Appendix C3

Archaeological Assessments

Stage 1
Archaeological Assessment

Stage I Archaeological Assessment for Land and Underwater Areas for the Wolfe Island Wind Project, Township of Frontenac Islands and City of Kingston Frontenac County, Ontario

Submitted to:

Canadian Renewable Energy Corp.
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MCL CIF # P052-115-2006
(Revised May 07)

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PROJECT PERSONNEL

Project Director:	Mr. T. Keith Powers
Report Preparation:	Mr. T. Keith Powers Mrs. Karen Powers

1 INTRODUCTION

The Archaeologists Inc. was contracted by Canadian Renewable Energy Corporation ("CREC"), a wholly owned subsidiary of Canadian Hydro Developers, Inc., to conduct a Stage I Archaeological Assessment for land and underwater areas for the Wolfe Island Wind Project, Township of Frontenac Islands and the City of Kingston, Frontenac County, Ontario (Figure 1). The study area comprised approximately 51,806,000 acres.

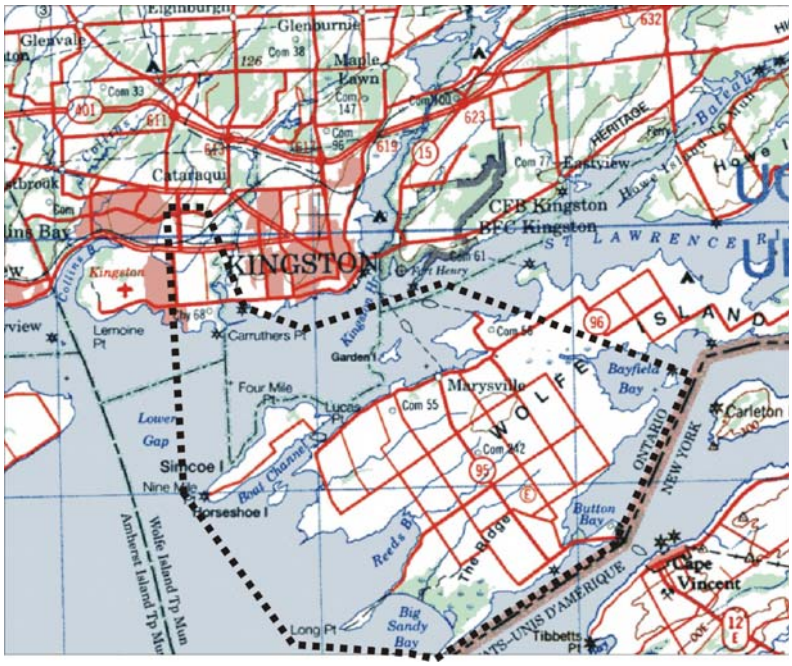


FIGURE 1: THE LOCATION OF THE STUDY AREA AS DEPICTED
ON 1:50,000 NTS MAP 31 C 1983 EDITION 6

Two previous archaeological Stage I studies have been completed for select areas within the study area, as part of previous efforts by CREC, and both studies are presented in full in Appendices A and B. The goal of this report is to summarize and merge the two reports into a coherent document that updates the current study area as well as registered archaeological sites.

For ease in the reporting the study area will be divided into four distinct areas. The first area comprises the Kingston mainland, the second area deals with the resources of Simcoe Island, the third section deals with the western portion of Wolfe Island, and the final area covers the resources highlighted within the waters surrounding the study area:

- Area 1, Kingston Mainland: is approximately 3.5 km by 4.6 km in size (Figure 2)
- Area 2, Simcoe Island: located roughly 3.5 km from the mainland and is approximately 5.5 km long by 1.8 km wide (Figure 3)
- Area 3, Wolfe Island: is approximately 16.2 km wide and 9.47 km wide (Figure 4)
- Area 4, Water: water resources around the study area as highlighted in Figure 5. This area was subjected to a document search, highlighting known archaeological resources.

These four areas can be seen in relation to each other in Figure 6 depicting the total study area.

Figure 2: Study Area on Kingston Mainland

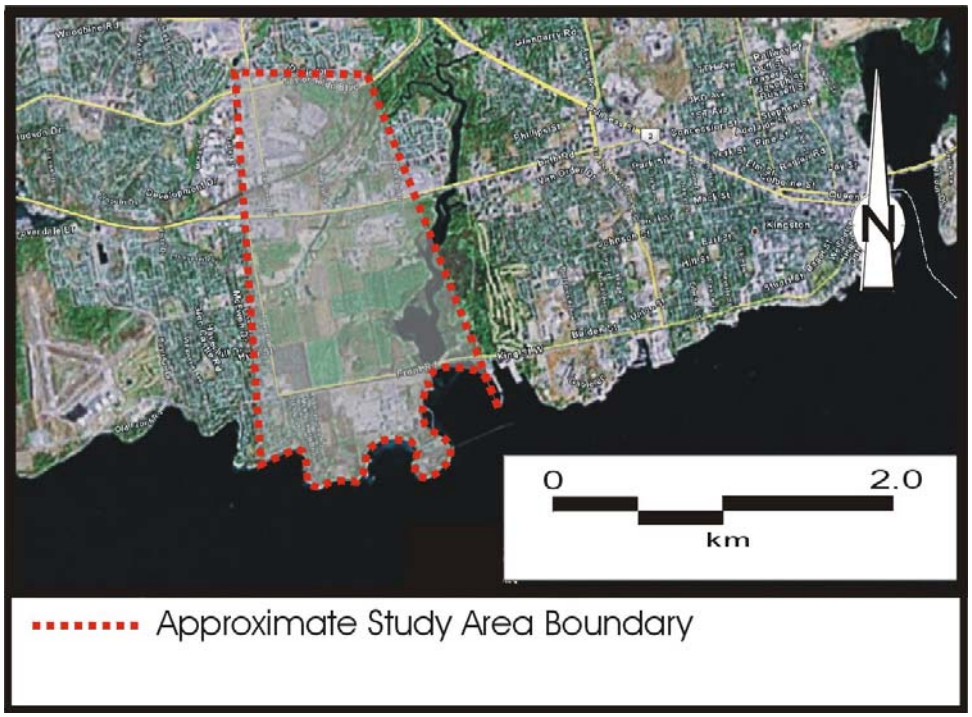


Figure 3: Study Area On Simcoe Island

Figure 4: Study Area on Wolfe Island

Figure 5: Study Area under Waters of the Wolfe Island Wind Project

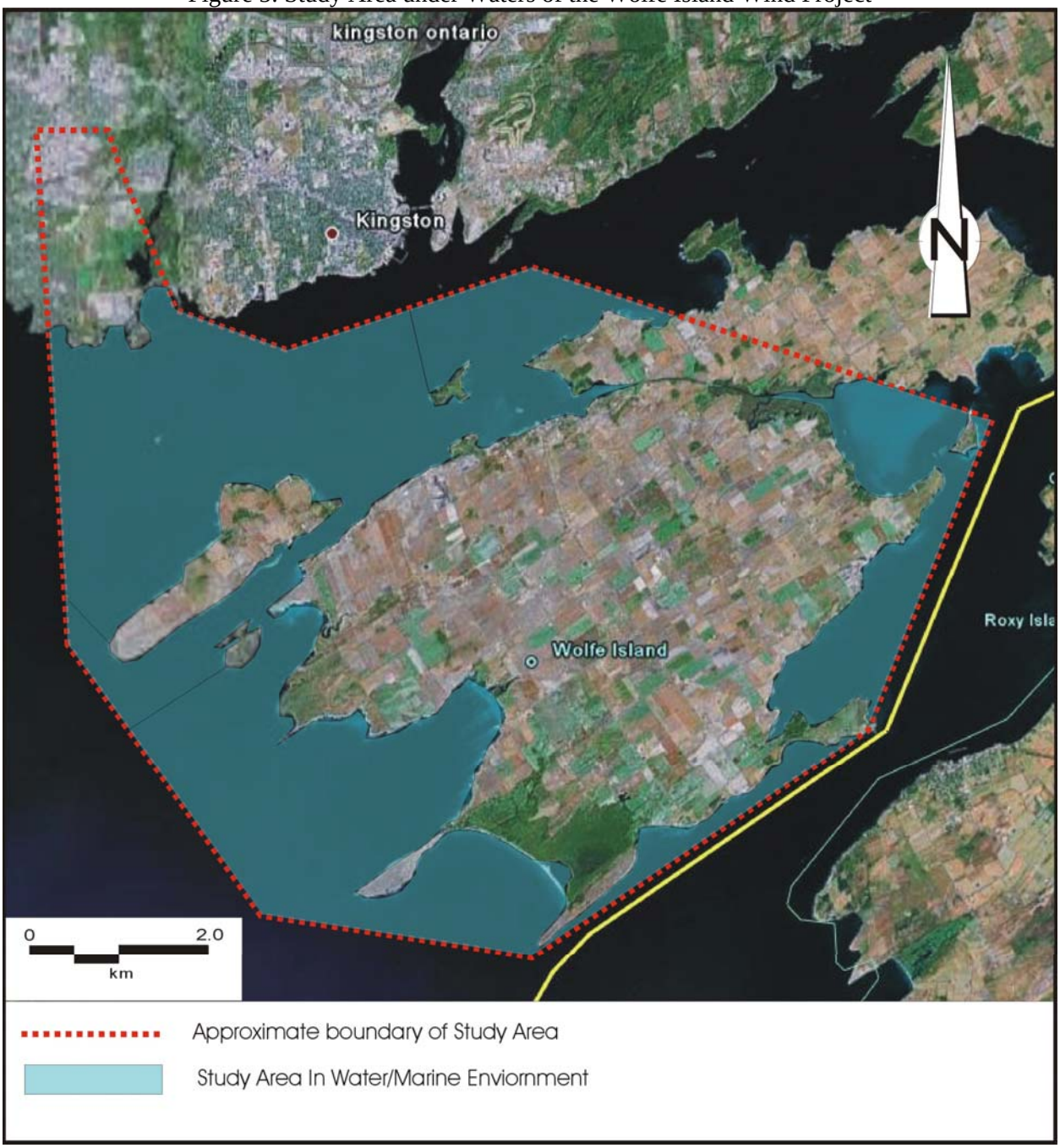
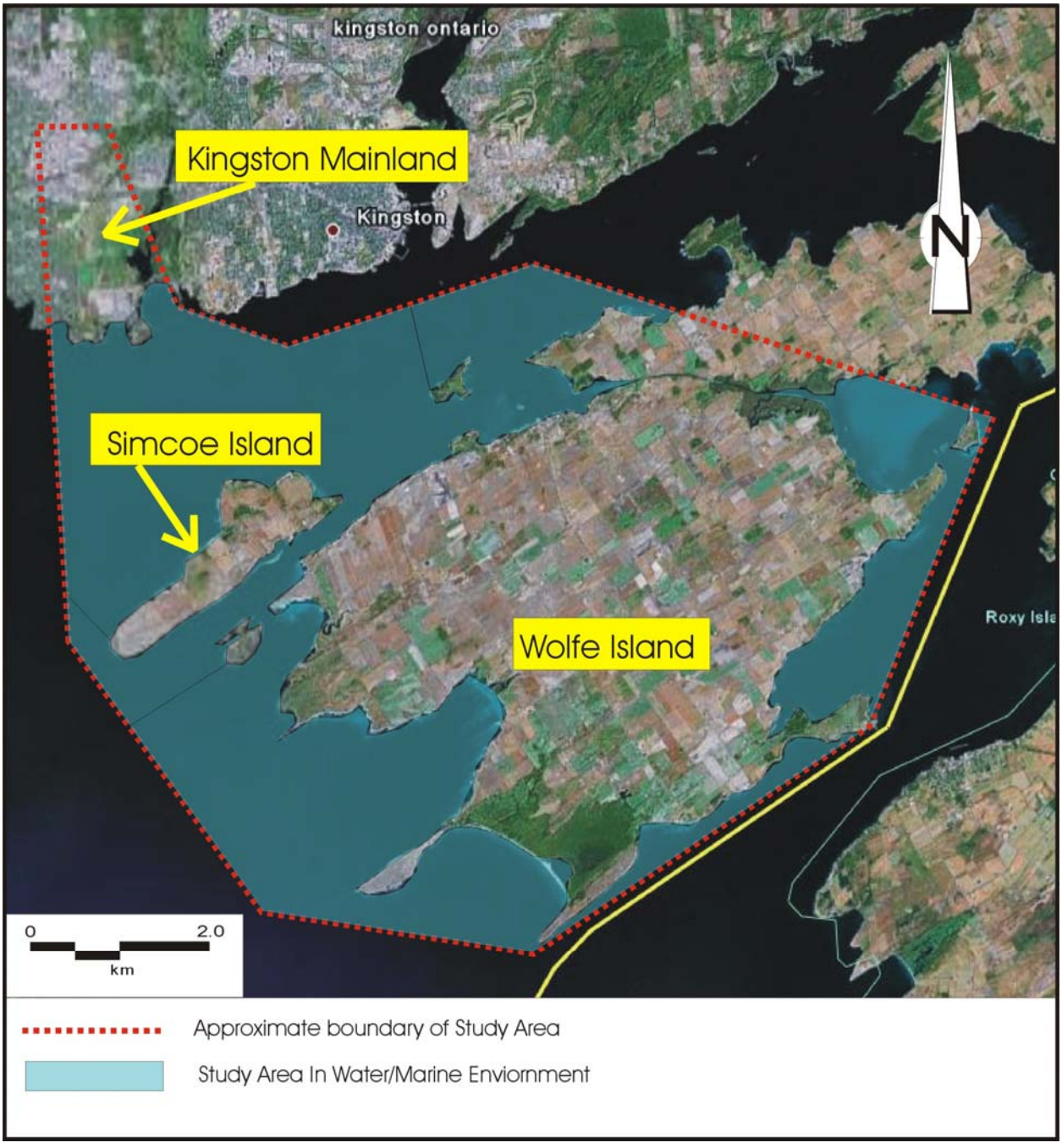


Figure 6: location of Archaeological Study Area for the Wolfe Island Wind Project



The Stage I Archaeological Assessment was conducted under the project direction of Mr. T. Keith Powers. The work was performed in accordance with the Ontario *Heritage Act* (1990) under an archaeological consulting license (0P52-115-2006) issued to Keith Powers of *The Archaeologists Inc.*

2 BACKGROUND RESEARCH

2.1 Physiography

The study area occupies the physiographic region named the Napanee Plain (Chapman and Putnam 1984). The plain ranges from flat to an undulating topography with underlying limestone. Soil depth is generally shallow.

The study area lies within the Great lakes-St. Lawrence Forest Region (Rowe 1977). Typical vegetation for this forest type includes species such as red, white, and bur oak, sugar and red maple, beech, basswood, white and red ash, yellow birch, eastern hemlock, eastern white pine, and balsam fir. However, within the study areas there is not much left of the original forest cover as these areas were cleared for farming and industrial / commercial activities over the past 200 years.

The Little Cataraqui Wetland, located on the Kingston mainland, is considered to have national significance as a waterfowl staging area. It currently provided a feeding habitat to both provincially significant birds and river otter. This area is classified as an Environmentally Sensitive Area due to the designation as “a highly significant bird migration area” (Environment Canada 1993).

Snake Island, in the St. Lawrence River between the mainland and Simcoe Island, is also recognized as an area for migratory waterfowl and for seasonal fish spawning. Cataraqui Bayon the mainland is also an area for migratory waterfowl, seasonal fish spawning, and seasonal fish migration. Within Little Cataraqui Creek, the area supports a commercial fishery, wading birds, colonial nesting birds, and shore associated mammals such as muskrat, mink, and beaver. Extrapolation of this data highlights the probable richness of these resources in this general area. If this is the case, Wolfe Island and Simcoe Island would generally be rich in similar resources.

It is likely that this current ecological habitat would have been present during the early historic period and beyond, making the area attractive for aboriginal resource procurement and habitation.

2.2 Archaeological Potential

The Ministry of Tourism, Culture and Recreation Primer on Archaeology, Land Use Planning and Development in Ontario (1997) stipulates that undisturbed lands within 300 metres of a primary water source, and undisturbed lands within 200 metres of a secondary water source, are considered to exhibit archaeological potential. The presence of water would have been an important foci for precontact settlements, campsites, and hunting stations. Aboriginal peoples would have been attracted to water, especially during the spring by abundance of fish, as well as by other important aquatic resources.

It is interesting to note that a secondary water source could be classified as any area holding a deposit of water seasonally. Given that the area of Wolfe Island is surrounded by water, has several primary and secondary water courses running through it, and is in many areas imperfectly drained creating wet and marsh areas, the entire study area of Wolfe Island falls within 300 metres of water and as such is

considered to have archaeological potential.

2.3 Cultural Overview

There are different amounts of information regarding the various periods of human occupation in the study region. The objective of this section is to briefly summarize human settlement in the region with the intention of providing a context for the evaluation of known and potential archaeological sites.

The earliest evidence of human activity in the Great Lakes area dates about 12,000 B.P.(Before Present) and is part of what archaeologists refer to as the Paleo Indian (12,000-10,000 B.P.). These early groups were hunter gatherers relying principally upon caribou for their subsistence. They produced a variety of stone tools, the most characteristic of which is a lanceolate shaped point with a channel extending about a third of the points length from the base. Other tools include burins, gravers, and scrapers.

There is considerable evidence for this period of occupation in southwestern and south-central Ontario, but very little to date has been found in Eastern Ontario. A paleo Indian occupation has been reported for the Napanee River Basin and fragments of a Plano (i.e., Late Paleo Indian) have been identified in the Thousand Islands. A survey of Allen Point along the Rideau Canal system north of Kingston Mills resulted in the identification of a late Paleo Point, the first recorded find from this period in Kingston.

The Archaic Period (10,000 B.P.-3000 B.P.) is generally characterized by increasing diversity between regional populations, the introduction of ground stone tools and increased reliance on gathered food resources (e.g., plants ,nuts). It is during this period that trading networks spanning much of the Great Lakes area developed. By 6,000 B.P. copper was mined in the Upper Great Lakes and traded into southern Ontario. The earliest recorded human burials in eastern Ontario date to the Middle Archaic Period. By the end of the Archaic Period a number of cultural groups distinguished by artifact variations had appeared in Eastern Ontario. Archaic components have been identified on Brophey's Point and in Button Bay, both on Wolfe Island.

The Woodland Period (3,000 B.P.-400 B.P.) is distinguished by the introduction of ceramics. During the early and middle portions of this period trade networks spanning much of the continent flourished and included the exchange of such items as conch shell, fossilized shark teeth, mica, copper, and silver. During the Late Woodland Period, domestic plants were introduced resulting in the development of permanent and semi permanent villages.

Middle Woodland sites are located throughout the region including the Thousand Islands, the Cataraqui River (Belle Island), Gananoque River System (e.g., South Lake and Charlston Lake), and along the Napanee River system. Middle Woodland ceramics were recovered in the excavation of Fort Frontenac suggesting that this was once the location of settlement prior to the Europeans.

Although there is considerable evidence as well for Late Woodland activity there is only one identified permanent settlement in the region attributed to this period. This is a proto Huron or Middleport site identified by Nick Adams in his survey of the Arbour Ridge subdivision. Known as the Kingston Outer Station, it was a fishing camp utilized throughout the Late Woodland period.

Additionally, immediately to the east of the study area there are a cluster of Iroquoian villages dating circa 900-600 B.P. suggesting considerable activity. It is likely that the region served as a hunting territory for this and other neighboring groups.

The transitional or protohistoric period (500-350 B.P.) is distinguished by the introduction of European influences prior to the actual settlement of the region. This was a turbulent period for aboriginal populations. The St. Lawrence Iroquois located just east of the region disappeared completely by the time of Champlain's arrival in the area in 1612. The Huron, initially located along the north shore of Lake Ontario, moved to the Lake Simcoe-Georgian Bay area where they too were eventually dispersed in 1649.

Fort Fontenac, established in 1673, was the first permanent European settlement in the region. Also established were a series of mission sites along the north shore of Lake Ontario including one in the Napanee area and La presentation near the present day site of Ogdensberg New York. By the early eighteenth century the Iroquois had been driven from the north shore of Lake Ontario by the Mississauga.

2.4 Historic Significance and Previous Archaeological Research

In order that an inventory of archaeological resources could be compiled for the study area, three sources of information were consulted:

i) the site record forms for registered sites housed at the Ministry of Culture
ii) published and unpublished documentary sources
iii) the files of *The Archaeologists Inc.*

In Ontario, information concerning archaeological sites is stored in the Ontario Archaeological Sites Database ("O.A.S.D."), a database maintained by the Ministry of Culture. This database contains archaeological sites registered within the Borden system.

The Borden system was first proposed by Dr. Charles E. Borden and is based upon a block of latitude and longitude. A Borden block is approximately 13 kilometers east west by 18.5 kilometers north south. Sites within each block are numbered sequentially as they are found.

For ease in reporting, the registered archaeological sites for all four areas of interest will be dealt with separately in there respective geographic areas.

2.4.1 Kingston Mainland

Mainland Kingston can be described in two parts: the coast and the hinterland. Between Everett point in the West and Sansone point in the East, the coast of Kingston Township is characterized by almost complete urban and industrial development. The subdivision of Reddendale, the former du Pont of Canada plant, the City of Kingston Water Plant, and the ground in the old Ontario Hospital all overlay the historic shoreline.

The hinterland of Kingston Township, surveyed 1783, is divided into 200 acre farm lots. In 1817 there were approximately 600 inhabitants in the area. By 1850 there were 4,523 inhabitants, two grist mills, and 12 sawmills in the Township (Smith 1851: 287). At this time most of the land was taken up by settlers and farmers. Except for the village of Cataraqui, and the lines of two railways, the land was entirely given over to farming. Within the present study area, in 1878, there were many farm residences, as well as a few schools and churches.

By using the illustrated historical Atlas of 1878, we can quickly identify by lot and concession, any structures of historical interest that may still be remaining in the archaeological record (Figure 7).

Beginning in mid-19th Century, proceeding rapidly after World War II, virtually the entire area shifted from a rural economy to one in which agricultural activities were nearly non-existent. Except for the Conservation Authority properties bordering little Chautauqua Creek, the modern day landscape is urbanized. Industrial plants, shopping centers, retail and service businesses, residential subdivisions, apartment and condominium blocks, and government institutions have altered the agricultural landscape of 1878. This reality may impose some constraints to the assessment of historic structures or remnants thereof.

In reviewing records of registered archaeological sites held at the Ministry of Culture, no archaeological sites were located within the study section of the Kingston Mainland.

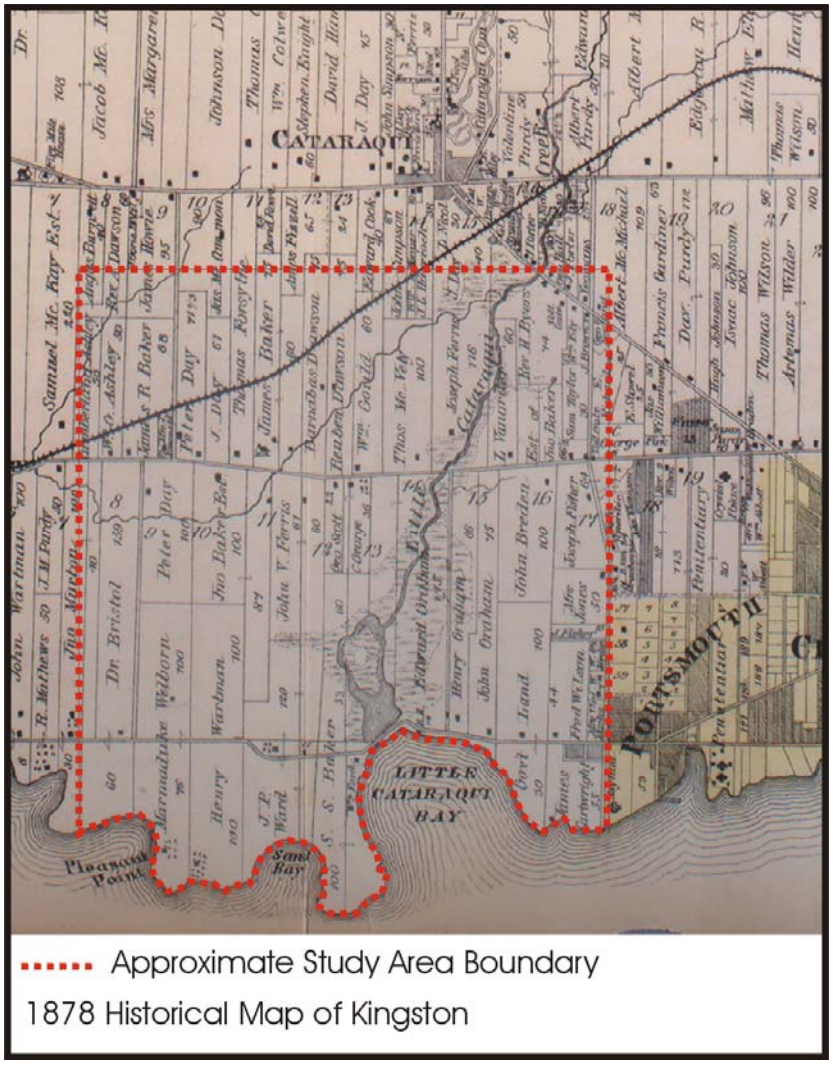


FIGURE 7: Approximate Study Area Boundary Depicted on the 1878 Historical Map of Kingston

2.4.2 Simcoe Island

Simcoe Island appears in the European record for the first time on June 10, 1679, when "Bella Island", as it was known, was granted La Salle to Francois Dauphin, Sieur de La Foret (1649-1714) (Preston and La Montage, eds. 1958: 125-126). However, under the British regime, the Island is occasionally documented.

In June 1829, ownership of the Island was transferred from the Crown to Charles W. Grant (Kirkpatrick 1864). Grant, in turn, disposed of the Island to Garratt, less five acres for light halves reserved on 9 mile point. In 1856, following the death of Garratt, the Island was purchased by John and William Breden. They began or continued a dairy farm and cheese factory.

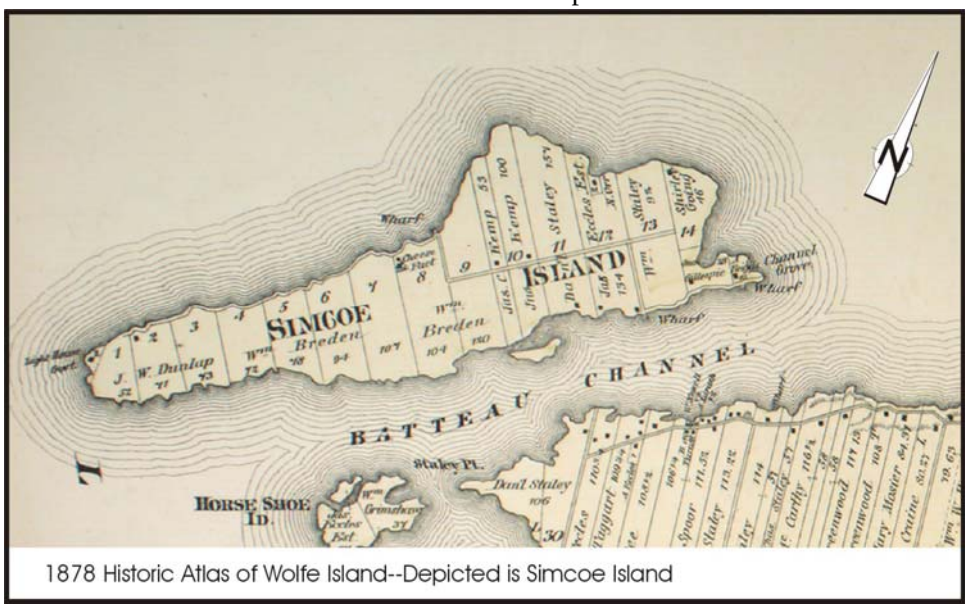
In 1864, Grant divided the 1417 acres of Simcoe Island into 14 lots (Kirkpatrick 1864). These 14 lots are illustrated in the 1878 Historic Atlas of Simcoe Island (Figure 8). As seen on this map, the light house on Lot 1, and the cheese factory on Lot 8 are probably the earliest structures. Structures, such as homesteads were also likely located on Lots, 2, 10, 11, 12,13, and 14.

In reviewing records of registered archaeological sites held at the Ministry of Culture, two archaeological sites within the study section of Simcoe Island were identified (Table 1). It should be noted that these are only the terrestrial sites registered and does not include any potential water resources that may be just off shore. All known underwater resources will be outlined in section 2.2.4.

TABLE 1: Registered Archaeological Sites Within the Simcoe Island Study Area

Borden #	Site Name	Cultural Affiliation	Site Type	Researcher(s)
BaGd-1	Eaves	Undetermined Precontact	findspot	A. Roberts; 1979
BbGd-2	Carson Quarry	Undetermined Precontact	Quarry	Fox; 1981

FIGURE 8
1878 Historic Atlas of Wolfe Island – Depicted is Simcoe Island



1878 Historic Atlas of Wolfe Island--Depicted is Simcoe Island

2.4.3 Wolfe Island

Wolfe Island was part of the seigniory of Fort Frontenac, established in 1673. At some point in the early French occupation of the area a portion of Wolfe Island was surveyed into long narrow lots, however, to date, there is no evidence that any of these lots were permanently occupied through this period.

Settlement of the Island lagged behind that of the surrounding mainland area as Wolfe Island, following the American Revolution, was regarded as American land until transferred to the British in 1822 in exchange for other properties.

Through the 19th Century the Island supported a small lumber industry. Commercial fishing and quarrying, along with the development of agriculture, were the predominant economic activity. The population on Wolfe Island grew from 276 in 1826 to 611 in 1841. By 1851 the population on the Island had quadrupled to 2,654. Historic mapping for the Island in 1878 shows a landscape that is entirely severed and occupied. Almost every 200 acre lot would appear to have an associated structure (Figure 9).

Archaeological investigations on Wolfe Island, although some have been completed over the past 110 years, have been limited. David Boyle, (1888, 1889) visited the region in the late 1800s. Boyle's investigation resulted in the recovery of a variety of artifacts including copper beads, slate pendants, leaf shapes knives, projectile points, and ceramics.

