
</tr>
</thead>
</table>

Comments

________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________

D10  CONTACT’S NAME

________________________________________________________________________________________

D11  MAILING ADDRESS

________________________________________________________________________________________

D11  MAILING ADDRESS

________________________________________________________________________________________

D12  POSTAL CODE


D13  PHONE (h)

________________________________________________________________________________________

D14  PHONE (w)


E.  REFERENCES FOR ADDITIONAL INFORMATION AND/OR RESOURCES AVAILABLE (as indicated in A6)

________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________

Version: July 29, 2004 NB
F. SITE PLAN
Please provide a drawing or sketch of the site, indicating prominent features, the orientation of the site and overall dimension, including artifact scatter fields. Relate the location of features in the Site Plan with features identified in the Site Access Map. Note the direction of true North and the scale of the plan.

Scale = 1:
(Attach a separate sheet for further comments)
APPENDIX H: ARTIFACT CONDITION REPORT FORM
ARTIFACT CONDITION REPORT (Consult Archaeological Services Prior to Project)

Site Name and/or Borden Number: ____________________________

1. Type of Artifact: ___________________________________________________

2. Date of Recovery: __________  3. Date of Report: ______________

4. Composition of Artifact:

- [ ] metal
- [ ] paper
- [ ] bone
- [ ] wood
- [ ] bark
- [ ] leather
- [ ] glass
- [ ] textile
- [ ] organic
- [ ] ceramic
- [ ] rubber
- [ ] other ________________

5. Dimensions:

   Height: ______  Width: _______  Thickness: ______

   Weight: ______  Circumference: ______

6. Description of overall condition when found (attach a separate sheet if required) (include in situ photo):

7. Type of post-depositional damage and/or deterioration:

- [ ] water-saturated
- [ ] warped
- [ ] insect damage/infestation
- [ ] broken/splitting
- [ ] corrosion/oxidation
- [ ] foreign deposits
- [ ] cracked/crazed
- [ ] rot
- [ ] gouges/chips
- [ ] mold/mildew
- [ ] burns/charred
- [ ] grease/grime (midden-related)
- [ ] rootlets
- [ ] other(s): ____________________________________________

8. Details of damage and/or deterioration: ________________________________

9. Description of treatment recommended and/or undertaken (include photo of before and after):

10. Additional comments: ____________________________________________

11. Name of conservator: ____________________________________________

12. Date this report submitted: ________________________________

13. Archaeological Services Curator: ________________________________

14. This Report Filed By: __________________________________________

15. Archaeological Field Research Permit Number: ______________________

For additional information, contact Archaeological Services

(506) 444-4048
APPENDIX I: VARIOUS ARCHAEOLOGICAL RECORDING FORMS

(Consultants may use their own forms provided they are approved by Archaeological Services)
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**ARCHAEOLOGICAL LEVEL RECORD**
**ENREGISTREMENT DU NIVEAU ARCHEOLOGIQUE**

**Site Name/Number:** ____________________________
**Excavation Unit:** ____________________________
**Level No:** ____________________________

**Level Coordinates:**
**Coordonnées du niveau:**

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**Level Type (natural, cultural, arbitrary):** ____________________________

**Excavation Method:** ____________________________

**Features:** ____________________________
**Photographs:** ____________________________
**Format (circle one):**
- Digital
- Film (colour)
- Film (b/w)

**Number of Exposures Taken:** ________
**Roll Number:** ________
**Exposure Designations:** ________

**Artifacts / Specimen No's:** ____________________________

**Excavated By:** ____________________________
**Date:** ____________________________
**Bag Number:** ____________________________

**Notes:**
- _______________________________________________________________________
- _______________________________________________________________________
- _______________________________________________________________________
- _______________________________________________________________________
- _______________________________________________________________________

**Plan Sketch (If not formally recorded):**

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APPENDIX J: MATERIALS WHICH MUST BE PRESENTED IF REQUESTED DURING REGULATORY INSPECTION

Items:

- Working site map
- Proposed Project Design/Limits being Assessed
- Original or Copy of Permit
- All field notes, field journals and audio-visual records
- Copy of Current Archaeological Predictive Model for Study Area
- All supplies for sample and artifact collection
- GPS – Track Logs and Waypoints
- Field Equipment (Screens etc.)

