

Appendix D:

Supplementary Information:
Archaeology Assessment Report

Ministry of Tourism, Culture and Sport

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Oct 7, 2013

Kayleigh MacKinnon (P384)
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RE: Review and Entry into the Ontario Public Register of Archaeological Reports: Archaeological Assessment Report Entitled, "2013 Stage 1-2 Archaeological Assessment of the Proposed Communications Cable Route, Dump Rd, Hogg Dam Rd and MacKay Rd, Bow Lake Wind Project, Montreal River Harbour, Townships of Smilsky & Peever, District of Algoma ", Dated Sep 18, 2013, Filed with MTCS Toronto Office on Sep 24, 2013, MTCS Project Information Form Number P384-065-2013, MTCS File Number HD00126

Dear Ms. MacKinnon:

This office has reviewed the above-mentioned report, which has been submitted to this ministry as a condition of licensing in accordance with Part VI of the Ontario Heritage Act, R.S.O. 1990, c 0.18.¹ This review has been carried out in order to determine whether the licensed professional consultant archaeologist has met the terms and conditions of their licence, that the licensee assessed the property and documented archaeological resources using a process that accords with the 2011 Standards and Guidelines for Consultant Archaeologists set by the ministry, and that the archaeological fieldwork and report recommendations are consistent with the conservation, protection and preservation of the cultural heritage of Ontario.

The report documents the assessment/mitigation of the study area as depicted in Figures 5, 6 and 7 of the above titled report and recommends the following:

It is recommended no further archaeological assessment of the proposed communications cable route is required.

Based on the information contained in the report, the ministry is satisfied that the fieldwork and reporting for the archaeological assessment are consistent with the ministry's 2011 Standards and Guidelines for Consultant Archaeologists and the terms and conditions for archaeological licences. This report has been entered into the Ontario Public Register of Archaeological Reports. Please note that the ministry makes no representation or warranty as to the completeness, accuracy or quality of reports in the register.

Should you require any further information regarding this matter, please feel free to contact me.

Sincerely,
Paige Campbell
Archaeology Review Officer

cc. Archaeology Licensing Officer
Bryan Tripp, Nodin Kitigan Limited Partnership c/o Bluearth Renewables Inc.
Sarah Raetsen, Approval Services Unit – Team 5, Environmental Approvals
Branch, Ministry of the Environment

¹In no way will the ministry be liable for any harm, damages, costs, expenses, losses, claims or actions that may result: (a) if the Report(s) or its recommendations are discovered to be inaccurate, incomplete, misleading or fraudulent; or (b) from the issuance of this letter. Further measures may need to be taken in the event that additional artifacts or archaeological sites are identified or the Report(s) is otherwise found to be inaccurate, incomplete, misleading or fraudulent.



1.0 PROJECT REPORT COVER PAGE

LICENSEE INFORMATION:

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PROJECT INFORMATION:

AMICK Project Number:	13254-K
MTCS Project Number:	P384-065-2013
Investigation Type:	Stage 1-2 Archaeological Assessment
Project Name:	Bow Lake Wind Project Communications Cable Route
Project Location:	Bow Lake Wind Project, Montreal River Harbour, Townships of Smilsky & Peever, District of Algoma

APPROVAL AUTHORITY INFORMATION:

File Designation Number:	F-000596-WIN-130-601 F-000673-WIN-130-601 F-000674-WIN-130-601
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REPORTING INFORMATION:

Site Record/Update Forms:	N/A
Date of Report Filing:	18 September 2013
Type of Report:	ORIGINAL

2.0 EXECUTIVE SUMMARY

This report describes the results of the 2013 Stage 1-2 Archaeological Assessment of the Proposed Communications Cable Route along the Dump Road, Hogg Dam Road and MacKay Road within the Bow Lake Wind project location near Montreal River Harbour, Townships of Smilsky & Peever, District of Algoma, conducted by AMICK Consultants Limited. This study was conducted under Archaeological Consulting License #P384 issued to Kayleigh McKinnon by the Minister of Tourism, Culture and Sport for the Province of Ontario. This assessment was completed as a component study of the Renewable Energy Approval (REA) process for Approval from the Ministry of the Environment (MOE). All work was conducted in conformity with Ontario Ministry of Tourism and Culture (MTC) Standards and Guidelines for Consultant Archaeologists (MTC 2011), the Ontario Heritage Act (RSO 1990a), and the Ontario Heritage Amendment Act (SO 2005).

AMICK Consultants Limited was engaged by the proponent to undertake a Stage 1-2 Archaeological Assessment of lands potentially affected by the proposed undertaking and was granted permission to carry out archaeological work on 21 June 2013. Those portions of the proposed communications cable route that did not consist of steep slope, exposed rock, or low-lying wet area and were within 50 metres of a natural low-lying wet area were subject to reconnaissance, photographic documentation and physical assessment on 24 June 2013. Those portions of the property, which were within 50 metres of a low-lying and wet area, were assessed using the test pit methodology at a high intensity interval of 5 metres between individual test pits where viable. All records, documentation, field notes, photographs and artifacts (as applicable) related to the conduct and findings of these investigations are held at the Lakelands District corporate offices of AMICK Consultants Limited until such time that they can be transferred to an agency or institution approved by the Ontario Ministry of Tourism and Culture (MTC) on behalf of the government and citizens of Ontario.

As a result of the physical assessment of the property, no archaeological resources were encountered. Consequently, it is recommended no further archaeological assessment of the proposed communications cable route is required.

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4.0 PROJECT PERSONNEL

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5.0 PROJECT CONTEXT

5.1 Development Context

This report describes the results of the 2013 Stage 1-2 Archaeological Assessment of the Proposed Communications Cable Route along the Dump Road, Hogg Dam Road and MacKay Road within the Bow Lake Wind project location near Montreal River Harbour, Townships of Smilsky & Peever, District of Algoma, conducted by AMICK Consultants Limited. This study was conducted under Archaeological Consulting License #P384 issued to Kayleigh McKinnon by the Minister of Tourism, Culture and Sport for the Province of Ontario. This assessment was completed as a component study of the Renewable Energy Approval (REA) process for Approval from the Ministry of the Environment (MOE). All work was conducted in conformity with Ontario Ministry of Tourism and Culture (MTC) Standards and Guidelines for Consultant Archaeologists (MTC 2011), the Ontario Heritage Act (RSO 1990a), and the Ontario Heritage Amendment Act (SO 2005).

AMICK Consultants Limited was engaged by the proponent to undertake a Stage 1-2 Archaeological Assessment of lands potentially affected by the proposed undertaking and was granted permission to carry out archaeological work on 21 June 2013. Those portions of the proposed communications cable route that did not consist of steep slope, exposed rock, or low-lying wet area and were within 50 metres of a natural low-lying wet area were subject to reconnaissance, photographic documentation and physical assessment on 24 June 2013. Those portions of the property, which were within 50 metres of a low-lying and wet area, were assessed using the test pit methodology at a high intensity interval of 5 metres between individual test pits where viable. All records, documentation, field notes, photographs and artifacts (as applicable) related to the conduct and findings of these investigations are held at the Lakelands District corporate offices of AMICK Consultants Limited until such time that they can be transferred to an agency or institution approved by the Ontario Ministry of Tourism and Culture (MTC) on behalf of the government and citizens of Ontario.

5.2 Historical Context

As part of the present study, background research was conducted in order to determine the archaeological potential of the proposed project area.

“A Stage 1 background study provides the consulting archaeologist and Ministry report reviewer with information about the known and potential cultural heritage resources within a particular study area, prior to the start of the field assessment.”

(OMCzCR 1993)

The evaluation of potential for heritage resources is further elaborated Section 5.3 of the Guideline for Preparing the Cultural Heritage Resource Component of Environmental Assessments (1992) prepared by the Ontario Ministry of Culture and Communications (MCC) and the Ontario Ministry of Environment (MOE):

“Generally, lands affected by project development should be classified by the proponent as having high, medium or low potential for the discovery of heritage resources. Since heritage resources are not uniformly distributed across the landscape, not all project areas will exhibit the same likelihood of finding heritage resources. Potential is based on the following geographical and historical factors that may have influenced previous use and settlement of an area:

- Distance from historic transportation routes.*
- Distance from sources of water (rivers, lakes, streams, creeks, springs, marshes, swamps, relict creek beds).*
- Ability of the terrain to accommodate human settlement. This includes topography, soils and access to plant, animal and mineral resources.*
- Documentation of existing heritage resource sites in the affected area and region. Known resources in the affected area, such as architectural features, cultural landscapes or registered archaeological sites, can be evaluated for possible heritage significance by using the evaluation criteria outlined in Section 5.5 of this guideline.*
- Historical context of the region encompassing the affected area.*
- Description of previous land uses of the affected area, including nature and extent of previous development disturbances.”*

(MCC & MOE 1992: 6)

The evaluation of potential does not indicate that sites are present within areas affected by proposed development. Evaluation of potential considers the possibility for as yet undocumented sites to be found in areas that have not been subject to systematic archaeological investigation in the past. Potential for archaeological resources is used to determine if physical assessment of a property or portions of a property is required.

