August 2010



STAGE 1 ARCHAEOLOGICAL ASSESSMENT

Summerhaven Wind Energy Centre Various Lots and Concessions **Geographic Townships of Walpole and Rainham** Haldimand County, Ontario

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Executive Summary

A Stage 1 archaeological background study was conducted by Golder Associates Ltd. for the proposed Summerhaven Wind Energy Centre on behalf of NextEra Energy Canada, ULC. This assessment was undertaken in order to meet the requirements for an application for a Renewable Energy Approval, as outlined in Ontario Regulation 359/09 Section 22(3) of the *Environmental Protection Act*.

Golder applied archaeological potential criteria commonly used by the Ontario Ministry of Tourism and Culture to determine areas of archaeological potential within the archaeological study area. The archaeological potential for pre-contact Aboriginal and historic Euro-Canadian sites was deemed to be moderate to high on these properties. For pre-contact Aboriginal sites this assessment is based on the presence of nearby potable water sources, level topography, agriculturally suitable soils and known archaeological sites. The determination of historic Euro-Canadian archaeological potential is based on the documentation indicating occupation from the middle of the 19th century onwards as well as the presence of historic transportation routes. As a result, Stage 2 archaeological assessment is recommended for potential wind turbine sites and their associated infrastructure.

Further Stage 2 archaeological assessment is recommended for any areas to be impacted by turbine construction, access road construction, or other infrastructure construction related activities. The Ontario Ministry of Tourism and Culture is asked to review the results presented and to accept this report into the Provincial Register of archaeological reports. Additional archaeological assessment is still required; hence the archaeological sites recommended for further archaeological fieldwork remain subject to Section 48(1) of the *Ontario Heritage Act* and may not be altered, or have artifacts removed, except by a person holding an archaeological licence.

This report is submitted to the Minister of Tourism and Culture as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, R.S.O. 1990, c 0.18. The report is reviewed to ensure that the licensed consultant archaeologist has met the terms and conditions of their archaeological licence and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario.

Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48(1) of the *Ontario Heritage Act*. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out archaeological fieldwork, in compliance with Section 48(1) of the *Ontario Heritage Act*.

The Cemeteries Act requires that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries, Ministry of Consumer Services.

The Executive Summary highlights key points from the report only; for complete information and findings, as well as the limitations, the reader should examine the complete report.





Table of Contents

1.0	INTRO	DUCTION1
2.0	PROJE	CT BACKGROUND
3.0	ВАСКС	GROUND RESEARCH
	3.1	The Natural Environment
	3.2	Aboriginal Archaeological Resources
	3.3	Euro-Canadian Archaeological Resources
	3.3.1	Walpole Township10
	3.3.2	Rainham Township13
	3.3.2.1	Fisherville
	3.3.2.2	Rainham Centre
4.0	PROPE	RTY INSPECTION
5.0	ANALY	SIS AND CONCLUSIONS25
	5.1	Potential for Pre-contact Aboriginal Archaeological Sites
	5.2	Potential for Historic Archaeological Sites
6.0	RECOM	IMENDATIONS AND ADVICE ON COMPLIANCE WITH LEGISLATION
7.0	REFER	ENCES CITED
8.0	IMPOR	TANT INFORMATION AND LIMITATIONS OF THIS REPORT

TABLES

Table 1: Properties within the Study Area	4
Table 2: Cultural Chronology for Haldimand County	7
Table 3: Historic Properties with Potentially Significant Structures According to the 1879 Illustrated Historical Map of Walpole Township	13
Table 4: Historic Properties with Potentially Significant Structures According to the 1879 Illustrated Historical Map of Rainham Township	16

FIGURES

Figure 1: Location of the Study Area	.2
Figure 2: Soils of the Study Area	. 6
Figure 3: Treaty Boundaries Based on Morris 1943	.9