Other Permitted Activities Which May be Inspected:

- STP/Unit size, placement.
- Basis for field interpretations
- Artifact handling/sample collection procedures
- Laboratory procedures, artifact storage.
- Provenance/Provenience Control
- Site Set-up (Meal, Smoking, Drinking, Parking Areas)

* Other information/equipment inspections may be requested depending upon the nature of the project.
APPENDIX K: APPLICATION FOR PERMIT TO ALTER AN ARCHAEOLOGICAL SITE
FORM 3

APPLICATION FOR
ARCHAEOLOGICAL/PALAEONTOLOGICAL SITE
ALTERATION PERMIT

(Heritage Conservation Act, S.N.B., 2010, c. H-4.05, s.18)

Name of Applicant (please print)
(Department/Company/Group/Person)
_________________________________________________________

Mailing Address ____________________________________________ Postal Code __________________

Business/Work Telephone __________________ Home __________ Fax __________

E-mail ____________________________________________________
Contact Information (if different from above)
Contact Person ___________________________________ Telephone __________________

E-mail __________________________________ Fax ______________________________

Name of archaeological or palaeontological site, if applicable ____________________________________________
(Complete separate form for each site to be altered)

Borden code of archaeological site ___________ Identification code of palaeontological site _____________

Parcel identifier (PID) of property where alteration is to be performed _________________________________

Name of land owner (attach separate sheet, if necessary) _____________________________________________

Address __________________________________ Telephone ( ) ______________________________

For Office Use Only

_______ Accepted for processing
_______ Not accepted for processing
_______ Resubmitted for processing

FILE # __________________________
Archaeological site ____________________
Palaeontological site __________________

Site Category __________ Site Type __________ 1:50,000 Map

Easting Northing ___________ Zone __________ NAD

EIA Screen __________________________ Other Screen __________________________

Copies sent to __________________________

Date ____________ Reviewed by _________________________

(Month/Day/Year)
Description and plan of project

Please include a detailed description of the project: type of activity, description of construction method, including materials used, disturbed surface area of the archaeological or palaeontological site and the purpose of the project. This project description should focus attention on the following:

1. Is the ground or rock at the archaeological or palaeontological site to be excavated, altered or disturbed?
2. Is vegetation to be added to, or removed from, the archaeological or palaeontological site?
3. Are structures or works to be placed or constructed on the archaeological or palaeontological site?
4. Are archaeological or palaeontological objects, burial objects or human remains or other evidence of past human use or activity to be removed, tampered with or disturbed?
5. What is the size (length, width and/or height/depth) of the area within the archaeological or palaeontological site to be altered in any of the ways listed in the question 1, 2, 3 or 4?
6. Precisely where will the proposed alteration(s) take place or be situated (located) relative to the archaeological or palaeontological site?
7. If applicable, what stabilization and erosion control techniques are to be employed during and upon completion of the proposed project, including final slopes and material to be used to blanket all exposed erodible soil in order to minimize the runoff of suspended sediment from the area being altered and prevent further impact to the site?
8. Does project access already exist or what alteration(s) listed in question 1, 2, 3 or 4 are necessary to facilitate the proposed undertaking?
9. If applicable, what measures are to be employed upon completion of the proposed project to restore site to original or near-original condition?
(attach separate sheet if necessary)

Desired period of construction: __________________ to __________________
(Month/Day/Year) (Month/Day/Year)

(Please enclose a plan for the proposed project, including all dimensions and distances relative to the archaeological or palaeontological site.)

I certify to the best of my knowledge that the information stated in this form is correct.

Dated this __________ day of, __________________________ 20_____.

________________________________________
Applicant’s Signature

NOTE: Please attach the required documents. Failure to submit adequate information in each section of this application will result in the application being either returned or rejected.

Archaeological Sites
Send your application to: Archaeological Services
Heritage Branch
Andal Building
P.O. Box 6000
Fredericton, NB
E3B 5H1

Palaeontological Sites
Send your application to: Head, Geology and Palaeontology Section
Natural Science Department
New Brunswick Museum
277 Douglas Avenue
Saint John, NB
E2K 1E5
APPENDIX M: GENERALIZED TIMELINE FOR NEW BRUNSWICK