The next recorded archaeological investigation on Wolfe Island did not occur until the 1950s when James Pendergast excavated the Brophey's Point Site (Pendergast 1964). This multi-component site produced evidence of occupation spanning a date range of over 5,000 years.

Most of the remaining work on the Island has been undertaken as part of cultural resource management studies. In reviewing records of registered archaeological sites held at the Ministry of Culture, six archaeological sites within the study section of Wolfe Island were identified (Table 3).

TABLE 2: Registered Archaeological Sites Within the Wolfe Island Study Area

Borden #	Site Name	Cultural Affiliation	Site Type	Researcher(s)
BaGc-1	Armstrong	Late Middle Woodland	unidentified	H. Daechsel;1987
BaGc-2	Button Bay Point	Woodland	undetermined	H. Daechsel;1987
BaGc-3	Bear Point-1	Undetermined Precontact	Possible Campsite	H. Daechsel;1988
BaGc-4	Bear Point-2	Euro-Canadian	Cabin/ Fishing Station	H. Daechsel;1988
BaGc-5	Bear Point-3	Euro-Canadian	Cabin/ Fishing Station	H. Daechsel;1988
BaGc-6	Bear Point-4	Euro-Canadian	Cabin/ Fishing Station	H. Daechsel;1988

FIGURE 9
Historic Map of Wolfe Island

2.4.4 **Water Resources**

Cataraqui Bay was developed historically as a shipping port. The St. Lawrence River, between Kingston and Simcoe Island, was a busy shipping channel. Due to this previous activity, high archaeological potential exists for the presence of underwater boat and ship wrecks in addition to the marine accessories such as wharves, slips, docks, etc. The Study area, depicted in Figure 6, encompasses not only the shoreline of the Kingston mainland, but the waters around Simcoe Island, Wolfe Island, and a number of smaller islands which were not directly part of this study such as Garden Island.

In researching the waters within the study area several archaeological resources were documented, some were registered archaeological sites (Table 3), while others were known to the local diving community (Table 4).

TABLE 3: Registered Archaeological Sites Within the Study Area

Borden #	Site Name	Cultural Affiliation	Site Type	Researcher(s)
BbGc-58	Garden Island 13	Euro-Canadian	ship wreck	J. Moore;1996
BbGc-61	Garden Island 16	Euro-Canadian	ship wreck	J. Moore;1996
BbGc-62	Garden Island 17	Euro-Canadian	ship wreck	J. Moore;1996
BbGc-63	Garden Island 18	Euro-Canadian	ship wreck	J. Moore;1996
BbGc-68	Garden Island 23	Euro-Canadian	ship wreck	J. Moore;1996
BaGd-4	Aloha	Euro-Canadian	ship wreck	J. Moore;1996
BaGd-5	Comet	Euro-Canadian	ship wreck	J. Moore;1996
BbGc-45	Deadman Bay 1	Euro-Canadian	ship wreck	J. Moore;1996
BbGc-46	Deadman Bay 2	Euro-Canadian	ship wreck	J. Moore;1996
BbGc-53	Garden Island 8	Euro-Canadian	ship wreck	J. Moore;1996
BbGc-54	Garden Island 9	Euro-Canadian	ship wreck	J. Moore;1996
BbGc-55	Garden Island 10	Euro-Canadian	ship wreck	J. Moore;1996
BbGc-56	Garden Island 11	Euro-Canadian	ship wreck	J. Moore;1996
BbGc-57	Garden Island 12	Euro-Canadian	ship wreck	J. Moore;1996

TABLE 4: Non-Registered Ship Wrecks Known Within the Study Area

Map Identifier #	Wreck Name	Cultural Affiliation	Site Type	Researcher(s)
1	Wolfe Islander II	Euro-Canadian	ship wreck	Cris Kohl; 2001
2	Prince Regent	Euro-Canadian	ship wreck	Cris Kohl; 2001
3	Psyche	Euro-Canadian	ship wreck	Cris Kohl; 2001
4	Marine Museum dock	Euro-Canadian	ship wreck	Cris Kohl; 2001
5	St. Lawrence	Euro-Canadian	ship wreck	Cris Kohl; 2001
6	Anchors and stacked hulls	Euro-Canadian	ship wreck	Cris Kohl; 2001
7	K.P.H. Wreck	Euro-Canadian	ship wreck	Cris Kohl; 2001
8	Effie Mae	Euro-Canadian	ship wreck	Cris Kohl; 2001
9	George T. Davie	Euro-Canadian	ship wreck	Cris Kohl; 2001

3 SUMMARY AND CONCLUSIONS

Summary

The Stage I Archaeological Assessment for the lands and underwater areas for the Wolfe Island Wind Project, indicates the study area does have the potential for the recovery of precontact and European archaeological material based upon the information collected and reviewed as part of this Assessment.

The extensive Euro-Canadian presence in the area before the 1850's, the range of precontact archaeological sites, and the number of registered and unregistered underwater archaeological sites all indicate a need for a Stage II field assessment in the work areas. The low number of registered archaeological sites on Kingston mainland, Simcoe Island, and Wolfe Island would seem not to reflect the potential for the location of archaeological sites, but rather the limited amount of archaeological survey that has taken place in these locations in the past.

Conclusions

As noted in the report "*Stage 1- Background Research Archaeological Resource Assessment For Land and Underwater Areas Kingston-Wolfe Island/Simcoe Island 230-kV Transmission Line Wolfe Island Township Municipality and Kingston Township Municipality Frontenac County*" (Appendix B), the potential for the location of an undisturbed archaeological resource within the Kingston Mainland section of the study area is unlikely since the area has been heavily developed in the relatively recent past. This area, however, does still hold the potential for a buried or "capped" deposit and as such should be assessed in the Stage II activities.

In comparison to the Kingston mainland both Islands Wolfe and Simcoe, have a higher potential for the recovery of both precontact and Euro-Canadian archaeological sites. The apparent original richness of wildlife on the Islands would indicate that this abundance of wildlife would have been around and would have provided for an abundant food source for precontact peoples. The Abundance of Euro-Canadian populous on Wolfe Island according to the 1851 census would indicate the presence of early to mid-nineteenth century Euro-Canadian sites within the Wolfe Island landscape. Both Islands have been virtually untouched by any large scale industrial / commercial development and as such, they have a higher probability to possess intact precontact and Euro-Canadian deposits.

The number of registered and unregistered deposits in the waters within the study area, and the fact the St. Lawrence River between Kingston and Simcoe Island was historically a busy shipping channel, indicates the potential for undiscovered underwater archaeological resources within the study area.

In light of these results, it is recommended:

1. Lands to be disturbed during construction activities (e.g., tower foundations and access roads) should be subjected to a Stage II Archaeological Assessment.

2. Any planned underwater development such as the placement of a transmission line linking Wolfe Island to the mainland Kingston should be investigated with Stage II Underwater Archaeological Assessment, or similar.

3. Should deeply buried archaeological remains be found on a property during construction activities, the Heritage Operations Unit of the Ministry of Culture should be notified immediately (416.314.7146).

4. In the event that human remains are encountered during construction, the proponent should immediately contact both the Ministry of Culture and the Registrar or Deputy Registrar of the Cemeteries Regulation Unit of the Ministry of Consumer and Business Services (416.326.8404).

The documentation related to the archaeological assessment of the study area shall be curated by The Archaeologists Inc. until such a time that arrangements for their ultimate transfer to Her Majesty the Queen in right of Ontario, or other public institution, can be made to the satisfaction of CREC and the Ministry of Culture.

4 REFERENCES CITED

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Heritage Quest Inc.

2002 Stage 1 Archaeological Assessment of Three Potential Wind Farm Sites: Lot 29, Old Survey; Lots 8,9 & 10 Concession 6 Lots 9 and 10 Concession 7 South of Vaseline; Lots 1 &2 Concession 8, Lot 1 Concession 7 North of Baseline, Geographic Township of Wolfe Island Frontenac County

Illustrated Historical Atlas of Frontenac,Lennox and Addington Counties , Ontario.

1878 H. Belden & Co.

Janusas

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APPENDIX A

STAGE 1 ARCHAEOLOGICAL ASSESSMENT

OF THREE POTENTIAL WIND FARM SITES

GEOGRAPHIC TOWNSHIP OF WOLFE ISLAND

FRONTENAC COUNTY

HERITAGE QUEST INC.

Archaeology, Cultural Resource Management, Historic Research

STAGE 1 ARCHAEOLOGICAL ASSESSMENT OF THREE POTENTIAL WIND FARM SITES: LOT 29, OLD SURVEY; LOTS 8, 9 & 10 CONCESSION 6, LOTS 9 AND 10 CONCESSION 7 SOUTH OF BASELINE; LOTS 1 & 2 CONCESSION 8, LOT 1 CONCESSION 7 NORTH OF BASELINE, GEOGRAPHIC TOWNSHIP OF WOLFE ISLAND FRONTENAC COUNTY

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Arch. Lic. No. 2001-033

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Date: 18 October 2002

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This investigation benefited from the contribution of a number of individuals. Ms. Kay Ashwood, Acres & Associated Environmental Limited, assisted with the project logistics including securing appropriate mapping of the study areas. Mr. Fred Siemonsen, an agent for Canadian Renewable Energy Corp, provided introductions to the property owners. Mr. Nick Adams, Adams Heritage Consultants, supplied digital copies of his two investigations on Wolfe Island. A special thanks to Elizabeth Crothers and Jason and Christina Pyke for information provided on the history of their respective properties. Mr. Michael Berry assisted with the field reconnaissance. Mr. Robert Von Bitter, Ontario Ministry of Culture, provided an updated listing of archaeological sites for the study region. Mr. Tom Ballantine provided information on his early 1980's archaeological assessment of Highway 96.

No archaeological sites have been registered for any of the three properties under consideration. There is a cluster of sites registered and/or reported for the Button Bay area in close proximity to the Pyke Farm property.

Archaeological potential for both precontact (prehistoric) and historic archaeological sites has been identified for all three properties. This investigation has provided the basis for the following recommendations:

1) A Stage 2 archaeological assessment be undertaken for those areas to be impacted by the development of the Wind Farm.

2) Should deeply buried archaeological remains be found on the properties during construction. the Ministry of Culture (416) 314-7148 should be notified immediately.

3) In the event human remains are encountered during construction. both the Ministry of Culture (416) 314-7148. and the Registrar or Deputy Registrar of the Cemeteries Regulation Unit of the Ministry of Consumer and Commercial Relations (416) 326-8392. should be notified immediately.

2.0 INTRODUCTION

Heritage Quest Inc., on behalf of Acres & Associated Environmental Limited, undertook a Stage 1 Archaeological Assessment of three potential site locations for Wind Farms on Wolfe Island, now part of Frontenac Islands Township. The study area consisted of three parcels of land including: 1) the Crothers Property, Lot 29, Old Survey; 2) the Pyke Farm, Lots 8, 9 10 Concession 6, Lots 9 & 10 Concession 7 and 3) the Shojner / Vanstrein Property Lot 1 Concession 7 North of Baseline Road, Lots 1 and 2 Concession 8 North of Baseline Road (see Figure 1). This study is a component of an environmental assessment of the potential Wind Farm locations.

The objective of this investigation is to determine if there are known archaeological sites on or in the vicinity of the study areas and to assessment the archaeological potential of the various locations. This report is divided into three sections, the first providing an overview of the study area including environment, previous research, cultural history overview and a property specific history. Following this review is a summary of known archaeological sites within and in the vicinity of the study areas as well as an assessment of archaeological potential. A summary is then provided that includes recommendations as to whether a Stage 2 archaeological assessment of those areas to be affected by the Wind Farm development is required. All cited references are listed and a photographic catalogue included as an appendix.

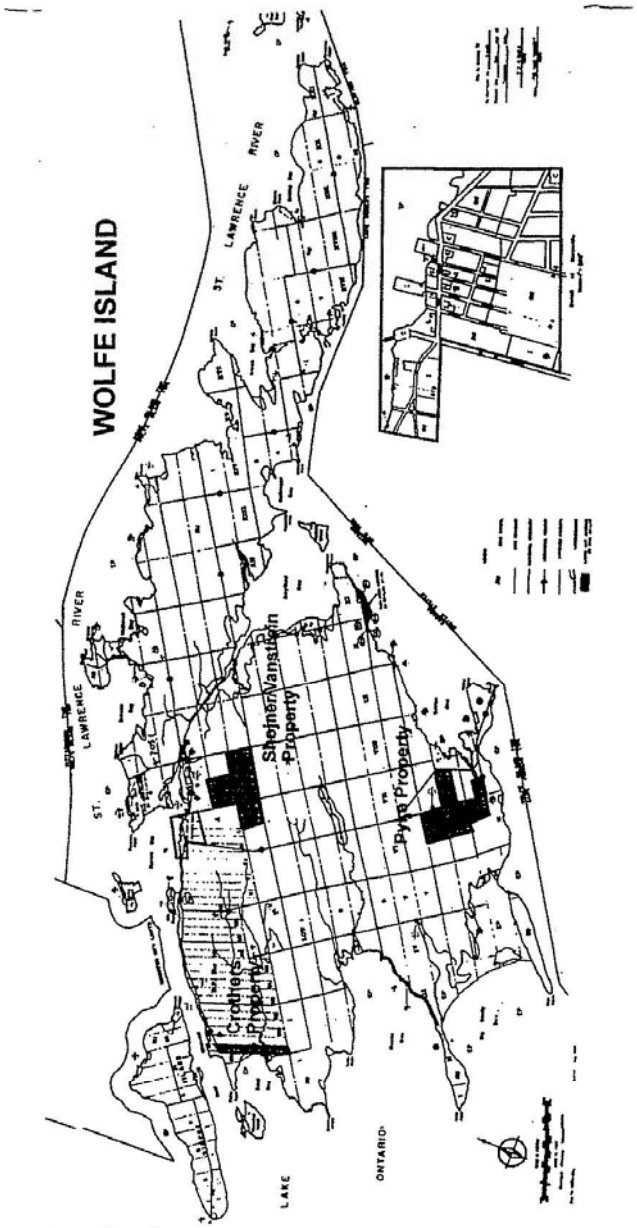

Figure 1. Location of study areas.

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3.0 STUDY AREA

The study areas consist of three properties located in the west half of Wolfe Island. These areas include the Crothers Property (48.8 hectares, Lot 29 Old Survey) located at the northwest corner of the Island, the Pyke Farm (171 hectares, Lots 8 – 10 Concession 6, Lots 8 & 10 Concession 7) located in the south western portion of the Island and the Shojner/Vanstrein Property (168 hectares, Lot 1, Concession 7, Lots 1 & 2, Concession 8 North of Baseline Road) located south of Marysville.

3.1 Environment

Wolfe Island lies within the Napanee Plains physiographic region (Chapman & Putnam 1966). This region consists of a flat to undulating plain of limestone with generally shallow soils. All three study areas feature this characteristic flat to undulating surface with periodic exposures of the limestone bedrock (see Plates 1 & 2). The Pyke Farm and Shojner/Vanstrein property straddle ridges representing the highest portions of the island.

Soils on the Crothers property consist of Napanee Clay, a stonefree calcareous clay with poor drainage. There is a pocket of marsh located in the southern half of the property. The Pyke Farm property is covered by Lansdowne Clay, like Napanee Clay, a stonefree lacustrine clay but featuring imperfect drainage. The Shojner/Vanstrein property features a mixture of Lansdowne and Napanee Clays along with deposits of Farmington Loam which consist of a shallow till over limestone bedrock (Gillespie et. al. 1966).

Wolfe Island lies within the Huron-Ontario sub region of the Great Lakes – St. Lawrence Forest Region (Rowe 1972: 93). Trees common to this region include sugar maple, beech, basswood, white and red ashes, yellow birch, red maple and red, white and bur oaks. Coniferous trees found within the area include eastern hemlock, eastern white pine and balsam fir. Most of the three study areas were cleared by the mid nineteenth century. Portions of the Crothers and Shojner/Vanstrein properties are covered in brush and in the case of the Shojner/Vanstrein property mature trees at the eastern end of the property.

Each of the potential Wind Farm property locations are drained by medium to small creeks. The southern end of the Crothers Property is bisected by a broad channeled creek with an associated wetland that empties into Lake Ontario (Sand Bay). Three creeks, two which empty into Button Bay (St. Lawrence River) and the third into Lake Ontario drain the Pyke Farm property. Two creeks drain the Shojner/Vanstrein property.

All three properties have a good capability for ungulate production (Caswell 1970) and fair to good capability for agricultural production (Hoffman 1966) All of the Shojner/Vanstrein property and most of the Pyke Farm and Crothers Properties have very poor capability for waterfowl production. The portions of the Pyke Farm closest to Button Bay have moderate capability for waterfowl production as well as the creek and associated wetland area on the Crothers property.

Plate 1. North end of Lot 29 O.S. looking south.

Plate 2. Lot 10, Concession 7, Pyke Farm looking southeast.

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3.2 Previous Research

Archaeological investigations on Wolfe Island, although dating back over 110 years, have been limited. David Boyle (1888, 1889) visited the region in the late 1880's including the Button Bay area and the original Pyke Farm. Boyle's investigation resulted in the recovery of a variety of artifacts including copper beads, slate pendants, leaf shaped knives, projectile points and ceramics. This material was subsequently analyzed and reported on by Michael Spence (1967).

The next archaeological investigation on Wolfe Island did not occur until the 1950s when James Pendergast excavated the Brophey's Point Site (Pendergast 1964). This multi component site located north of the study areas produced evidence of occupation dating over 5,000 years. Pendergast's investigation of the site was aided by an avocational archaeologist Guy Blomeley who through the mid twentieth century identified a number of archaeological sites in the region.

Blomeley was instrumental in the identification of two late Archaic sites along Button Bay near the Pyke Farm property (Daechsel 1988). Three other sites, all historic commercial fishing cabin sites, were identified by the author in a 1988 investigation of the southwest corner of the Island.

Most of the remaining work on the island has been undertaken as part of Cultural Resource Management studies. These include a windshield survey of Highway 96 by Tom Ballantine (personal communication 2002), a Stage 1 archaeological assessment of a potential TransCanada PipeLine route (Daechsel 1989) and Stage 1/2 archaeological assessments of two golf course locations by Adams Heritage Consultants (Adams 2000a; 2000b). The investigation of the McCready Course located along the north shore of Button Bay resulted in the identification of two Middle Woodland Period (300 B.C. – 600 A.D.) sites.

3.3 Cultural Overview

There are different amounts of information regarding the various periods of human occupation in the study region. The objective of this section is only to briefly summarize human settlement in the region with the intention of providing a context for the evaluation of known and potential archaeological sites.

The earliest evidence of human activity in the Great Lakes area dates to about 12,000 B.P. (Before Present) and is part of what archaeologists refer to as the Paleo Indian period (12,000 - 10,000 B.P.). These early groups were hunter gatherers relying principally upon caribou for their subsistence. They produced a variety of stone tools, the most characteristic of which is a lanceolate shaped point with a channel extending about a third of the point's length from the base. Other tools include scrapers, burins and gravers. There is considerable archaeological evidence for this period in Southwestern and South Central Ontario but very little to date has been found in Eastern Ontario. A Paleo Indian occupation has been reported for the Napanee River Basin and fragments of a plano (Late Paleo Indian) point have been identified in the Thousand Islands. A survey of Allen Point along the Rideau Canal system north of Kingston

Mills resulted in the identification of a late Paleo point, the first recorded find from this period in Kingston.

The Archaic Period (10,000 B.P. - 3,000 B.P.) is generally characterized by increasing diversity between regional populations, the introduction of ground stone tools and increased reliance on gathered food resources (e.g. plants, nuts). It is during this period that trading networks spanning much of the Great Lakes area and possibly extending to the Atlantic Ocean developed. By 6,000 B.P. copper was mined in the Upper Great Lakes and traded into southern Ontario. The earliest recorded human burials in Eastern Ontario date to the Middle Archaic Period. By the end of the Archaic Period a number of cultural groups distinguished by artifact variations had appeared in Eastern Ontario. Archaic components have been identified on Brophey's Point and in Button Bay, both on Wolfe Island.

The Woodland Period (3,000 B.P.- 400 B.P.) is distinguished by the introduction of ceramics. During the early and middle portions of this period trade networks spanning much of the continent flourished and included the exchange of such items as conch shell, fossilized shark teeth, mica, copper and silver. During the Late Woodland Period, domesticate plants were introduced resulting in the development of permanent and semi permanent villages.

Middle Woodland sites are located throughout the region including the Thousand Islands, the Cataraqui River (Belle Island), the Gananoque River System (e.g. South Lake & Charleston Lake) and along the Napanee River system. Middle Woodland ceramics were recovered in the excavation of Fort Frontenac suggesting that this was once the location of settlement prior to the arrival of the Europeans.

Although there is considerable evidence as well for Late Woodland activity there is only one identified permanent settlement in the region attributed to this period. This is a proto Huron or Middleport site identified by Nick Adams in his survey of the Arbour Ridge subdivision. The Kingston Outer Station was a fishing camp utilized throughout the Late Woodland period. Immediately to the east of the study area there are a cluster of Iroquoian villages dating circa 900 - 600 B.P. suggesting considerable activity. It is likely that the region served as a hunting territory for this and other neighbouring groups.

The transitional or protohistoric period (500 - 350 B.P.) is distinguished by the introduction of European influences prior to the actual settlement of the region. This was a turbulent period for aboriginal populations. The St. Lawrence Iroquois located just east of the region disappeared completely by the time of Champlain's arrival in the area in 1612. The Huron, initially located along the north shore of Lake Ontario, moved to the Lake Simcoe-Georgian Bay area where they too were eventually dispersed in 1649.

Fort Frontenac, established in 1673, was the first permanent European settlement in the region. Also established were a series of mission sites along the north shore of Lake Ontario including one in the Napanee area and La Presentation near the present day site of Ogdensberg New York.

By the early eighteenth century the Iroquois had been driven from the north shore of Lake Ontario by the Mississauga.

Wolfe Island, also known as Ganounkousenot (long island standing up) and Grande Isle, was part of the seigniory of Fort Frontenac, established in 1673, and adjacent parts provided by Louis XIV to Robert Cavallier, Sieur de la Salle in 1675. As part of this agreement LaSalle was responsible for payment to the crown the 10,000 livres cost of establishing Fort Frontenac as well as to construct a church whenever the area population reached 100 and to "domesticate" the area First Nation populations. Grande Isle (Wolfe Island) was conveyed in 1685 by LaSalle to James Cauchois along with the conditions LaSalle had agreed to in the 1675 assignment. This may well have been the first private land conveyance between Euro Canadians in Ontario (Cosgrove 1973: 2).

At some point during the French occupation a portion of Wolfe Island was surveyed into long narrow lots known as the Old Survey. There is to date no evidence that any of these lots were permanently occupied through this period.

Cauchois' daughter Madelaine inherited the island and upon her death the property was passed to her son James Francis Curotte and later to his brothers Amable and Michael Curotte in 1784. David Alexander Grant and Patrick Langan acquired the property for a shilling per acre at the beginning of the nineteenth century thereby ending the history of French ownership.

Settlement of the island lagged behind that of the surrounding area as Wolfe Island, following the American Revolution was regarded as American land until transferred to the British in 1822 in exchange for other properties. Again it is not known whether there was any "unregistered" settlement of Island prior to the transfer. Charles William Grant inherited much of the land upon the death of his father in 1806. He, along with James Leslie, controlled five sevenths of the island with the Crown retaining the remaining portion in 1822.

Through the nineteenth century the island supported a small lumber industry, commercial fishing and quarrying along with the development of agriculture, presently the predominant economic activity. The population on Wolfe Island grew from 276 in 1826 to 611 in 1841. By 1851 the population on the island had quadrupled to 2,654.

3.4 Property Specific History

A review of land abstract records and, where possible, census records have provided a general picture of the historic development of the various properties included in this study. Given the size of the area, the available time and the mandate of the study, this research is far from complete.

Crothers Property Lot 29, Old Survey (Figures 2)

The land records indicate that this lot was patented in 1823 to Charles Grant. By the mid nineteenth century William Blakley had acquired the lot selling it to George Eccles in 1862 (Inst. K348). The census records for Wolfe Island Township indicate that the Eccles family were in residence on the lot by 1851. James Eccles, listed as a sailor aged 36, had 110 acres, 50 of which were under cultivation. Crops included wheat, peas, oats, buckwheat, potatoes, carrots and beans. At that time he had five children and lived in a log house. He had four milking cows, six horses, three calves and four pigs and produced pork, beef and fish.

The 1861 census lists James Eccles as a farmer with ten children and living in a two story brick house, most likely the present home located on the north side of Highway 96. The 1878 Meacham Historical Atlas shows Geo. Eccles as the owner (see Figure 2) of the 110 acre lot. Three houses are identified on the lot one of which is within the study area portion of the property. The lot was sold in 1885 by George Eccles for $ 5,700.00 to William Taggart (Inst. 1971) who is listed in the 1891 census as an Irish farmer aged 35 with four children. One of Taggart's daughters, Helen sold the property Marjorie and William Crothers in 1958 (Inst. 102994).

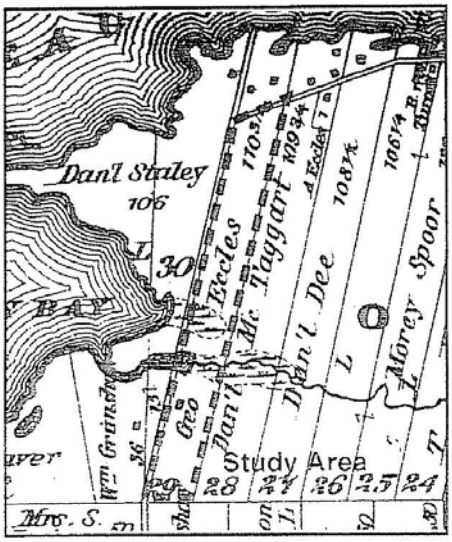

Figure 2. 1878 plan of Lot 29 O.S. (from Meacham 1878).

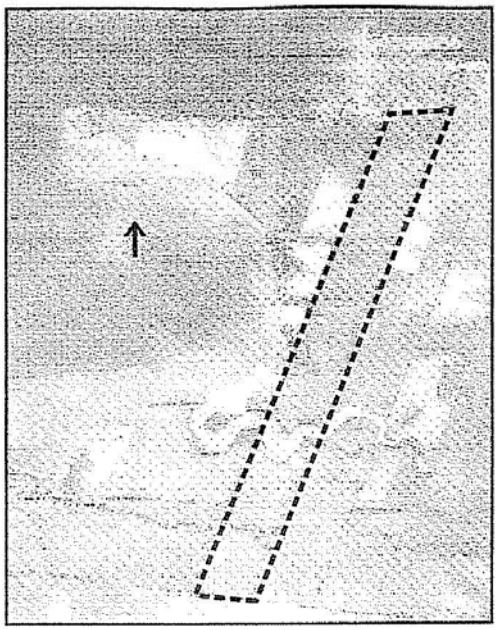

Plate 3. 1950 aerial photograph of Crothers Property (NAPL A12546-142).

A 1950 aerial photograph of the study area does not reveal any evidence of structures on the property. Most of the property, save for a woodlot at the south end, is open. The area between the north end of this woodlot and the creek is covered in some brush by 1969.

Pyke Farm Property Part Lots 8, 9 & 10 Concession 6, Part Lots 9, 10 Concession 7 (Fig 3)

This property includes the east half of Lots 8, 9 and 10 in Concession 6, and the north half of Lot 9 and south half of Lot 10, in Concession 7.

Lot 8 Concession 6

The Crown Patent for Lot 8 was granted in 1823 to Charles Grant, and Julia Leslie. Grant sold his portion of the lot in 1831 to William Johnson (K306). William Blakley acquired this segment of the lot in 1833 from Johnson (Inst. L220). Blakley sold the west half of the lot in 1863 to Richard Ellenbeck for £ 250 (Inst. A443). James Eccles purchased the property in 1868 from Ellenbreck (Inst. B255) only to sell the lot in 1872 to Thomas Grimshaw for $ 2,300 (Inst. B607). Grimshaw is listed on the 1878 historical plan of the area (see Figure 3).

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William Blakley sold the east half of the east half to James Cuff for $ 500.00 in 1877 (Inst. D832). Cuff is identified as the property owner on the 1878 historical plan of the study area. Edward Cuff acquired this portion of Lot 8 in 1879 (Inst. E1129). Annie Grimshaw purchased from Limes Grimshaw the west half of the lot for $ 5,000 (Inst. E1621) only to sell it for $ 3,500.00 to V. Grimshaw in 1886 (Inst. F2060). Grimshaw sold the lot to Henry Hogan in 1887 for $ 4,700.00 (Inst. 2201). Edward Cuff sold the east half of the lot in 1900 to Mary Allinson (H4137). Charlotte Allan acquired the west half of the east half of Lot 8 in 1920 (Inst. H4585). James Hogan acquired Henry's portion of the lot via a will in 1912 (Inst. DGR 2193). Emma Pyke purchased the north half of the east half of the lot in 1921 (Inst. L5577). Peter Jones purchased the west half of the lot from James Hogan in 1946 (Inst. K6838). Arind Boender purchased the west half of the lot from Elsie Jones in 1952 (Inst. L7297). Jacob and Elizabeth DeVelle purchased this property from the estate of Boender in the late 1950's (Inst. 109209).

Lot 9 Concession 6

Like Lot 8. the patent for Lot 9 was granted in 1823 to Charles Grant and Julia Leslie. William Johnson acquired in 1831 Grant's portion of the lot (Inst. K306). William Blakley purchased this portion of the lot in 1833 (Inst. G220). The sequence of property transactions in the Land Registry Abstracts is to complicated to sort out in this review. Grant Pyke acquired the east half of the lot in 1965 from Eva Abbott (Inst. 159842). The Abbott family had acquired the property in 1906 for $ 2,500 (Inst. K4098). Jnc. Mackey is listed at the property owner for the east half of Lot 9 in the 1878 historical atlas (see Figure 3).