“Archaeological resources not previously documented may also be present in the affected area. If the alternative areas being considered, or the preferred alternative selected, exhibit either high or medium potential for the discovery of archaeological remains an archaeological assessment will be required.”

(MCC & MOE 1992: 6-7)

“The Stage 1 background study (and, where undertaken, property inspection) leads to an evaluation of the property’s archaeological potential. If the evaluation indicates that there is archaeological potential anywhere on the property, the next step is a Stage 2 assessment.”

(MTC 2011: 17)

In addition, the collected data is also used to determine if any archaeological resources had been formerly documented within or in close proximity to the study area and if these same resources might be subject to impacts from the proposed undertaking. This data was also collected in order to establish the significance of any resources that might be encountered during the conduct of the present study. The requisite archaeological sites data was collected from the Programs and Services Branch, Culture Programs Unit, MTC and the corporate research library of AMICK Consultants Limited

5.2.1 Current Conditions

The study area consists of the existing gravel surfaced roads and 10 metres of adjacent wooded areas, cleared hydro corridor, steep slope, exposed rock, and low-lying wet stream channels. The proposed undertaking consists of the installation of a communications cable beneath the shoulder or travelled portion of the Dump Road, Hogg Dam Road and MacKay Road from Highway 17 to the proposed Bow Lake wind farm transformer sub-Station, a route of approximately 11 kilometres. As the graded, filled and compacted aggregate surface of the roadway itself cannot be assessed for archaeological resources, the adjacent margins of the road on both sides of the route were examined for areas of archaeological potential which were then subject to assessment, as archaeological resources encountered adjacent to the road may indicate further archaeological resources presently capped by the existing road. The study area is bounded on all sides by existing forest. The existing roads along the proposed communications cable route roughly follow the route of the Montreal River inland from Highway 17. Portions of these roads were previously assessed, as proposed improvements to sections of the road would result in impacts to archaeological resources, if any were present in any affected areas. A plan of the current study area is included within this report as Figure 3.

5.2.2 General Historical Outline

Algoma, Unorganized, North Part is an unorganized area in northeastern Ontario, Canada comprising all areas in Algoma District, north of the Sault Ste. Marie to Elliot Lake corridor, which are not part of an incorporated municipality or a First Nation, the division had a population of 5,717 in 2006. The study area is closest to the community of Montreal River Harbour. It is a very small community located at the mouth of the Montreal River just south of Lake Superior Provincial Park. (Wikipedia.ca)

Figure 2 is a segment of the 1904 Map of Part of Northern Ontario Showing the Northern Part of the District of Nipissing, Algoma and Thunder Bay from The Copp Clark Co., Toronto.

5.2.3 Summary of Historical Context

The data provided from the Ministry of Tourism and Culture indicates no (0) Euro-Canadian archaeological sites are in the vicinity. Due to the lack of a historic transportation system nearby and lack of apparent settlement the study area is considered to have low potential for Euro-Canadian resources.

5.3 Archaeological Context

TABLE 1 Cultural Chronology for South-Central Ontario

Period		Group	Date Range	Traits
Palaeo-Indian		Fluted Point	9500-8500 B.C.	Big game hunters.
		Hi-Lo	8500-7500 B.C.	Small nomadic groups.
Archaic	Early		8000-6000 B.C.	Hunter-gatherers.
	Middle	Laurentian	6000-200 B.C.	Territorial divisions arise.
	Late	Lamoka	2500-1700 B.C.	Ground stone tools appear.
		Broadpoint	1800-1400 B.C.	
		Crawford Knoll	1500-500 B.C.	
		Glacial Kame	c.a. 1000 B.C.	Elaborate burial practices.
Woodland	Early	Meadowood	1000-400 B.C.	Introduction of pottery.
		Red Ochre	1000-500 B.C.	
	Middle	Point Peninsula	400 B.C.-500 A.D.	Long distance trade.
		Princess Point	500-800 A.D.	Horticulture.
	Late	Pickering	800-1300 A.D.	Villages and agriculture.
		Uren	1300-1350 A.D.	Larger villages.
		Middleport	1300-1400 A.D.	
		Huron	1400-1650 A.D.	Warfare
Historic	Early	Odawa, Ojibwa	1700-1875 A.D.	Social displacement.
	Late	Euro-Canadian	1785 A.D.+	European settlement.

The Archaeological Sites Database administered by MTC indicates that there are no previously documented sites within the study area or within 1 kilometres of the study area. However, it must be noted that this is based on the assumption of the accuracy of information compiled from numerous researchers using different methodologies over many years. AMICK Consultants Limited assumes no responsibility for the accuracy of site descriptions, interpretations such as cultural affiliation, or location information derived from the Archaeological Sites Database administered by MTC. In addition, it must also be noted that a lack of formerly documented sites does not necessarily indicate that there are no sites present as the documentation of any archaeological site is contingent upon prior research having been conducted within the study area.

Background research shows that four (4) previous studies have taken place within 50m of the study area. For further information see:

AMICK Consultants Limited. (2008). *Stage 1 Background Research of Bow Lake Wind Farm, Townships of Smilsky & Peever, District of Algoma.* AMICK Consultants Limited, Port McNicoll.

AMICK Consultants Limited. (2010). *Stage 2 Archaeological Assessment of Bow Lake Wind Farm, Townships of Smilsky & Peever, District of Algoma.* Port McNicoll, Ontario. Archaeological License Report on File With the Ministry of Tourism, Culture and Sport, Toronto, Ontario.

AMICK Consultants Limited. (2011). *Stage 1-2 Archaeological Assessment of Bow Lake Amendment Lands, Townships of Smilsky & Peever, District of Algoma.* Port McNicoll, Ontario. Archaeological License Report on File With the Ministry of Tourism, Culture and Sport, Toronto, Ontario.

AMICK Consultants Limited. (2012). *Stage 1-2 Archaeological Assessment of Bow Lake Amendment Lands, Townships of Smilsky & Peever, District of Algoma.* Port McNicoll, Ontario. Archaeological License Report on File With the Ministry of Tourism, Culture and Sport, Toronto, Ontario.

5.3.1 First Nations Registered Archaeological Sites

A summary of registered and/or known archaeological sites within a 1-kilometre radius of the study area was gathered from the Archaeological Sites Database, administered by MTC. As a result it was determined that no (0) archaeological sites relating directly to First Nations habitation/activity had been formally documented within the immediate vicinity of the study area. However, the lack of formally documented archaeological sites does not necessarily mean that the area was not used by First Nations people; it more likely reflects a lack of systematic archaeological research in the immediate vicinity.

The distance to water criteria used to establish potential for archaeological sites suggests potential for First Nations occupation and land use in the area in the past. This consideration establishes archaeological potential within the study area.

5.3.2 Euro-Canadian Registered Archaeological Sites

A summary of registered and/or known archaeological sites within a 1-kilometre radius of the study area was gathered from the Archaeological Sites Database, administered by MTC. As a result it was determined that no (0) archaeological sites relating directly to Euro-Canadian habitation/activity had been formally documented within the immediate vicinity of the study area.

5.3.3 Location and Current Conditions

This report describes the results of the 2013 Stage 1-2 Archaeological Assessment of the Proposed Communications Cable Route along the Dump Road, Hogg Dam Road and MacKay Road within the Bow Lake Wind project location near Montreal River Harbour, Townships of Smilsky & Peever, District of Algoma, conducted by AMICK Consultants Limited. This study was conducted under Archaeological Consulting License #P384 issued to Kayleigh McKinnon by the Minister of Tourism, Culture and Sport for the Province of Ontario. This assessment was completed as a component study of the Renewable Energy Approval (REA) process for Approval from the Ministry of the Environment (MOE). All work was conducted in conformity with Ontario Ministry of Tourism and Culture (MTC) Standards and Guidelines for Consultant Archaeologists (MTC 2011), the Ontario Heritage Act (RSO 1990a), and the Ontario Heritage Amendment Act (SO 2005).

The study area consists of the existing gravel surfaced roads and 10 metres of adjacent wooded areas, cleared hydro corridor, steep slope, exposed rock, and low-lying wet stream channels. The proposed undertaking consists of the installation of a communications cable beneath the shoulder or travelled portion of the Dump Road, Hogg Dam Road and MacKay Road from Highway 17 to the proposed Bow Lake wind farm transformer sub-Station, a route of approximately 11 kilometres. As the graded, filled and compacted aggregate surface of the roadway itself cannot be assessed for archaeological resources, the adjacent margins of the road on both sides of the route were examined for areas of archaeological potential which were then subject to assessment, as archaeological resources encountered adjacent to the road may indicate further archaeological resources presently capped by the existing road. The study area is bounded on all sides by existing forest. The existing roads along the proposed communications cable route roughly follow the route of the Montreal River inland from Highway 17. Portions of these roads were previously assessed, as proposed improvements to sections of the road would result in impacts to archaeological resources, if any were present in any affected areas. A plan of the current study area is included within this report as Figure 3.

