



1.0 PROJECT REPORT COVER PAGE

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Project Information:

AMICK Project Number:	11801-P
MTC Project Number:	P058-776-2011
Investigation Type:	Stage 1-2 Archaeological Assessment
Project Name:	BEMP Holdings 1
Project Location:	Part of Lot 12, Concession 11 Formerly in the Township of Innisfil, Now in the City of Barrie County of Simcoe

Approval Authority Information:

File Designation Number:

Reporting Information:

Site Record/Update Forms:	N/A
Date of Report Filing:	02 September 2011
Type of Report:	ORIGINAL

2.0 EXECUTIVE SUMMARY

This report describes the results of the 2011, conducted by AMICK Consultants Limited. This study was conducted under Archaeological Consulting License #P058 issued to Michael Henry by the Minister of Tourism and Culture for the Province of Ontario. This assessment was undertaken as a requirement under the Planning Act (RSO 1990b) in order to support a future Draft Plan of Subdivision application and companion Zoning By-law Amendment application. 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 August 19, 2011. The property was subject to reconnaissance, photographic documentation and physical assessment on August 24, 2011, consisting of high-intensity test pit survey at an interval of five metres between individual test pits and high intensity pedestrian survey at an interval of five metres between individual transects. 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 significant archaeological resources were encountered. One isolated find containing one Brewerton Side-Notched point was found. However, after further survey no other find spots were found. Consequently, it is recommended that the proposed development be considered cleared of any further requirement for archaeological fieldwork. Any current or future condition of development respecting archaeological resources should be considered as addressed.

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4.0 PROJECT PERSONNEL

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5.0 PROJECT BACKGROUND

5.1 Development Context

This report describes the results of the 2011 Stage 1-2 Archaeological Assessment of BEMP Holdings 1, Part of Lot 12, Concession 11, Formerly in the Township of Innisfil, Now in the City of Barrie, County of Simcoe, conducted by AMICK Consultants Limited. This study was conducted under Archaeological Consulting License #P058 issued to Michael Henry by the Minister of Tourism and Culture for the Province of Ontario. This assessment was undertaken as a requirement under the Planning Act (RSO 1990b) in order to support a future Draft Plan of Subdivision application and companion Zoning By-law Amendment application. 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 August 19, 2011. The property was subject to reconnaissance, photographic documentation and physical assessment on August 24, 2011, consisting of high-intensity test pit survey at an interval of five metres between individual test pits and high intensity pedestrian survey at an interval of five metres between individual transects. 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 which 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 which 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.

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.
		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 the lack of formerly documented sites does not 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.

5.2.1 First Nations Occupation

A summary of registered and/or known archaeological sites within a 2-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 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.

5.2.2 Euro-Canadian Settlement

A summary of registered and/or known archaeological sites within a 2-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.

5.2.2 General Historical Outline

In the seventeenth century Simcoe County was home to the Huron. With the arrival of French priests and Jesuits, missions were established near Georgian Bay. After the destruction of the missions by the Iroquois and the British, the area was occupied by Algonquin speaking peoples. After the war of 1812, the government began to invest in the military defences of Upper Canada, through the extension of Simcoe's Yonge St from Lake Simcoe to Penetanguishene on Georgian Bay (Garbutt, Mary).

The Township of Innisfil originally included Allandale, Tollendal, Painswick, Minets Point and Holly, the Township was incorporated in 1850. The first settlers were the Hewson Family who settled on what was called Hewson's Point and was later renamed Big Bay Point in March 1820. The first sawmill was built in 1823 by George McMullan in Tollendal. In 1825 due to the amount of settlers steadily increasing it became important to have accessible

roadways, this led to the clearing of brush between Barrie and Churchville, as a result this became a land route known as Penetanguishene Road, which later became Hwy 11 and is now known as Yonge Street. (Lemon, Robert)