Lot 10 Concession 6

The entire 200 acres of this lot was patented in 1856 to John Busch. Part of the lot was sold in 1877 to George Pyke for $ 7.000 (Inst. D767) who sold the portion of the lot back to Busch for $ 7.000.00 in 1880 (Inst. 1188). George Pyke is identified as the property owner in the 1878 historical atlas. Busch sold the lot to William Stevenson in 1880 for $ 15.000 (Inst. E1189). Stevenson sold portions of the lot in 1886 to Andrew Stevenson (Inst. 2105) and in 1897 to James Russell (Inst. G 3291). Clifford Stevenson purchased a portion of the property from William Stevenson in 1926 (Inst. K5932).

George Pyke acquired portions of the lot in the 1950's including the east half in 1951 from the Stevenson (Inst. L7240) and in 1953 (Inst. 7783). Grant Pyke purchased that portion of the lot owned by George Pyke in 1968.

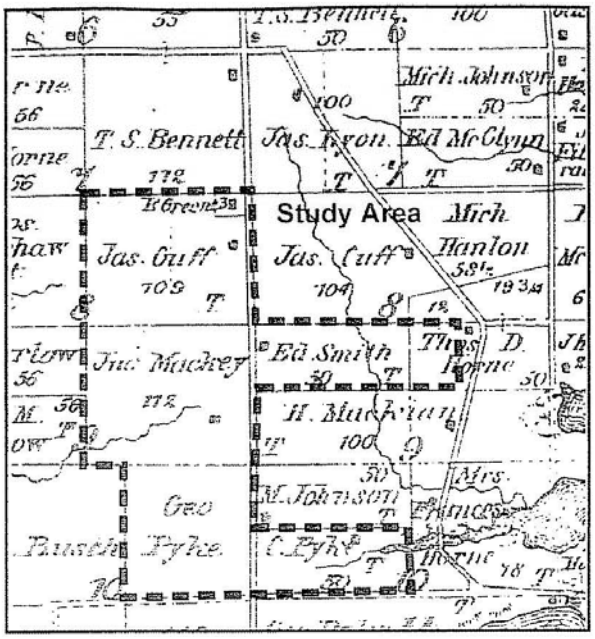

Figure 3. 1878 plan of Lots 8 through 10 Concession 6 and Lots 9 and 10 Concession 7 (from Meacham 1878).

Lot 9 Concession 7

Lot 9 was patented in 1823 to Julia Leslie and Charles Grant. Thomas Johnson acquired the west half of the lot from Grant in 1831 (Inst. L366) and William Blakley in 1833 (Inst. L220). Thomas Kirkpatrick sold a portion of the lot in 1855 to Thomas Horne (Inst. A435). Transactions involving this lot through the mid nineteenth century are difficult to sort. Based upon the 1878 historical atlas the west half of the north half of Lot 9 belonged to Edward Smith and the east half to Thomas D. Horne. The south half of the lot was owned by H. Muckian. John Armstrong acquired the east half of the north half of the lot in 1912 (Inst. L4714).

Lot 10 Concession 7

Following the pattern of other lots within the Pyke Farm Property the patent for this lot was granted in 1823 to Julia Leslie and Charles Grant. William Blakley acquired the lot in the mid nineteenth century. By 1878 Mrs. Thomas Horne owned the east half of the lot and M. Johnson the north half of the west half of the lot and C. Pyke the south half of the west half. James Pyke

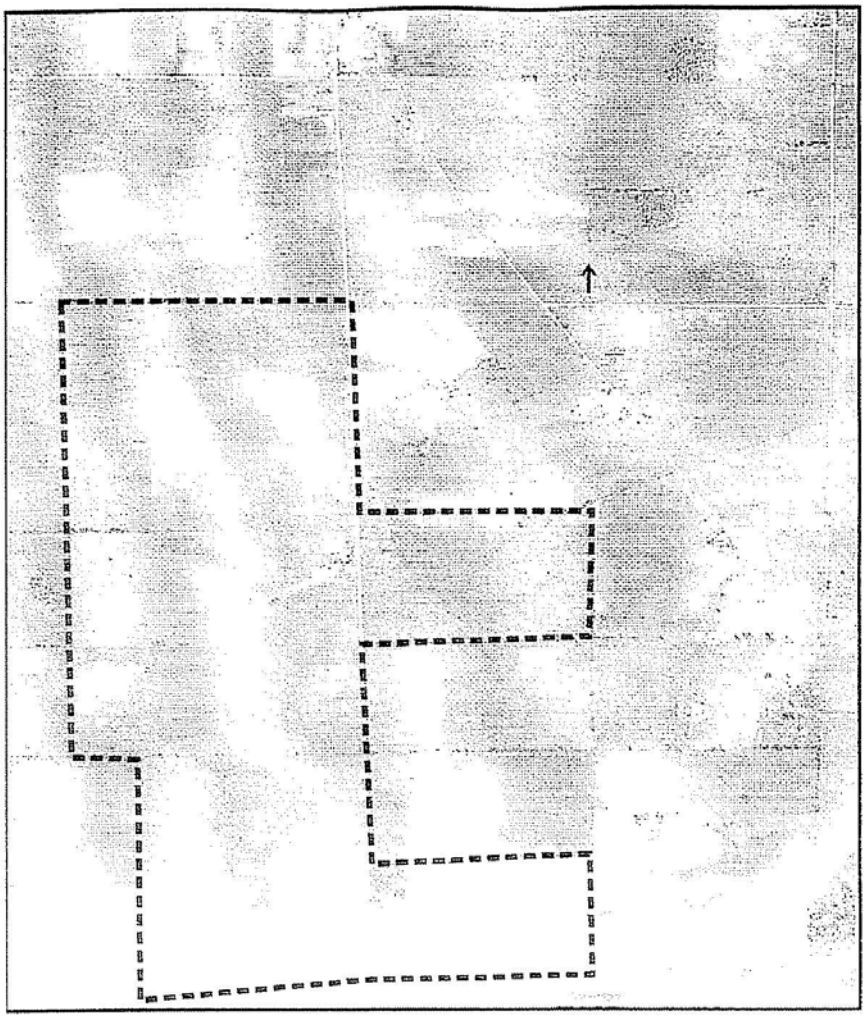

Plate 4. 1950 aerial photograph of Pyke Farm property (NAPL A12546-162)

acquired the a portion of the lot in 1904 (Inst. L3889).

A 1950 aerial photograph of the property clearly slows a barn located towards the east end of the northern portion of the property. This structure has disappeared by 1969. The woodlot in the northwest corner of Lot 10. Concession 7 has extended eastward from its 1950 location.

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Shojner/Vanstrien Property Lot 1 Concession 7, Lot 1, Part Lot 2 Concession 8 North of Baseline

This property consisted of the east half of Lot 1. Concession 7 North of Baseline. all of Lot 1 Concession 8 North of Baseline and the west half of Lot 2 Concession 8 North of Baseline.

Lot 1 Concession 7 North of Baseline

The patent to Lot 1 was issued in 1823 to E. Leslie and Charles Grant. each received 100 acres. Charlotte Forsyth et. al., representing the Leslie Family interests. sold their half of the lot in 1831 to Charles Grant (Inst. K306). Grant sold the east half of the lot for £ 125 in 1834 to Edward Noble (Inst. L480). Grant sold the west half of the lot in 1843 to William Kirkpatrick (Inst. E775). Edward Noble sold the east half of the lot in 1845 to George Grey for £ 200 (Inst. E999).

William Kirkpatrick sold the west half of the lot for £ 150 in 1850 (Inst. A34). Grey. in 1853. sold the east half of Lot 1 to Abraham Briggs for £ 350 (Inst. A45). Following a series of mortgages on the lot the Building Society sold the property to James Kirkpatrick for £150 in 1861 (Inst. A360). At the same time Kirkpatrick sold the lot to Clavin and Breck for £560 (Inst. A361). John Doyle. in 1863. purchased from John Baker a portion of the west half of the lot for $ 600.00 (Inst. A442). Ira Brigg (Abraham's wife) provided a quit claim on the east half of the lot in 1870 (Inst. B432) to D.D. Calvin. Abraham Briggs also provided a quit claim on the east half in 1880 to D.D. Calvin. The 1878 atlas identified Theo Briggs on the east half of the lot and John Baker on the west (see Figure 4).

George Greenwood purchased the east half of Lot 7 from Galvin et. al. in 1880 for $ 3.200 (Inst. 1282). John Doyle sold a portion of the west half of the lot to John Joseph Doyle in 1890 (Inst. 2801). The west half of Lot 7 was transferred by will from John to Francis baker (son) in 1895 (Inst. Bye 1050). Sara Green wood acquired the east half of the lot in 1901 from the executors of George Greenwood's estate Inst. G 3591). Francis Baker sold the north half of his portion of the lot in 1920 to Eyra Dixley for $ 6.100 (Inst. L5410). Sara Greenwood's son. Maxime. acquired by probate the east half of the lot in 1923 (Inst. LGR 3001). Eyria Dixley sold the west half of the lot in 1925 to Daniel Lacey for $ 5.000 (Inst. K5894). Daniel Lacey sold the west half of the lot in 1950 to Marinas de Ruter for $ 4.000 (K7111).

There is a notice of expropriation from the Department of Highways in 1958 to Marinas de Ruter and Emma D. McRae as part of a road allowance extension. Kathleen Greenwood came into possession of the east half of Lot 1 in 1969 (Inst. 195332). Dominic Greenwood acquired the property in 1983 from the estate of Kathleen (Inst. 374265). Dominic sold portions of the lot through the late 1980's and early 1990's with Carmel Greenwood acquiring the remaining portion of the east half of the lot in 1997 (Inst. 675780).

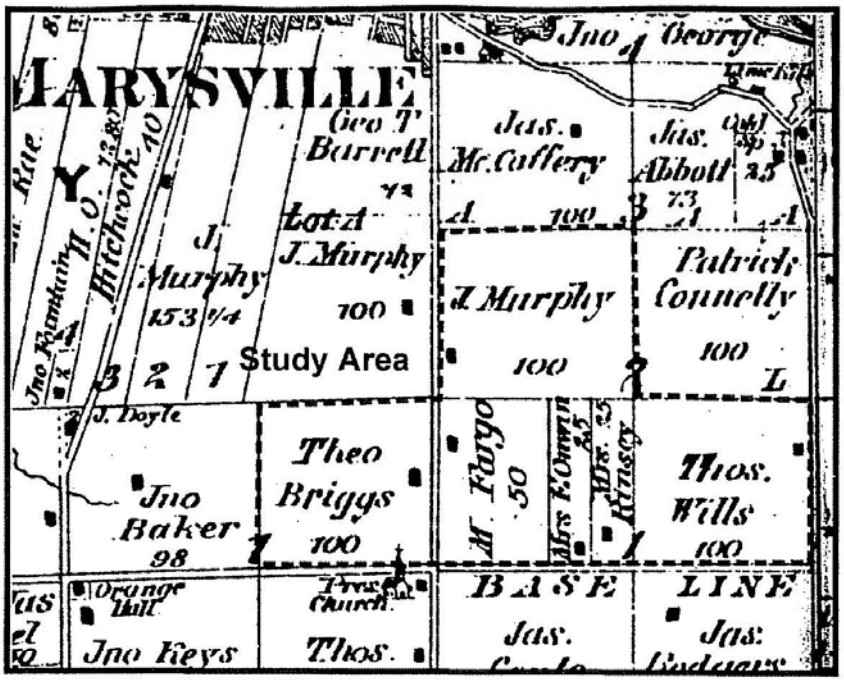

Figure 4. 1878 plan of Lots 1 & 2 Concessions 7 & 8 North of Baseline (from Meacham 1878).

Lot 1 Concession 8 North of Baseline

Lot 1 Concession 8 was patented in 1856 to Thomas Wilts. Joseph McAllen et al. sold the property in 1863 to William Kenbourne (Inst. A449). Kenbourne sold a portion of the lot in 1866 for $ 450.00 to Thomas Kenbourne in 1866 (Inst. B98). He sold 50 acres of the east half of the west half to John Onwin in 1869 for $ 800.00. The 1878 plan indicates that the west half of the lot was occupied by M. Fargo. while the east half of the west half. divided into two parcels. identified Ms. F. Onwin and Mrs. Rinsely as residents. Thomas Wills is listed as the owner for the east half of the lot. John Fargo. in 1882. acquired the west half of the lot from Elizabeth Onwin (Inst. E1570). Fargo sold 50 acres of the lot to Edward Brickland in 1885 for $ 2.250 (Inst. 1937).

Michael O'Brien purchased from George Willstone the east half of Lot 1 for $ 3.500 in 1897 (Inst. G3327). This was the first reference noted in the abstracts for this portion of the lot. The

sequence of transactions through the late nineteenth and early twentieth centuries are difficult to follow in the abstracts.

By 1934 the Brickland portion of the lot (west 50 acres) was owned by Grant Brickland (Inst. K6386). The remaining portion of the west half of the lot was purchased by Ross Boutard for $ 1.025 (Inst. K6393). James O'Brien acquired from the Director The Veterans Land Act for $ 3.000.00 the east half of the lot in 1949 (Inst. K7068). Boutard sold his lot in 1950 for $ 1.500 to Peter Draayer (Inst. K7102). Draayer sold the east half of the lot to Curt Shojner in 1953 for $ 2.000.00 (Inst. 7367). Florence Brickland sold the west half of the west half to Eugene and Peter Hulton for $ 1.000 (Inst. 134471). The Director of the Veterans Land act sold the east half the lot (100acres) in 1964 to Wilfred and Elizabeth Watts (Inst. 147449). The Watts then sold the property to the Shojners (Inst. 147699).

Lot 2 West half Concession 8 North Baseline

Patent for Lot 2 was granted in 1823 to Julia Leslie and Charles Grant. Leslie sold the west half of the lot to Zelot Abbott for £ 125 (Inst. L 505). Abbott sold the west half of the lot in 1844 to James Sampson for £ 250 (Inst. 0393). Sampson sold the west half of the lot in 1850 to Thomas Baker for £ 350 (Inst. A34). Edward Leslie sold to James Leslie in 1860 the east half of the lot for £ 3.000.

The sequence of transactions for this lot through the mid nineteenth century is less then clear. Patrick Conley acquired the east half of the lot in 1871 for $ 3.000 (Inst. B544). Conley is listed as the property owner in the 1878 Historical Atlas. J Murphy is identified in the 1878 Atlas as the owner of the west half of Lot 2. Pauline McNaughton purchased the east half of the lot in 1924 (Inst. K6364). Edward MacDonald then acquired the east half of the lot in 1953 from the McNaughton family.

Maxim Greenwood purchased the west half of the lot in 1962 from the estate of James and Agnus Brown (Inst. 12670) for $ 2.500.00. The MacDonald Riverside Farms were established as owners of the east half of the lot in 1968 (Inst. 178288). Jon and Johanna Borders acquired the west half of the lot in 1967 (Inst. 170594). Sections of the lot have since been sold.

A review of the 1950 aerial photograph indicates that three of the 1878 buildings. all located on the west half of Lot 1. Concession 8. North of Baseline. have disappeared. Most of the area save for a small woodlot in the southeast quarter of the study area is clear.

4.0 IDENTIFIED ARCHAEOLOGICAL SITES AND POTENTIAL

4.1 Identified Archaeological Sites

There are no registered archaeological sites on any of the three potential wind farm locations. There are, however a total of nine registered archaeological sites for Wolfe Island (see Figure 5) as well as a number of reported finds throughout the island. A cluster of sites has been identified on Button Bay, including two sites with Middle Woodland and two with late Archaic components. Two of these sites fall within 3 km of the Pyke Farm property. A chert (flint) source, one of only a handfull thus identified in Eastern Ontario, has been registered on Simcoe Island less than 3 km from the Crothers Property.

4.2 Archaeological Potential

A number of factors are used to determine archaeological site potential. For precontact (prehistoric) sites criteria are principally focused on topographical features such as distance from the nearest source of water and the nature of that water body, distinguishing elements in the landscape including ridges, knolls and eskers and types of soils found within the area being assessed. Also considered in the assessment of precontact site potential is the proximity of known archaeological sites which provide a barometer of past activity in the area being considered. The assessment of archaeological potential for historic sites is reliant on historic research (land registry records, census and assessments rolls), cartographic and aerial photographic evidence and the inspection of the study area for possible above ground remains or other evidence of demolished historic structure(s).

The assessment of the three potential wind farm site locations is based upon the above reviewed research as well as on visits to the study areas on the 12 and 24 of September 2002.

4.2.1 Crothers Property (Figure 6)

This property located at the north west corner of the island, much of which is within 300 meters of Lake Ontario (Plate 5), is regarded as having moderate to very high potential for precontact archaeological sites. The southern half of the property is bisected by a large meandering stream and an associated wetland (Plate 6). Areas within 100 meters of this stream are regarded as having a high potential for precontact archaeological resources.

The identification of a structure on the south side of this stream on the 1878 Historical Atlas (see Figure 6) provides this portion of the property with a high potential for historic archaeological resources.

As a consequence of this potential any areas to be impacted by the development of the Wind Farm are subject to a Stage 2 archaeological assessment (field testing).

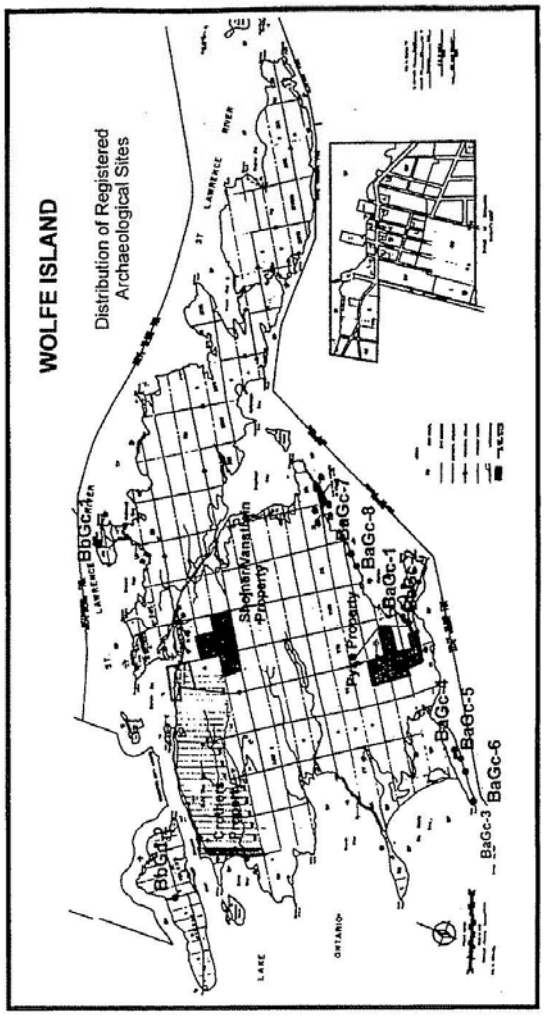

Figure 5. Distribution of registered archaeological sites on Wolfe Island.

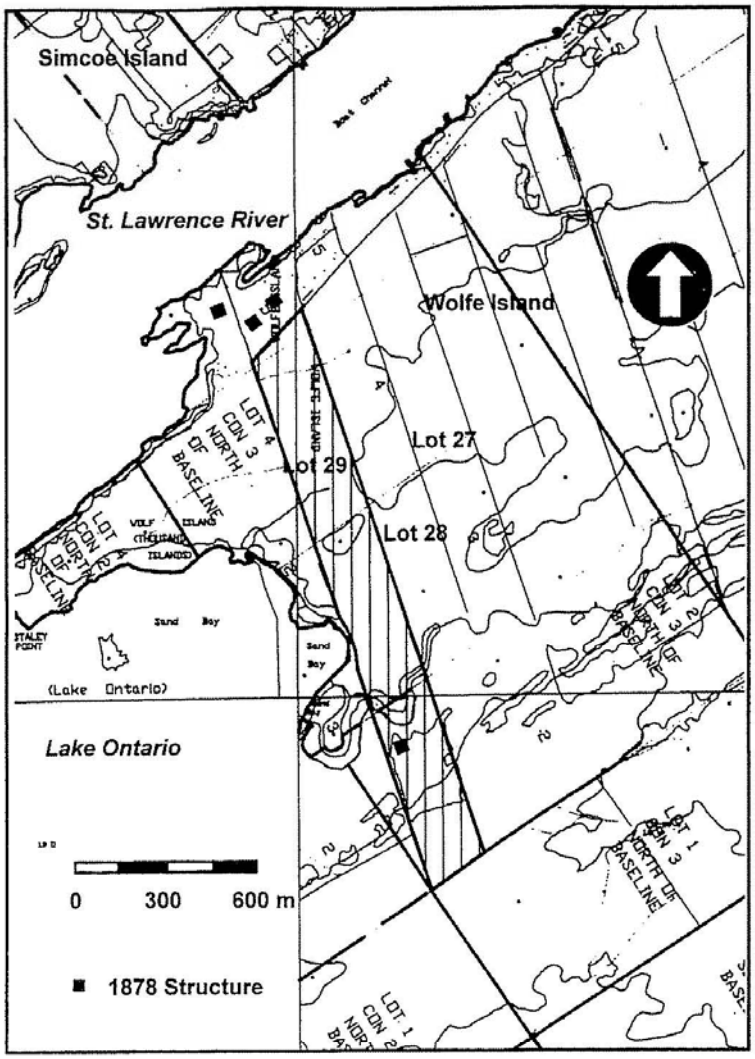

Figure 6. Crothers Property.

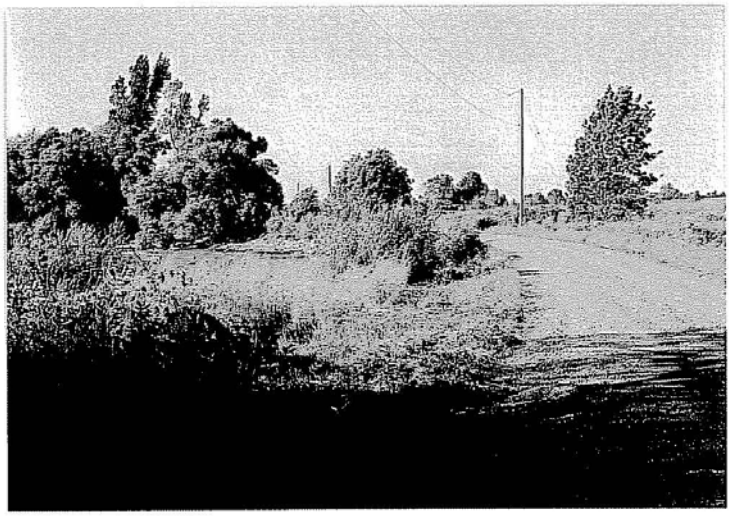

Plate 5. Central portion of Lot 29 O.S. at eastern tip of Sand Bay looking north.

Plate 6. Creek and wetland on the south half of Lot 29 O.S. looking east.

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4.2.2 Pyke Farm Property (Figure 7, Plate 7)

The potential for precontact archaeological sites at the Pyke Farm property ranges from high to low. Lot 10, Concession 7 has a high potential based upon the creek draining the central portion of the property and its proximity to Button Bay where a cluster of archaeological sites have been noted. Lot 9, Concession 7 has a moderate to high potential for precontact archaeological resources based again upon the association with Button Bay the presence of a creek in the west end of the lot. Lots 8 through 10 Concession 6 have a moderate to low potential for precontact sites. This assessment is based upon the headwaters of two creeks that empty into Button Bay and a third that drains into Lake Ontario.

Potential for historic resources is high Structures were also noted for Lot 9 on both Concessions 6 and 7.

Given the identification of archaeological potential for good portions of the property it is recommended that Stage 2 archaeological investigations be undertaken for those areas to be impacted by development of the Wind Farm.

Plate 7. View of Lot 10, Concession 7, Pyke Farm Property looking west.

22

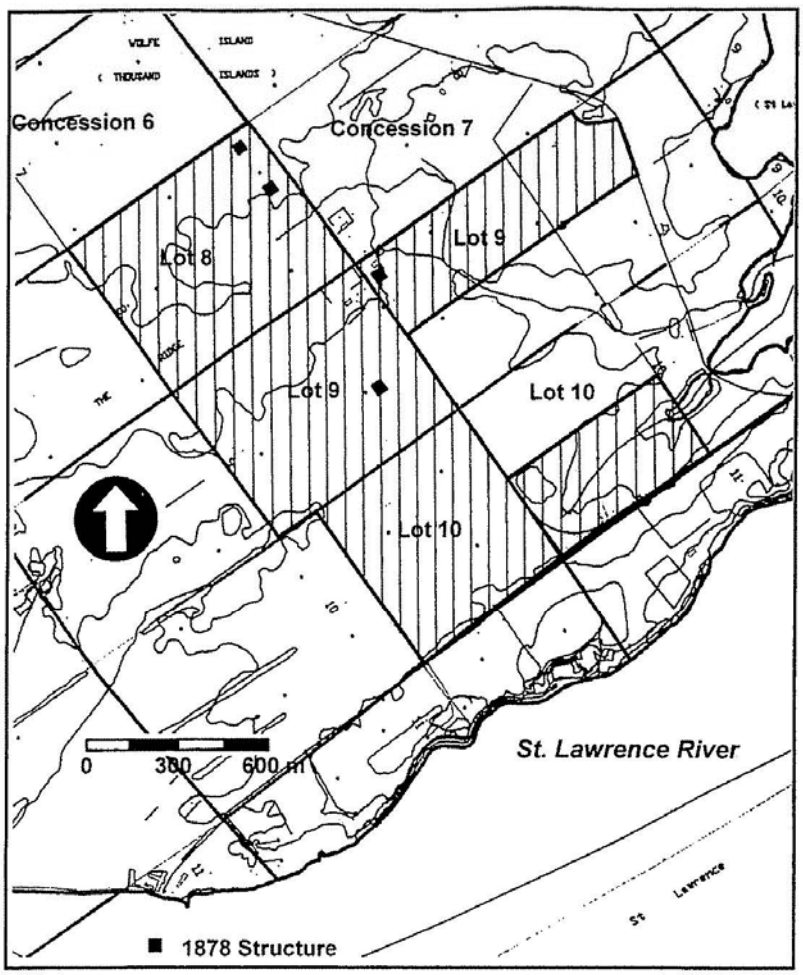

Figure 7. Pyke Farm Property with 1878 structures.

4.2.3 Shojner/Vanstrein Property (Figure 8, Plate 8)

This property has a moderate to low potential for precontact archaeological resources. This assessment is based upon the presence of two creeks that are located in the north and eastern segments of the lots. This area is also one of the highest elevations on the island which would have been an attractive feature for precontact settlement during periods of higher water levels.

There is moderate to high potential for historic resources on portions of Lot 1 Concessions 7 and 8 based upon the presence of a number of structures in 1878 (see Figure 8).

Given the assessment of moderate archaeological potential for portions of the property it is recommended that a Stage 2 archaeological investigation be undertaken for those areas to be affected by development of the Wind Farm.

Plate 8. Southeast corner of Shojner/Vanstrein Property

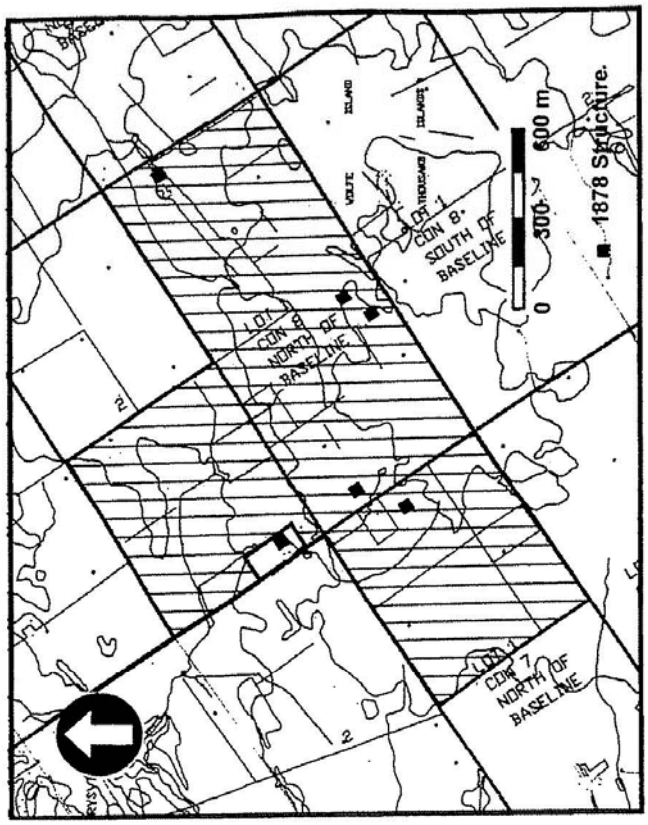

Figure 8. Shojner/Vanstrein Property with 1878 structures.

5.0 SUMMARY AND RECOMMENDATIONS

Heritage Quest Inc., on behalf of Acres & Associated Environmental Limited, undertook a Stage 1 archaeological assessment of three potential Wind Farm locations on Wolfe Island. The locations include the Crothers Property, Lot 29 Old Survey, the Pyke Farm, Lots 8 through 10 Concession 6 and Lots 9 and 10 Concession 7 and the Shojner/Vanstrien Property Lot 1 Concession 7 North of Baseline and Lots 1 and 2 Concession 8 North of Baseline. The objective of this investigation is to identify known archaeological resources and to assess the archaeological potential of the proposed Wind Farm locations.

The study included a field reconnaissance of the properties on 12 and 24 September 2002, followed by a review of documents pertaining to the property including land registry indexes, census records, historic maps, local histories and aerial photographs. The Ministry of Culture archaeological site registry listing for the region was consulted and previous archaeological investigations reviewed.

Native occupation of the region covers at least 8,000 years. There are a number of sites on Wolfe Island that provide evidence of continuous occupation over the past 5,000 years by First Nation populations. Wolfe Island was one of the first properties in Ontario to be privately owned when it was granted to LaSalle in 1675. There is to date, however, no indication of permanent Euro Canadian settlement of the island until the early nineteenth century. Settlement of the island began in earnest in 1823 stimulated by agriculture, lumbering and fishing.