5.3.4 Physiographic Region

The subject property is situated within the Algonquin Highlands physiographic region. This area covers roughly 10 million acres and is characterized by rough ground relief consisting of knobs and ridges with frequent outcrops of exposed bedrock. At its highest areas, the ground level approaches 1,800 feet above sea level and gradually slopes downward to approximately 900 feet above sea level in the west and 600 feet above sea level in the east. Soils of the area are stony, sandy and acidic. Most of the valleys are floored with sand and gravel outwash. The area is also noted for a high frequency of swamps and bogs (Chapman and Putnam 1984: 211). The boreal forest boarder is significantly north of the subject property (J.V. Wright: 1972:6).

5.3.5 Surface Water

Sources of potable water, access to waterborne transportation routes, and resources associated with watersheds are each considered, both individually and collectively to be the highest criteria for determination of the potential of any location to support extended human activity, land use, or occupation. Accordingly, proximity to water is regarded as the primary indicator of archaeological site potential. The Standards and Guidelines for Consultant Archaeologists stipulates that undisturbed lands within 300 metres of a water source are considered to have archaeological potential (MTC 2011: 21).

The existing roads of the proposed cable route roughly follow the route of the Montreal River inland from Highway 17. The Montreal River is both a source of potable water and a navigable waterway. In each of the areas, which were identified as possibly being close enough to the Montreal River to require assessment, field reconnaissance revealed that these areas are all coincident with small stream tributaries of the Montreal River. Reconnaissance of the remainder of the proposed communications cable route did not identify additional areas that required assessment beyond those areas assessed as part of this study and areas previously assessed. The area exhibits potential for archaeological deposits related to all periods of occupation up to and including early evidence of Euro-Canadian occupation and activity in the area, such as early lumber camps.

5.3.6 Summary

Background research indicates the vicinity of the study area has potential for archaeological resources of Native origins based on proximity to a source of potable water in the past.

Archaeological potential does not indicate that there are necessarily sites present, but that environmental and historical factors suggest that there may be as yet undocumented archaeological sites within lands that have not been subject to systematic archaeological research in the past.

5.4 Current Property Conditions Context

Current characteristics encountered within an archaeological research study area determine if physical assessment of specific portions of the study area will be necessary and in what

manner a Stage 2 Physical Assessment should be conducted, if necessary. Conventional assessment methodologies include pedestrian survey on ploughable lands and test pit methodology within areas that cannot be ploughed. For the purpose of determining where physical assessment is necessary and feasible, general categories of current landscape conditions have been established as archaeological conventions. These include:

5.4.1 Buildings and Structural Footprints

A building, in archaeological terms, is a structure that exists currently or has existed in the past in a given location. The footprint of a building is the area of the building formed by the perimeter of the foundation. Although the interior area of building foundations would often be subject to physical assessment when the foundation may represent a potentially significant historic archaeological site, the footprints of existing structures are not typically assessed. Existing structures commonly encountered during archaeological assessments are often residential-associated buildings (houses, garages, sheds), and/or component buildings of farm complexes (barns, silos, greenhouses). In many cases, even though the disturbance to the land may be relatively shallow and archaeological resources may be situated below the disturbed layer (e.g. a concrete garage pad), there is no practical means of assessing the area beneath the disturbed layer. However, if there were evidence to suggest that there are likely archaeological resources situated beneath the disturbance, alternative methodologies may be recommended to study such areas.

The study area contains no buildings or structural footprints.

5.4.2 Disturbance

Areas that have been subjected to extensive and deep land alteration that has severely damaged the integrity of archaeological resources are known as land disturbances. Examples of land disturbances are areas of “past quarrying, major landscaping, recent built and industrial uses, sewage and infrastructure development, etc.” (MCL 2005: 15), as well as driveways made of either gravel or concrete, in-ground pools, and wells or cisterns. Utility lines are conduits that provide services such as water, natural gas, hydro, communications, sewage, and others. Areas containing below ground utilities are considered areas of disturbance, and are excluded from Stage 2 Physical Assessment. Disturbed areas are excluded from Stage 2 Physical Assessment due to no or low archaeological potential or because they are not assessable using conventional methodology.

The study area consists of the existing gravel surfaced roads and 10 metres of adjacent wooded areas, cleared hydro corridor, steep slope, exposed rock, and low-lying wet stream channels. The proposed undertaking consists of the installation of a communications cable beneath the shoulder or travelled portion of the Dump Road, Hogg Dam Road and MacKay Road from Highway 17 to the proposed Bow Lake wind farm transformer sub-Station, a route of approximately 11 kilometres. As the graded, filled and compacted aggregate surface of the roadway itself cannot be assessed for archaeological resources, the adjacent margins of the road on both sides of the route were examined for areas of archaeological potential which

were then subject to assessment, as archaeological resources encountered adjacent to the road may indicate further archaeological resources presently capped by the existing road.

5.4.3 Low-Lying and Wet Areas

Landscape features that are covered by permanently wet areas, such as marshes, swamps, or bodies of water like streams or lakes, are known as low-lying and wet areas. Low-lying and wet areas are excluded from Stage 2 Physical Assessment due to inaccessibility.

The study area does contain low-lying and wet areas. In each of the areas, which were identified as possibly being close enough to the Montreal River to require assessment, field reconnaissance revealed that these areas are all coincident with small stream tributaries of the Montreal River. Reconnaissance of the remainder of the proposed communications cable route did not identify additional areas that required assessment beyond those areas assessed as part of this study and areas previously assessed.

5.4.4 Steep Slope

Landscape which slopes at a greater than ($>$) 20 degree change in elevation, is known as steep slope. Areas of steep slope are considered uninhabitable, and are excluded from Stage 2 Physical Assessment.

The study area does contain areas of steep slope. In each of the areas within 50 metres of sources of water, some area of steep slope was encountered rising up from the stream channels. In some cases, the area of steep slope continued beyond 50 metres from the water.

5.4.5 Wooded Areas

Areas of the property that cannot be ploughed, such as natural forest or woodlot, are known as wooded areas. These wooded areas qualify for Stage 2 Physical Assessment, and are required to be assessed using test pit survey methodology.

Apart from the existing road and the low lying wet area, the study area is either wooded or cleared hydro corridor.

5.4.6 Ploughable Agricultural Lands

Areas of current or former agricultural lands that have been ploughed in the past are considered ploughable agricultural lands. Ploughing these lands regularly moves the soil around, which brings covered artifacts to the surface, easily identifiable during visual inspection. Furthermore, by allowing the ploughed area to weather sufficiently through rainfall washing soil off any artifacts, the visibility of artifacts at the surface of recently worked field areas increases significantly. Pedestrian survey of ploughed agricultural lands is the preferred method of physical assessment because of the greater potential for finding evidence of archaeological resources if present.

The study area contains no ploughable lands.

5.4.7 Lawn, Pasture, Meadow

Landscape features consisting of former agricultural land covered in low growth, such as lawns, pastures, meadows, shrubbery, and immature trees. These are areas that may be considered too small to warrant ploughing, (i.e. less than one hectare in area), such as yard areas surrounding existing structures, and land-locked open areas that are technically workable by a plough but inaccessible to agricultural machinery. These areas may also include open area within urban contexts that do not allow agricultural tillage within municipal or city limits or the use of urban roadways by agricultural machinery. These areas are required to be assessed using test pit survey methodology.

The cleared hydro corridor areas adjacent to sections of Hogg Road may be considered meadow areas for the purposes of determining assessment methodology. These areas are not ploughable given the high rock content and exposed bedrock surfaces common to the area. In addition, these areas have become heavily overgrown with shrubs and weeds since the time that they were cleared.

6.0 FIELD METHODS

This report confirms that the entirety of the study area was subject to visual inspection, and that the fieldwork was conducted according to the archaeological fieldwork standards and guidelines, including weather and lighting conditions. The property reconnaissance and assessment were completed in ideal conditions under sunny skies on 24 June 2013. The temperature at the time of the reconnaissance and assessment was 25°C. The locations from which photographs were taken and the directions toward which the camera was aimed for each photograph are illustrated in Figures 4 & 5 of this report. Upon completion of the field reconnaissance of the study area, it was determined that three areas within 50 metres of low-lying and wet area would require Stage 2 archaeological assessment consisting of test pit survey methodology.

6.1 Photo Reconnaissance

A detailed examination and photo documentation was carried out on the study area in order to document the existing conditions of the study area to facilitate Stage 2 assessment. All areas of the study area were visually inspected and photographed. The Stage 1 reconnaissance component of this study was completed concurrently with the Stage 2 Property Assessment. The locations from which photographs were taken and the directions toward which the camera was aimed for each photograph are illustrated in Figures 4 & 5 of this report.

The project lands could not be ploughed, as they were either forested areas or overgrown clear-cut areas with high rock content.

6.2 Test Pit Survey

In accordance with the Standards and Guidelines for Consultant Archaeologists, test pit survey is required to be undertaken for those portions of the study area where deep prior disturbance had not occurred prior to assessment or which were accessible to survey. Test pit survey is only used in areas that cannot be subject to ploughing or cultivation. This report confirms that the conduct of test pit survey within the study area conformed to the following standards:

1. Test pit survey only on terrain where ploughing is not possible or viable, as in the following examples:

a. wooded areas

[All wooded areas were test pit at an interval of 5 m between individual test pits]

b. pasture with high rock content

[The study area does not contain any pastures with high rock content. However, there are sections of the study area consisting of clear-cut hydro corridor which are now heavily overgrown with weeds and which exhibit high rock content with areas of exposed bedrock at the surface]

c. abandoned farmland with heavy brush and weed growth

[Not Applicable - The study area does not contain any abandoned farmland with heavy brush and weed growth]

d. orchards and vineyards that cannot be strip-ploughed (planted in rows 5 m apart or less), gardens, parkland or lawns, any of which will remain in use for several years after the survey

[Not Applicable - The study area does not contain any of the above mentioned circumstances]

e. properties where existing landscaping or infrastructure would be damaged. The presence of such obstacles must be documented in sufficient detail to demonstrate that ploughing or cultivation is not viable.