Figure 4: A Portion of the Early Survey Map of Walpole Township	.11
Figure 5: A Portion of the 1879 Map of Walpole Township	. 12
Figure 6: A Portion of the 1829 Map of Rainham Township	. 14
Figure 7: A Portion of the 1879 Map of Rainham Township	. 15
Figure 8: Plate Number and Photographic Direction	21
Figure 9: Archaeological Potential of the Study Area	. 26

PLATES

Plate 1: Streetscape of Fisherville, Looking Southwest	18
Plate 2: Location of Rainham Centre Cemetery and Former Church, Lot 12 Concession 1, Rainham Township	. 19
Plate 3: Location of Rainham Centre Baptist Cemetery and Former Church, Lot 12 Concession 1, Rainham Township	. 19
Plate 4: Typical Flat Landscape within the Study Area, Looking South off of Concession Road 6	. 22
Plate 5: Typical Gentle Rolling Landscape within the Study Area, Looking Northwest off Concession Road 4	22
Plate 6: Lake Erie Shoreline, Looking West	23
Plate 7: Typical Creek within the Study Area, Looking South off of Concession 6	23
Plate 8: Typical Woodlot of the Study Area, Located on Kohler Road, Looking North	24
Plate 9: Hydro Corridor, Looking North From Concession 6	24

APPENDICES

APPENDIX A

Archaeological Sites Inside of and Within One Kilometre of the Study Area

APPENDIX B MTC Comment Letter





Acknowledgements

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1.0 INTRODUCTION

A Stage 1 archaeological background study was conducted by Golder Associates Ltd. (Golder) for the proposed Summerhaven Wind Energy Centre on behalf of NextEra Energy Canada, ULC (Figure 1). This assessment was undertaken in order to meet the requirements for an application for a Renewable Energy Approval, as outlined in Ontario Regulation 359/09 Section 22(3) of the *Environmental Protection Act*.

The objective of the Stage 1 assessment was to compile all available information about the known and potential cultural heritage resources within the archaeological study area and to provide specific direction for the protection, management and/or recovery of these resources, consistent with Ministry of Tourism and Culture guidelines (Government of Ontario 2009). The archaeological study area is defined in Section 3.1 below and is referred to as "the study area" throughout this report.

The site visit component of the Stage 1 assessment was conducted on June 24th, July 7th and July 9th, 2010 under archaeological consulting licence P243, issued to Carla Parslow, Ph.D., by the Ontario Ministry of Tourism and Culture. Golder applied archaeological potential criteria commonly used by the Ontario Ministry of Tourism and Culture to determine areas of archaeological potential within the study area. The archaeological potential for pre-contact Aboriginal and historic Euro-Canadian sites was deemed to be moderate to high on these properties. For pre-contact Aboriginal sites this assessment is based on the presence of nearby potable water sources, level topography, agriculturally suitable soils and known archaeological sites. The determination of historic Euro-Canadian archaeological potential is based on the documentation indicating occupation from the middle of the 19th century onwards as well as the presence of historic transportation routes. As a result, Stage 2 archaeological assessment is recommended for potential wind turbine sites and their associated infrastructure.

Further Stage 2 archaeological assessment is recommended for any areas to be impacted by turbine construction, access road construction, or other infrastructure construction related activities. The Ontario Ministry of Tourism and Culture is asked to review the results presented and to accept this report into the Provincial Register of archaeological reports. Additional archaeological assessment is still required; hence the archaeological sites recommended for further archaeological fieldwork remain subject to Section 48(1) of the *Ontario Heritage Act* and may not be altered, or have artifacts removed, except by a person holding an archaeological licence.





2.0 PROJECT BACKGROUND

In compliance with the provincial standards and guidelines set out in the *Draft Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2009), the Stage 1 Archaeological Overview/Background Study included:

- a review of the land use history, including pertinent historic maps;
- a property inspection of the study area; and
- an examination of the Ontario Archaeological Sites Database (OASD) to determine the presence of known archaeological sites in and around the study area.