No archaeological sites have been registered for any of the three properties under consideration. There are a cluster of sites registered and/or reported for the Button Bay area in close proximity to the Pyke Farm property.

Archaeological potential for both precontact (prehistoric) and historic archaeological sites have been identified for all three properties. This investigation has provided the basis for the following recommendations:

1) A Stage 2 archaeological assessment be undertaken for those areas to be impacted by the development of the Wind Farm.

2) Should deeply buried archaeological remains be found on the properties during construction, the Ministry of Culture (416) 314-7148 should be notified immediately.

3) In the event human remains are encountered during construction, both the Ministry of Culture (416) 314-7148, and the Registrar or Deputy Registrar of the Cemeteries Regulation Unit of the Ministry of Consumer and Commercial Relations (416) 326-8392, should be notified immediately.

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APPENDIX 1 Photography Catalogue

Camera: Pentax K1000
Film: Fujicolor Superia Reala ASA 100

Catalogue No.	Description	Date	Phot.	Dir.
HQ02-47 C01	View of Lot 29 O.S. eastern tip of Sand Bay	12-09-02	HJD	N
HQ02-47 C02	View of Hay Field Lot 29 O.S. north of creek.	12-09-02	HJD	NE
HQ02-47 C03	Creek bisecting Lot 29 O.S.	12-09-02	HJD	E
HQ02-47 C04	Lot 29 O.S. from south end.	12-09-02	HJD	N
HQ02-47 C05	Lot 29 O.S. north end.	24-09-02	HJD	S
HQ02-47 C06	Pyke Farm, north end, Allison Section.	24-09-02	HJD	W
HQ02-47 C07	Pyke Farm, north end, Allison Section.	24-09-02	HJD	NW
HQ02-47 C08	Pyke Farm, north end, Allison Section.	24-09-02	HJD	SW
HQ02-47 C09	Pyke Farm, Allison section from north end.	24-09-02	HJD	E
HQ02-47 C10	Pyke Farm, Allison section towards area of barn.	24-09-02	HJD	SE
HQ02-47 C11	Pyke Farm, below Abbot section, NW corner.	24-09-02	HJD	NW
HQ02-47 C12	Pyke Farm, below Abbot section, central portion.	24-09-02	HJD	S
HQ02-47 C13	Pyke Farm, Stevenson field.	24-09-02	HJD	SE
HQ02-47 C14	Pyke Farm, Button Bay Road from west end.	24-09-02	HJD	E
HQ02-47 C15	Pyke Farm, Button Bay Road from west end.	24-09-02	HJD	E
HQ02-47 C16	Pyke Farm, Button Bay section, bend in the road section.	24-09-02	HJD	SE
HQ02-47 C17	Pyke Farm, Bend in the road section, from east end	24-09-02	HJD	W
HQ02-47 C18	Button Bay.	24-09-02	HJD	E
HQ02-47 C19	Pyke Farm, Johnson field from Button Bay Road.	24-09-02	HJD	W
HQ02-47 C20	East end of Shojner/Vanstrein Property from Baseline Road.	24-09-02	HJD	NE
HQ02-47 C21	East end of Shojner/Vanstrein Property from Baseline Road.	24-09-02	HJD	N
HQ02-47 C22	Shojner/Vanstrein Property central section from Baseline Road.	24-09-02	HJD	N
HQ02-47 C23	Shojner/Vanstrein Property central section from Baseline Road.	24-09-02	HJD	NE
HQ02-47 C24	Shojner/Vanstrein Property southeast corner from Baseline Road	24-09-02	HJD	NE

Camera: Pentax K1000
Film: Fujichrome Sensia II ASA 100

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HQ02-47 T05	Lot 29 O.S. north end.	24-09-02	HJD	S
HQ02-47 T06	Pyke Farm, north end, Allison Section.	24-09-02	HJD	W
HQ02-47 T07	Pyke Farm, north end, Allison Section.	24-09-02	HJD	NW
HQ02-47 T08	Pyke Farm, north end, Allison Section.	24-09-02	HJD	SW
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HQ02-47 T15	Pyke Farm, Button Bay Road from west end.	24-09-02	HJD	E
HQ02-47 T16	Pyke Farm, Button Bay section, bend in the road section.	24-09-02	HJD	SE
HQ02-47 T17	Pyke Farm, Bend in the road section, from east end	24-09-02	HJD	W
HQ02-47 T18	Button Bay.	24-09-02	HJD	E
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HQ02-47 T22	Shojner/Vanstrein Property central section from Baseline Road.	24-09-02	HJD	N
HQ02-47 T23	Shojner/Vanstrein Property central section from Baseline Road.	24-09-02	HJD	NE
HQ02-47 T24	Shojner/Vanstrein Property southeast corner from Baseline Road	24-09-02	HJD	NE

APPENDIX B

Stage 1 – Background Research
Archaeological Resource Assessment
For Land and Underwater Areas
Kingston-Wolfe Island/Simcoe Island
230-kV Transmission Line
Wolfe Island Township Municipality and
Kingston Township Municipality
Frontenac County

Submitted to

Canadian Renewable Energy Corporation

and

Ontario Ministry of Culture

Prepared by

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Archaeological and Heritage
Consulting and Education
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Archaeological Consulting Licence Number P027
Contract Information Number P027-011

Report Distribution: 3 copies to Ministry of Culture
1 copy to Canadian Renewable Energy Corporation
1 copy to Acres International
1 copy to SJAHCE

Table of Contents

Project Personnel

Project Manager	Scarlett Janusas
Report Preparation	Patrick Folkes Scarlett Janusas
Licence Holder	Scarlett Janusas
Marine Historian	Patrick Folkes

Acknowledgments

Scarlett Janusas Archaeological and Heritage Consulting and Education extend our thanks to Ms. Kay Ashwood, Acres International, for providing the maps for the study area. We would also like to thank Mr. Robert von Bitter for his assistance in identifying registered sites located in or near the study areas.

Executive Summary

A Stage 1 archaeological resource assessment was conducted in late May and early June 2004 for property both on land and underwater in Kingston Township Municipality and Wolfe Island Township Municipality in Frontenac County to assist in the placement of 230-kV transmission line for the Canadian Renewable Energy Corporation.

The Canadian Renewable Energy Corporation retained the services **of Scarlett Janusas Archaeological and Heritage Consulting and Education (SJAHCE)** to conduct the Stage 1 archaeological assessment. The study property has been divided into three sections for ease of reporting: 1) mainland Kingston, 2) St. Lawrence River, Snake Island and Boat Channel, and 3) Simcoe Island. The background research for Wolfe Island was completed in 2002 by Heritage Quest Inc. and is not part of this report.

The first area comprises mainland Kingston and is approximately 3.5 km by 4.6 km in size (approximately 16.1 square kms). The southwestern end of this block is approximately at Point Pleasant; the southeastern end of the block is south of Samson Point, the northeastern end is approximately the small town of Hillendale, and the northwestern end is approximately the Gardiner Road Transformer station.

The St. Lawrence Block extends from Point Pleasant to the northeast, and Samson Point to the northeast to southwest point on Simcoe Island (UTM 18TUD 0770E 0902N), and to the southeast land point on Wolfe Island, approximately midway between northeast of Lucas Point on Simcoe Island and southwest of Mill Point on Wolfe Island. The area is approximately 8 by 3 kms (an area of approximately 24 sq. kms).

The Simcoe Island block extends from UTM 18TUD 0770E 0902N on the northwest side and approximately UTM 18TUD 0775E 0902N on the northeast side to the southwest side, approximately 18TUD 0775E 0901N, and the southwest side UTM18TUD 0780E 0901N. The area is approximately 1 km by 1 km square.

Each of these areas was subject to background investigation including physiography, natural and current environment, potential for aboriginal archaeological resources, known archaeological resources, and an historic overview. The purpose of this investigation was to highlight areas of archaeological potential.

Mainland Kingston and the coast were found to be highly developed in most areas, except for the Cataraqui Conservation Area. Historically, this area was very important, first as a farming community, later as a growing urban centre, and especially as a shipping area for commerce and trade.

Low archaeological potential exists for:

- Subdivisions that have been built post 1960;
- Areas where there has been large and deep excavation for foundations; and
- Areas of urban shoreline development.

Cataraqui Bay was developed historically as a shipping port. The St. Lawrence River between Kingston and Simcoe Island was a very busy shipping channel. There are three identified shipwrecks in the study area:

- a "recreational dive site" located southwest of Four Mile Point;
- the Cleveland schooner, the **Medbury**, off Simcoe Island (the recreational dive site may be the Medbury); and
- BbGd-19, the hull of a steam barge on the eastern boundary line.

High archaeological potential exists for additional underwater ships and boats in addition to the marine accessories, such as wharves, slips, docks, etc.

Snake Island and the Snake Island shoals were the location of a former battery and three different locations of a lighthouse. The potential for archaeological remains for these resources is considered high.

There are two known resources on Simcoe Island that should be avoided, if possible.

- Fishery on the south side of Simcoe Island along Lots 8 and 9;
- The Cheese Factory complex on Lot 8.

There is only one registered archaeological site within the study boundaries, the hull of a steam barge located along the eastern water boundary.

Excluding areas that have been the subject of deep, intrusive development disturbance, such as post 1960 residential subdivisions, the entire subject area exhibits moderate to high archaeological potential for the recovery of archaeological remains.

Recommendations stemming from the background research study conducted for the study area include:

- Avoid all known archaeological and historic resources;
- Where avoidance is not possible, a Stage 2 archaeological assessment must be conducted to verify areas of low archaeological potential and to test other areas for the possibility of archaeological remains along the selected transmission line;
- Results of the Stage 2 assessment will determine if a Stage 3 and 4 archaeological assessment will be required.

Stage 1 – Background Research Archaeological Resource Assessment For Land and Underwater Areas Kingston-Wolfe Island/Simcoe Island 230-kV Transmission Line Wolfe Island Township Municipality and Kingston Township Municipality Frontenac County

1.0 PURPOSE

A Stage 1 archaeological resource assessment was conducted in late May and early June 2004 for property both on land and underwater in Kingston Township Municipality and Wolfe Island Township Municipality in Frontenac County to assist in the placement of a 230-kV transmission line for the Canadian Renewable Energy Corporation (Figure 1).

The Canadian Renewable Energy Corporation retained the services of **Scarlett Janusas Archaeological and Heritage Consulting and Education (SJAHCE)** to conduct the Stage 1 archaeological assessment. The study property has been divided into three sections for ease of reporting: 1) mainland Kingston, 2) St. Lawrence River, Snake Island, and Boat Channel; and 3) Simcoe Island (Figure 2).

The first area comprises mainland Kingston and is approximately 3.5 km by 4.6 km in size (approximately 16.1 square kms). The southwestern end of this block is approximately at Point Pleasant; the southeastern end of the block is south of Samson Point, the northeastern end is approximately the small town of Hillendale, and the northwestern end is approximately the Gardiner Road Transformer station (Figure 3).

The St. Lawrence Block extends from Point Pleasant to the northeast, and Samson Point to the northeast to southwest point on Simcoe Island (UTM 18TUD 0770E 0902N), and to the southeast land point on Wolfe Island, approximately midway between northeast of Lucas Point on Simcoe Island and southwest of Mill Point on Wolfe Island. The area is approximately 8 by 3 kms (an area of approximately 24 sq. kms) (Figure 4).

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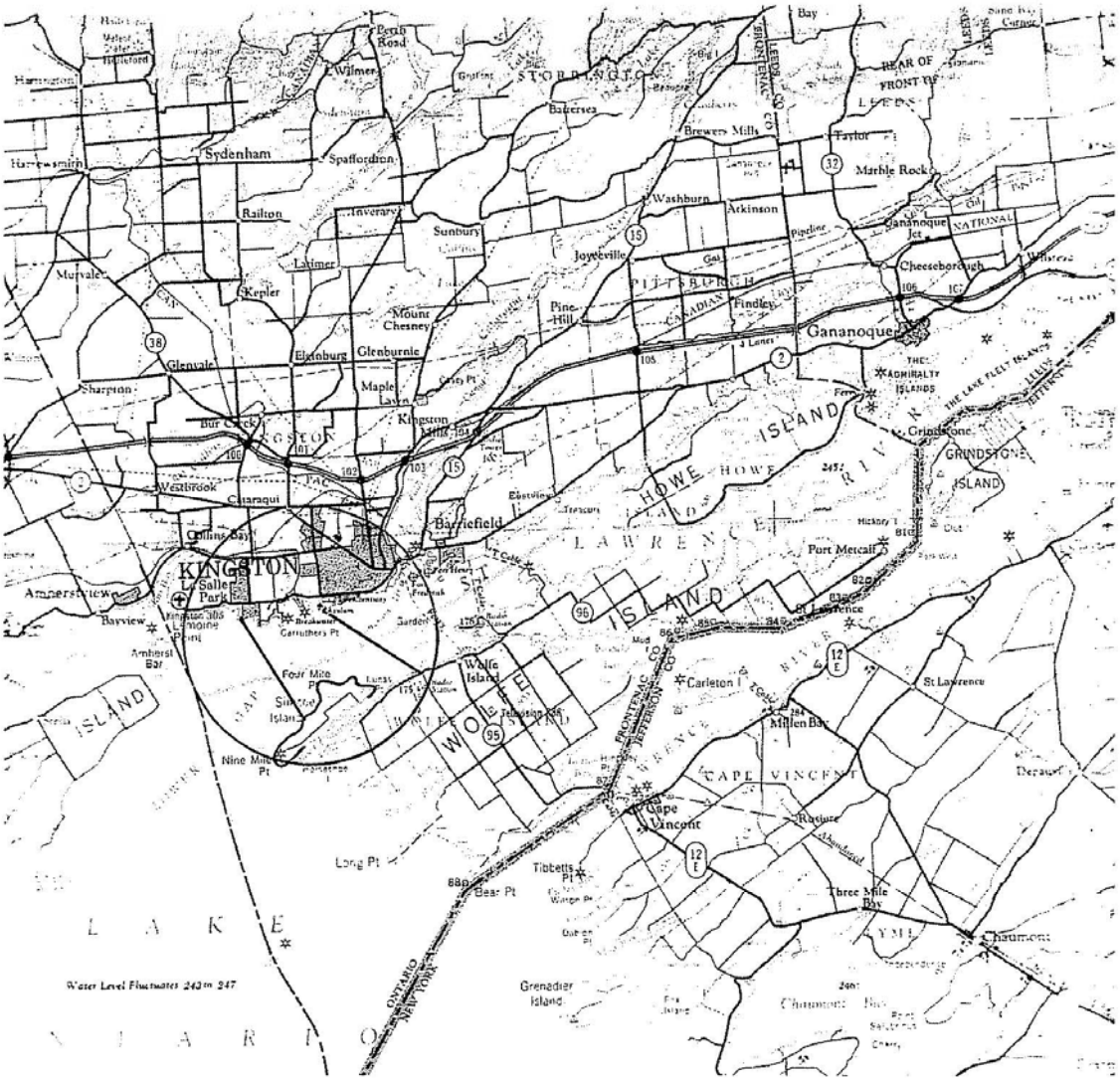
Figure 1
General Location of the Study Area



NTS Kingston 31C, Edition 5
Scale 1:250,000 (1975)

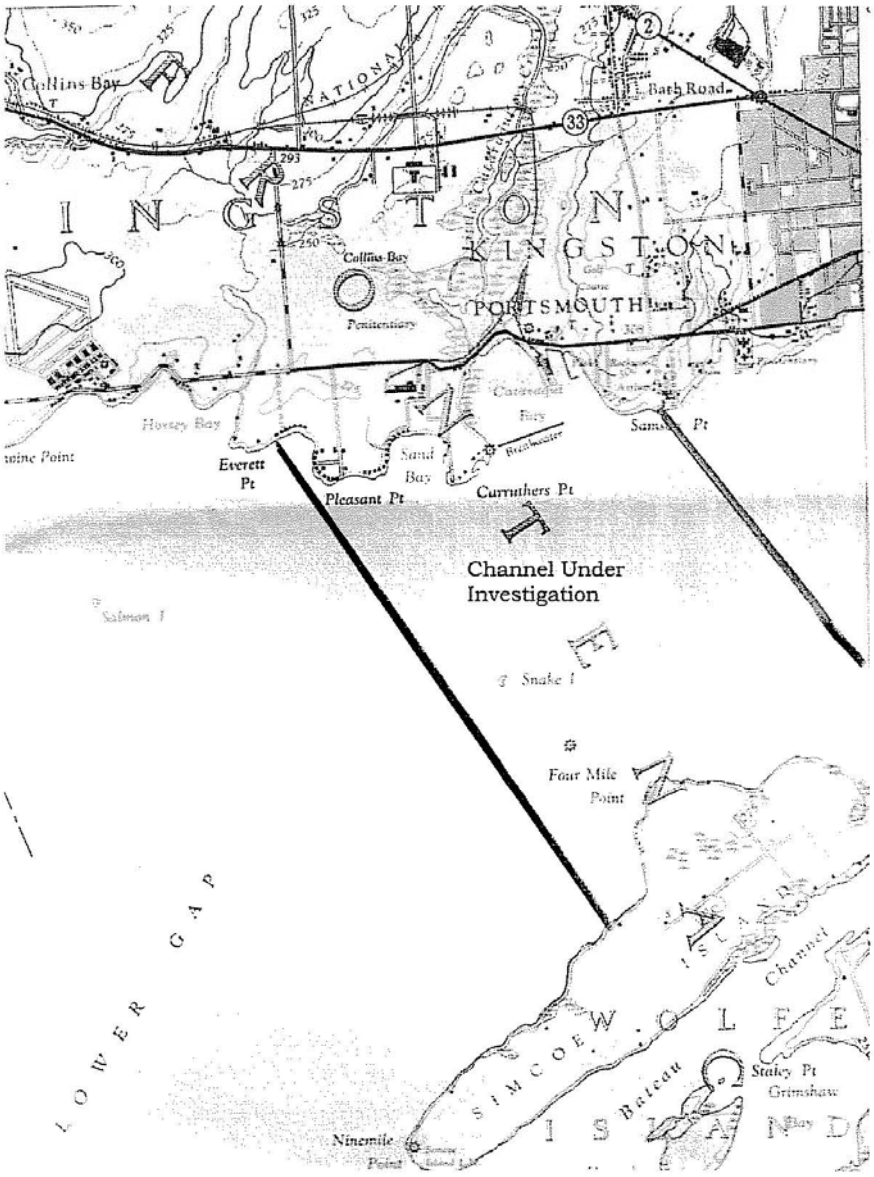
Stage 1 – Background Research, Archaeological Resource Assessment For Land and Underwater Areas, Kingston-Wolfe Island/Simcoe Island 230-kV Transmission Line, Wolfe Island Township Municipality and Kingston Township Municipality, Frontenac County 8

Figure 2

Kingston Mainland, St. Lawrence Channel, Simcoe Island, Bateau Channel

Scale 1:50 000

Topographic Sheet 31 C/2 East Half - 1956



Stage 1 – Background Research. Archaeological Resource Assessment For Land and Underwater Areas, Kingston-Wolfe Island/Simcoe Island 230-kV Transmission Line, Wolfe Island Township Municipality and Kingston Township Municipality, Frontenac County

Figure 3
Kingtson Mainland

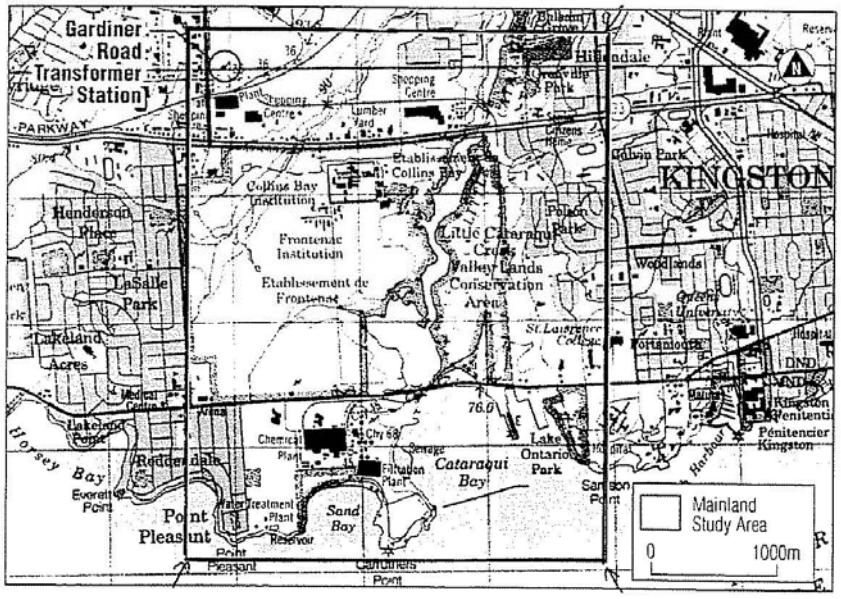
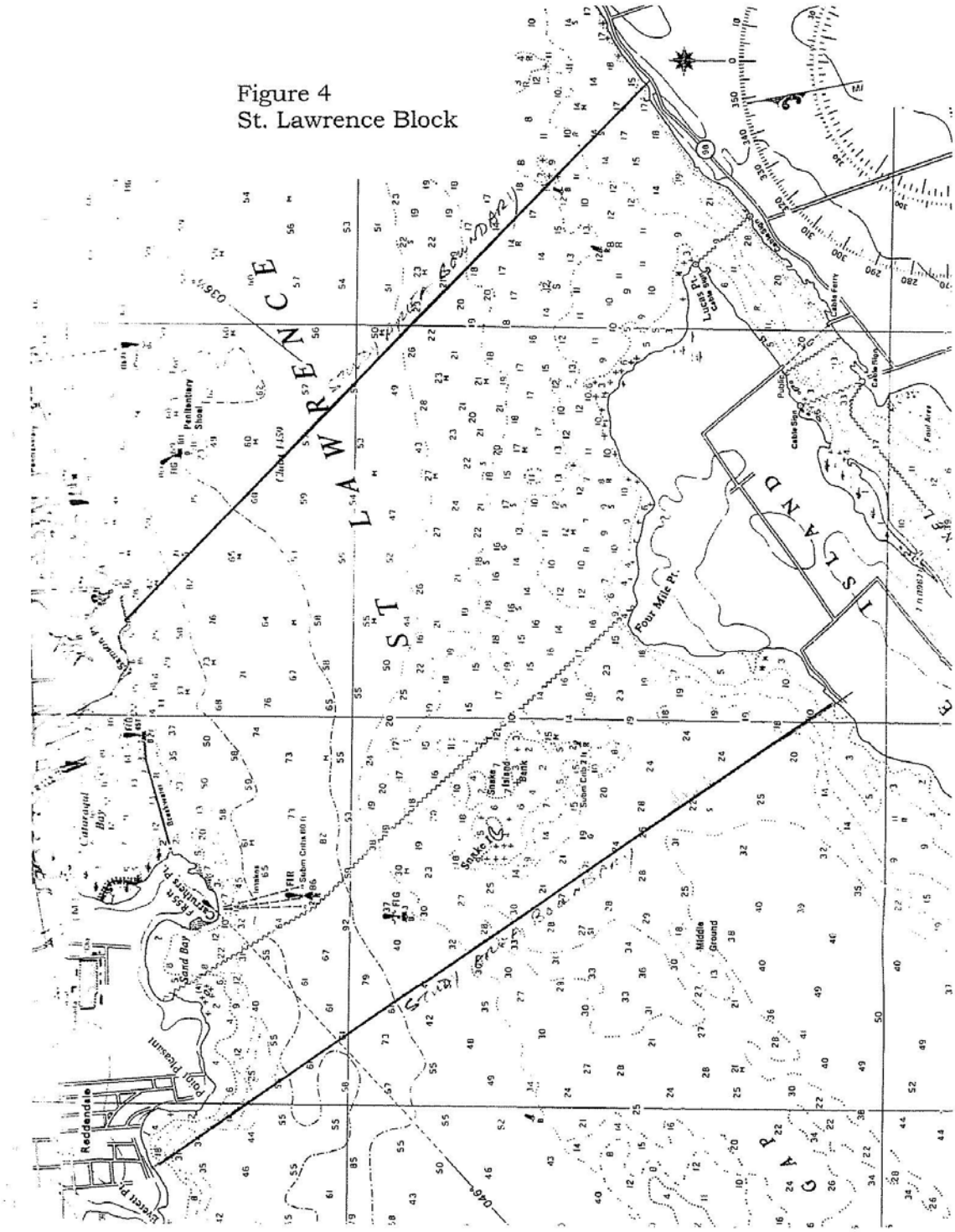


Figure 4
St. Lawrence Block



The Simcoe Island block extends from UTM 18TUD 0770E 0902N on the northwest side and approximately UTM 18TUD 0775E 0902N on the northeast side to the southwest side, approximately 18TUD 0775E 0901N, and the southwest side UTM18TUD 0780E 0901N. The area is approximately km by 1 km square (Figure 5).

Background research was conducted under licence P027 (CIF P027-011) issued to Scarlett Janusas, the Principal Archaeologist of **SJAHCE**.

The Ontario Ministry of Culture will review the report and recommendations resulting from the Stage 1 archaeological assessment of the study area. The background research was conducted using the *Archaeological Assessment Technical Guidelines* (OMCzCR 1993).

2.0 Study Methods

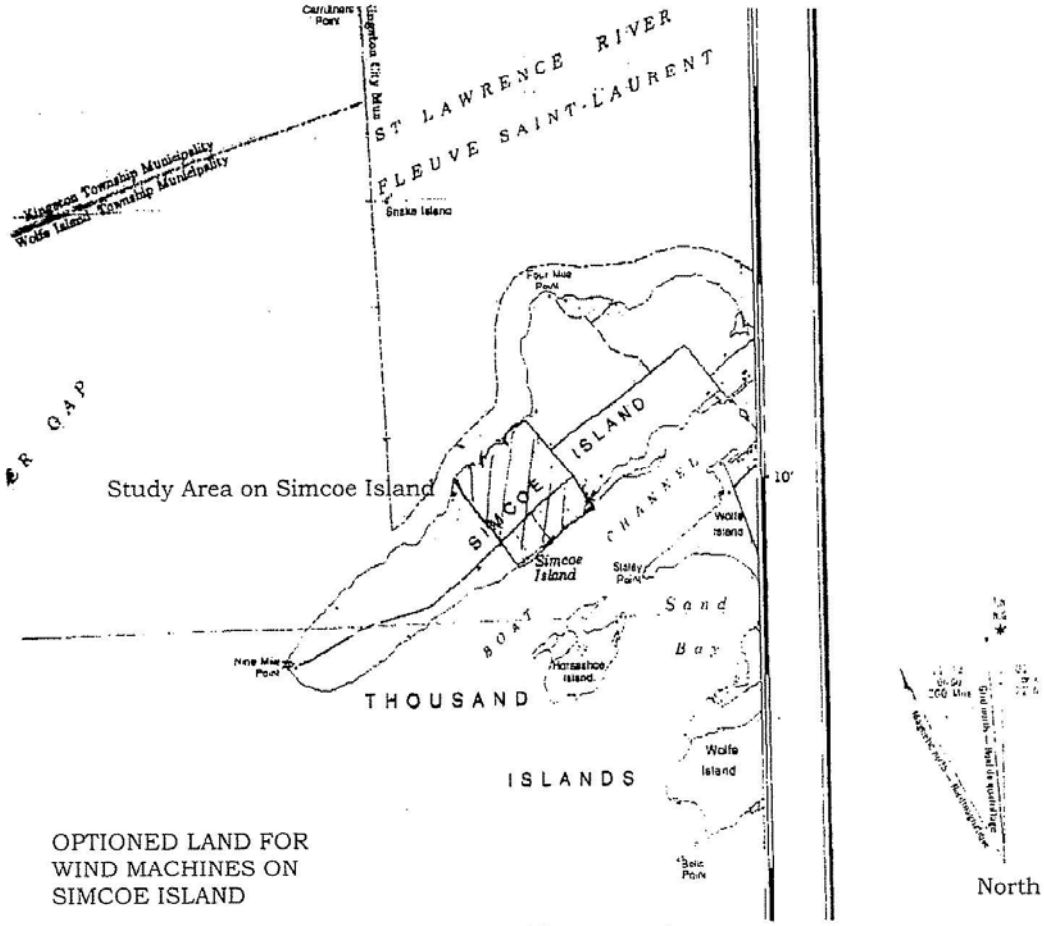
2.1 Stage 1 (Background Research)

Background research is essential to satisfy the requirements of the Ministry of Culture. Hence, **where possible**, the following were investigated, collected, and analyzed;

- The National Site Registration Database to determine the presence of known archaeological sites in and around the project area;
- A land use history and the present condition of the study area;
- The underwater history and the present condition of the study area;
- Individuals with information regarding archaeological remains on the subject property;
- Information and maps from Provincial Archives, York University Library, Natural Resources Office in Peterborough, Ontario (archives), Kingston Land Registry Office, Queen's University Archives, personal library of Marine Historian Patrick Folkes; Kingston Maritime Museum, and library of Scarlett Janusas Archaeological and Heritage Consulting and Education; and
- Any other historical, environmental, planning or archaeological data applicable for the subject lands.

Stage 1 – Background Research. Archaeological Resource Assessment For Land and Underwater Areas, Kingston-Wolfe Island/Simcoe Island 230-kV Transmission Line, Wolfe Island Township Municipality and Kingston Township Municipality, Frontenac County

Figure 5



Topographic Map Bath 31 C/2 1:50,000

3.0 RESULTS (Background Research – Stage 1)

3.1 Natural and Current Environment

The study area occupies the physiographic region named the Napanee Plain (Chapman and Putnam 1961:316-319). The plain ranges from flat to an undulating topography with underlying limestone. Soil depth is generally shallow. Chapman and Putnam do not discuss bottom conditions of the St. Lawrence River or Boat Channel. Topographic maps indicate that the Kingston mainland is largely flat to undulating and heavily developed in areas. Simcoe Island is also largely flat in the study area.

The study area lies within the Great Lakes – St. Lawrence Forest Region (Rowe 1982:93). Typical vegetation for this forest type includes species such as red, white and bur oak, sugar and red maple, beech, basswood, white and red ash, yellow birch, eastern hemlock, eastern white pine and balsam fir. There is not much left of the original forest cover on the Kingston mainland or Simcoe Island, which historically was cleared for farming activities. The Little Cataraqui Wetland on the Kingston mainland does support wetland flora and fauna.