[Not Applicable - The study area does not contain the above mentioned circumstances]

f. narrow (10 m or less) linear survey corridors (e.g., water or gas pipelines, road widening). This includes situations where there are planned impacts 10 m or less beyond the previously impacted limits on both sides of an existing linear corridor (e.g., two linear survey corridors on either side of an existing roadway). Where at the time of fieldwork the lands within the linear corridor meet the standards as stated under the above section on pedestrian survey land preparation, pedestrian survey must be carried out. Space test pits at

maximum intervals of 5 m (400 test pits per hectare) in areas less than 300 m from any feature of archaeological potential.

[The study area does consist of 10 metre wide linear corridors to either side of Hogg Road]

1. *Space test pits at maximum intervals of 5 m (400 test pits per hectare) in areas less than 300 m from any feature of archaeological potential.*
[All test pits were spaced at an interval of 5m between individual test pits]
2. *Space test pits at maximum intervals of 10 m (100 test pits per hectare) in areas more than 300 m from any feature of archaeological potential.*
[The entirety of the test pitable areas of the study area were assessed using high intensity test pit methodology]
3. *Test pit to within 1 m of built structures (both intact and ruins), or until test pits show evidence of recent ground disturbance.*
[Not Applicable]
4. *Ensure that test pits are at least 30 cm in diameter.*
[All test pits were at least 30 cm in diameter]
5. *Excavate each test pit, by hand, into the first 5 cm of subsoil and examine the pit for stratigraphy, cultural features, or evidence of fill.*
[All test pits were excavated by hand into the first 5 cm of subsoil and examined for stratigraphy, cultural features, or evidence of fill]
6. *Screen soil through mesh no greater than 6 mm.*
[All soil was screened through mesh no greater than 6 mm]
7. *Collect all artifacts according to their associated test pit.*
[Not Applicable - No archaeological resources were encountered]
8. *Backfill all test pits unless instructed not to by the landowner.*
[All test pits were backfilled]

(MTC 2011: 31-32)

The project lands could not be ploughed due to the property consisting of woodlot, high rock content, as well as the presence of disturbance, so these areas were subject to a test pit survey at an interval of 5 metres between individual test pits.

However, as the study area is situated in Northern Ontario, the Standards and Guidelines for Consultant Archaeologists allows for a modified test pit strategy as follows:

1. *Where the identified feature of archaeological potential is a modern water source, test pitting is required between 0 and 50 m from the feature. Space test pits at maximum intervals of 5 m. Survey is not required beyond 50 m.*

[All test pits were spaced at an interval of 5m between individual test pits within 50 metres of any existing sources of water]

2. *For features of archaeological potential other than modern water sources (e.g. historic water sources such as glacial shorelines) test pitting is required as follows:*
 - a. *space test pits as a maximum interval of 5 m between 0 and 50 m from the feature of archaeological potential*

[Not Applicable]

- b. *space test pits at maximum intervals of 10 m between 50 and 150 m from the feature of archaeological potential*

[Not Applicable]

- c. *survey is not required beyond 150 m*

3. *While maintaining standard survey grids as closely as possible, the consultant archaeologist may vary from standard survey grids as necessary, based on professional judgment. Document and explain the rationale for variations in the Stage 2 report*

[Not Applicable]

(MTC 2011: 35)

6.3 Field Work Weather Conditions

The conduct of the Stage 1-2 Archaeological Assessment of the study area was completed in accordance with the above noted standards on 24 June 2013. The temperature was 25°C. The work was completed under sunny skies. Weather conditions were appropriate for the conduct of archaeological fieldwork.

7.0 RECORD OF FINDS

7.1 Archaeological Resources

No archaeological resources of any description were encountered anywhere within the study area.

7.2 Archaeological Fieldwork Documentation

The documentation produced during the field investigation conducted in support of this report includes: three sketch maps, one page of photo log, one page of field notes, and 44 digital photographs.

8.0 ANALYSIS AND CONCLUSIONS

AMICK Consultants Limited was engaged by the proponent to undertake a Stage 1-2 Archaeological Assessment of lands potentially affected by the proposed undertaking and was granted permission to carry out archaeological work on 21 June 2013. Those portions of the proposed communications cable route that did not consist of steep slope, exposed rock, or low-lying wet area and were within 50 metres of a natural low-lying wet area were subject to reconnaissance, photographic documentation and physical assessment on 24 June 2013. Those portions of the property, which were within 50 metres of a low-lying and wet area, were assessed using the test pit methodology at a high intensity interval of 5 metres between individual test pits where viable. All records, documentation, field notes, photographs and artifacts (as applicable) related to the conduct and findings of these investigations are held at the Lakelands District corporate offices of AMICK Consultants Limited until such time that they can be transferred to an agency or institution approved by the Ontario Ministry of Tourism and Culture (MTC) on behalf of the government and citizens of Ontario.

Section 7.7.3 of the Standards and Guidelines for Consultant Archaeologists (MTC 2011: 132) outlines the requirements of the Analysis and Conclusions component of a Stage 1 Background Study.

- 1) *“Identify and describe areas of archaeological potential within the project area.*
- 2) *Identify and describe areas that have been subject to extensive and deep land alterations. Describe the nature of alterations (e.g., development or other activity) that have severely damaged the integrity of archaeological resources and have removed archaeological potential.”*

8.1 Characteristics Indicating Archaeological Potential

Section 1.3.1 of the Standards and Guidelines for Consultant Archaeologists specifies the property characteristics that indicate archaeological potential (MTC 2011: 17-18). Factors that indicate archaeological potential are features of the local landscape and environment that may have attracted people to either occupy the land or to conduct activities within the study area. One or more of these characteristics found to apply to a study area would necessitate a Stage 2 Property Assessment to determine if archaeological resources are present. These characteristics are listed below together with considerations derived from the conduct of this study.

- 1) *Previously Identified Archaeological Sites*
Previously registered archaeological sites have not been documented in the vicinity of the study area.
- 2) *Water Sources*
Primary water sources are described as including lakes, rivers streams and creeks. Close proximity to primary water sources (300 metres) indicates that people had

access to readily available sources of potable water and routes of waterborne trade and communication should the study area have been used or occupied in the past.

Several portions of the study area are within 300m of water. In the case of properties in northern Ontario areas within 50m of water are considered to be of high potential, while areas from 50m to 150m are considered to be of low potential. Areas outside of 150m from water are considered to have no potential.

Secondary water sources are described as including intermittent streams and creeks, springs, marshes, and swamps. Close proximity (300 metres) to secondary water sources indicates that people had access to readily available sources of potable water, at least on a seasonal basis, and in some cases seasonal access to routes of waterborne trade and communication should the study area have been used or occupied in the past.

The study area is within 300 metres of secondary water sources.

Only 3 sections of the study area, which have not been subject to previous assessment, are within 50 metres of either a primary or secondary source of water and therefore required Stage 2 Property Assessment.

3) Features Indicating Past Water Sources

Features indicating past water resources are described as including glacial lake shorelines indicated by the presence of raised sand or gravel beach ridges, relic river or stream channels indicated by clear dip or swale in the topography, shorelines of drained lakes or marshes, and cobble beaches. Close proximity (300 metres) to features indicating past water sources indicates that people had access to readily available sources of potable water, at least on a seasonal basis, and in some cases seasonal access to routes of waterborne trade and communication should the study area have been used or occupied in the past.

There are no identified features indicating past water sources within 300 metres of the study area.

4) Accessible or Inaccessible Shoreline

This form of landscape feature would include high bluffs, swamp or marsh fields by the edge of a lake, sandbars stretching into marsh, etc.

There are identified features of elevated topography within the study area.

5) Elevated Topography

Features of elevated topography that indicate archaeological potential include eskers, drumlins, large knolls, and plateaux.

There are identified features of elevated topography within the study area.

6) Pockets of Well-drained Sandy Soil

Pockets of sandy soil are considered to be especially important near areas of heavy soil or rocky ground.

Where present, the soil within the study area is sandy.

7) Distinctive Land Formations

These are landscape features that might have been special or spiritual places, such as waterfalls, rock outcrops, caverns, mounds, and promontories and their bases. There may be physical indicators of their use, such as burials, structures, offerings, rock paintings or carvings.

There are no identified distinctive land formations within the study area.

8) Resource Areas

Resource areas that indicate archaeological potential include food or medicinal plants (e.g., migratory routes, spawning areas, and prairie), scarce raw materials (e.g., quartz, copper, ochre or outcrops of chert) and resources of importance to early Euro-Canadian industry (e.g., logging, prospecting, and mining).