The development of Innisfil Township relied heavily upon settlers clearing purchased land and establishing self-sustaining farms. As the population increased so did the amount of services (post office, schools and church) available to settlers. The Township even had its own form of local government; commissioners were appointed by the provincial act and would oversee the political issues of the community. By 1835, there was a strong need for a grist mill, which is a direct result of the progress of the agricultural community. In 1853, the Allandale train station began operating thus helping in the overall continued growth of the community. By the late 1800's the Township had changed significantly with an annex of 500 acres to the Village of Allandale in 1891 and an additional 500 acres was annexed to the City of Barrie in 1897. (Lemon, Robert)

Figure 2 illustrates the location of the study area and environs as of 1881. The study area is shown to belong to F. Quante; one structure is located within Lot 12, but lies outside the study area. Accordingly, it has been determined that there is potential for archaeological deposits related to early Euro-Canadian settlement within the study area.

5.2.3 Summary of Historical Context

The data provided from the Ministry of Tourism and Culture indicates a lack of formally registered archaeological sites in the vicinity. This is most likely a reflection of a lack of systematic archaeological research in the past, particularly as the study area and the surrounding landscape has remained rural in character without much land use change since archaeological assessments were component studies of either planning applications or environmental assessments.

The brief overview of documentary evidence readily available indicates that the study area is situated within an area that was close to the historic transportation routes and in an area well populated during the nineteenth century and as such has a high potential for sites relating to early Euro-Canadian settlement in the region. Background research indicates the property has high potential for significant archaeological resources of Native origins.

5.2.4 Summary

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 which have not been subject to systematic archaeological research in the past.

5.3 Archaeological Context

5.3.1 Location and Current Conditions

This report describes the results of the 2011 Stage 1-2 Archaeological Assessment of BEMP Holdings 1, Part of Lot 12, Concession 11, Formerly in the Township of Innisfil, Now in the City of Barrie, County of Simcoe, conducted by AMICK Consultants Limited. This study was conducted under Archaeological Consulting License #P058 issued to Michael Henry by the Minister of Tourism and Culture for the Province of Ontario. This assessment was undertaken as a requirement under the Planning Act (RSO 1990b) in order to support a future Draft Plan of Subdivision application and companion Zoning By-law Amendment application. 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).

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The study area consists of mostly ploughable lands, an area of low-lying and wet in the North portion of the study area as well as a large disturbed area in the West portion. The study area contains a small amount of forest area. The study area is bounded on the north by woodlot, on the East by existing agricultural land, on the South by Lockhart Road and on the West by existing residential. A plan of the study area is included within this report as Figure 3.

5.3.2 Physiographic Region

The subject property is situated within the Peterborough Drumlin Field physiographic region. The Peterborough drumlin field is a rolling till plain with an area of roughly 1,750 square miles, containing approximately 3,000 full drumlins amongst other lesser ones. The rock underlying this region is mostly limestone, which is highly fossiliferous and tends to disintegrate easily. The general bedrock plain rises to about 800 feet in the Simcoe County area. Many of these drumlins have shallow coverings of nearly stone-free silt and fine sand with depths, on average, of less than two feet. Drumlins in this area are of typical shape with many swampy areas intervening. Valleys across the entire drumlin field break the continuity of the physiographic region, and are deep enough to provide excellent drainage to the adjacent uplands. Forests on the higher, well-drained sites consist mainly of maple and beech, with some white pine and hemlock. The zonal soils, including Bondhead loam, belong to the Grey Brown Luvisolic group which is found in the western part of the field. The Bondhead has a deep profile, as well as a light-coloured A_e horizon below a lighter, less stony surface layer in which free carbonates are seldom found, thus making a more desirable soil for agricultural purposes (Chapman and Putnam 1984: 169-172).

5.3.3 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).

There is a low-lying and wet area located in the Northern portion of the study area. A stream course is located approximately 300m Northwest of the study area which can be seen on the Illustrated Historical Atlas of the County of Simcoe, Ont. (Walker & Miles 1881).

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 (eg. 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 which 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 does contain an area of disturbance in the Western portion of the study area. This area was test pitted at an interval of 5 metres between individual test pits to determine the extent of disturbance.

5.4.3 Low-Lying and Wet Areas

Landscape features which 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 an area of low-lying and wet in the Northern portion of the study area.