In addition to the property inspection of the study area, background research was conducted at the Ministry of Tourism and Culture Office in Toronto, the University of Western Ontario Map and Data Library in London, the Ministry of Natural Resources Crown Land Survey Records Office in Peterborough, the Haldimand County Museum and Archives in Cayuga and Golder's corporate library. Finally, an open house held on April 15th, 2010 in Jarvis included a presentation detailing possible Stage 2 archaeological work within the study area; no local farmers came forward with any additional knowledge of archaeological resources in the study area at that time.





3.0 BACKGROUND RESEARCH

3.1 The Natural Environment

The study area is located in Haldimand County, in the Geographic Townships of Walpole and Rainham, covering approximately 16,400 hectares. The area covers various lots in two townships as outlined in Table 1.

County	Geographic Township	Concession	Lot
		4	7 to 14 and 22 to 24
		5	2 to 24
	Walpole	6	part of 2 and 3 to 24
		7	5 to 24
		8	7 to 11
Haldimand	Rainham	1	parts of 1-19
naiuimanu		2	2 to 19
		3	part of 1 and 2 to19
		4	1 to16
		5	1 to 14
		6	1 to 11
		7	1 to 8

Table 1: Properties within the Study Area

The study area is located within the southwestern edge of the Haldimand Clay Plain (Chapman and Putnam 1984: 156-159):

Although it was all submerged in Lake Warren, the till is not all buried by stratified clay; it comes to the surface generally in low morainic ridges in the north. In fact, there is in that area a confused intermixture of stratified clay and till. The northern part has more relief than the southern part where the typically level lake plains occur.

(Chapman and Putnam, 1984: 156)





The study area is a level lake plain consisting primarily of lacustrine silty clay from the Haldimand and Smithville series (Figure 2). There are also small deposits of lacustrine clays, some with thin loamy or sand caps from the Lincoln series between the Nanticoke, Sandusk and Stoney watersheds. A generalized alluvial soil occurs around Sandusk Creek which runs alongside the central portion of the study area. Areas consisting of Haldimand and Smithville series soils would have been suitable for pre-contact Aboriginal agriculture. However, the Lincoln series soils would not have been suitable for pre-contact Aboriginal agricultural practices, given their poor drainage and high clay characteristics (Presant and Acton 1984: 37, 40 and 47).

Historic records for Haldimand County indicate that the lands closest to the Lake Erie shoreline (Concessions 1 and 2) were marsh and overrun by scrub and bush. Further inland and north of Concessions 1 and 2 the land would have provided excellent agricultural lands.

Potable water sources within the study area include Nanticoke Creek, Sandusk Creek, Stoney Creek, Hemlock Creek and several other small tributaries, all of which drain into Lake Erie. The Grand River runs immediately to the east of the study area.

3.2 Aboriginal Archaeological Resources

In order that an inventory of archaeological resources could be compiled, the registered archaeological site records kept by the Ontario Ministry of Tourism and Culture were consulted. In Ontario, information concerning archaeological sites is stored in the OASD maintained by the Ministry of Tourism and Culture. This database contains archaeological sites registered according to the Borden system. Under the Borden system, Canada is divided into grid blocks based on latitude and longitude. A Borden Block is approximately 13 kilometres east to west and approximately 18.5 kilometres north to south. Each Borden Block is referenced by a four-letter designator and sites within a block are numbered sequentially as they are found. The study area under review is located in Borden Blocks AeGx, AeHa, AfGx and AfHa.

Previous archaeological assessments and research surveys in Haldimand County have demonstrated that the area was intensively utilized by pre-contact Aboriginal peoples. Table 2 summarizes the culture history of Haldimand County, based on Ellis and Ferris (1990). According to the OASD (personal communication, Robert von Bitter, August 17, 2009; Government of Ontario n.d.), there are 41 archaeological sites registered within the study area. These registered archaeological sites include 32 pre-contact Aboriginal sites, five historic Euro-Canadian sites, and four multi-component sites. Appendix A provides information on these known sites. The 36 sites with a pre-contact Aboriginal component include seven with Woodland components and seven with Archaic components. This high number of registered sites within the study area attests to the long history of human occupation in this part of southern Ontario. Known Onondaga and Haldimand chert outcrops are also located close to the study area (Ellis *et al.* 2009) and their use have been documented on nearby sites just west of the study area such as Stelco 1 (Timmins 1995).