There are no identified resource areas within the study area.

9) Areas of Early Euro-Canadian Settlement

These include places of early military or pioneer settlement (e.g., pioneer homesteads, isolated cabins, and farmstead complexes), early wharf or dock complexes, pioneer churches and early cemeteries. There may be commemorative markers of their history, such as local, provincial, or federal monuments or heritage parks.

The study area is situated within an area still unsettled.

10) Early Historical Transportation Routes

This includes evidence of trails, passes, roads, railways, portage routes.

The study area is situated in close proximity to the Montreal River which is a historically significant route of communication and trade.

11) Heritage Property

Property listed on a municipal register or designated under the *Ontario Heritage Act* or is a federal, provincial or municipal historic landmark or site.

There are no listed or designated heritage buildings or properties which form a part of the study area.

12) Documented Historical or Archaeological Sites

This includes property that local histories or informants have identified with possible archaeological sites, historical events, activities, or occupations. These are properties which have not necessarily been formally recognized or for which there is additional evidence identifying possible archaeological resources associated with historic properties in addition to the rationale for formal recognition.

There are no documented heritage features, or historic sites, or archaeological sites within the study area.

8.2 Characteristics Indicating Removal of Archaeological Potential

Section 1.3.2 of the Standards and Guidelines for Consultant Archaeologists specifies the property characteristics which indicate no archaeological potential or for which archaeological potential has been removed (MTC 2011: 18-19). These characteristics are listed below together with considerations derived from the conduct of this study.

The introduction of Section 1.3.2 (MTC 2011: 18) notes that *“Archaeological potential can be determined not to be present for either the entire property or a part(s) of it when the area under consideration has been subject to extensive and deep land alterations that have severely damaged the integrity of any archaeological resources. This is commonly referred to as ‘disturbed’ or ‘disturbance’, and may include:”*

1) Quarrying

There is no evidence to suggest that quarrying operations were ever carried out within the study area.

2) Major Landscaping Involving Grading Below Topsoil

Unless there is evidence to suggest the presence of buried archaeological deposits, such deeply disturbed areas are considered to have lost their archaeological potential. Properties that do not have a long history of Euro-Canadian occupation can have archaeological potential removed through extensive landscape alterations that penetrate below the topsoil layer. This is because most archaeological sites originate at grade with relatively shallow associated excavations into the soil. First Nations sites and early historic sites are vulnerable to extensive damage and complete removal due to landscape modification activities. In urban contexts where a lengthy history of occupation has occurred, properties may have deeply buried archaeological deposits covered over and sealed through redevelopment activities that do not include the deep excavation of the entire property for subsequent uses. Buildings are often erected directly over older foundations preserving archaeological deposits associated with the earlier occupation.

The study area consists of the existing gravel surfaced roads and 10 metres of adjacent wooded areas, cleared hydro corridor, steep slope, exposed rock, and low-lying wet stream channels. The proposed undertaking consists of the installation of a communications cable beneath the shoulder or travelled portion of the Dump Road, Hogg Dam Road and MacKay Road from Highway 17 to the proposed Bow Lake wind farm transformer sub-Station, a route of approximately 11 kilometres. The

graded, filled and compacted aggregate surface of the roadway itself is a significant element of the study area that constitutes a landscape alteration including grading below topsoil.

3) *Building Footprints*

Typically, the construction of buildings involves the deep excavation of foundations, footings and cellars that often obliterate archaeological deposits situated close to the surface.

There are no buildings within the study area.

4) *Sewage and Infrastructure Development*

Installation of sewer lines and other below ground services associated with infrastructure development often involves deep excavation which can remove archaeological potential.

There is no evidence to suggest that below ground services of any kind have resulted in impacts to any portion of the study area.

“Activities such as agricultural cultivation, gardening, minor grading and landscaping do not necessarily affect archaeological potential.” (MTC 2011: 18)

“Archaeological potential is not removed where there is documented potential for deeply buried intact archaeological resources beneath land alterations, or where it cannot be clearly demonstrated through background research and property inspection that there has been complete and intensive disturbance of an area. Where complete disturbance cannot be demonstrated in Stage 1, it will be necessary to undertake Stage 2 assessment..” (MTC 2011: 18)

8.3 Stage 2 Analysis and Recommendations

Section 7.8.3 of the Standards and Guidelines for Consultant Archaeologists (MTC 2011: 138-139) outlines the requirements of the Analysis and Conclusions component of a Stage 2 Physical Assessment.

1. *Summarize all finding from the Stage 2 survey, or state that no archaeological sites were identified.*
2. *For each archaeological site, provide the following analysis and conclusions:*
 - a. *A preliminary determination, to the degree possible, of the age and cultural affiliation of any archaeological sites identified.*
 - b. *A comparison against the criteria in 2 Stage 2: Property Assessment to determine whether further assessment is required*
 - c. *A preliminary determination regarding whether any archaeological sites identified in Stage 2 show evidence of a high level cultural heritage value or interest and will thus require Stage 4 mitigation.*

No archaeological sites or resources were found during the Stage 2 survey of the study area.

9.0 RECOMMENDATIONS

9.1 Stage 1 Recommendations

Under Section 7.7.4 of the Standards and Guidelines for Consultant Archaeologists (MTC 2011: 133) the recommendations to be made as a result of a Stage 1 Background Study are described.

- 1) Make recommendations regarding the potential for the property, as follows:
 - a. if some or all of the property has archaeological potential, identify areas recommended for further assessment (Stage 2) and areas not recommended for further assessment. Any exemptions from further assessment must be consistent with the archaeological fieldwork standards and guidelines.*
 - b. if no part of the property has archaeological potential, recommend that the property does not require further archaeological assessment.**
- 2) Recommend appropriate Stage 2 assessment strategies.*

The study area has been identified as an area of archaeological potential.

The study area consists of the existing gravel surfaced roads and 10 metres of adjacent wooded areas, cleared hydro corridor, steep slope, exposed rock, and low-lying wet stream channels. The proposed undertaking consists of the installation of a communications cable beneath the shoulder or travelled portion of the Dump Road, Hogg Dam Road and MacKay Road from Highway 17 to the proposed Bow Lake wind farm transformer sub-Station, a route of approximately 11 kilometres. As the graded, filled and compacted aggregate surface of the roadway itself cannot be assessed for archaeological resources, the adjacent margins of the road on both sides of the route were examined for areas of archaeological potential which were then subject to assessment, as archaeological resources encountered adjacent to the road may indicate further archaeological resources presently capped by the existing road.

9.2 Stage 2 Recommendations

Under Section 7.8.4 of the Standards and Guidelines for Consultant Archaeologists (MTC 2011: 139) the recommendations to be made as a result of a Stage 2 Physical Assessment are described.

- 1) For each archaeological site, provide a statement of the following:
 - a. Borden number or other identifying number*
 - b. Whether or not it is of further cultural heritage value or interest*
 - c. Where it is of further cultural heritage value or interest, appropriate Stage 3 assessment strategies**

- 2) *Make recommendations only regarding archaeological matters. Recommendations regarding built heritage or cultural heritage landscapes should not be included.*
- 3) *If the Stage 2 survey did not identify any archaeological sites requiring further assessment or mitigation of impacts, recommend that no further archaeological assessment of the property be required.*

As a result of the physical assessment of the study area, no archaeological resources were encountered. Consequently, it is recommended no further archaeological assessment of the proposed undertaking is required.

10. ADVICE ON COMPLIANCE WITH LEGISLATION

While not part of the archaeological record, this report must include the following standard advisory statements for the benefit of the proponent and the approval authority in the land use planning and development process:

- a. This report is submitted to the Minister of Tourism and Culture as a condition of licensing in accordance with Part VI of the Ontario Heritage Act, R.S.O. 1990, c. 0.18. The report is reviewed to ensure that it complies with the standards and guidelines issued by the Minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the Ministry of Tourism and Culture, a letter will be issued by the ministry stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.*
- b. It is an offence under Sections 48 and 69 of the Ontario Heritage Act for any party other than a licensed archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such time as a licensed archaeologist has completed archaeological fieldwork on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeological Reports referred to in Section 65.1 of the Ontario Heritage Act.*
- c. Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48 (1) of the Ontario Heritage Act. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed archaeologist to carry out archaeological fieldwork, in compliance with sec. 48 (1) of the Ontario Heritage Act.*
- d. The Cemeteries Act, R.S.O. 1990, c. C.4 and the Funeral, Burial and Cremation Services Act, 2002, S.O. 2002, c.33 (when proclaimed in force) require that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Consumer Services.*
- e. Archaeological sites recommended for further archaeological fieldwork or protection remain subject to Section 48 (1) of the Ontario Heritage Act and may not be altered, or have artifacts removed from them, except by a person holding an archaeological licence.*