5.4.4 Steep Slope

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

The study area does not contain areas of steep slope.

5.4.5 Wooded Areas

Areas of the property which 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.

The study area contains a small wooded area.

5.4.6 Ploughable Agricultural Lands

Areas of current or former agricultural lands which 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 mostly 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 study area does contain a small amount of meadow.

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 cloudy skies on 24 August 2011. The temperature at the time of the reconnaissance and assessment was 22°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.

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 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.

6.2 Pedestrian Survey

In accordance with the Standards and Guidelines for Consultant Archaeologists, pedestrian survey is required to be undertaken for all portions of the study area that are ploughable or can be subject to cultivation. This is the preferred method to utilize while conducting an assessment. This report confirms that the conduct of pedestrian survey within the study area conformed to the following standards:

- 1. Actively or recently cultivated agricultural land must be subject to pedestrian survey.*
- 2. Land to be surveyed must be recently ploughed. Use of chisel ploughs is not acceptable. In heavy clay soils ensure furrows are disked after ploughing to break them up further.*
- 3. Land to be surveyed must be weathered by one heavy rainfall or several light rains to improve visibility of archaeological resources.*
- 4. Provide direction to the contractor undertaking the ploughing to plough deep enough to provide total topsoil exposure, but not deeper than previous ploughing.*
- 5. At least 80 % of the ploughed ground surface must be visible. If surface visibility is below 80% (e.g. due to crop stubble, weeds, young crop growth), ensure the land is re-ploughed before surveying.*
- 6. Space survey transects at maximum intervals of 5m (20 survey transects per hectare)*
- 7. When archaeological resources are found, decrease survey transects to 1m intervals over a minimum of 20m radius around the find to determine whether it is an isolated find or part of a larger scatter. Continue working outward at this interval until full extent of the surface scatter has been defined.*
- 8. Collect all formal artifact types and diagnostic categories. For 19th century archaeological sites, collect all refined ceramic sherds (or, for larger sites collect a sufficient sample to form the basis for dating).*

9. Based on professional judgment, strike a balance between gathering enough artifacts to document the archaeological site and leaving enough in place to relocate the site if it is necessary to conduct further assessment. (MTC 2011: 30-31)

The Guidelines contained within Section 2.1.1 of the Standards and Guidelines for Consultant Archaeologists allow some variation in the conduct of pedestrian survey depending upon conditions, as follows:

- 1. For orchards, vineyards or comparable situations where the open space to be ploughed between plants measures more than 5 m, strip-ploughing is an acceptable alternative to full ploughing.*
- 2. When appropriate based on crop conditions, (e.g. corn fields where herbicides have prevented weed growth, young winter wheat without weed growth between the rows), survey transects at intervals of less than 5 m may be used to achieve the minimum 80% visibility.* (MTC 2011: 30)

6.3 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*
- b. pasture with high rock content*
- c. 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*
- 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.*
- 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.*

- 2. 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.*
- 3. 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.*
- 4. Test pit to within 1 m of built structures (both intact and ruins), or until test pits show evidence of recent ground disturbance.*
- 5. Ensure that test pits are at least 30 cm in diameter.*
- 6. 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.*
- 7. Screen soil through mesh no greater than 6 mm*
- 8. Collect all artifacts according to their associated test pit.*
- 9. Backfill all test pits unless instructed not to by the landowner.*

(MTC 2011: 31-32)

6.4 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 August 24, 2011. The temperature was around 22°C. The work was completed under sunny skies. Weather conditions were appropriate for the conduct of archaeological field work.