Period	Characteristics	Time Period	Comments
Early Palaeo-Indian	Fluted Projectiles	9000 - 8400 B.C.	spruce parkland/caribou hunters
Late Palaeo-Indian	Hi-Lo Projectiles	8400 - 8000 B.C.	smaller but more numerous sites
Early Archaic	Kirk and Bifurcate Base Points	8000 - 6000 B.C.	slow population growth
Middle Archaic	Brewerton-like points	6000 - 2500 B.C.	environment similar to present
Late Archaic	Lamoka (narrow points)	2000 - 1800 B.C.	increasing site size
	Broadpoints	1800 - 1500 B.C.	large chipped lithic tools
	Small Points	1500 - 1100 B.C.	introduction of bow hunting
Terminal Archaic	Hind Points	1100 - 950 B.C.	emergence of true cemeteries
Early Woodland	Meadowood Points	950 - 400 B.C.	introduction of pottery
Middle Woodland	Dentate/Pseudo-Scallop Pottery	400 B.C A.D.500	increased sedentism
	Princess Point	A.D. 550 - 900	introduction of corn
Late Woodland	Early Ontario Iroquoian	A.D. 900 - 1300	emergence of agricultural villages
	Middle Ontario Iroquoian	A.D. 1300 - 1400	long longhouses (100m +)
	Late Ontario Iroquoian	A.D. 1400 - 1650	tribal warfare and displacement
Contact Aboriginal	Various Algonkian Groups	A.D. 1700 - 1875	early written records and treaties
Late Historic	Euro-Canadian	A.D. 1796 - present	European settlement

Table 2: Cultural Chronology for Haldimand County

3.3 Euro-Canadian Archaeological Resources

The study area is located in the current County of Haldimand in the Geographic Townships of Walpole and Rainham. Haldimand was established in 1800, splitting from Norfolk County (Middleton and Landon 1927). It was named after Sir Frederick Haldimand, a British Military officer and Governor of Quebec in the 18th century. Historically, Haldimand was divided into 10 townships.

The first Euro-Canadian presence in the study area dates to 1626 when the French Jesuit priest Father Joseph de la Roche d'Aillon (also spelled Daillon), along with two coureurs-des-bois, travelled by canoe the length of the Grand River. In the course of their three month trip, d'Aillon recorded that he visited 28 Neutral villages (Harper 1950: 10-11). It is uncertain how far inland d'Aillon travelled, however the majority of his travels were probably closer to the Hamilton area (White 1978).

Prior to the formation of the county and townships, the area next appears in the Euro-Canadian historic record as part of Treaty Number 3 made between the First Nation Mississauga group and the British. This treaty was made with the Mississauga First Nation on:

7th December, 1792, though purchased as early as 1784. This purchase in 1784 was to procure for that part of the Six Nation Indians coming into Canada a permanent abode.



The area included in this Treaty is, Lincoln County excepting Niagara Township; Saltfleet, Binbrook, Barton, Glanford and Ancaster Townships, in Wentworth County; Brantford, Onondaga, Tusc[aro]ra, Oakland and Burford Township in Brant County; East and West Oxford, North and South Norwich, and Dereham Townships in Oxford County; North Dorchester Township in Middlesex County; South Dorchester, Malahide and Bayham Townships in Elgin County; all Norfolk and Haldimand Counties; [and] Pelham, Wainfleet, Thorold, Cumberland and Humberstone Townships in Welland County

(Morris 1943: 17-18)