The Little Cataraqui Wetland is considered to have national significance as a waterfowl staging area. It currently provides a feeding habitat for both provincially significant birds and river otter. This area is classified as an Environmentally Sensitive Area due to the designation as "a highly significant bird migration area" (Environment Canada 1993: Map 41).

Snake Island, in the St. Lawrence River between the mainland and Simcoe Island, is also recognized as an area for migratory waterfowl and for seasonal fish spawning. Cataraqui Bay is also an area for migratory waterfowl, seasonal fish spawning and seasonal fish migration. Within Little Cataraqui Creek, the area supports a commercial fishery, wading birds, colonial nesting birds and shore associated mammals such as muskrat, mink and beaver. Extrapolation of this data probably applies to Simcoe Island as well.

The current ecological habitat would have been present during the early historic period, and probably beyond this as well, making the area attractive for aboriginal resource extraction and/or habitation.
The shoreline at Point Pleasant is a retaining wall or harbour structure. A water treatment plant exists at Point Pleasant, and there would naturally be pipelines extending out into the river from this point.

Between Point Pleasant and Sand Bay, there are two types of shorelines. The first, closest to Point Pleasant is shelving bedrock (wide, flat expanses of bedrock at or immediately below normal water levels), and the shoreline closest to Sand Bay is a cobble beach.

There are two types of shoreline at Sand Bay. From west to east they are a low vegetated bank and a sand beach with erosion problems. The shoreline at Carruthers Point has three areas of water intake, and a retaining wall/harbour structure/breakwall. From Carruthers Point north into Cataraqui Bay there are several types of shoreline. From Carruthers Point to Samson Point, the shorelines are 1) a low vegetated bank 2) fringing wetland 3) low vegetated bank 4) mixed sediment beach 5) breakwater 6) mixed sediment beach 7) low vegetative bank 8) retaining wall/harbour structure or breakwater 9) cobble beach, and 10) retaining wall/harbour structure or breakwater.

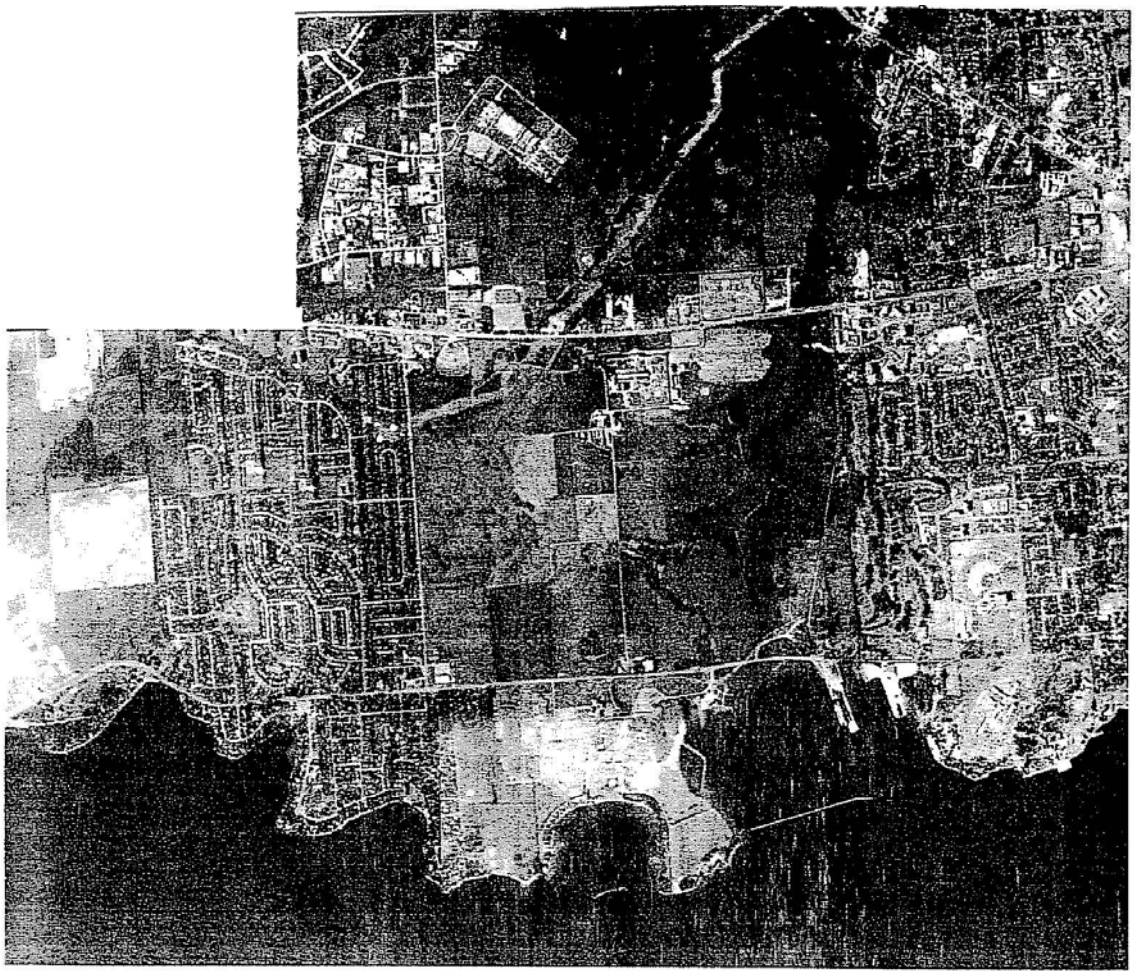
Snake Island, lying within the water boundaries of the study area supports colonial nesting birds and is an area of seasonal fish spawning (ibid).

The shoreline at Simcoe Island on the north side for the study area consists of shelving bedrock. The southern side consists of cobble beach and a retaining wall, harbour structure or breakwater (ibid: Map 42). On this same map, a recreational dive site is indicated, although not further identified, as occurring to the southwest of Four Mile Point.

Aerial photographs from 1979 and 1998 (Figures 6 and 7) were used to assist in defining areas of low archaeological potential based on development disturbance. No aerial photos were available of Simcoe Island.

The 1979 aerial photograph of the Kingston shoreline and mainland indicates a high level of development activity. At the shoreline near Point Pleasant is the subdivision of Reddendale. As one proceeds north along the western edge of the study area, the subdivision of Lasalle Park and Henderson Place border the study area. North of Bath Road are other smaller subdivisions with some open areas.

North of Sand Bay is the very large Du Pont plant and large open areas. North of this area are large open areas with some smaller loci of development.



Kingston Mainland

1979 Air Photo

Scale 1:30,000

1998 Aerial Photo graph
Kingston Mainland

From Cataraqui Bay, with its breakwater, and north is a conservation area composed of wetlands. North of this are other open areas with some smaller loci of development.

On the east boundary of the study area, at Samson Point, there are open areas around the Asylum. North of this area are numerous subdivisions.

The 1998 aerial photo of the same area illustrates increased development in all areas, including the wetland. The wetland area, however, remains largely undeveloped.

There are pockets of open land that may still provide archaeological potential for the Kingston Mainland.

3.2 Potential for Aboriginal Archaeological Resources

Table 1 provides the outline of the culture history for Eastern Ontario.

Table 1: Cultural Chronology for the Eastern Ontario

Period	Group	Time Range	Attributes
Paleo-Indian Late	Lanceolate, H-Lo	9000-7500 BC	Small nomadic hunter-gatherer bands; lanceolate spear points
Archaic Early	Bifurcate-base	7000-6000 BC	Small nomadic hunter-gatherer bands; first notched and stemmed points, and ground stone celts
Archaic Middle	Laurentian; Brewerton	6000-2500 BC	Small territorial hunter-gatherer bands; wider variety of ground stone tools; first copper tools; bone tools
Archaic Late	Lamoka; Genesee	2500-1000 BC	More numerous territorial hunter-gatherer bands; increasing use of exotic materials and artistic items for grave offerings; regional trade networks
Woodland Early	Meadowood; Middlesex	1000-400 BC	Introduction of pottery; burial ceremonialism; pan-regional trade networks
Woodland Middle	Point Peninsula	400BC-AD900	Cultural and ideological influences from Ohio Valley complex societies; incipient horticulture
Woodland Late	Algonquian, Iroquoian	900-1300 AD	Transition to larger settlements and agriculture
	Algonquian,	1300-1400 AD	Establishment of large

	Iroquoian		palisaded villages (Iroquoian)
	Algonquin. Iroquoian	1400-1650 AD	Tribal differentiation and warfare (Iroquoians)
Historic Early	Huron. Odawa. Algonquian	AD 1600 – 1650	Tribal displacements
Historic Late	Six Nations Iroquois. Ojibwa. Algonquin	AD 1650 – 1800s	Migrations and resettlement
	Euro-Canadian	AD 1675 – present	European settlement

(adapted from The Archaeological Resource Potential Mapping Study of the Regional Municipality of Ottawa-Carleton Planning Report. Archaeological Services Inc., 1999:8)

From the above table, it can be seen that potential exists for the discovery of archaeological sites from the late Paleo period up to the present.

The above cultural periods are further described below.

3.2.1 Paleo-Indian Period (9000-7500 B.C)

Circa 9000 B.C., the study area was parkland. By circa 8000 B.C., the vegetation changed to a Boreal Forest. The environment would have been tundra-like or taiga-like supporting a lichen woodland. A lichen woodland is generally composed of sedges, grass, ragweed, small amounts of maple, oak, elm, and birch, and large amounts of jack pine and spruce (Harris (ed) 1987: Plate 4).

These people were primarily hunters of large Pleistocene mammals such as mastodon, moose, elk, and caribou.

The Paleo-Indian Period had very small populations and very little physical evidence of these people survives except for the stone tools. The definitive stone tool for this period are large, fluted spear points. Fluted point finds have been found west of Kingston (ibid: Plate 2).

There are no known Paleo-Indian Period sites registered in the study area.

3.2.2 The Archaic Period (7500–1000 B.C.)

The Archaic Period is divided into three additional sub-periods: early (7500-6000 BC), middle (6000-2500 BC) and late (2500-1000 BC).

Circa 7000 BC to the present, the study area was Great Lakes-St. Lawrence Forest. The Great Lakes-St. Lawrence Forest supports beech, large amounts of hemlock, maple, oak, elm, birch and white pine, and smaller amounts of jack pine, balsam fir and spruce (ibid: Plate 4).

The Archaic period peoples were nomadic hunters and gatherers and would have exploited resources such as deer, moose, and other mammals, fish, migratory birds and plant materials. The Archaic people probably lived in small camps during winter periods and then larger macro bands during spring, summer and fall. These latter bands are generally located near river mouths.

There are no known Archaic sites registered in the study area.

3.2.3 The Woodland Period (1000 B.C.–A.D. 1650)

The Woodland Period is divided into three additional sub-periods: early 1000-400 BC), middle (400BC–AD900) and late (900–1650 AD).

There are very few differences between the Late Archaic and the early Woodland periods except for the introduction of ceramics to the cultural material. This introduction of pottery also spurred the evolving social or community identity.

The Middle Woodland period saw a marked increase in sedentary lifestyle centered on horticultural crops.

The Late Woodland period is the most dramatic of sub-periods in terms of change. Settlement and subsistence patterns evolved rapidly allowing for a marked increase on population.

There are no registered Woodland archaeological sites in the study area.

3.3 Historic Overview

The Historic Period (1600 – present) is well represented in the Kingston area. The St. Lawrence River was dubbed the "Empire of the St. Lawrence" because of its importance as a route for economic pursuits. The St. Lawrence marks a path through Ontario that was followed by the first transcontinental Canadian Pacific Railway and the modern TransCanada Highway finished after World War II. Kingston is also

linked to the north via the Kawartha Lakes waterway, and the Rideau Canal links it to Ottawa (White: 1985:17-18).

The area of the St. Lawrence Valley from Quebec to Kingston was historically dominated by Montreal. "It has been a focus for "British-American" United Empire Loyalist migrations in the late eighteenth century and for French Canadian migrations in the nineteenth century (ibid: 24)."

The former area of Kingston was one of the early Canadian fur trade posts, which later became the town and city of Kingston. The French fort "Cataraqui" was established in the area in 1673, where the St. Lawrence meets Lake Ontario (ibid: 42). A New England force captured Cataraqui in 1758 (ibid: 49).

John Graves Simcoe arrived in Ontario in 1792 and he and his wife stopped at Cataraqui where there about 50 houses. This was considered one of the more populated locales of Upper Canada at the time (ibid: 66).

The wheat economy and new pioneer settlement in the early 1800s made the historic town of Kingston a growing concern. In 1825, Kingston numbered among three towns in Ontario with a population of more than 1000 people.

Kingston's access to the waterways leading both into the interior of Ontario, the Great Lakes, and out towards Europe, made it a principal area of shipping and economic activity.

There are two registered historic sites within the study area. The first is a domestic residence that dates to ca. 1852. This site does not lie within the study area itself. The second site, BbGd-19, is the hull of a steam barge, that lies on the eastern water boundary of the study area.

3.3.1 Kingston Mainland

The Coast

Between Everett Point in the west and Samson Point in the east, the coast of Kingston Township is characterized by almost complete urban and industrial development. The subdivision of Reddendale (between Everett Point and Point Pleasant), the Du Pont of Canada plant (between Point Pleasant and Cataraqui Bay), the residential development (on the east shore of Cataraqui Bay), and the grounds of the old Ontario Hospital

facility which encompasses Samson point and vicinity, overlay the historic shoreline.

Lieutenant Bryce, of the Royal Engineers, noted in 1794 that the French, presumably during the Seven Years War (1756-1763), "had a Battery on the East point of Little Cataraqui Bay (Preston 1958:233)". This is the present Samson Point.

During the 1930s Cataraqui Bay was developed as a shipping port (Ellis 1929). In the northeast part of the bay, two major facilities were created. The Kingston Elevator Company's works were described in 1858 as "a long, narrow structure having a capacity of 2,500,000 bushels, with unloading facilities on one side and loading facilities on the other side. The slip for unloading the upper lake boats is on the downstream side of the elevator and is 700 feet long, 300 feet wide, and dredged to 23.5 feet. The slip for loading the canal-sized boats is 600 feet long, 250 feet wide, and dredged to 17 feet. Unloading facilities consists of two traveling marine towers, by means of which all the holds may be reached with moving the ship. Shipments may also be made by rail as the Canadian National Railways have built a spur line to the elevator (Great Lakes Pilot 1958:5).

To the east of the elevator pier, and parallel to it, lay the "James Richardson wharf", described in 1967 as being 800 feet in length. "A channel 450 feet wide, with a least depth of 17 feet, has been dredged from the main channel to the berth of the west side of the wharf (Great Lakes Pilot 1958:23).

The elevator and wharves were protected by the construction of a breakwater extending eastward 2,560 feet from Carruthers Point. A light buoy was placed at the end of the breakwater in 1935.

As noted above, the elevator and wharves are now the site of residential development, although the steel pilings of the original structures are still visible. The breakwater survives and the buoy remains in place.

The Hinterland

Kingston Township was surveyed in 1783 into 200 acre farm lots. In 1817, when there were about 600 inhabitants, the land was described as being of a

> "clayey nature, covered in its original state with a stratum of rich black vegetable mould. The soils rest on a bed of limestone, and is of various depths; a small part is rather thin, particularly round the shores of Kingston Bay and the Bay of Quinte, and a great number of small stones remains on the surface, though they could all be removed at a trifling expense of labour...There are a number of natural meadows and small lakes in the township and it is well watered with rivulets and creeks. Four-fifths of the land is still covered with forest trees (Gourlay 1966:472)."

By 1850 there were 4523 inhabitants and two grist and twelve sawmills in the township (Smith 1851:287). Most of the land was taken up by settlers and farmers. Except for the village of Cataraqui and the lines of two railways, the land is entirely given over to farming. Within the present study area, in 1878, there were many farm residences, as well as a few schools and churches.

By using the map of Kingston Township (Figure 8) from the Illustrated Historical Atlas (1878). Table 2 has been created to identify lot and concession, ownership if known, and indicate if a structure is shown on the 1878 map.

Figure 8
1878 Historic Map of Kingston

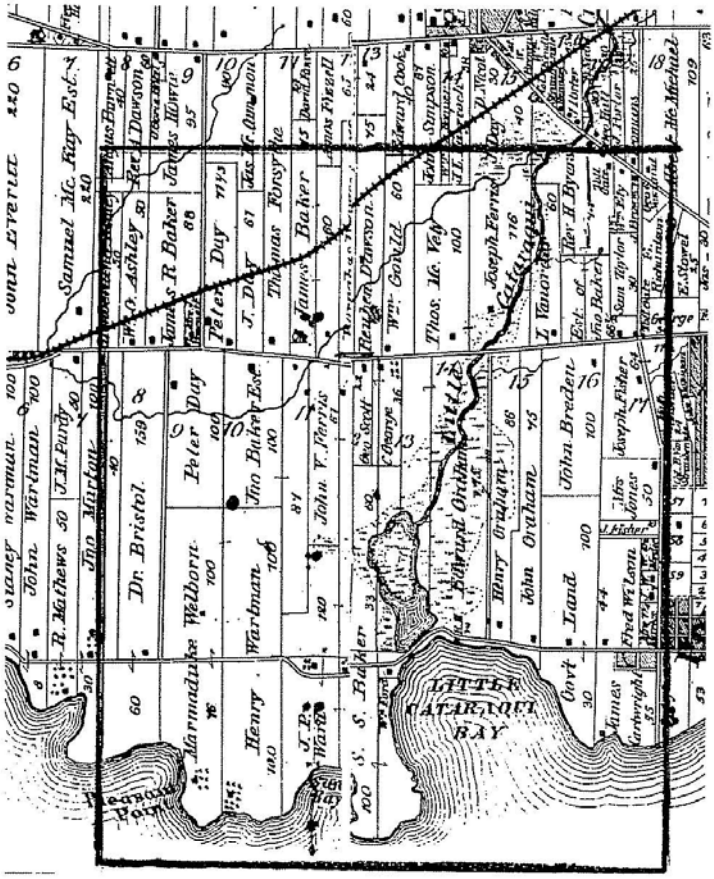


Table 2
1878 Ownership and Structures on Kingston Mainland

Concession	Lot	Owner/Tenant	Structure (s)
1	8	Dr. Bristol	
	9	Marmaduke Welborn	Orchard and structure
	10	Henry Wartman	Orchard and structure
	11	J.P. Ward	Structure
	12	S.S. Baker	
	13	Wm. Ford	Structure
	14	R. ?	Structure
	15		
	16	Government Land	
	17	James Cartwright	Structure and plots of land highlighted
2	Pt. Lot 7	Jonathan Murton	
	8	Dr. Bristol	
	South ½. 9	Marmaduke Welborn	Structure
	North ½. 9	Peter Day	Structure
	South ½. 10	Henry Wartman	
	North 1/2. 10	Jonathan Baker Estate	Structure
	Western ¾ at north end. 11		Structure
	Southern part. in reverse L-shape. 11	J.P Ward	
	Rest of 11	John v. Ferris	
	West half of 12		Structure
	Southeast ½ of 12	S.S. Baker	
	Northeast ¼ of baker	George Scott	Structure
	Northwest ¼. 13	C. George	Orchard and structure
	Remainder of 13 is wetland		
	14	Edward Graham	
	West 1/2 . 15	Henry Graham	Structure
	East ½. 15	John Graham	Structure
	South ½.16	Government lands	
	North ½. 16	John Breden	Structure
	Southwest corner. 17	Fred Wilson	Structure
	Three lots. southeast corner. 17	Mrs. Marks, J.W. ?. W. Mydie	
	10 acres towards centre of 17	J. Fisher	
	50 acres. south half of north	Mrs. Jones	Structure

	half.17		
	¾'s of north half. 17	Joseph Fisher	Structure
	¼ of north half. 17	?	
3	Southwest ¼, 8	Cumberland Ashley	
	Southeast ¼, 8	W. G. Ashley	Structure
	Northwest ¼, 8	Angus Burnett	
	Northeast ¼, 8	Rev. A Dawson	
	South ½, 9	James R. Baker	Structure
	Southeast corner, 9	Mrs. J. Burnett	Structure
	Northwest corner, 9	?	Possibly a hotel
	Northeast ½, 9	James Howie	Structure
	Southwest ¼, 10	Peter Day	Structure
	Southeast ¼, 10	J. Day	
	North ½, 10	Mr. Jas Cameron	
	West ½, 11	Thomas Forsythe	Structure
	Southeast block, 11	James Baker	Possible church/schoolhouse
	Northeast corner, 11	David Rowe	
	Southwest ¼, 12		Structure
	Southeast ¼, 12	?	
	North ½, 12	Amos Fizzell	
	Southwest ¼, 13	Reuben Dawson	
	Northwest corner, 13		Structure
	Southwest ¼, 14	Wm. Gould	Structure
	Northwest ¼, 14	Edward Cook	Structure
	Southeast ¼, 14	Thos. McVety	Structure
	Northeast ¼ is three lots from west to east, 14	John Simpson W? Hooper J.L. Haycock	Structure Structure Structure
	South ½, 15	Joseph Ferris	Structure
	North ½, 15	J. Day	
	Northwest corner, 15	D. Nicol	
	Northeast corner, 15	Est. ? Brown	
	Southwest, 16	L. Vanorder	Structure
	Southwest, 16	Estate of Jonathan Baker	
	southeast, 16	Rev.. H. Byers	
	Northwest, 16	Col. Kendle	
	Northwest, 16	?	
	Northwest, 16	Hennesey	Structure
	Northwest, 16	Porter	Structure
	Northeast, 16	Nichol	
	Northeast, 17	George Hull	Structure
	Northeast, 17	J. Porter	Structure
	Northeast, 17	Yeomans	Structure

	Southwest, 17	Estate of Jonathan Baker	Structure
	Southeast, 17	Sam Taylor	
	Southeast, 17	Wm. Eby	Structure
	Southeast, 17	J. Brown	Structure
	Southwest, 17	Jonathan Baker	
	Northeast, 17		Toll gate
	Southwest corner, 18		Toll gate
	Southwest corner, 18	C. George	
	Southwest side, 18	F. Richardson	
	West central side, 18	George Newland	Structure
	Northwest ¼, 18	Albert McMichael	

The Atlas shows that as one is closer to centers such as Cataraqui, the residential areas become denser. Though not all of the lots have been assigned ownership or indicate the presence of a structure, this does not negate the possibility of structures on these "open" lots. The Historic Atlas was financed by subscribers and if one subscribed to the Atlas, their residence/business/farm was shown on the maps. Those who did not subscribe may not have been indicated on the atlas maps.

Beginning in the nineteenth century, but proceeding rapidly after World War II, virtually the entire Area has shifted from a rural economy to one in which non-agricultural activities dominate. Except for Conservation Authority properties bordering Little Cataraqui Creek, the landscape is now urbanized. Industrial plants, shopping centers, retail and service businesses, residential subdivisions, apartment and condominium blocks, and government institutions (including mental health and penal lands and buildings) have obliterated the landscape of 1878. This reality may impose some constraints to an assessment of historic structures or remnants thereof as may survive within the study area.

3.3.2 St. Lawrence River

The principal approach to the port of Kingston lay through the narrows between Simcoe Island and the mainland, a distance of just over two miles. Divided into two channels by Snake Island and Snake Island Bank, hundreds of ships used this passage each season during the heyday of sail and steam on Lake Ontario. The north channel, with its lane of deep water was the preferred route, although the shallow but hazardous water north of Simcoe Island offered a quicker voyage to and from the open lake. A lighthouse on Nine Mile Point (1833) and at Snake

Island (1858), as well as stakes and buoys, provided warning of the dangers in such constricted waters.

A review of the contents of marine disaster lists from 1847 to 1956 (Canada Department of Marine and Fisheries 1868-1956) has revealed one shipwreck which falls within the study area. The Cleveland schooner, "Medbury", 226 tons, laden with salt, was sunk by collision off Simcoe Island on November 26th, 1872. The next day, when the salt dissolved, the stern came to the surface and the wreck was promptly struck again by the schooner "Corsican". Steam tugs were then used to drag the hulk under the island where it was abandoned. Apparently this was in an area off Four Mile Point. When another schooner nearly collided with the "Medbury" there was a call to have the wreck moved (Globe 1872). If this was actually done is not documented, but a schooner wreck is reported to lie in eight feet of water, a hundred feet off the old dock located where the road meets the shore on the line between Lots 8 and 9 (Eves 1994:24). This may be the remains of the "Medbury".

The "Medbury" may not be the only vessel lost within the study area for the casualty lists were often vague as to location. The "Medbury" was entered in the casualty lists as having been sunk off Kingston, whereas additional research showed it to have been lost off Simcoe Island. Similarly, the Kingston schooner "Beaver", 200 tons, was wrecked in the vicinity of Nine Mile Point in November of 1861 (Commercial Advertiser 1862). It is a candidate to lie within the study area as well.

Snake Island, lying midway between Simcoe Island and the mainland, is described in the "St. Lawrence Pilot" (1912) as "small, and with a few trees on it, lies upon the northwest edge of a bank nearly two thirds of a mile in diameter, with least depth of 4 feet upon it (Department of Naval Service 1912:233).

The strategic position of Snake Island and Four Mile Point on Simcoe Island, situated as they were in the approaches to Kingston, was pointed out in 1794 by Lieutenant Alexander Bryce, Royal Engineers. He declared that an enemy occupying the Point would control the channel between it and Snake Island and "as the distance for the West Point of Little Cataraqui Bay to Snake Island is not quite a mile and a quarter, an Enemy occupying the Island and the Point would likewise command this Channel and shut out any vessels that happened to be in the [Kingston] harbour from the lake or at least force them round by the bottom of Long [Wolfe] Island (Preston ed. 1959:233).

This observation was evidently taken to heart during the War of 1812 when the British erected a block house and battery on Snake Island in 1813 (Stanley 1952:18). Although the armaments were removed after the war, the island was still appearing as "ordnance Land" in the annual reports of the Commissioner of Crown Lands until at least 1859 (Annual Report of the Department of Marine and Fisheries 1898:35).

In 1858 a stone lighthouse was erected on the shoal which lies to the southeast of Snake Island. Standing 35 feet above the lake, the light was visible for six miles and warned to the shallows which extended from the island. The beacon eventually proved inadequate, primarily because it was wrongly positioned to define the narrow course across the outlying shoals between Snake and Simcoe Islands. In 1899, a new lighthouse was erected 850 feet southeast of the old one. The replacement structure, an octagonal wooden building topped by an octagonal iron lantern, 38 feet above the surface of the lake, was raised on a steel and concrete foundation. It showed a fixed red light visible for six miles (Annual Report of the Department of Marine and Fisheries 1901:35). The old lighthouse was dismantled in 1900.

In time the new location also proved unsatisfactory and in 1918 the tower was moved to Four Mile Point where it continued in service until 1941. The abandoned lighthouse survived until 1958 or 1959 when it was destroyed by fire (Eves 1994:74).

The caisson of 1899 survives and is marked as "Subm [submerged] Crib" on hydrographic chert No. 2005. The location is indicated by a red spar buoy 300 feet southeast of the site.

The Carruthers Point gas buoy (chart No. 2005) was established in 1942 and marks the southern extremity of three submerged water intake pipes for the Du Pont of Canada plant.

The Snake Island gas buoy (chart no. 2005) marks the northwest extremity of Snake Island Bank and was established in 1947.

3.3.3 Simcoe Island

Simcoe Island appears in the European record for the first time on June 10th, 1679, when "Belle-Isle", as it was then known, was granted by La Salle to Francois Dauphin, Sieur de La Foret (1649-1714)(Preston and

LaMontagne, eds. 1958:125-126). Under the British regime, the island is occasionally documented. The schooner "Simcoe" is said to have been built there in 1793 (Guillet 1963:81). And the call for a tender to harvest firewood at the island for the Kingston military barracks in 1815 suggests at least occasional exploitation of the island's timber resources (Eves 1994:15).