7.0 RECORD OF FINDS

Section 7.8.2 of the Standards and Guidelines for Consultant Archaeologists (MTC 2011: 137-138) outlines the requirements of the Record of Finds component of a Stage 2 report:

- 1. For all archaeological resources and sites that are identified in Stage 2, provide the following:*
 - a. a general description of the types of artifacts and features that were identified*
 - b. a general description of the area within which artifacts and features were identified, including the spatial extent of the area and any relative variations in density*
 - c. a catalogue and description of all artifacts retained*
 - d. a description of the artifacts and features left in the field (nature of material, frequency, other notable traits).*
- 2. Provide an inventory of the documentary record generated in the field (e.g. photographs, maps, field notes).*
- 3. Submit information detailing exact site locations on the property separately from the project report, as specified in section 7.6. Information on exact site locations includes the following:*
 - a. table of GPS readings for locations of all archaeological sites*
 - b. maps showing detailed site location information.*

7.1 Archaeological Resources

One isolated find containing one Brewerton Side-Notched Point was found. After further survey of the immediate area at an interval of 1m no other find spots were found. Consequently, this find spot is considered as an isolated find not relating to a larger area of occupation. Isolated find spots are common as First Nation peoples used a large area for hunting which can result in isolated items becoming scattered throughout the hunting grounds.

7.1.1 Isolated Find

Table 2 Artifact Summary

Find Spot #	Cat. #	Description	Length	Width	Thickness
1	001	Brewerton Side Notched Point	44.65mm	5.16mm to 23.30mm	3.44mm to 7.22mm

7.2 Archaeological Fieldwork Documentation

The documentation produced during the field investigation conducted in support of this report includes: one sketch map, one page of photo log, one page of field notes, and 35 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 August 19, 2011. Those portions of the property which did not consist of previous disturbance or existing structures were subject to reconnaissance, photographic documentation and physical assessment on August 24, 2011, consisting of high-intensity test pit survey at an interval of five metres between individual test pits and high intensity pedestrian survey at an interval of five metres between individual transects. 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 which indicate archaeological potential (MTC 2011: 17-18). Factors which indicate archaeological potential are features of the local landscape and environment which 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 documented archaeological sites related to First Nations activity and occupation have not been documented in the vicinity of the study area.
- 2) *Water Sources*
Primary water sources are describes 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.

There are no identified primary water sources within 300 metres of the study area.

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.

There are identified secondary water sources within 300 metres of the study area. A stream course is located approximately 300 metres to the Northwest of the study area and an area of low-lying and wet in the Northern portion of the study area.

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 no shorelines within 300 metres of the study area.

5) *Elevated Topography*

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

There are no 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.

The soil throughout the study area is medium brown sand.

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 settled in 1820.

10) *Early Historical Transportation Routes*

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

The study area is situated adjacent to an early settlement road which appears on the Historic Atlas Map of 1881.

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 which do not have a long history of Euro-Canadian occupation can have archaeological potential removed through extensive landscape alterations which 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 which 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.

There is an area of disturbance in the Western portion of the study area. This area has been subject to earth moving activities and is now covered in overgrowth.

3) Building Footprints

Typically, the construction of buildings involves the deep excavation of foundations, footings and cellars which 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)

Table 3 below summarizes the evaluation criteria of the Ministry of Tourism and Culture together with the results of the Stage 1 Background Study for the proposed undertaking. Based on the criteria, the property is deemed to have archaeological potential on the basis of proximity to water, the presence of sandy soils and the location of early historic settlement roads adjacent to the study area.