While it is difficult to exactly delineate treaty boundaries today, Figure 3 provides an approximate outline of the limits of Treaty Number 3. Additionally, the northeastern portion of the study area closely borders the Haldimand Tract, also known as the 1795 Crown Grant to the Six Nations (Figure 3). Regarding this tract, Frederick Haldimand proclaimed:

Whereas His Majesty having been pleased to direct that in consideration of the early attachment to His cause manifested by the Mohawk Indians and of the loss of their settlement which they thereby sustained that a convenient tract of land under His protection should be chosen as a safe and comfortable retreat for them and other Six Nations who have either lost their settlements within the Territory of the American States or wish to retire from them to the British. I have at the earnest desire of many of these His Majesty's faithful allies purchased a tract of land from the Indians situated between the Lakes Ontario, Erie and Huron, and I do hereby in His Majesty's name authorize and permit the said Mohawk Nation and such others of the Six Nations Indians as wish to settle in that quarter and to take possession of and settle upon the banks of the river commonly called Ouse or Grand River, running into Lake Erie, allotting to them for that purpose six miles deep from each side of the river...which them and their prosperity are to enjoy forever.

(Canada 1891: 251)

The majority of the early settlement in what later became Haldimand County was concentrated within the Haldimand tract prior to the War of 1812. However, some early settlement activity also occurred in the Geographic Townships of Walpole, Rainham, North Cayuga and South Cayuga. Rainham and Walpole were originally part of Norfolk County. Given the wide geographic spread of the study area, an evaluation of potential archaeological historic Euro-Canadian resources for each township will be presented below, including a brief historical discussion of each township followed by any notable maps of the townships. These include the township maps held by the Ministry of Natural Resources based on the original surveyor's field notes of the late 18th and early 19th centuries and the illustrated historical atlas maps dating to the 1870's.





3.3.1 Walpole Township

The area of Walpole Township was first surveyed in 1780 by Thomas Walsh (Brueton 1967: 7). Walpole was described as an area of unbroken forest with large areas of swampy land. Due to the wet conditions, by 1833 the original survey markers had either rotted or were covered by undergrowth. In order to increase settlement in Walpole, the township inhabitants petitioned the Lieutenant-Governor to have the township re-surveyed (Brueton 1967: 10). This petition was denied.

The original township map, which was completed by Thomas Walsh, had numerous additions made to it over the years, from the early 19th century until 1911 (Figure 4). The names of lot occupants indicated on the map appear to have been added once settlers moved into the area and in some cases names on various lots have been overwritten with the names of later landowners. Also of interest are lands that were marked with a blue watercolour oval; these lands were originally designated as Clergy Reserves. This meant that all proceeds from the Crown Patent went in support of the Protestant clergy, usually the Anglican Church. However, all Clergy Reserve lands were secularized by 1854 (Fahey 2010). In any case, close examination of the study area as depicted on the original township map does not reveal any squatters recorded prior to the initial township survey or any notable First Nations activity in the area.

Early notable Euro-Canadian settlers who settled in Walpole Township included the Hoover family (further discussed below in Section 3.3.2) and Peter Klinger Smith, also known as White Peter. According to oral tradition, Peter Klinger Smith was born in Pennsylvania in 1770 but upon the murder of his parents, he was adopted by a Native woman and taken to Montreal (Brueton 1967: 9; Harper 1950: 30-31). Around the age of 20, Peter moved to the lands granted to Joseph Brant and later settled on Lot 6, Concession 1 where he lived until his death in 1855 (Brueton 1967: 9; Harper 1950: 31).

By 1879, Walpole Township had one principal village, Jarvis. Jarvis grew up as a result of the construction of the Plank Road, now Highway 6, which connected Port Dover to Hamilton. It was opened for travel in 1834 and was surveyed by Peter Culver (Harper 1950: 46). Another early road in the township that was heavily relied upon was the Talbot Road, now known as Highway 3. The construction of this road was initiated in the 1810s but was abandoned until the 1820s. The portion of the Great Western Loop Line Railway that runs from Jarvis to Cayuga is in the northern portion of the study area. This railway was built in 1873 by the Grand Trunk Railway; it later changed hands to CN Rail and is still in operation today (Andreae, 1997: 129-135).