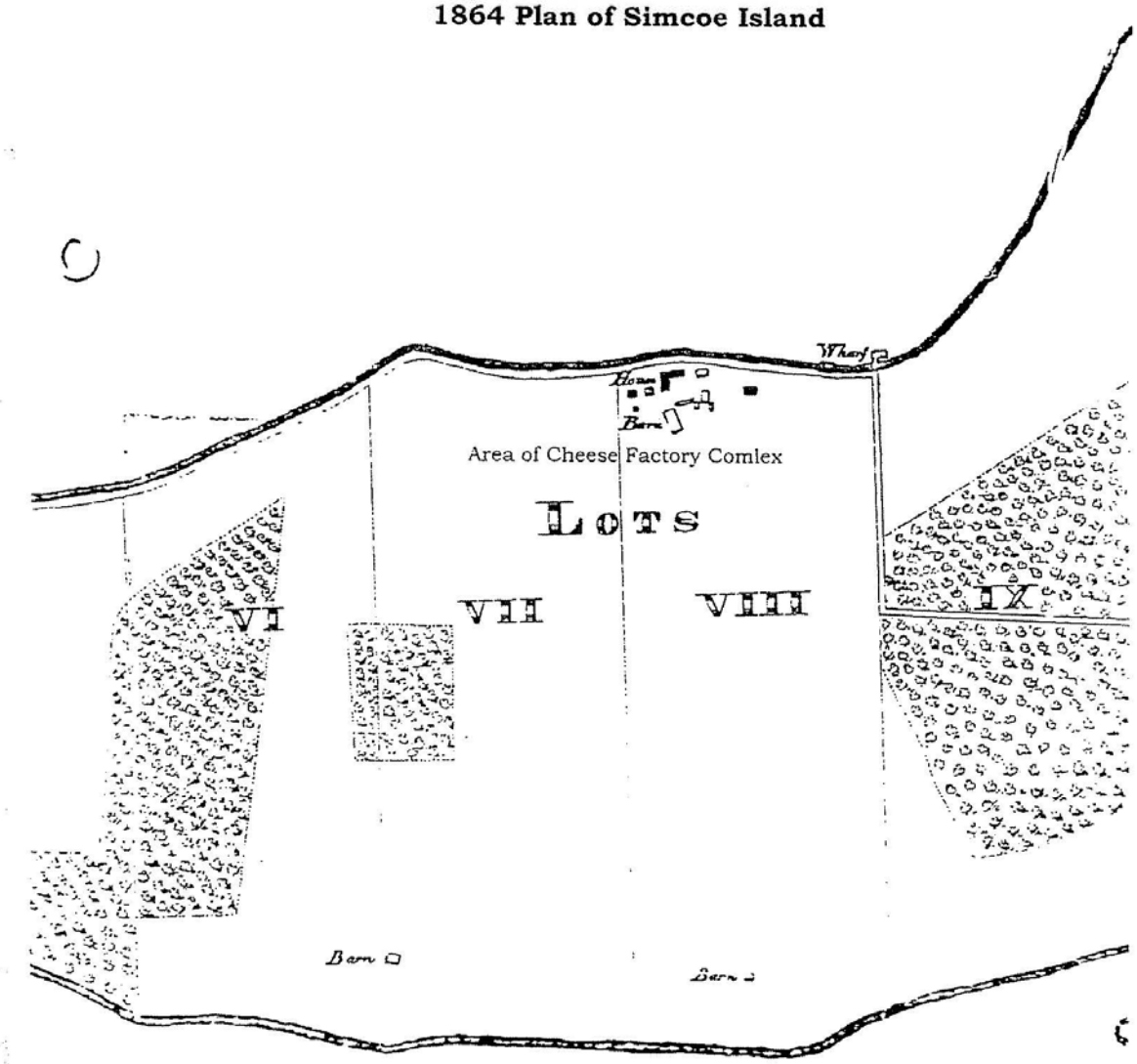
In June 1829, ownership of the island was transferred from the Crown to Charles W. Grant (Kirkpatrick 1864). Grant, in turn, disposed of the island (less five acres for a lighthouse reserve on Nine Mile Point) to William Garratt. In 1856, following the death of Garratt, which probably occurred in 1853, the island was purchased from his estate by John and William Breden. The deed is dated October 29th, 1856. The Breden's continued, even expanded, the dairy farm and cheese factory which may have been started by Garratt in the 1840s.

In 1864, the 1,417 acres of Simcoe Island were divided into 14 lots (Kirkpatrick 1864) and in 1866, John Breden sold his half interest in the island to William for $16,000. In 1866, ten acres at the west end, presumably an addition to the lighthouse reserve, was sold to the Crown for $600. In 1868 William began a long process of selling off particular pieces of land when Lots 1, 2 and 3 went to John W. Dunlop. In 1869, Lot 13 went to William Gates; in 1871, Lots 4 and 5 went to Amelia Wylies; in 1873, Lot 14 went to John Gillespie; in 1874, Lot 12 went to James Eccles; in 1879, Lot 10 went to James C. Kemp; and in 1882, Lot 9 went to Charles Staley. Lots 6 and 7 were sold to M. Potts in the 1890s after the death of William in 1893.

William Breden retained Lot 8 on which the main farm was located. The "Plan of Simcoe Island" (dates 1864) shows the house, barn, and outbuildings clustered near to the shore in the northwest corner of Lot 8. Within the study area, barns also stood on Lot 7 (southwest corner), on Lot 8 (south end), on Lot 10 (north end), and on Lot 11. A wharf is indicated on the north shore of the island at the junction of Lots 8 and 9. This wharf was connected to the south shore at Lot 14 by a road running inland and then eastward, midway across the island.

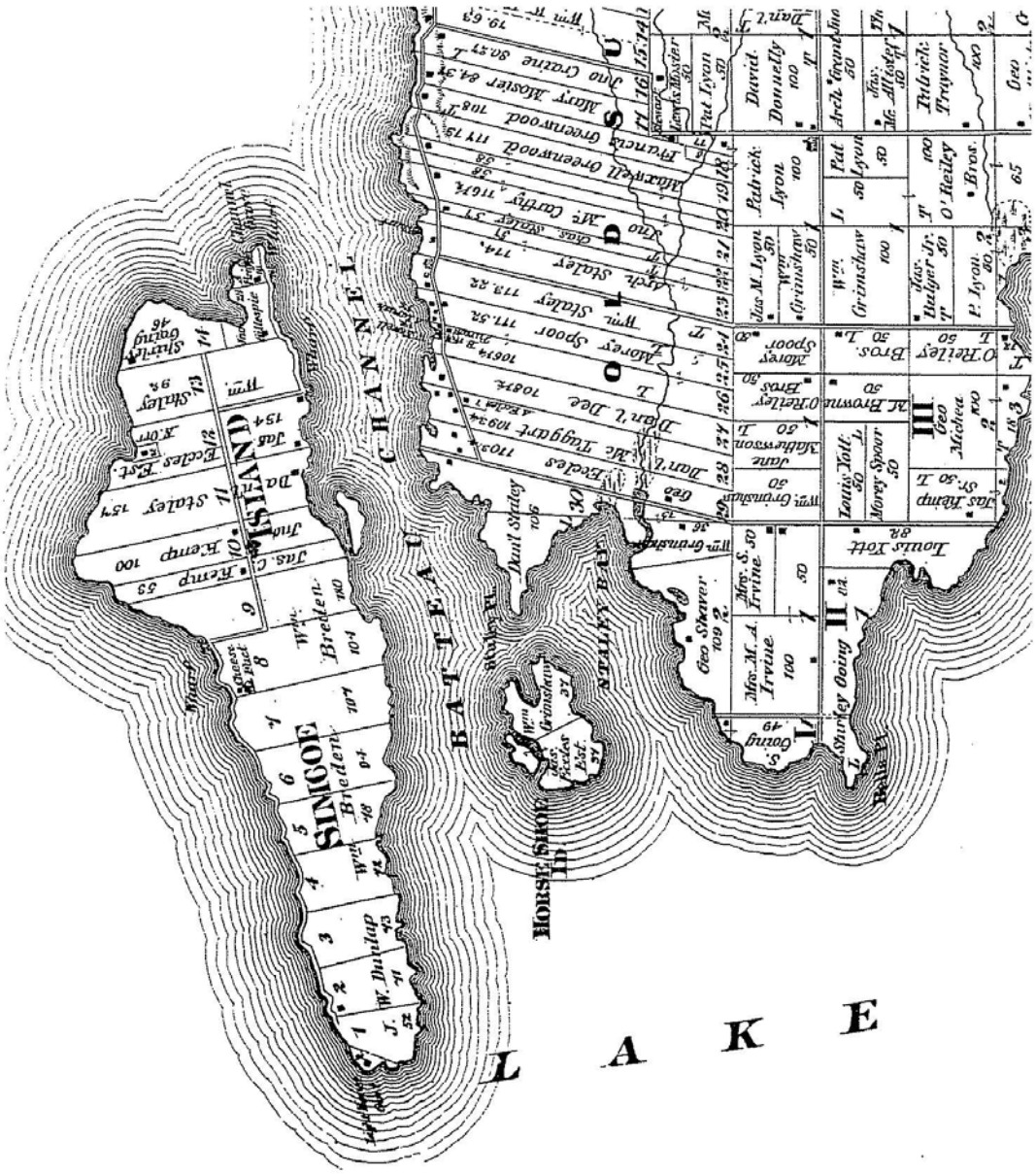
The 1878 Historic Atlas (Figure 9) depicts Simcoe Island and its lots, and Batteau Channel (Boat Channel). Lots 6, 7 and 8 are the optioned lands for the wind machines. Wm. Breden owned all of these lots. While no residences show on any of the lots, a cheese factory complex is

Figure 9A
1864 Plan of Simcoe Island



Scale illegible (in chains)

Figure 9
1878 Historic Map of Simcoe Island



indicated at the northwest corner of Lot 8. In addition, a wharf is indicated, although not depicted, north of Lot 8.

The focus of Simcoe Island remained the Lot 8 complex, marked plainly as the cheese factory on the Historical Atlas of 1878. The buildings, constructed of limestone, consisted of at least a main house, a dairy barn (with a capacity for 100 cattle), a smoke house, and a two-storey (24 feet by 40 feet) cheese factory. Other structures are shown on the "Plan" of 1864. The smoke house, the main house, and ruins of the barn and factory were reported still standing in 1994 (Eves 1994:23).

Simcoe Island was primarily a farming community, with sufficient population in the 1880s for a school to be built on Lot 9 in 1885. A cemetery was also established in the middle of the island, approximately on the line between Lots 9 and 10.

Two wharves are shown on the 1878 Atlas on the southeast shore of the island, one at the end of the road which lay on the line between lots 12 and 13, the other under Lucas Point, at the eastern extremity of the island. The former was probably the terminus of the steamer "Pierrepont" which in 1875 began a weekly ferry service connecting Simcoe Island and adjacent islands to Kingston. In 1882 Frontenac County Council granted $75 toward the construction of a "ferry scow" to operate across the Bateau Channel (now Boat channel), probably to and from the "government" wharf (Rollason 1982:493-494).

The wharf at Lucas Point seems always to have been in private ownership. It provided ready access to a summer hotel which opened on the point in June of 1886.

In 1922, the Belyea Brothers established a fishery fronting the Bateau Channel, touching upon Lots 8 and 9. This was a gillnet fishery and included a boat house, ice house, a cottage and three residences (Eves 1994:187). The location is descried in the "Great Lakes Pilot (1955 edition) as

> "a marshy indentation, off which lies a small island, one-half mile in length. An entrance channel leads past the westerly end of the island into a small basin, in which is located the wharf of Belyea Bros. The channel and dock are dredged to a depth of 6 feet" (St. Lawrence River Pilot 1955:9).

The Belyea Brothers may not have been the first fishermen to be based on Simcoe Island. In 1877 the island was host to one fishing boat, involving the two men whose total catch for that season consisted of twenty barrels of whitefish, five barrels of trout, ten barrels of bass, and ten barrels of pickerel (Department of Marine and Fisheries 1878:266-267). The full extent of the commercial fishery at Simcoe Island remains a tantalizing mystery.

The waterway between Simcoe Island and Wolfe Island is known as Boat Channel, previously called Bateaux Channel, the French word for a small boat. This area lies on the south side of Simcoe Island and the north side of Wolfe Island.

3.4 Previously Known Archaeological Resources

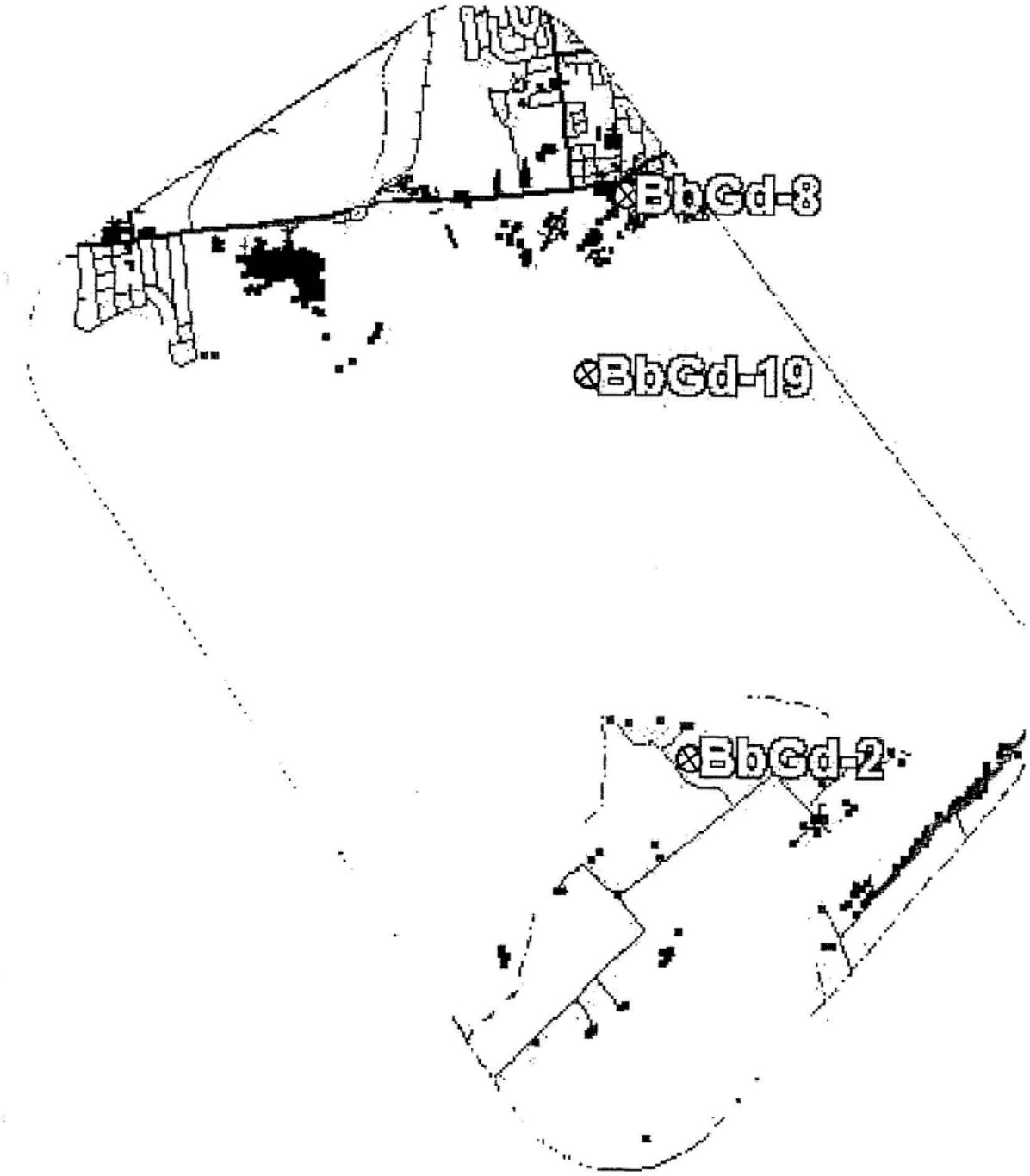
The Ministry of Culture Archaeological Data Co-ordinator confirmed that there are three registered archaeological sites located within two kilometers of the study area. These sites are illustrated in Figure 10 and detailed in Table 3.

Table 3
Registered Sites within 2 Km of Study Property

Borden No.	Site Type	Site Size	Cultural Affiliation
BbGd-19	Hull of steam barge	n/a	Historic
BbGd-2	Quarry	n/a	Prehistoric undetermined
BbGd-8	Domestic	n/a	Historic, ca. 1852 to present

Only one of the three sites lies within the study area. This site, BbGd-19, is the hull of a steam barge with deck intact. Jonathan Moore reported that the site still has boilers and propellers in situ. This site is located 1.5 km southwest of the entrance to Portsmouth Harbour in the St. Lawrence River, 70 feet below the surface. The site appears to lie directly on the eastern underwater boundary for the submerged cable. Using topographic map reference 31C/2 NAD27, the wreckage was located by Moore using UTM co-oordinates. It lies at 378,202 east and 4,895,801 north.

Figure 10
Known Archaeological Resources



4.0 RECOMMENDATIONS

The entire study area was subject to background investigation including physiography, natural and current environment, potential for aboriginal archaeological resources, known archaeological resources, and an historic overview. The purpose of this investigation was to highlight areas of archaeological potential.

Mainland Kingston and the coast were found to be highly developed in most areas, except for the Cataraqui Conservation Area. Historically, this area was very important, first as a farming community, later as a growing urban centre, and especially as a shipping area for commerce and trade.

Low archaeological potential exists for:

- Subdivisions that have been built post 1960;
- Areas where there has been large and deep excavation for foundations; and
- Areas of urban shoreline development.

Cataraqui Bay was developed historically as a shipping port. The St. Lawrence River between Kingston and Simcoe Island was a very busy shipping channel. There are three identified shipwrecks in the study area:

- a "recreational dive site" located southwest of Four Mile Point;
- the Cleveland schooner, the **Medbury**, off Simcoe Island (the recreational dive site may be the Medbury); and
- BbGd-19, the hull of a steam barge on the eastern boundary line.

High archaeological potential exists for additional underwater ships and boats in addition to the marine accessories, such as wharves, slips, docks, etc.

Snake Island and the Snake Island shoals were the location of a former battery and three different locations of a lighthouse. The potential for archaeological remains for these resources is considered high.

There are two known resources on Simcoe Island that should be avoided, if possible.

- Fishery on the south side of Simcoe Island along Lots 8 and 9;
- The Cheese Factory complex on Lot 8.

There is only one registered archaeological site within the study boundaries, the hull of a steam barge located along the eastern in water boundary.

Excluding areas that have been the subject of deep, intrusive development disturbance, such as post 1960 residential subdivisions, the entire subject area exhibits moderate to high archaeological potential for the recovery of archaeological remains.

Recommendations stemming from the background research study conducted for the study area include:

- Avoid all known archaeological and historic resources;
- Where avoidance is not possible, a Stage 2 archaeological assessment must be conducted to verify areas of low archaeological potential and to test other areas for the possibility of archaeological remains along the selected transmission line;
- Results of the Stage 2 assessment will determine if a Stage 3 and 4 archaeological assessment will be required.

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Stage 2
Archaeological Assessment

Stage II Archaeological Assessment of Wolfe Island
Wolfe Island Wind Project
Township of Frontenac Islands
and City of Kingston
Frontenac County, Ontario

Submitted to:

Canadian Renewable Energy Corp.
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Archaeological Consulting Licence # P052
MCL CIF # P052-141-2006

October, 2007

.

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Project Director:	Mr. T. Keith Powers
Report Preparation:	Mr. T. Keith Powers Mrs. Karen Powers
Field Director	Mr. T. Keith Powers
Field Archaeologists	Mr. Keith Powers Mr. Etienne Jacobson Mrs. Karen Powers Mr. Jimsson Bowler Ms. Sheri Taylor Mr. Barry Orhm Mr. Misha Stecyk

1 INTRODUCTION

The Archaeologists Inc. was retained by Canadian Renewable Energy Corporation ("CREC"), a wholly owned subsidiary of Canadian Hydro Developers, Inc., to conduct a Stage II Archaeological Assessment for the Wolfe Island Wind Project, situated in the Township of Frontenac Islands and the City of Kingston, Frontenac County, Ontario (Figure 1).

The Stage II Archaeological Assessment was conducted for the Wolfe Island portion of the project under the direction of Mr. T. Keith Powers. A separate report will be issued for the Kingston portion of the project as appropriate, The work was performed in accordance with the Ontario *Heritage Act* (1990) under an archaeological consulting license (0P52-141-2006) issued to Keith Powers of *The Archaeologists Inc.*

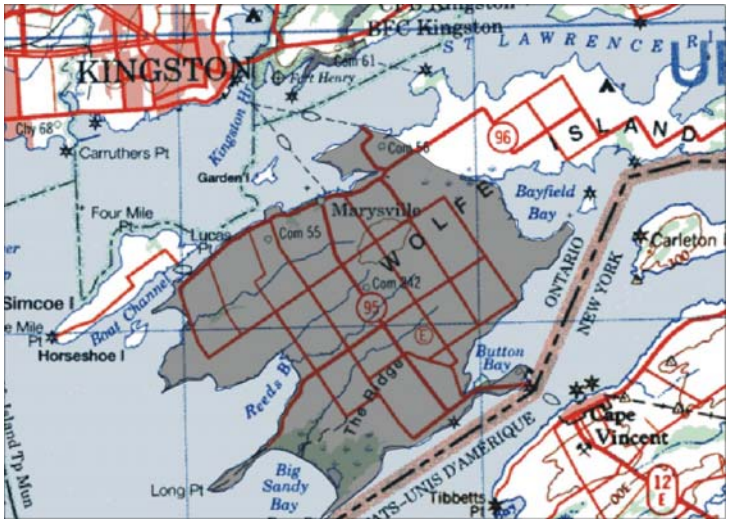


FIGURE 1: THE LOCATION OF THE STUDY AREA AS DEPICTED ON 1:50,000 NTS MAP 41 A/1 1999 EDITION 5

2 STAGE I CONCLUSION

The Archaeologists Inc. carried out a Stage I Archaeological Assessment of the area shown in Figure 1 (August 2006). The Stage I contained background research on the study area's physiography, as well as previous archaeological and historical research that has been carried out in the area. The Stage I was submitted to the Ontario Ministry of Culture for review, comment, and filing as per the requirements of the Ontario *Heritage Act* (1990).

The Stage I Archaeological Assessment concluded that the "study area does have the potential for the recovery of precontact and European archaeological material…" Based upon this conclusion, the Stage I recommended that the "lands to be disturbed during construction activities (including tower foundations and access roads) within this study area should be subject to a Stage II Archaeological Assessment."

On the above basis, this Stage II Archaeological Assessment has been prepared. As appropriate, this Stage II Archaeological Assessment should be read in conjunction with the Stage I Archaeological Assessment (August 2006).

3 STAGE II FIELD ASSESSMENT: METHODOLOGY

This section of the Stage II Archaeological Assessment covers the areas of study on Wolfe Island. A separate Stage II report will be generated as appropriate for the Kingston mainland section of this project under the same CIF Number.

As proposed, the Wolfe Island Wind Project will consist of 86 wind turbine generators. To accomplish this, access roads, underground and overhead power lines, turbine foundations, an electrical substation, interconnection facilities, and operations and maintenance building will be constructed (Figure 2). The construction of these various installations means that several corridors will be disturbed by either excavation of underground power lines, installation of overhead power lines, excavation of turbine, building, interconnection, and substation foundations, and/or the construction of access roads.

Access roads and power line corridors are to disturb an area no greater than 20 metres wide. To ensure that all potential archaeological resources were identified and/or protected from possible damage caused by soil disturbance, a minimum width of 60 metres was investigated around these areas. The erection of the wind turbine generators would cause disturbance of an area measuring approximately 40 metres by 40 metres. To ensure that all potential archaeological resources were identified and/or protected from possible damage caused by these construction activities, the minimum area surveyed around each turbine platform was 100 metres in diameter.

The Stage II archaeological field assessment for the Wolfe Island Wind Project, as depicted in Figures 2 and 3, was assessed over several weeks from October 2006 to July 2007. The weather conditions varied during the assessment period, but visibility and ground conditions were excellent throughout and never compromised.

To ensure all the project's components were accurately identified and surveyed, the development footprint and aerial photography was downloaded into hand held GPS units so field crew could have accurate positioning data while conducting this survey.

The majority of the study area had not been ploughed as much of the study area is characterized as pastureland containing rocky areas or imperfectly drained soils making it difficult to till. Consequently, these areas were subject to a test pit survey at a five metre interval. Test pits were excavated approximately 30 centimetres in diameter to a depth of subsoil (i.e., B-Horizon where soil colour changes from a dark brown or black organic to a light yellowish color). Soils were screened through six-millimetre mesh to facilitate artefact recovery. All test pits were backfilled to near original condition. These test pit surveyed areas are highlighted in yellow in Figure 3 and depicted in Plates 1 and 2.

Areas that were in agricultural production were ploughed and allowed to weather. Lands within the development footprint, which were ploughed and weathered, were surveyed by means of pedestrian survey at five metre intervals. Areas assessed by pedestrian survey are depicted in Figure 3 in red and also depicted in Plates 3 and 4.

All archaeological field works were carried out consistent with Ministry of Culture specifications as set out in the 2004 "Draft Standards and Guidelines for Consultant Archaeologists". Following these specification and practices, the field assessment identified eleven historic sites and one precontact archaeological site that are detailed in section 4 below.

4 STAGE II FIELD ASSESSMENT: RESULTS

Based upon the field methodology described in section 3 above, a total of approximately 107,200 test pits were implemented over 67 kilometres of land. Additionally, approximately 11.5 kilometres of the study area was traversed as part of the pedestrian survey. These activities collectively yielded a total of twelve historical and archaeological sites: eleven of these sites were Euro-Canadian in cultural affiliation and one site was of unknown pre-contact cultural affiliation. Each of the sites are described in more detailed below.

Historic site #1 (BbGc-97) 18 T 0390660/4891340

Historic site #1 (H#1), registered as Borden site (BbGc-97), is located east off of 9th Line, in Lot 6, Concession 9. The site is located on slightly sloping terrain and would appear to be close to or within the footprint of construction proposed turbine #77 (Figure 3). The site was identified during a pedestrian survey at a five metre interval over a ploughed and weathered agricultural field.

The Archaeologists Inc. intensified the search of the site area and beyond, by re-examining the area at a 0.5 metre interval. The site consisted of an artefact scatter within the plough zone of 316 artefacts distributed over an area of approximately 40 metres by 30 metres. The centre of the artefact scatter was located at the **G**lobal **P**ositioning **S**ystem ("GPS") [(position format = UTM) (Map datum = WGS 84)] coordinates of 18 T 0390660/4891340. The collection of artefacts from this site are catalogued in Appendix A, while a representation of artefacts is shown in Plate 5.

Many of the diagnostic artefacts collected from the survey suggest that this deposit fits into a date range of between 1825- 1840. The presence of cut nails, brown and red transfer printed wares, and hand painted motifs on refine white earthenware are all indicative of an historic deposit that falls within the second quarter of the 19th Century. The presence of a pipe stem with makers mark *"glassgow"* indicated occupation date range between 1832 and 1864.

Historic site #2 (BbGc-98) 18T 0387148/4890123

Historic site #2 (H#2), registered as Borden site (BbGc-98), is located east off of Reeds Bay Road in Lot 4, Concession 7. The site is located on level terrain and would appear to be potentially effected by proposed access road or power line to turbine #59 (Figure 3). The site was identified during a pedestrian survey at a five metre interval over a ploughed and weathered agricultural field.

The Archaeologists Inc. intensified the search of the site area and beyond, by re-examining the area at a 0.5 metre interval. The site consisted of an artefact scatter within the plough zone of 155 artefacts distributed over an area of approximately 20 metres by 30 metres. The centre of the artefact scatter was located at the GPS coordinates of 18T 0387148/4890123. The collection of artefacts from this site are catalogued in Appendix B, while a representation of artefacts is shown in Plate 6.

Many of the diagnostic artefacts collected from the survey suggest that this deposit also fits into a date range of between 1825- 1840. The presence of brown transfer printed wares, hand painted motifs on refine white earthenware, and blue scalloped edgewares are all indicative of an historic deposit that falls within the second quarter of the 19th Century.

Historic site #3 (BbGc-99) 18T 0387148/4890123

Historic site #3 (H#3), registered as Borden site (BbGc-99), is located south off of Baseline Road in Lot 2, Concession 3. The site is located on level terrain and would appear to be close to or within the footprint of construction proposed turbine #11 (Figure 3). The site was identified during a test pit survey at a five metre interval over pasture land.

The site consisted of an artefact scatter of 18 pieces within six positive test pits over an area of approximately 20 metres by 20 metres. The centre of the artefact scatter was located at the GPS coordinates of 18T 0381223/4888511. The collection of artefacts from this site are catalogued in Appendix C, while a representation of artefacts is shown in Plate 7.

With the sample size of artefacts collected it is unreliable to give a temporal classification to this deposit. However, the diagnostic artefacts collected from the survey would suggest that this deposit fits into a date range of between 1815- 1830s. The presence of blue edgeware, blue transfer printed wares, hand painted motifs on pearlware, and hand wrought nails are all indicative of an historic deposit that falls within the first quarter of the 19th Century.

Historic site #4 (BbGc-100) 18T 0388866/4887196

Historic site #4 (H#4), registered as Borden site (BbGc-100), is located east off of Highway 95 in Lot 10, Concession 7. The site is located on level terrain and would appear to be close to or within the footprint of construction proposed turbine #53 (Figure 3). The site was identified during a pedestrian survey at a five metre interval, over ploughed field, of the area around turbine #53 and associated access roads and power lines.

The site consisted of an artefact scatter of 63 pieces within an area of approximately 30 metres by 30 metres. The centre of the artefact scatter was located at the GPScoordinates of18T 0388866/4887196. The collection of artefacts from this site are catalogued in Appendix D, while a representation of artefacts is shown in Plate 8.

Many of the diagnostic artefacts collected from the surface would suggest that this deposit fits into a date range of between 1815- 1860s. The presence of blue scalloped edgeware on pearlware and hand wrought nails are all indicative of an historic deposit that falls within the first quarter of the 19th Century. However, the presence of large amounts of Ironstone would suggest a later date range. Thus, it is possible that the temporal range of this site extends past the 1860s and suggests multiple occupancies or a long term occupation site.

Historic site #5 (BbGc-101) 18T 0389323/4889421

Historic site #5 (H#5), registered as Borden site (BbGc-101), is located north off of Bennett Rd in Lot 7, Concession 8. The site is located on level terrain and would appear to be close to or within the footprint of construction proposed turbine #72 (Figure 3). The site was identified during a pedestrian survey at a five metre interval over ploughed lands.

The site consisted of an artefact scatter of 44 pieces over an area of approximately 20 metres by 20 metres. The centre of the artefact scatter was located at the GPS coordinates of 18T 0389323/4889421. The collection of artefacts from this site are catalogued in Appendix E, while a representation of artefacts is shown in Plate 9.

All of the artefacts collected from this deposit suggest that this deposit fits into a date range indicative of the second half of the 19th Century. The ceramics encountered indicate a post 1850s deposit, comprised entirely of moulded ironstone.

Historic site #6 (BbGc-102) 18T 0386079/4889426

Historic site #6 (H#6), registered as Borden site (BbGc-102), is located north off of Reeds Bay Rd. in Lot 4, Concession 6. The site is located on level terrain and would not appear to be close to or within the footprint of construction. However, a power line is proposed to run along Reeds Bay Rd. Historic site #6 is approximately 40 metres north of the roadway and is considered far enough away from the footprint of construction not to be negatively impacted (Figure 3). Nevertheless, for the completeness of documentation, the following information is provided.

The site was identified during a test pit survey at a five metre interval over pasture land. The site consisted of an artefact scatter of 34 pieces within eight positive test pits over an area of approximately 10 metres by 15 metres. The centre of the artefact scatter was located at the GPS coordinates of 18T 0386079/4889426. The collection of artefacts from this site are catalogued in Appendix F, while a representation of artefacts is shown in Plate 10.