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12. Maps

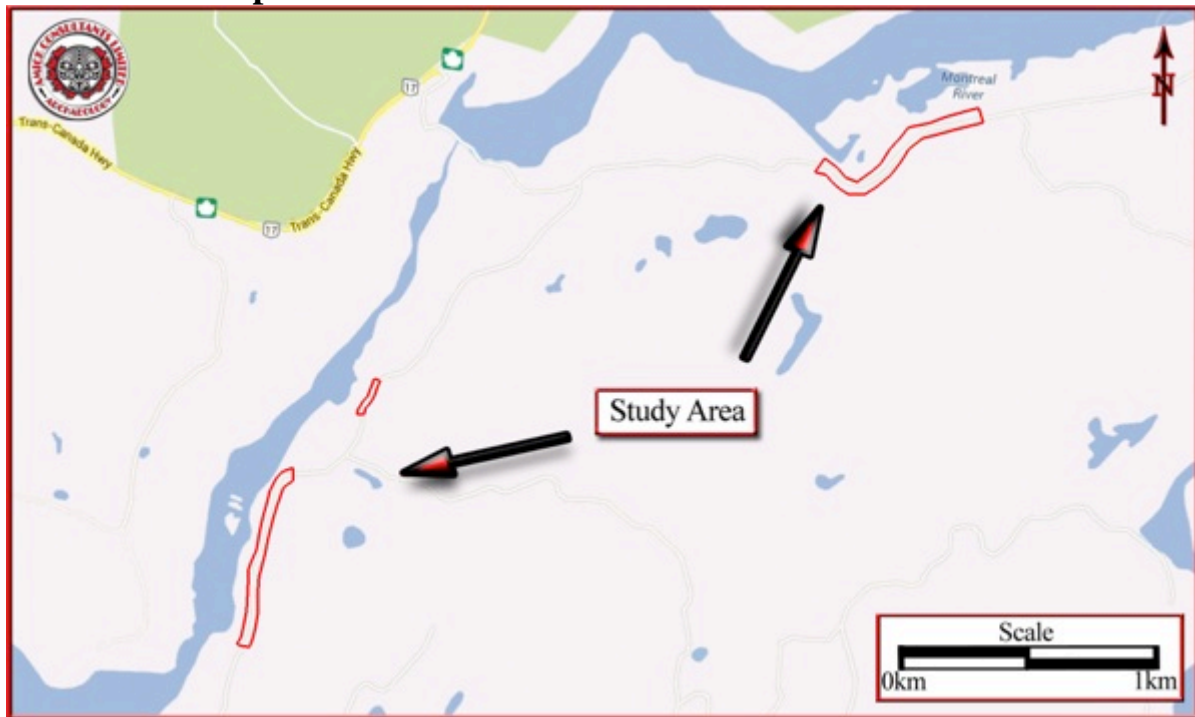


Figure 1 Location of the Study Area (Google Maps 2011)



Figure 2 Segment of Map of Part of Northern Ontario Showing the Northern Part of the District of Nipissing, Algoma and Thunder Bay (from The Copp Clark Co, Toronto 1904)

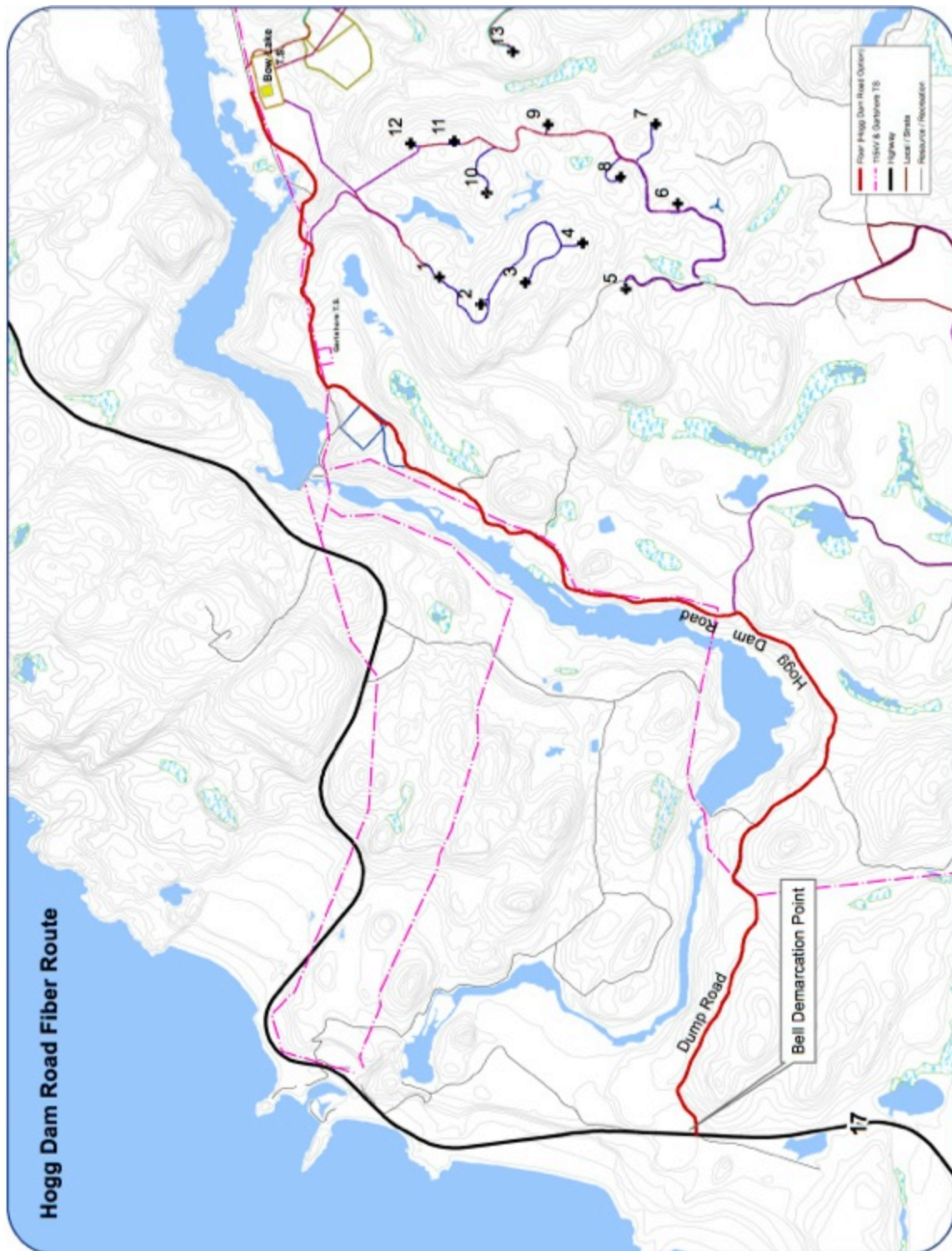


Figure 3 Proposed Communications Cable Route (Tulloch 2013)

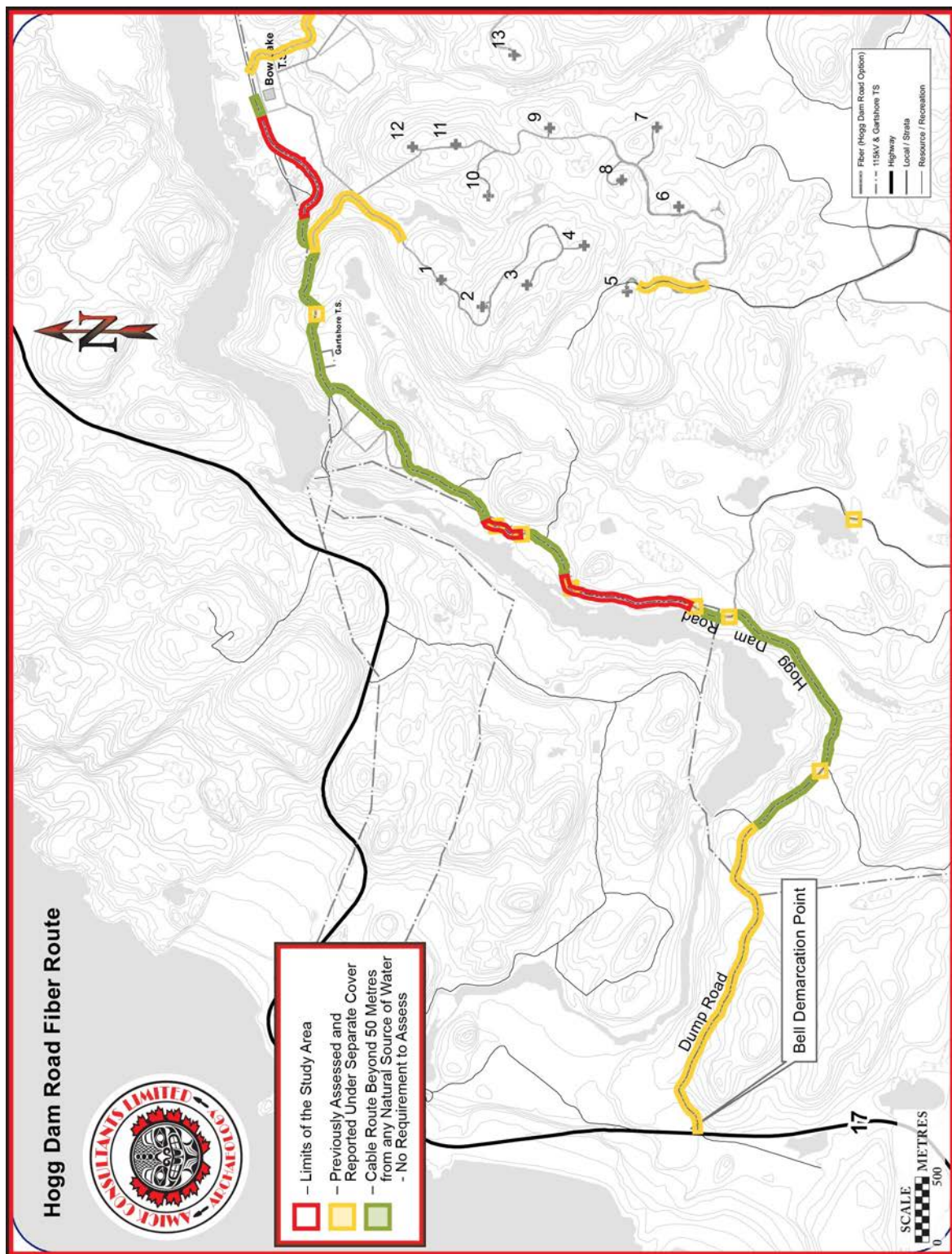


Figure 4 Assessment Map (Tulloch 2013)