Table 3 Evaluation of Archaeological Potential

FEATURE OF ARCHAEOLOGICAL POTENTIAL		YES	NO	N/A	COMMENT
1	Known archaeological sites within 300m		N		If Yes, potential determined
PHYSICAL FEATURES					
2	Is there water on or near the property?	Y			If Yes, what kind of water?
2a	Primary water source within 300 m. (lakeshore, river, large creek, etc.)		N		If Yes, potential determined
2b	Secondary water source within 300 m. (stream, spring, marsh, swamp, etc.)	Y			If Yes, potential determined
2c	Past water source within 300 m. (beach ridge, river bed, relic creek, etc.)		N		If Yes, potential determined
2d	Accessible or Inaccessible shoreline within 300 m. (high bluffs, marsh, swamp, sand bar, etc.)		N		If Yes, potential determined
3	Elevated topography (knolls, drumlins, eskers, plateaus, etc.)		N		If Yes, and Yes for any of 4-9, potential determined
4	Pockets of sandy soil in a clay or rocky area		N		If Yes and Yes for any of 3, 5-9, potential determined
5	Distinctive land formations (mounds, caverns, waterfalls, peninsulas, etc.)		N		If Yes and Yes for any of 3-4, 6-9, potential determined
HISTORIC/PREHISTORIC USE FEATURES					
6	Associated with food or scarce resource harvest areas (traditional fishing locations, agricultural/berry extraction areas, etc.)		N		If Yes, and Yes for any of 3-5, 7-9, potential determined.
7	Early Euro-Canadian settlement area within 300 m.	Y			If Yes, and Yes for any of 3-6, 8-9, potential determined
8	Historic Transportation route within 100 m. (historic road, trail, portage, rail corridors, etc.)	Y			If Yes, and Yes for any 3-7 or 9, potential determined
9	Contains property designated and/or listed under the Ontario Heritage Act (municipal heritage committee, municipal register, etc.)		N		If Yes and, Yes to any of 3-8, potential determined
APPLICATION-SPECIFIC INFORMATION					
10	Local knowledge (local heritage organizations, First Nations, etc.)		N		If Yes, potential determined
11	Recent disturbance not including agricultural cultivation (post-1960-confirmed extensive and intensive including industrial sites, aggregate areas, etc.)		N		If Yes, no potential or low potential in affected part (s) of the study area.

If **YES** to any of 1, 2a-c, or 10 Archaeological Potential is **confirmed**

If **YES** to 2 or more of 3-9, Archaeological Potential is **confirmed**

If **YES** to 11 or No to 1-10 Low Archaeological Potential is **confirmed** for at least a portion of the study area.

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.

- 1) Within the study area the land consists of mostly ploughable lands, an area of low-lying at wet in the North portion of the study area as well as a large disturbed area in the West portion. The study area contains a small amount of forest area. The areas not consisting of low-lying and wet areas were determined to have potential and Stage 2 assessment was therefore conducted using a combination of pedestrian and test pit survey methodologies in accordance with the Standards governing the use of each*

method. All portions of the property that could be ploughed were ploughed in advance of the assessment and were well weathered. The pedestrian survey was completed on all ploughed lands at an interval of 5 metres in between individual transects. Any areas that could not be ploughed were subject to assessment using the test pit methodology. Test pits were dug at a fixed interval of 5 metres across the surface area. Test pits measured a minimum of 30 centimeters in diameter and were dug at least 5 centimeters into the subsoil beneath the topsoil layer. All excavated earth was screened through 6 mm wire mesh to ensure that any artifacts contained within the soil matrix are recovered. All test pits were back filled and restored as much as was reasonably possible to the level of the surrounding grade.

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 property, no significant archaeological resources were encountered. One isolated find containing one Brewerton Side-Notched point was found. However, after further survey no other find spots were found. Consequently, it is recommended that the proposed development be considered cleared of any further requirement for archaeological fieldwork. Any current or future condition of development respecting archaeological resources should be considered as addressed.

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)