All of the artefacts collected from this deposit suggest that this deposit fits into a date range indicative of the second half of the 19th Century. The ceramics indicate a post 1850s deposit, comprised entirely of molded ironstone.

Historic site #7 (BbGc-103) 18T 0385701/4889274

Historic site #7 (H#7), registered as Borden site (BbGc-103), is also located north off of Reeds Bay Rd. in Lot 4, Concession 6. The site is located on level terrain and would not appear to be close to or within the footprint of construction. However, as noted for Historic site #6, a power line is proposed to run along Reeds Bay Rd. Historic site #7 is approximately 40 metres north of the roadway and is considered far enough away from the footprint of construction not to be negatively impacted (Figure 3). Nevertheless, for the completeness of documentation, the following information is provided.

The site was identified during a test pit survey at a five metre interval over pasture land. The site consisted of an artefact scatter of 35 pieces within 13 positive test pits over an area of approximately 15 metres by 15 metres. The centre of the artefact scatter was located at the GPS coordinates of 18T 0385701/4889274. The collection of artefacts from this site are catalogued in Appendix G, while a representation of artefacts is shown in Plate 11.

All of the artefacts collected from this deposit suggest that this deposit fits into a date range indicative of the second half of the 19th Century. The ceramics indicate a post 1850s deposit, comprised mainly of Ironstone. The other two decorative motifs are late palette hand painted on refined white earthenware indicative of the 1850's, and blue willow on refined white earthenware which is still manufactured today

and as such is a poor indicator of date range

Historic site #8 (BbGc-104) 18T 0386342/4889759

Historic site #8 (H#8), registered as Borden site (BbGc-104), is also located north off of Reeds Bay Rd. in Lot 4, Concession 6. The site is located on level terrain and would not appear to be close to or within the footprint of construction. However, as noted for Historic sites #6 and #7, a power line is proposed to run along Reeds Bay Rd. Historic site #8 is approximately 80 metres north of the roadway and is considered far enough away from the footprint of construction not to be negatively impacted (Figure 3). Nevertheless, for the completeness of documentation, the following information is provided.

The site was identified during a test pit survey at a five metre interval over pasture land. The site consisted of an artefact scatter of 15 pieces within seven positive test pits over an area of approximately 10 metres by 10 metres. The centre of the artefact scatter was located at the GPS coordinates of 18T 0386342/4889759. The collection of artefacts from this site are catalogued in Appendix H, while a representation of artefacts is shown in Plate 12.

With the sample size of artefacts collected it is unreliable to give a temporal classification to this deposit. However, one piece of flow blue ware, indicative of the 1830s -1840s, was recovered. The placement of this deposit also corresponds to a residential structure depicted on the 1877 atlas of Wolfe Island.

Historic site #9 (BbGc-105) 18T 0386577/4887404

Historic site #9 (H#9), registered as Borden site (BbGc-105), is located east off of 5th Line in Lot 7, Concession 6. This site is located on level terrain and would not appear to be close to or within the footprint of construction. However, a power line is proposed to run along 5th Line. Historic site #9 is approximately 30 metres east of the roadway and is considered far enough away from the footprint of construction not to be negatively impacted (Figure 3). Nevertheless, for the completeness of documentation, the following information is provided.

The site was identified during a pedestrian survey at a five metre interval over ploughed land. The site consisted of an artefact scatter of 12 pieces over an area of approximately 10 metres by 10 metres. The centre of the artefact scatter was located at the GPS coordinates of 18T 0386577/4887404. The collection of artefacts from this site are catalogued in Appendix I, while a representation of artefacts is shown in Plate 13.

With the sample size of artefacts collected it is unreliable to give a temporal classification to this deposit. However, the artefacts themselves are indicative of the 1860's – 1900's.

Historic site #10 (BbGc-106) 18T 0390383/4890208

Historic site #10 (H#10), registered as Borden site (BbGc-106), is located north off of Bennett Road in Lot 4, Concession 9. The site is located on level terrain and would appear to be potentially effected by proposed access roads and/or power lines to turbine #73 (Figure 3). The site was identified during a pedestrian survey at a five metre interval over a ploughed and weathered agricultural field. The Archaeologists Inc. intensified the search of the site area and beyond by re-examining the area at a 0.5 metre interval.

The site consisted of an artefact scatter within the plough zone of 42 artefacts distributed over an area of approximately 40 metres by 40 metres. The centre of the artefact scatter was located at the GPS coordinates of 18T 0390383/4890208. The collection of artefacts from this site are catalogued in Appendix J, while a representation of artefacts is shown in Plate 14.

Many of the diagnostic artefacts collected from the survey would suggest that this deposit fits into a date range of between 1830- 1840. The presence of blue spongeware, green transferprinted wares, hand painted motifs on refine white earthenware, and flow blue motifs are all indicative of an historic deposit that falls within the second quarter of the 19th Century.

Historic site #11 (BbGc-107) 18T 0387173/4891529

Historic site #11 (H#11), registered as Borden site (BbGc-107), is located west off of 7th Line in Lot 3, Concession 7. The site is located on level terrain and would appear to be potentially effected by proposed power lines running along 7th Line (Figure 3). The site was identified during a pedestrian survey at a five metre interval over a ploughed and weathered agricultural field. The Archaeologists Inc. intensified the search of the site area and beyond by re-examining the area at a 0.5 metre interval.

The site consisted of an artefact scatter within the plough zone of 73 artefacts distributed over an area of approximately 20 metres by 30 metres. The centre of the artefact scatter was located at the GPS coordinates of 18T 0387173/4891529. The collection of artefacts from this site are catalogued in Appendix K, while a representation of artefacts is shown in Plate 15.

Many of the diagnostic artefacts collected from the survey would suggest that this deposit fits into a date range of between 1830- 1850. The presence of blue spongeware, blue transferprinted wares, hand painted motifs on refine white earthenware, and blue edgeware motifs are all indicative of an historic deposit that falls within the second quarter of the 19th Century.

Precontact Site P#1(BbGc-108)

Precontact site #1 (P#1), registered as Borden site (BbGc-108), is located east off of 9th Line, in Lot 6 Concession 9. The site is located on slightly sloping terrain and would appear to be close to or within the footprint of construction proposed turbine #77 (Figure 3). The site was identified during a pedestrian survey at a five metre interval over a ploughed and weathered agricultural field.

The Archaeologists Inc. intensified the search of the site area and beyond by re-examining the area at a 0.5 metre interval. The site consisted of one partial ground stone axe (Plate 16). The artefact was located at the GPS coordinates of 18 T 0390655/4891303. Despite three revisits to this site location, the only artefact recovered was the partial axe. Although difficult to say with certainty the era, ground stone tools such as axes made an appearance in the archaeological record approximately 8000 years ago and were widely used until contact period approximately 1650 AD.

Despite three revisits to this site location, the only artifact recovered was the partial axe.

FIGURE 2: LOCATION OF STUDY AREAS AND BOUNDARIES OF THE WOLFE ISLAND WIND PROJECT

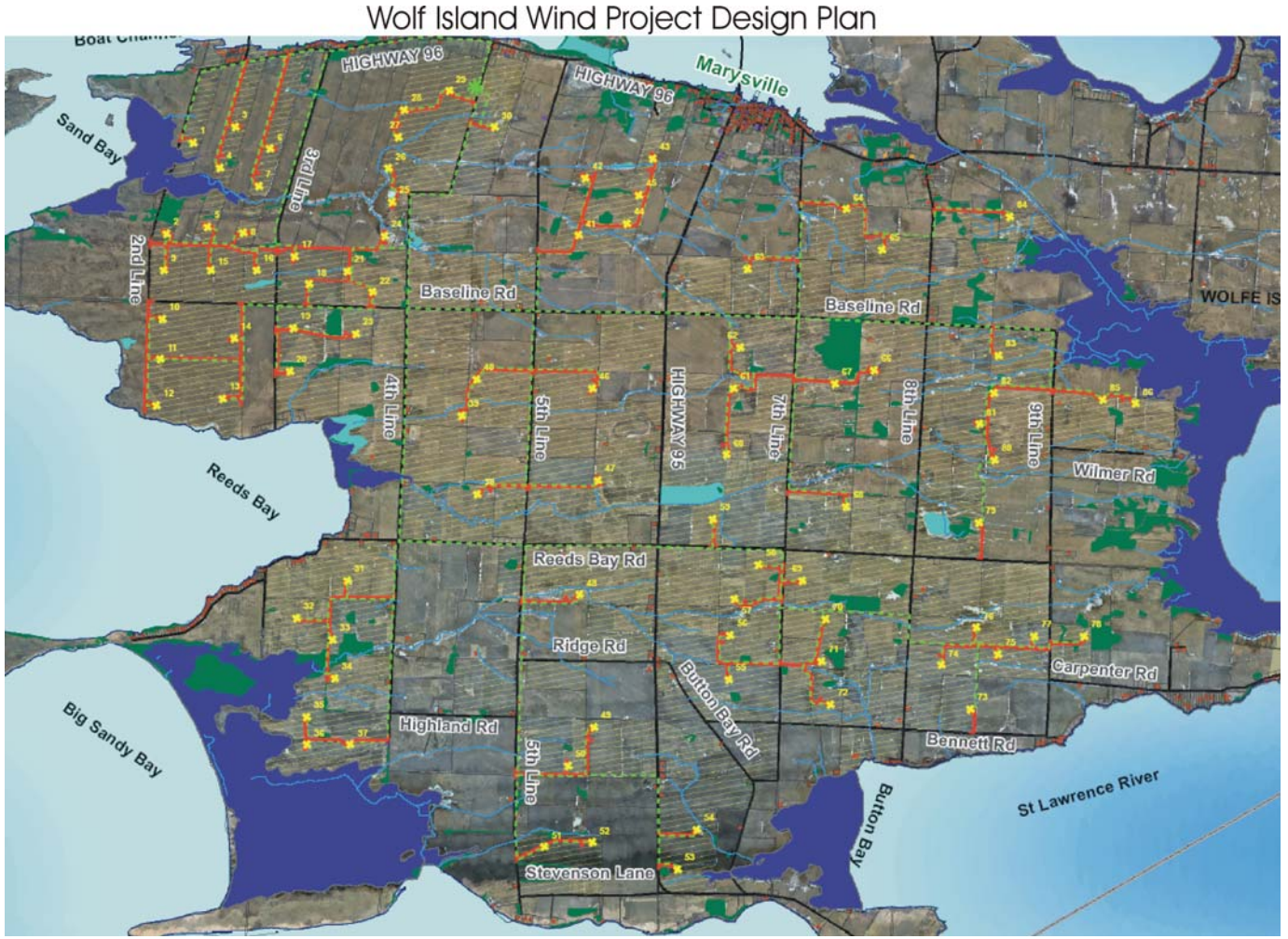
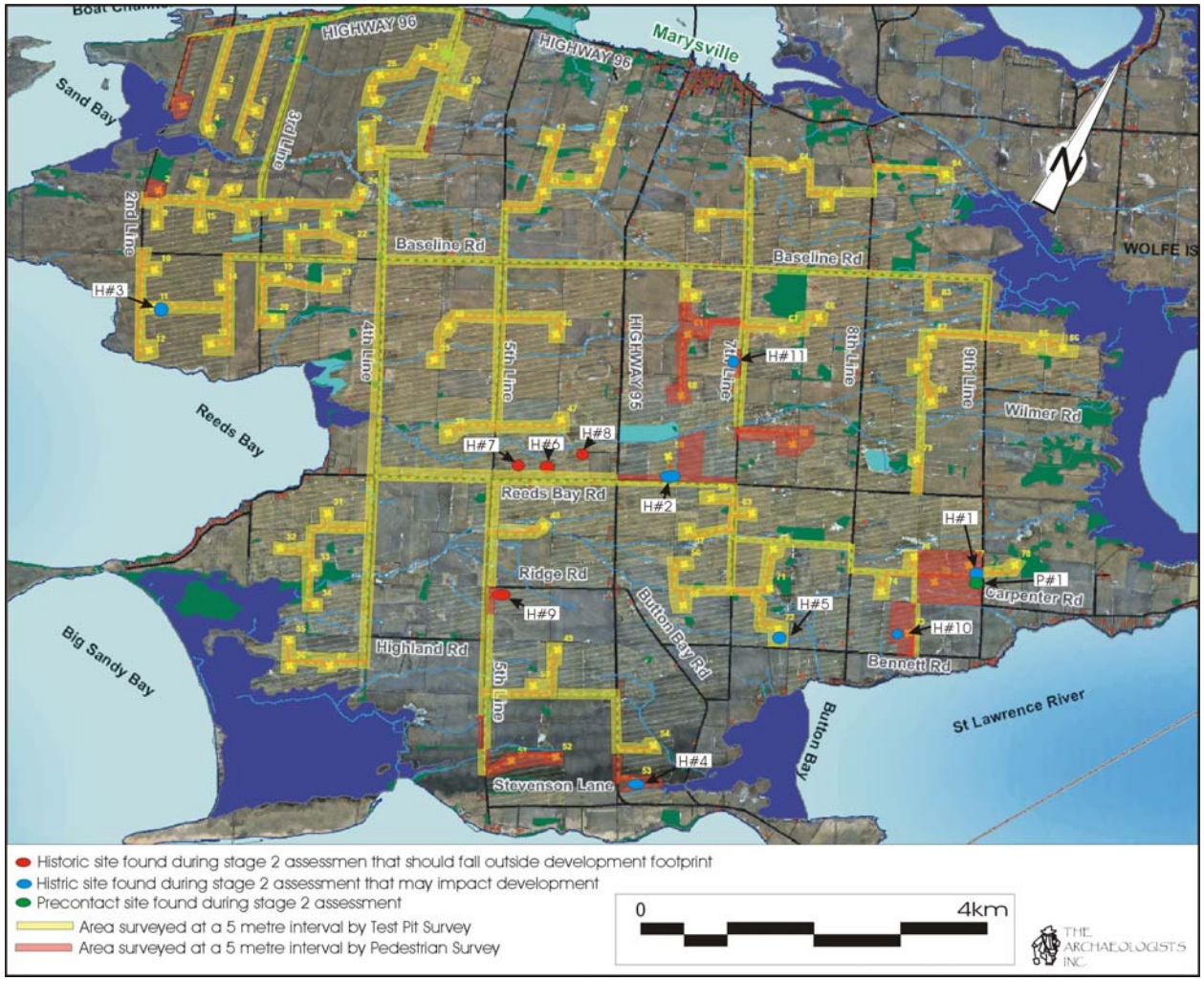


FIGURE 3: SURVEYED AREAS WITHIN THE WOLFE ISLAND STUDY AREA



5 SUMMARY AND CONCLUSIONS

Summary

The Stage I Archaeological Assessment for the lands and underwater areas for the Wolfe Island Wind Project indicates the study area does have the potential for the recovery of precontact and European archaeological material. Given this information, a Stage II Archaeological Assessment was recommended and subsequently conducted on Wolfe Island.

The Stage II field assessment of the subject properties was conducted at five metre intervals using a combination of pedestrian survey and pit and shovel testing over lands that could not be ploughed. Eleven historic sites and one precontact archaeological site were located and each was assessed for their relative temporal and historical significance.

Conclusions

In light of the results contained in section 4, it is recommended that:

1. Six historic sites (i.e., H#1 BbGc-97, H#2 BbGc-98, H#3 BbGc-99, H#4 BbGc-100, H#10 BbGc-106, and H#11 BbGc-107) represent significant archaeological resources. The artefacts collected during the Stage II works appear to date these sites prior to the 1850s. As such, these sites should undergo Stage III testing to better understand the boundaries of the deposit in an attempt to avoid these sites if possible by development or otherwise document the resource.

   Specifically, these sites should be re-walked if possible to locate any additional archaeologically significant material. A grid should be established over the site areas and a systematic series of one metre excavation units should be excavated to a depth of the B-Horizon to determine the significance of the deposits. If conducive, a resistivity survey should also be carried out on each deposit to give accurate placement of structure footprints.

   Depending on results of the Stage III testing the sites may have to undergo a Stage IV mitigation. Until such time as Stage III testing can be undertaken and the resource further documented, a 20 metre buffer zone should be erected around the site area such that no manipulation of the soil is permitted.

2. Historic site (H#5 BbGc-101) represents a later deposit falling approximately in the last quarter of the nineteenth century. With ceramic artefacts made entirely of molded ironstone, indicative of the late nineteenth century, this deposits falls beyond what is deemed to be of historic significance or value. This deposit should be considered clear of any further archaeological concerns and it is recommended that construction proceed in this area.

3. Historic sites H#6 BbGc-102, H#7 BbGc-103, H#8 BbGc-104, and H#9 BbGc-105 represent deposits that fall well beyond development maximum upset boundaries and are not in danger of being negatively effected during construction. Consequently, no further archaeological investigations are recommended for these resources.

4. Precontact site (P#1 BbGc-108) represented by one (partial) ground stone axe was investigated by three re-surveys of a 20 metre area at a 0.5 metre interval around where the artefact was originally located. No further artefacts were located. As such, precontact site P#1 BbGc-108 is an isolated findspot, should be considered free from further archaeological concerns and it is recommended that construction proceed in this area.

5. With the exception of the six historic site requiring further Stage III works should construction activities ultimately occur in these areas (recommendation #1 above), all other lands surveyed as part of the Wolfe Island Wind Project on Wolfe Island as illustrated on Figure 3 should be considered free from further archaeological concerns and it is recommended that construction proceed in this area.

6. Should deeply buried archaeological remains be found in the work areas during construction activities, the Heritage Operations Unit of the Ministry of Culture should be notified immediately.

7. In the event that human remains are encountered during construction, the proponent should immediately contact both the Ministry of Culture and the Registrar or Deputy Registrar of the Cemeteries Regulation Unit of the Ministry of Consumer and Business Services (416) 326-8404.

The documentation related to this Stage II Archaeological Assessment shall be curated by The Archaeologists Inc. until such a time that arrangements for their ultimate transfer to Her Majesty the Queen in right of Ontario, or other public institution, can be made to the satisfaction of CREC and the Ministry of Culture.

6 REFERENCES CITED

Ministry of Citizenship, Culture and Recreation
2004 Standards and Guidelines for Consulting Archaeologists

The Archaeologists Inc.
2006 Stage I Archaeological Assessment for Land and Underwater Areas for the Wolfe Island Wind Project, Township of Frontenac Islands and City of Kingston, Frontenac County, Ontario

PLATES

Plate 1; Test pit survey at a 5 metre interval along access road

Plate 2; Test pit survey at a 5 metre interval along access road

Plate 3; Pedestrian survey at a 5 metre interval over ploughed and weathered field

Plate 4: Pedestrian survey at a 5 metre interval over ploughed and weathered field

Plate 5; A representative sample of artefacts from historic site #1 (BbGc-97)—a) hand painted ceramic, b) brown transfer print, c) green glass bottle top, d) white ball clay pipe stem with imprint “GLAS”, d) blue transfer print, and f) red transfer print.

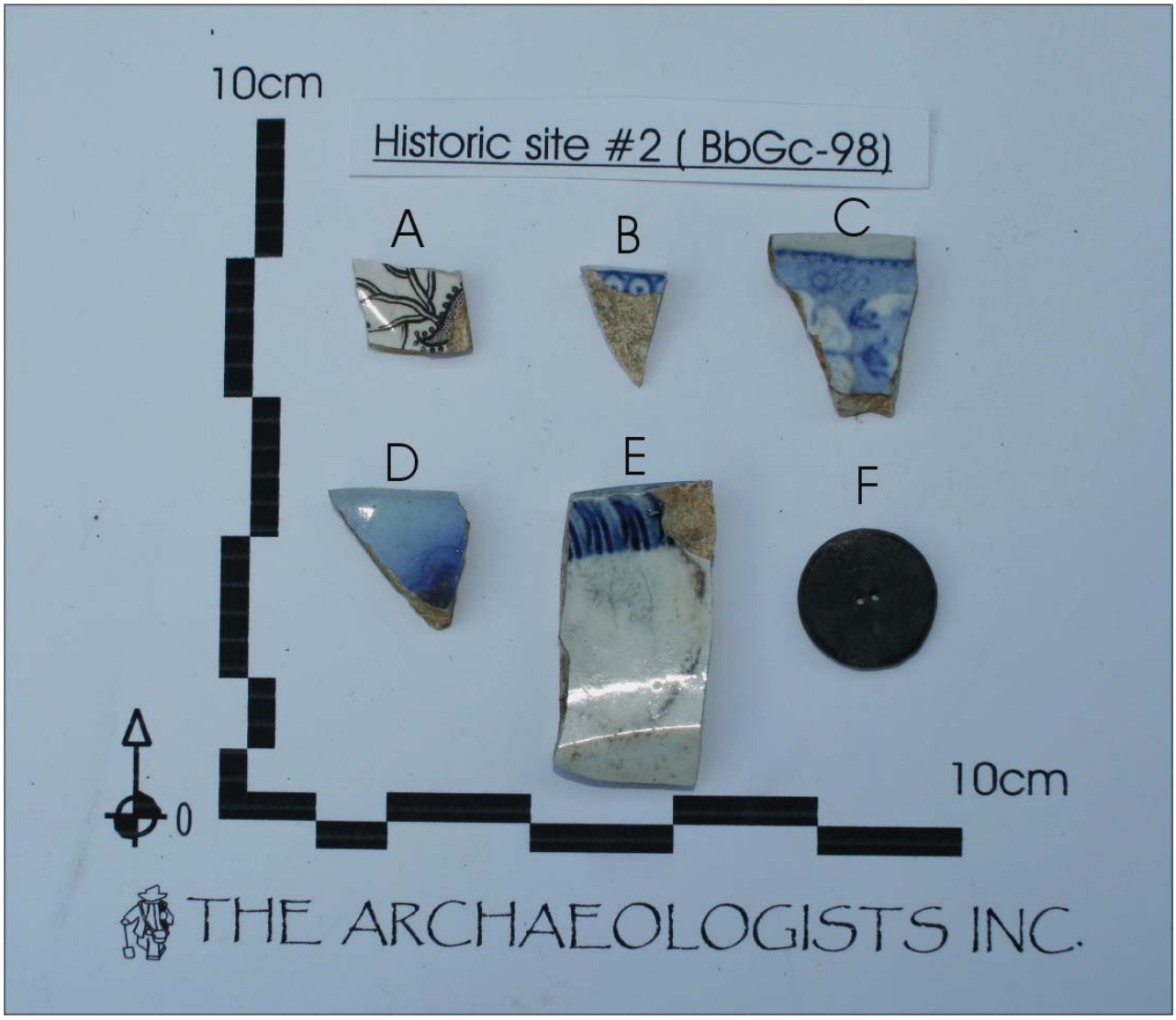


Plate 6; A representative sample of artefacts from historic site #2 (BbGc-98)—a) black transfer printed ware, b) blue transfer printed ware with motif of blue willow, c) early blue transfer printed ware, d) flow blue ware, e) blue edgeware—curved impressed lines molded on rim, and f) bone button with two holes.

Plate 7; A representative sample of artefacts from historic site #3 (BbGc-99)—a) hand wrought nail, b) hand painted ceramic, c) blue spongeware, d) flow blue ware, and e) blue edgeware –curved impressed lines in rim.

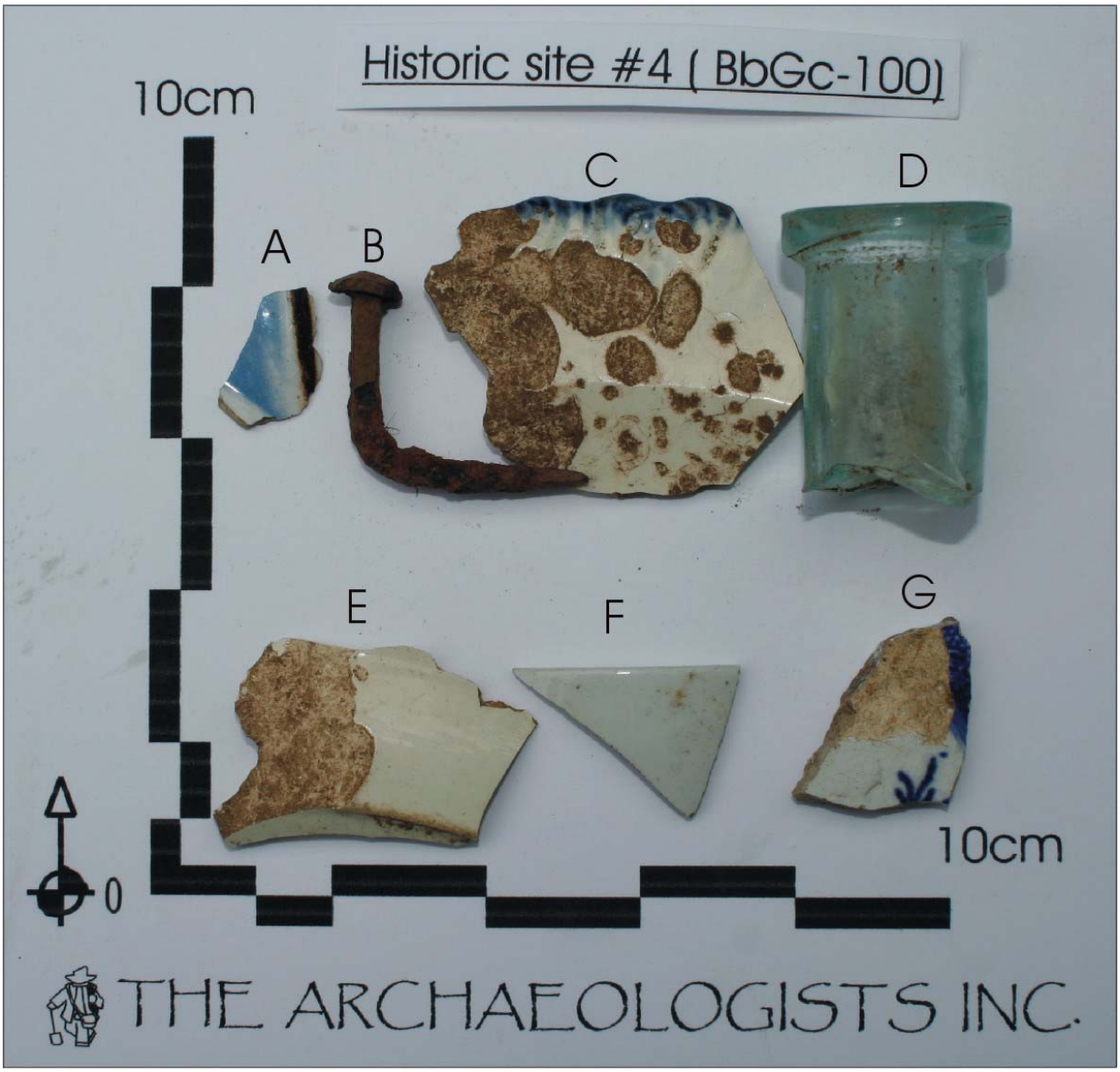


Plate 8; A representative sample of artefacts from historic site #4 (BbGc-100)—a) annularware, b) hand wrought nail, c)blue scalloped edgeware on pearlware, d) clear glass bottle top, e) plain pearlware, f) refined white earthenware, and g) blue transfer print on refined white earthenware.

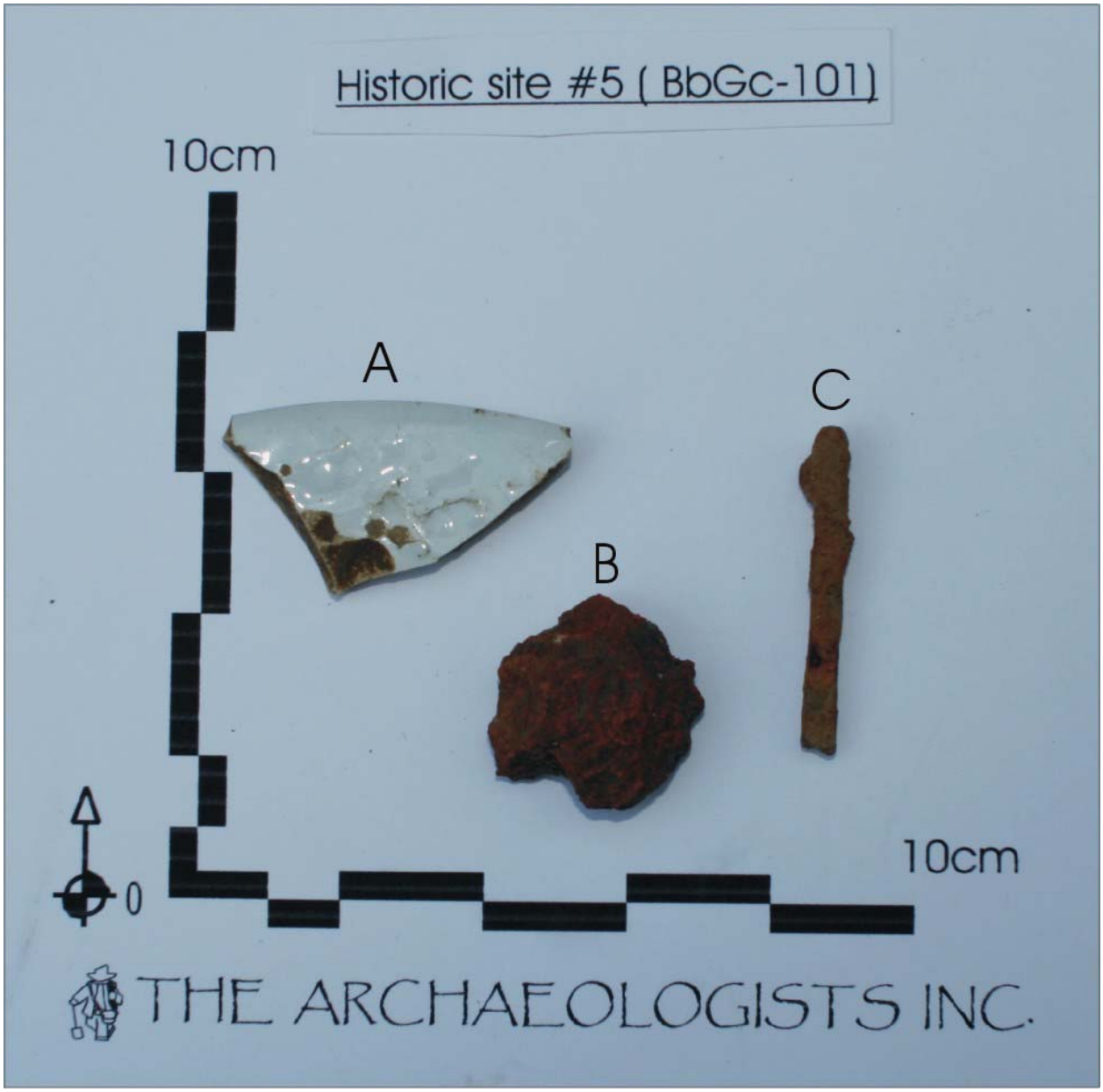


Plate 9; A representative sample of artefacts from historic site #5 (BbGc-101)—a) plain molded ironstone, b) red clay brick fragment, and c) nail fragment.