Figure 5 Aerial Photo of the Study Area Map 1 (Google Earth 2011)



Figure 6 Aerial Photo of the Study Area Map 2 (Google Earth 2011)

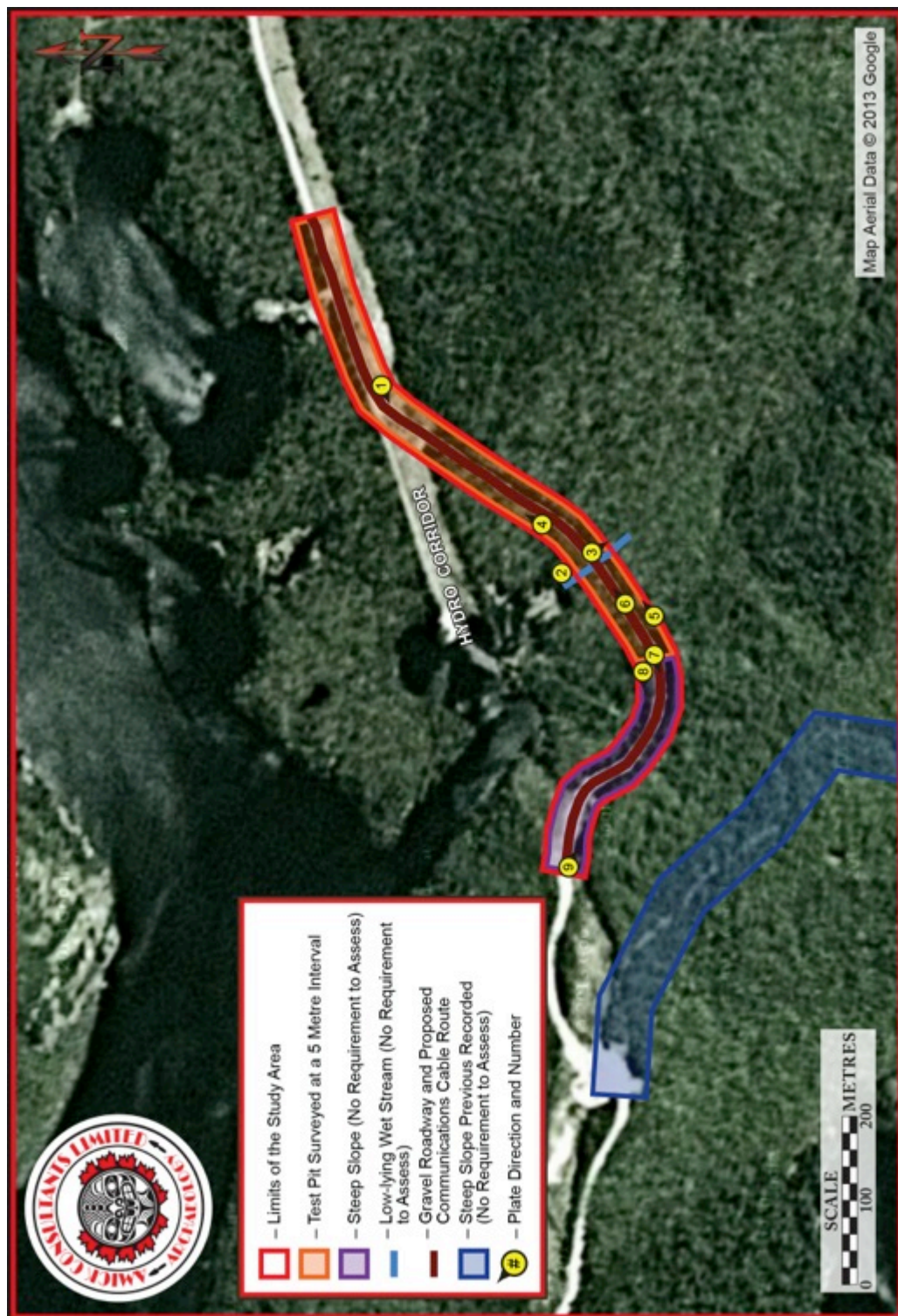


Figure 7 Aerial Photo of the Study Area Map 3 (Google Earth 2011)