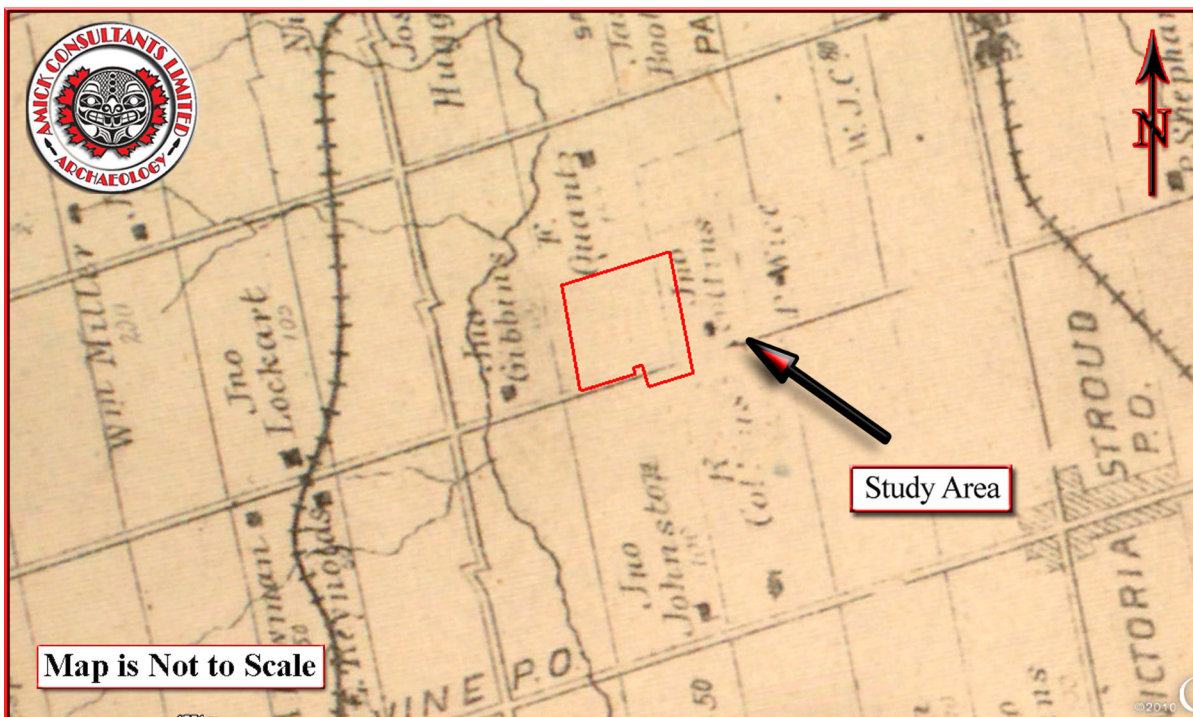


Figure 2 Segment of Historic Atlas Map for the Township of Innisfil (1881)
(Walker & Miles 1881)

2011 Stage 1-2 Archaeological Assessment of BEMP Holdings 1, Part of Lot 12, Concession 11, Formerly in the Township of Innisfil, Now in the City of Barrie, County of Simcoe (AMICK File #11801-P/MTC File #P058-776-2011)



Figure 3 Land Ownership Plan (Richardson Foster Ltd. 2011)



Figure 4 Aerial Photo of the Study Area (Google Earth 2011)