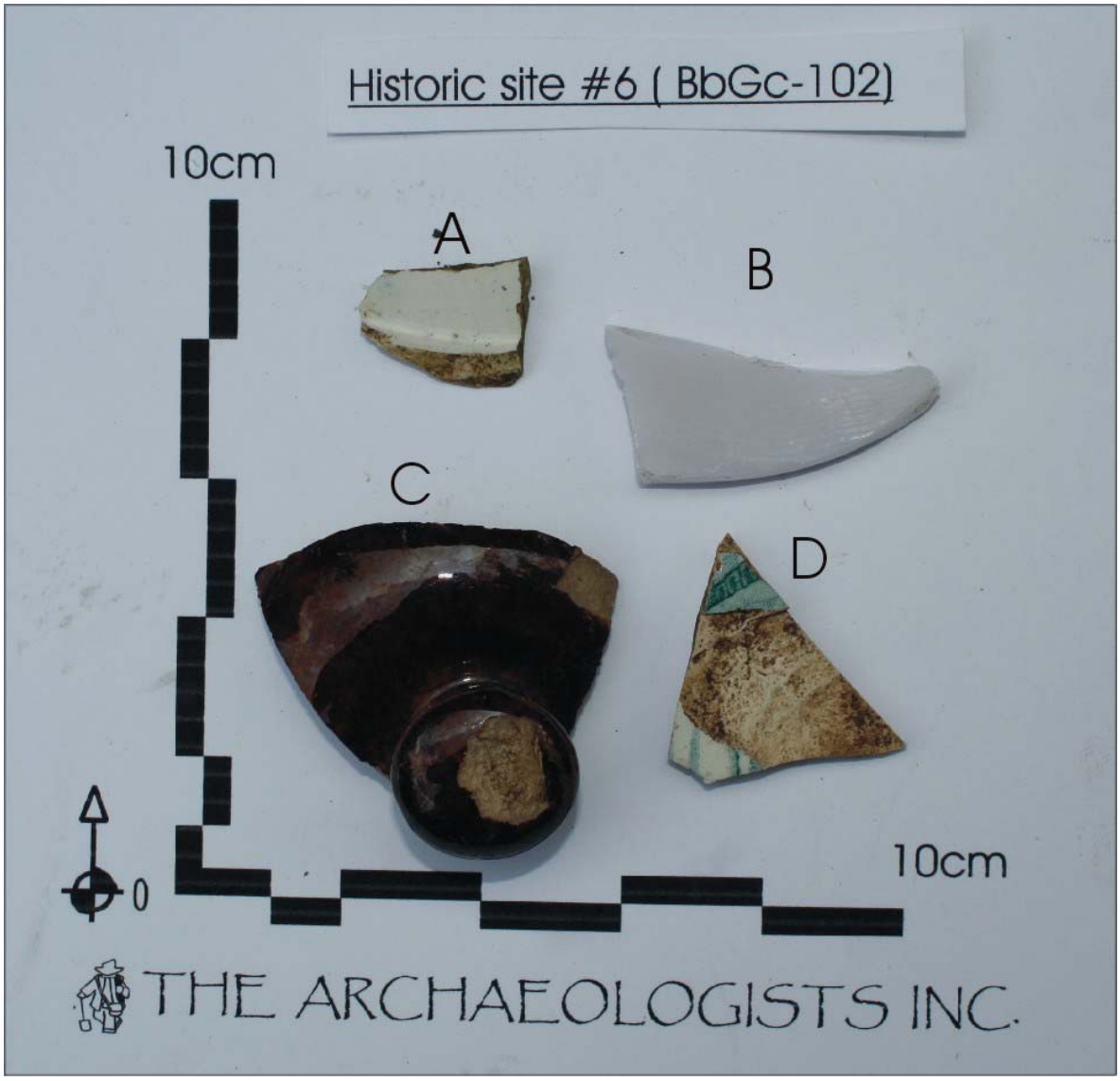


Plate 10; A representative sample of artefacts from historic site #6 (BbGc-102)—a) plain refined white earthenware, b) milk glass, c)stoneware vessel top –dark brown glaze, and d) blue transfer print

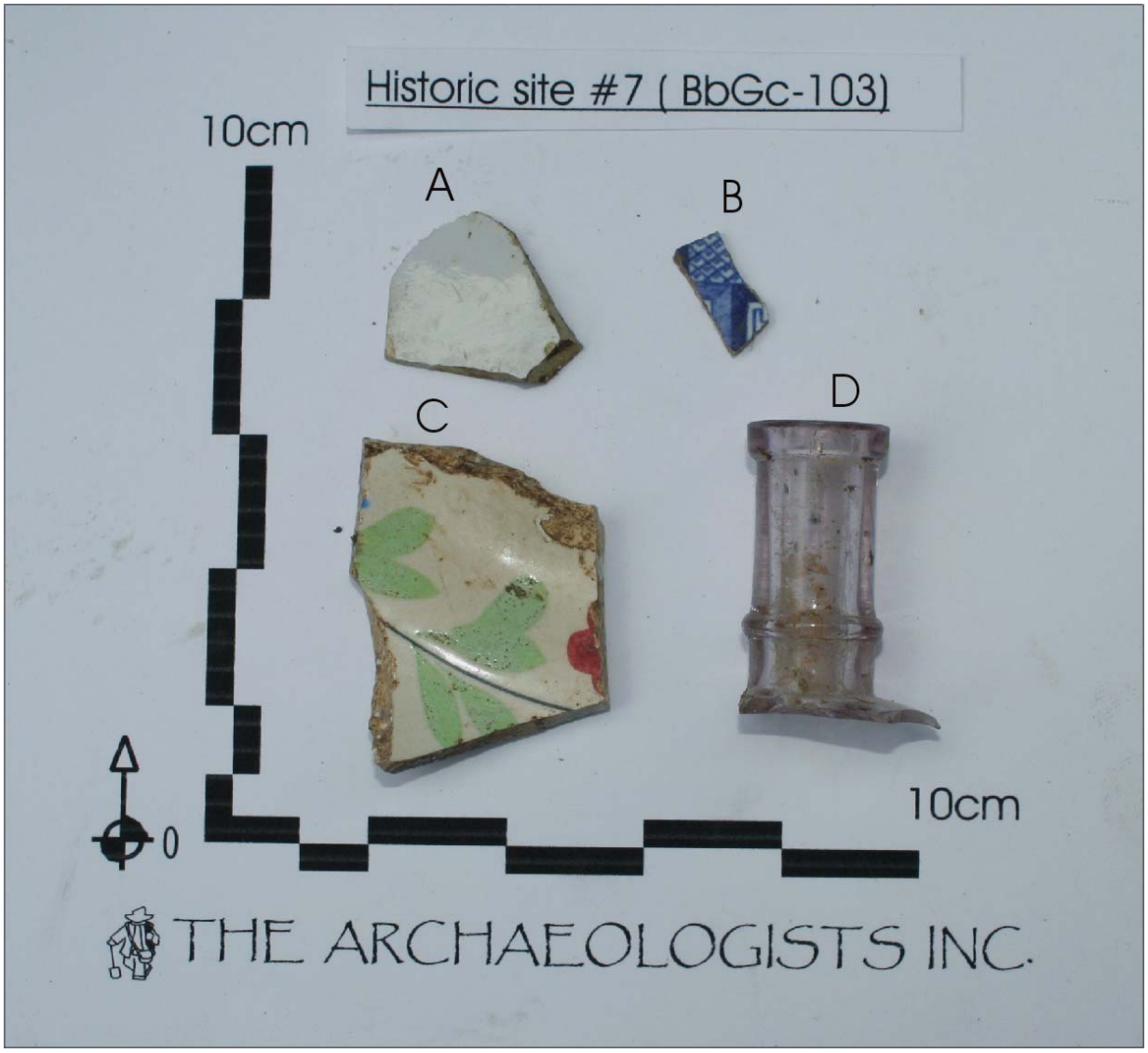


Plate 11; A representative sample of artefacts from historic site #7 (BbGc-103)—a) plain Ironstone, b) blue transfer print with blue willow motif, c) hand painted ware and d) clear bottle glass top.

Plate 12; A representative sample of artefacts from historic site #8 (BbGc-104)—a) red clay earthenware –dark brown glaze, b) square cut nail, and c) flow blue ware.

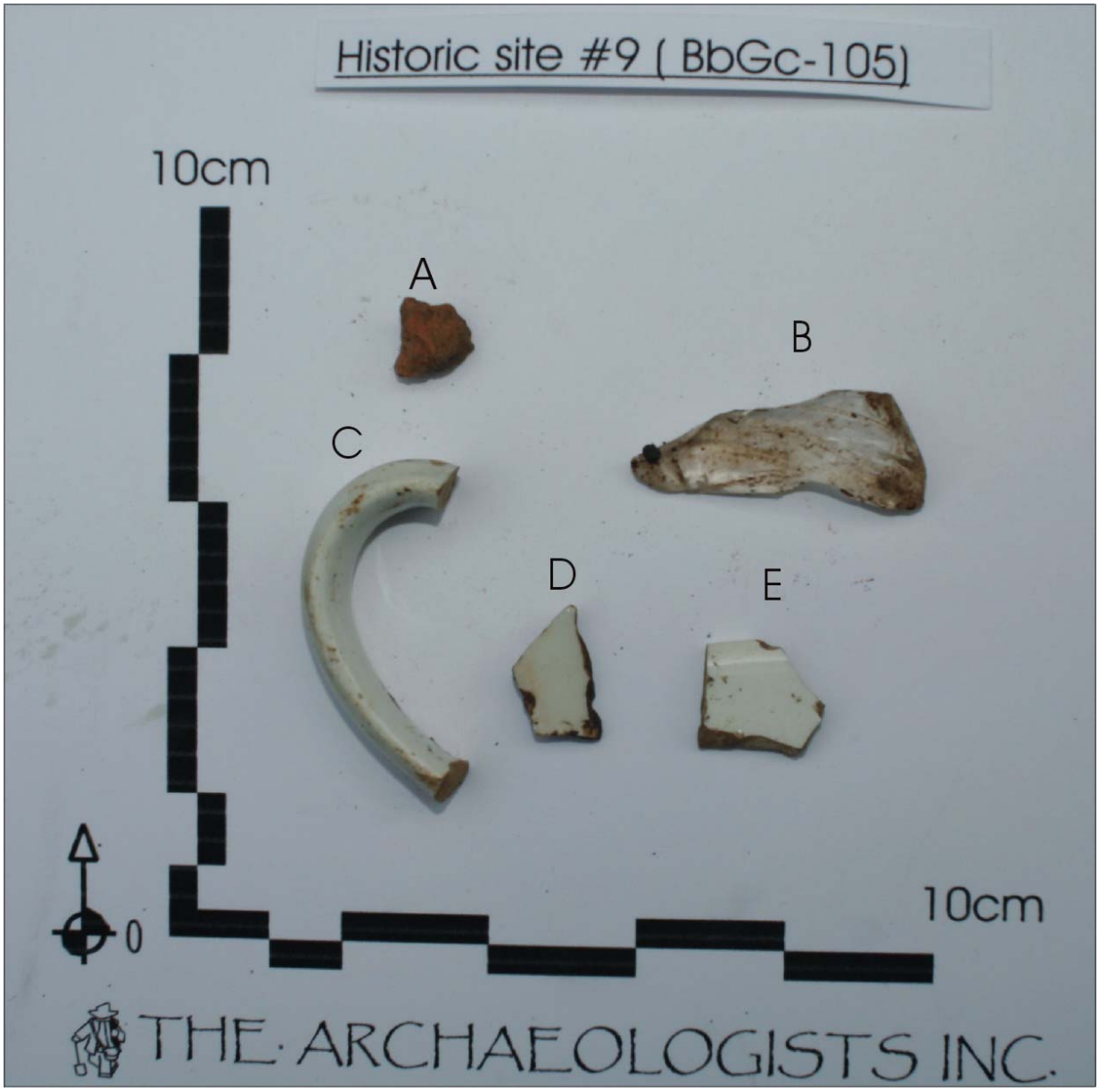


Plate 13; A representative sample of artefacts from historic site #9 (BbGc-105)—a) red clay brick fragment, b) clear bottle glass, c) ironstone vessel handle, d) plain refined white earthenware, and e) plain Ironstone.

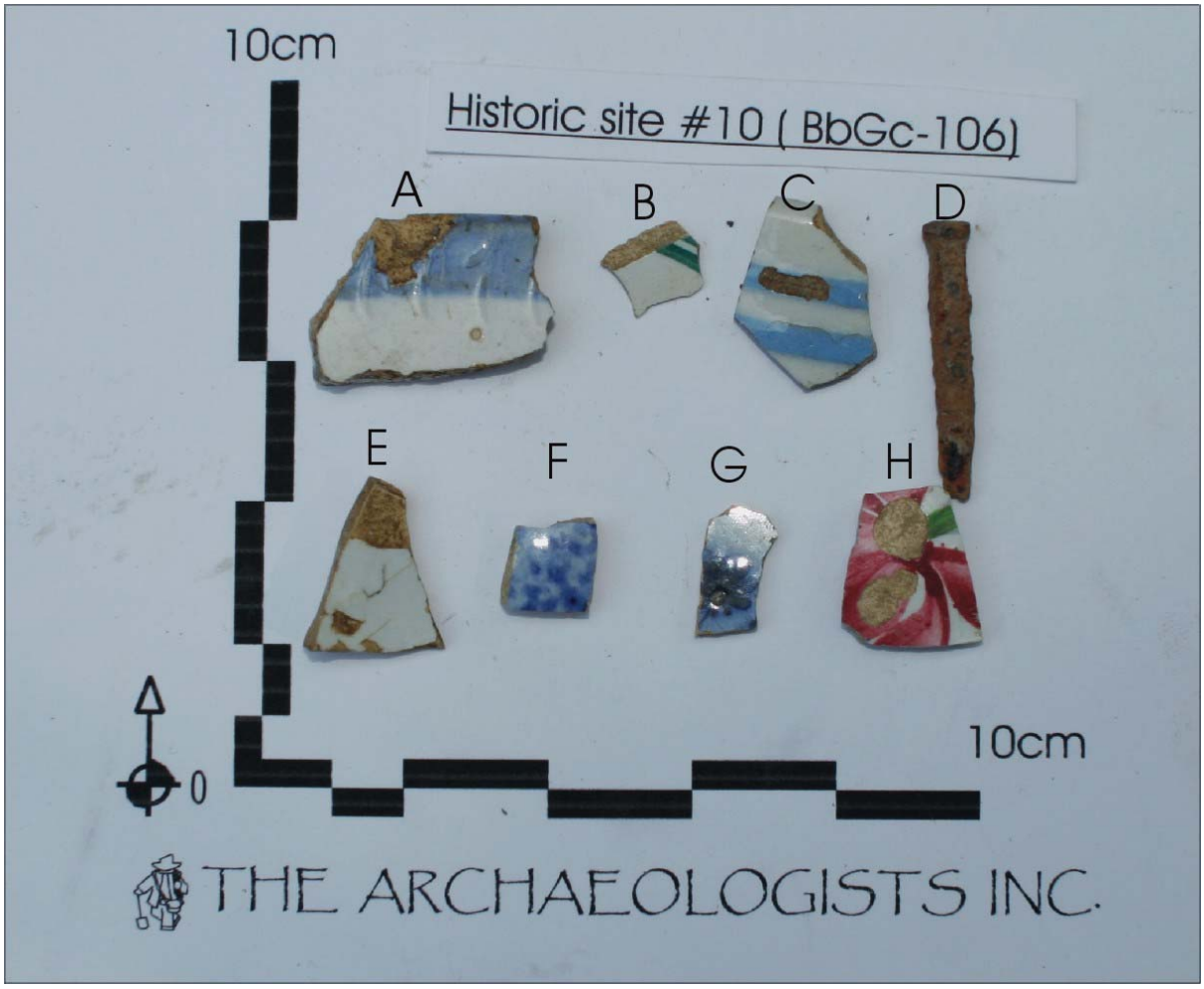


Plate 14; A representative sample of artefacts from historic site #10 (BbGc-106)—a) blue edgeware with curved impressed lines, b) green transfer print, c) anularware, d) square cut nail, e) refined white earthenware, f) blue spongeware, g) flow blue ware, and h) hand painted ware.

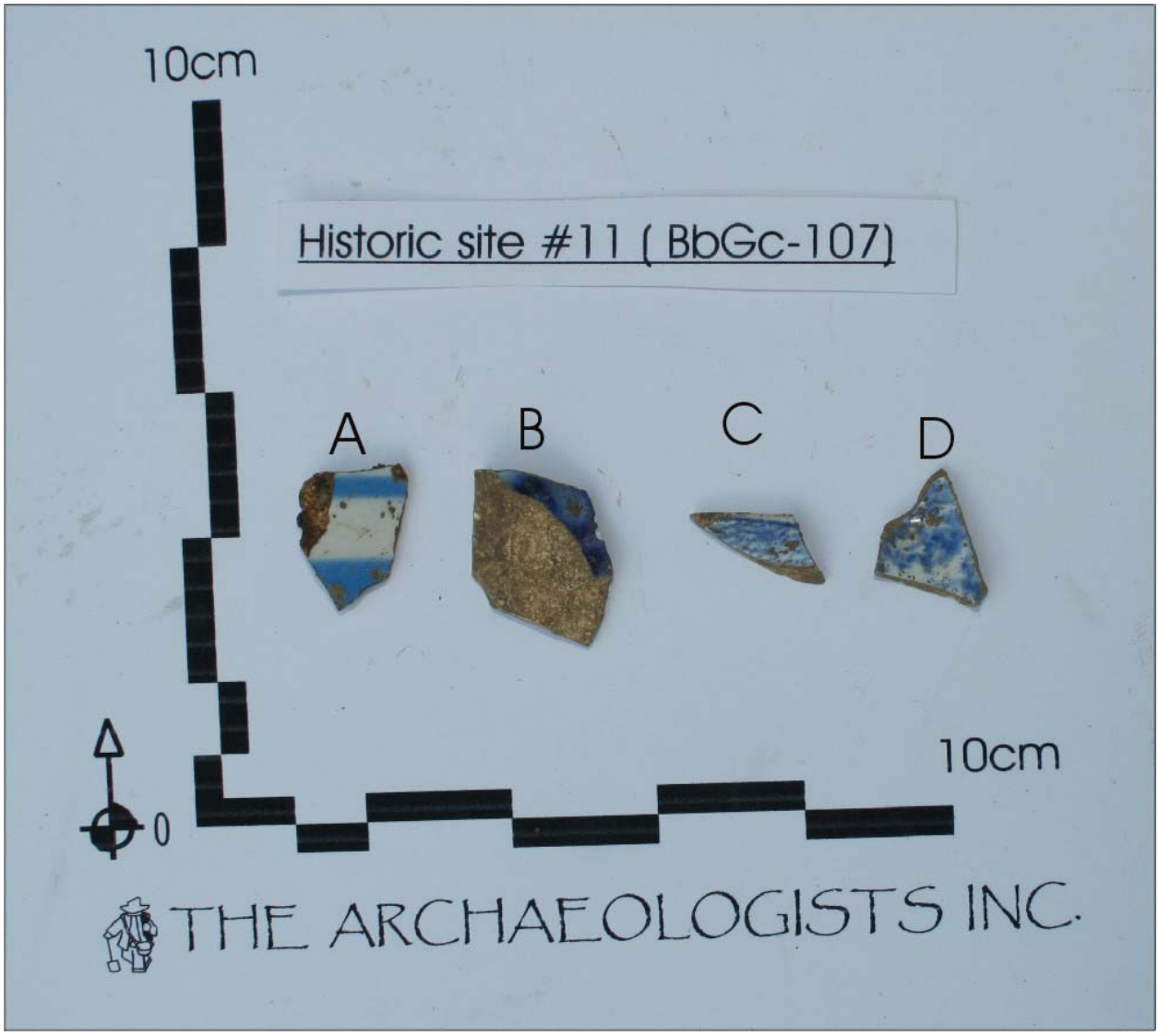


Plate 15; A representative sample of artefacts from historic site #11 (BbGc-107)—a) annularware, b) flow blue ware, c) blue transfer printed ware, and d) blue sponge ware.

Plate 16; partial ground stone axe recovered from precontact site #1 (BbGc-108)—unknown cultural affiliation.

APPENDIX A

Historic site #1 (BbGc-97)18 T 0390660/4891340

Province	Material	Quantity	Description	Catalogue #
surface	Stone ware	1	Light brown glaze	1
surface	White ware	186	Plain	2
surface	White ware	22	Brown transfer print	3
surface	Glass	1	Bottle top	4
surface	Porcelain	1	Plain	5
surface	White ware	4	Hand painted	6
surface	Glass	1	Button	7
surface	Glass	26	Window	8
surface	Glass	5	Green	9
surface	White ware	1	Blue edge ware molded	10
surface	Stone ware	3	Medium brown glaze	11
surface	Stone ware	2	Black transfer salt glaze	12
surface	Stone ware	1	Plain	13
surface	White ware	4	Red transfer print	14
surface	White ware	1	Plain	15
surface	White ball clay	6	Pipe stem	16
surface	Red clay	8	Earthen ware medium brown glaze	17
surface	White ware	6	Blue willow	18
surface	Glass	6	Green bottle	19
surface	White ware	1	Annual ware Blue	20
surface	White ware	27	Blue transfer print	21
surface	Metal	1	Square cut	22
surface	Metal	3	Misc.	23

APPENDIX B

Historic site #2 (BbGc-98) 18T 0387148/4890123

Province	Material	Quantity	Description	Catalogue #
surface	Ceramic	1	Ceramic handle	1
surface	White ware	1	Blue edge ware molded	2
surface	Glass	1	Bottle glass	3
surface	Stoneware	3	plain	4
surface	Red clay	1	Earthenware medium. Brown glaze	5
surface	White ware	3	Brown transfer print	6
surface	White ware	1	Makers mark	7
surface	White ware	1	Blue willow print	8
surface	White ware	6	Blue transfer print	9
surface	White ware	34	plain	10
surface	Pearl ware	1	Brown transfer print	11
surface	Ball clay	1	Pipe stem	12
surface	Glass	2	Bottle	13
surface	White ware	3	Hand painted	14
surface	Stone ware	1	Medium brown glaze	15
surface	Stone ware	2	Wheat ware Iron stone	16
surface	White ware	9	Blue transfer print	17
surface	Stone ware	1	Flow blue transfer print	18
surface	White ware	1	Angular ware	19
surface	White ware	1	Blue edge ware molded curved lines	20
surface	White ware	2	Early blue American transfer	21
surface	White ware	4	Flowery flow blue transfer	22
surface	White ware	1	Brown transfer print	23
surface	bone	1	Button two holes	24
surface	White ware	2	Brown transfer print	25
surface	White ware	3	Plain with makers mark	26
surface	Stone ware	8	Molded	27
surface	White ware	60	Plain	28

APPENDIX C

Historic site #3 (BbGc-99) 18T 0381223/4888511

Province	Material	Quantity	Description	Catalogue #
Test pit	Metal	1	Hand wrought nail	1
Test pit	White ware	1	Plain white	2
Test pit	Glass	1	Bottle glass	3
Test pit	Glass	3	Window glass	4
Test pit	Red clay	1	Earthenware medium. Brown glaze	5
Test pit	White ware	3	Flow blue print	6
Test pit	White ware	1	plain	7
Test pit	Pearl ware	1	Hand painted	8
Test pit	Pearlware	6	Blue edgeware	9

APPENDIX D
Historic site #4 (BbGc-100) 18T 0388866/4887196

Province	Material	Quantity	Description	Catalogue #
surface	Glass	2	Green bottle glass	1
surface	Glass	3	Clear bottle glass	2
surface	Glass	4	Aqua bottle glass	3
surface	Red clay earthenware	1	Dark Brown Glaze	4
surface	Red clay earthenware	1	Plain	5
surface	Stoneware	1	Grey salt glaze	6
surface	Red clay brick	27	Fragments of red clay brick	7
surface	Ironstone	11	Plain	8
surface	Glass	1	Aqua bottle top	9
surface	Metal	4	unidentifiable	10
surface	Refined white earthenware	1	Blue willow pattern	11
surface	pearlware	3	Blue scalloped edgeware	12
surface	metal	2	Hand wrought nails	13
surface	Pearlware	3	Plain	14

APPENDIX E

Historic site #5 (BbGc-101) 18T 0389323/4889421

Province	Material	Quantity	Description	Catalogue #
surface	Glass	1	Green bottle	1
surface	White ball clay	2	Pipe stem	2
surface	metal	2	Misc.	3
surface	glass	1	Window glass	4
surface	metal	7	Square cut nails	5
surface	metal	1	Metal bolt	6
surface	Red clay	5	Earthen ware	7
surface	glass	1	Patina bottle glass	8
surface	Stone ware	2	Molded	9
surface	White ware	1	Melted plain	10
surface	glass	1	melted	11
surface	Brick	6	red	12
surface	White ware	4	plain	13
surface	daub	3	daub	14

APPENDIX F
Historic site #6 (BbGc-102) 18T 0386079/4889426

Province	Material	Quantity	Description	Catalogue #
Test pit	Glass	3	Clear bottle glass	1
Test pit	Glass	1	Aqua bottle top	2
Test pit	Ceramic	1	Stoneware -Tea pot lid (incomplete)	3
Test pit	Ceramic	8	Refined White Earthenware -Plain	4
Test pit	Ceramic	1	Refined White Earthenware -Blue Transferprint	5
Test pit	Ceramic	1	Stoneware -Light brown glaze	6
Test pit	Ceramic	2	Red clay earthenware -Dark Brown Glaze	7
Test pit	Glass	1	Milk Glass	8
Test pit	Ceramic	16	Ironstone (Plain)	9

APPENDIX G
Historic site #7 (BbGc-103) 18T 0385701/4889274

Province	Material	Quantity	Description	Catalogue #
Test pit	Ceramic	1	Refined White Earthenware-Hand painted	1
Test pit	Glass	7	Window glass	2
Test pit	Glass	1	Bottle glass	3
Test pit	Glass	2	Green glass	4
Test pit	Glass	1	Clear bottle top	5
Test pit	Ceramic	1	Blue willow	6
Test pit	Ceramic	22	Ironstone (Plain)	7

APPENDIX H
Historic site #8 (BbGc-104) 18T 0386342/4889759

Province	Material	Quantity	Description	Catalogue #
Test pit	Ceramic	3	Stoneware-Light brown glaze	1
Test pit	Ceramic	7	plain	2
Test pit	Metal	1	Square cut nail	3
Test pit	Metal	1	Misc.	4
Test pit	Ceramic	1	Refined White Earthenware- Flow blue	5
Test pit	Ceramic	1	Red Clay Earthen ware	6
Test pit	Glass	1	window	7

APPENDIX I

Historic site #9 (BbGc-104) 18T 0386577/4887404

Province	Material	Quantity	Description	Catalogue #
surface	Glass	1	Window	1
surface	Glass	1	Bottle glass	2
surface	ceramic	6	Plain(Ironstone)	3
surface	glass	1	Green glass	4
surface	brick	1	Red brick	5
surface	ceramic	1	Plain refined white earthenware	6
surface	ceramic	1	Vessel handle -Ironstone	7

APPENDIX J
Historic site #10 (BbGc-106) 18T 0390383/4890208

Province	Material	Quantity	Description	Catalogue #
surface	Ceramic	3	Annular wear	1
surface	Ceramic	3	Blue edge ware	2
surface	Ceramic	1	Flowery flow blue transfer	3
surface	Ceramic	1	Green transfer print	4
surface	Shell	1	Shell	5
surface	Ceramic	1	Stone ware	6
surface	Ceramic	1	plain	7
surface	Ceramic	12	blue spongeware	8
surface	Glass	6	Bottle glass	9
surface	Glass	3	Melted glass	10
surface	Metal	3	Square cut nails	11
surface	Metal	2	Misc.	12
surface	Ceramic	5	Hand painted	13
surface	Ceramic	72	Refined white earthenware--plain	14

APPENDIX K
Historic site #11 (BbGc-107) 18T 0387173/4891529

Provenance	Material	Quantity	Description	Catalogue #
surface	Ceramic	3	Stoneware -Light brown glaze	01
surface	Glass	1	Clear/ rim of bottle	02
surface	Ceramic	13	Stoneware -Dark brown glaze	03
surface	Ceramic	2	RWE -Plain/ foot	04
surface	Ceramic	2	RWE -Blue transfer print	05
surface	Ceramic	2	RWE -Blue sponge ware	06
surface	Ceramic	1	RWE -Hand painted	07
surface	Ceramic	3	RWE -Blue banded edgeware	08
surface	Ceramic	2	RWE -Industrial ware	09
surface	Ceramic	18	RWE -Plain	10
surface	Glass	4	Green	11
surface	Glass	7	Window	12
surface	Glass	6	Bottle glass fragments	13
surface	Clay	3	Red clay brick fragments	14
surface	Ceramic	1	Stoneware -Molded/ red clay earthenware/ dark brown glaze	15
surface	Ceramic	2	Stoneware -White glaze with blue transfer print	16
surface	Clay	2	White ball clay/stem	17
surface	Clay	1	White ball clay/bowl fragment	18