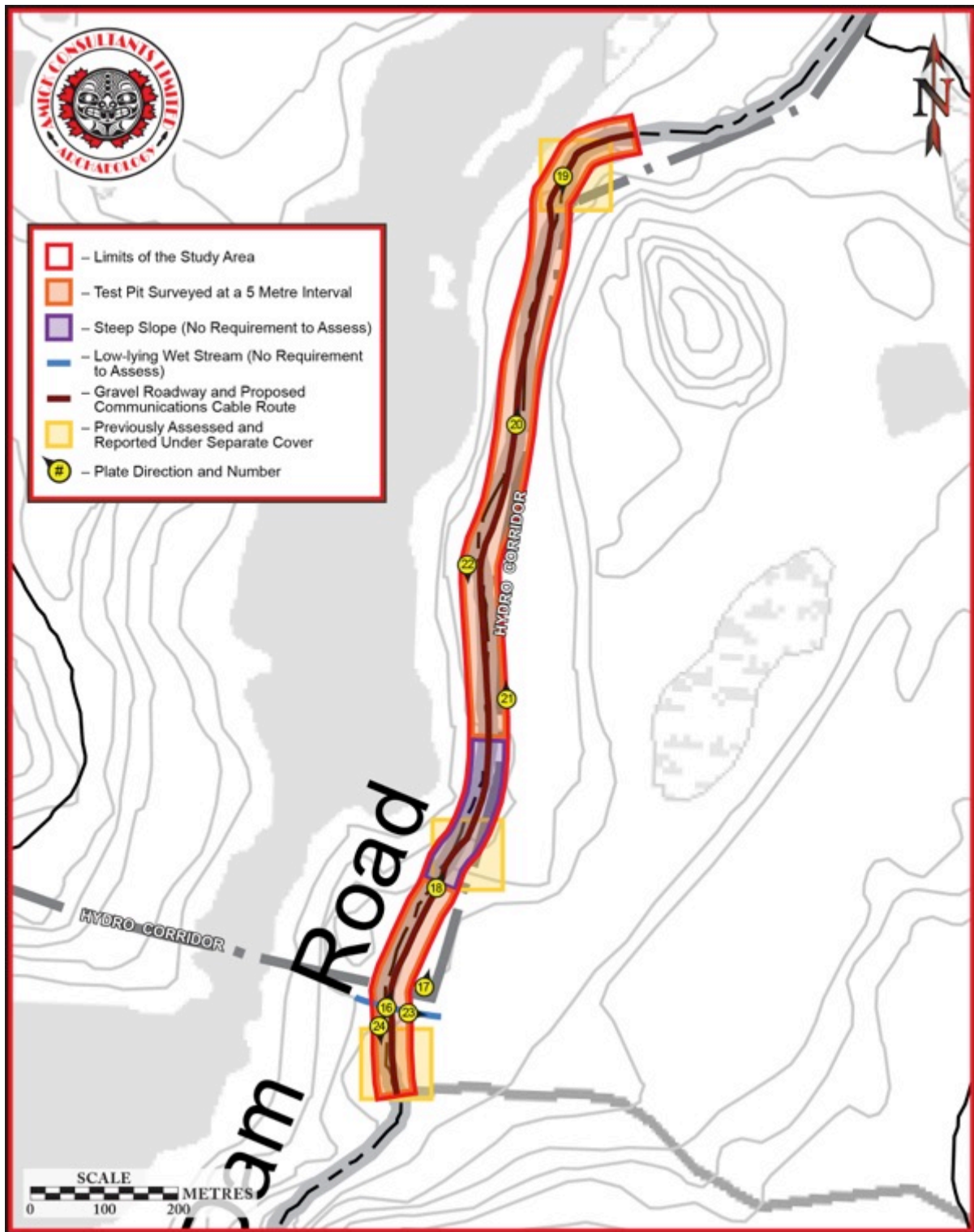


Figure 8 Detailed Plan of the Study Area Map 1

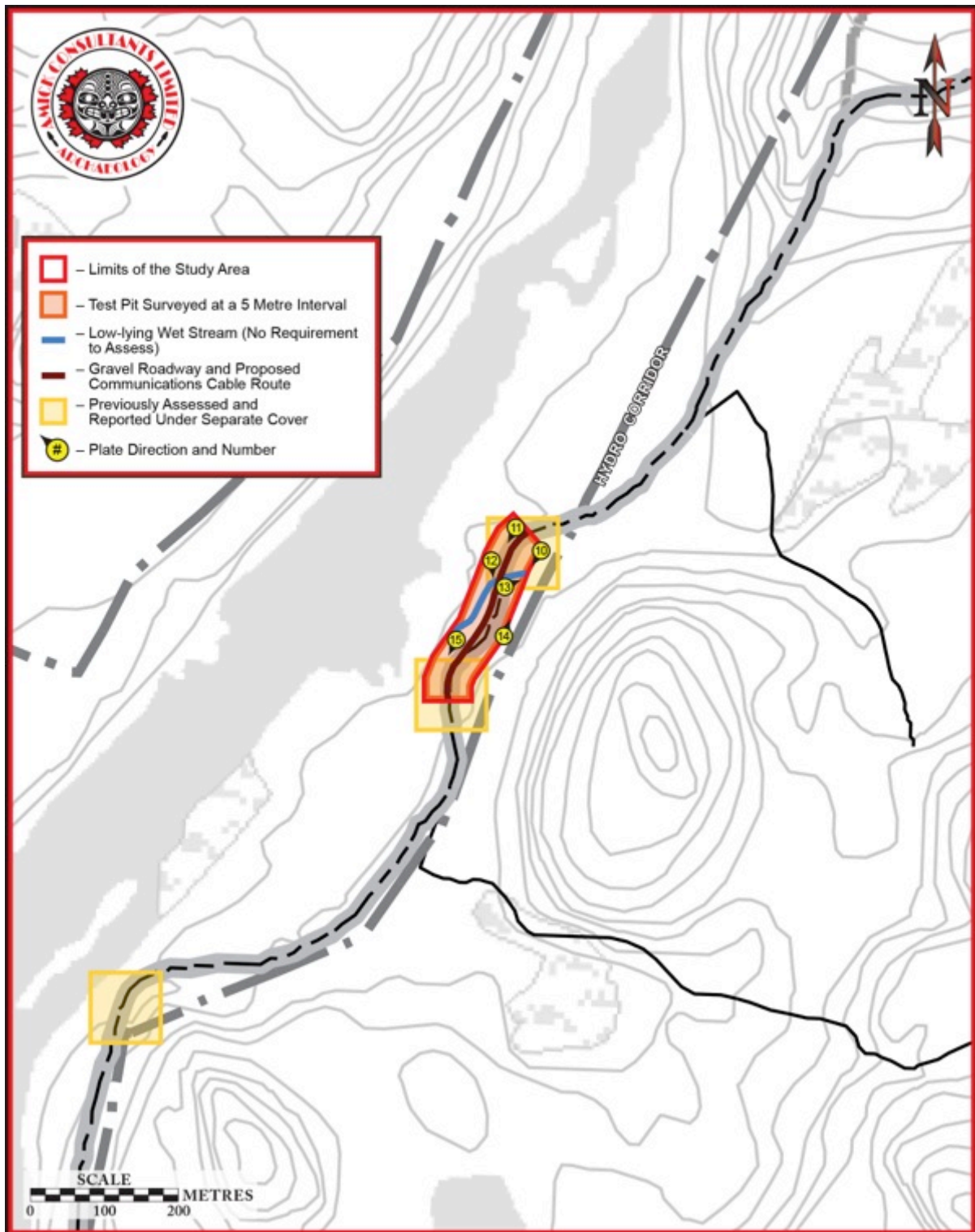


Figure 9 Detailed Plan of the Study Area Map 2

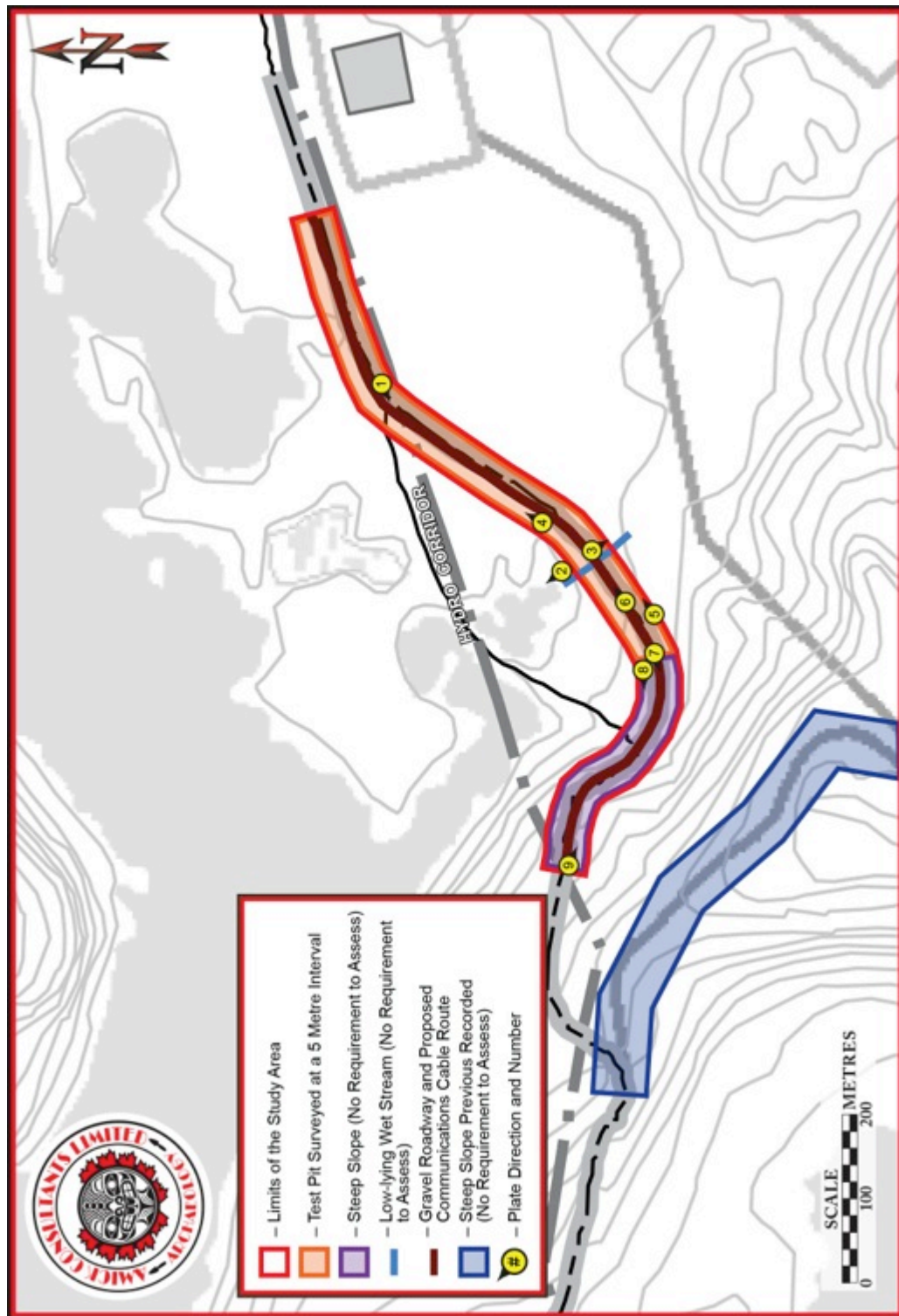


Figure 10 Detailed Plan of the Study Area Map 3

13. Images

	
<p>Plate 1 Disturbed Gravel Roadway and Test Pit Conditions</p>	<p>Plate 2 Bay of Montreal River adjacent to Study Area</p>
	
<p>Plate 3 Tributary Stream of Montreal River crossing Study Area</p>	<p>Plate 4 Test Pit Survey Conditions</p>
	
<p>Plate 5 Test Pit Survey Conditions</p>	<p>Plate 6 Existing Gravel Roadway</p>

	
Plate 7 Gravel Roadway and Steep Slope	Plate 8 Steep Slope Roadside Embankment
	
Plate 9 Steep Slope Roadside Embankment	Plate 10 Test Pit Survey Conditions
	
Plate 11 Existing Gravel Road	Plate 12 Tributary Stream of Montreal River crossing Study Area



Plate 13 Tributary Stream of Montreal River crossing Study Area



Plate 14 Test Pit Survey Conditions



Plate 15 Test Pit Survey Conditions



Plate 16 Existing Gravel Road and Test Pit Survey Conditions



Plate 17 Test Pit Survey Conditions



Plate 18 Disturbance and Steep Slope



Plate 19 Gravel Roadway and Test Pit Conditions



Plate 20 Gravel Roadway and Test Pit Conditions



Plate 21 Test Pit Survey Conditions



Plate 22 Test Pit Survey Conditions



Plate 23 Tributary Stream of Montreal River crossing Study Area



Plate 24 Test Pit Survey Conditions