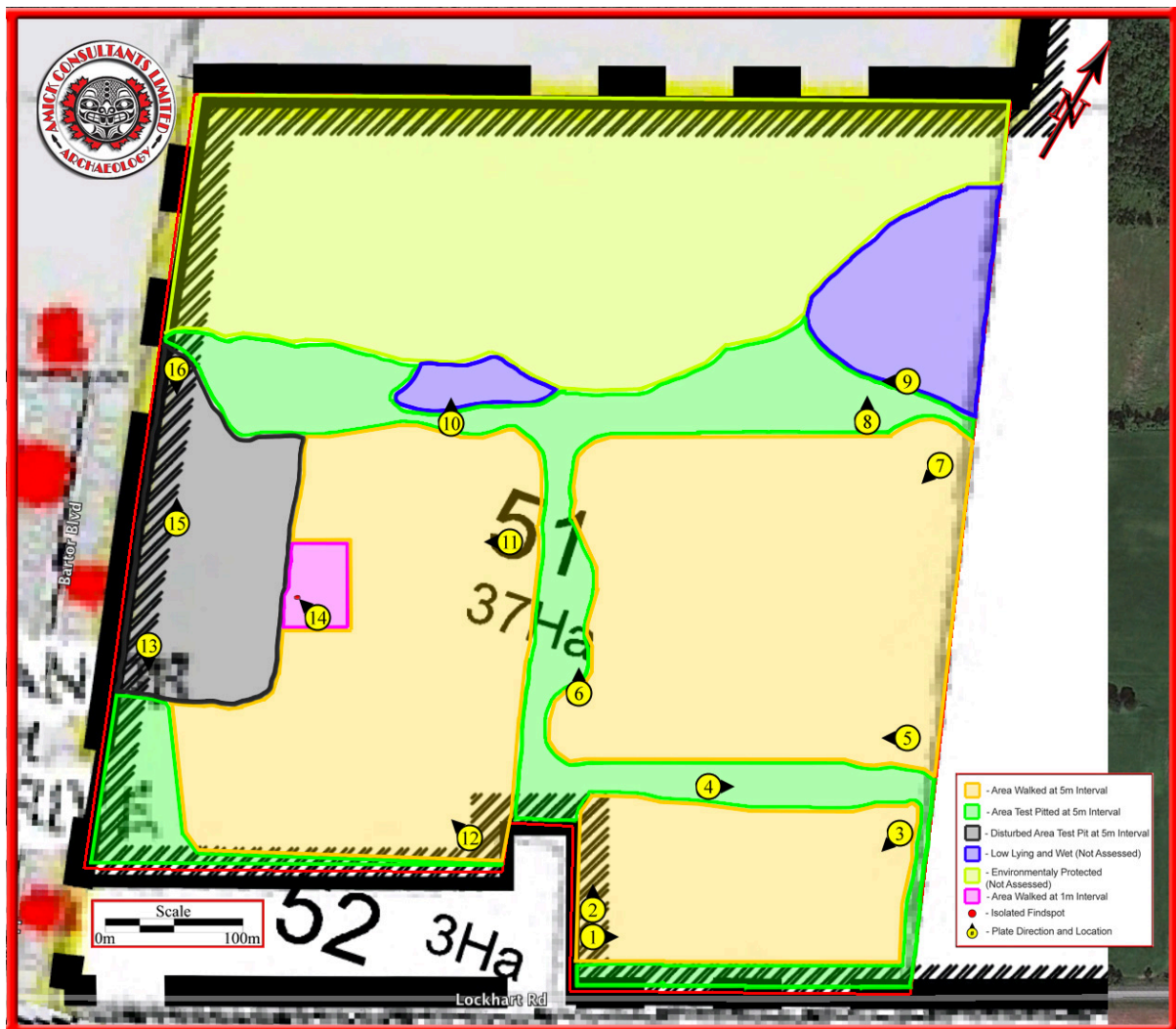






Figure 5 Detailed Plan of the Study Area

13. Images

Plate 1 Field Condition, facing East	Plate 2 Field Condition, facing North
Plate 3 Field Conditions, facing Southwest	Plate 4 Test Pitting Conditions, facing East
Plate 5 Field Conditions, facing West	Plate 6 Test Pitted Meadow, facing North

	
<p>Plate 7 Field Conditions, facing Southwest</p>	<p>Plate 8 Low-Lying and Wet Area, facing North</p>
	
<p>Plate 9 Low-Lying and Wet Area, facing Southwest</p>	<p>Plate 10 Low-Lying and Wet Area, facing North</p>
	
<p>Plate 11 Field Conditions, facing West</p>	<p>Plate 12 Field Conditions, facing West</p>

	
<p>Plate 13 Test Pitting Conditions, facing South</p>	<p>Plate 14 Find Spot, facing Northwest</p>
	
<p>Plate 15 Overgrown Test Pitted Disturbed Area, facing North</p>	<p>Plate 16 Overgrown Test Pitted Disturbed Area, facing South</p>

Appendix A Artifact Description

Brewerton Side-Notched Points

Brewerton Side-Notched points are commonly medium sized, broad and thick. Points of this type are commonly one and one quarter to one and one half times long as they are wide with larger examples being twice as long as wide. The outline is trianguloid with a biconvex cross section. Its edges are slightly excurvate or straight or rarely incurvate and are faintly serrated in rare instances. The base is straight to slightly convex or mildly concave. This type of point has been attributed to the Archaic period with cultural affiliation to Laurentian complexes of New York, New England, Pennsylvania, and Southern Ontario (Ritchie: 19).

Appendix B Artifact Catalogue

Find Spot #	Cat. #	Description	Length	Width	Thickness
1	001	Brewerton Side Notched Point	44.65mm	5.16mm to 23.30mm	3.44mm to 7.22mm

Appendix C Artifact Photo



Figure 1 Brewerton Side Notched Point, Cat. # 001.