The Walpole Township map in the *Illustrated Historical Atlas of the County of Haldimand* (H.R. Page and Company 1877/9) provides both the names of the landowners and the majority of structures as they were located on properties (Figure 5). In addition to houses, the structures noted include brickyards, cemeteries, churches, hotels, manufactories, mills and schools. Table 3 lists those lots that hold a structure other than a house, along with the name of the owner. Even though locations are only approximate on these maps, they do give an idea of potential for significant archaeological historic remains that could be impacted within the study area. Typically these locations no longer exhibit any visible evidence of their former structure and if they are to be impacted by a wind turbine placement the location would need to be archaeologically assessed to see if there are any archaeological remains.



Table 3: Historic Properties with Potentially Significant Structures According to the 1879 IllustratedHistorical Map of Walpole Township

Lot	Concession	Owner	Structure	Status
Part of 13	4	Daniel Hagerty	Schoolhouse	No longer standing
E half of 8	5	Anthony Higgins	Schoolhouse	No longer standing
Part of 19	6	William Jennings	Church	No longer standing
Part of 23	6	Alexander House	Church	No longer standing
Part of 1	7	Edward Rodgers	Brickyard	No longer standing
Part of 7	7	Thomas Dalby	Schoolhouse	No longer standing
W half of 14	7	William Dochstader	Hotel	No longer standing
S half of 19	7	Henry Falls	Schoolhouse	Still standing
E half of 11	8	Robert Follis	Schoolhouse	Still standing

3.3.2 Rainham Township

Rainham Township was surveyed in 1829 by Samuel Smith, using the double front survey system (Figure 6). This produced rows of five 100 acre lots between sideroads. The lots backed on to each other so that each lot faced onto a concession road. The first long-term settlers of Walpole and Rainham Townships were the Hoover family who were an extended Quaker family from Pennsylvania. They purchased approximately 2,500 acres of land along the Lake Erie shore line in the Townships of Walpole and Rainham in 1791 (Brueton 1967: 7). Jesse Hoover built the first water powered grist and saw mill in Walpole along Stoney Creek in 1802 (Harper 1950: 28; H. R. Page and Company 1877/9: 9).

The Rainham Township map in the *Illustrated Historical Atlas of the County of Haldimand* (H.R. Page and Company 1877/9) provides both the names of the landowners and the majority of structures as they were located on properties (Figure 7). Table 4 lists those lots that hold a structure other than a house, along with the name of the owner. Even though locations are only approximate on these maps, they do give an idea of potential for significant archaeological historic remains that could be impacted within the study area. Typically these locations no longer exhibit any visible evidence of their former structure and if they are to be impacted by a wind turbine placement the location would need to be archaeologically assessed to see if there are any archaeological remains.





Table 4: Historic Properties with Potentially Significant Structures According to the 1879 IllustratedHistorical Map of Rainham Township

Lot	Concession	Owner	Structure	Status	
Part of 6	1	Peter Hoover	Church	Now stands the newer Rainham Mennonite Church with associated cemetery	
Part of 6	1	Peter Hoover	Schoolhouse	No longer remains	
Part of 8	1	A. Seabeck	Mill	No longer remains	
Part of 12	1	John Swint	2 Churches, 2 Cemeteries, Schoolhouse	Schoolhouse still stands; Rainham Centre Cemetery and Rainham Baptist Cemetery both still remain; both churches are no longer standing	
Part of 13	1	Rainham Centre	Township Hall	Hall no longer remains	
Part of 2	2	George Stratton Church Cemete		Selkirk cemetery still remains; church no longer standing	
Part of 4	2	Solomon Fess	Cemetery	No longer visible	
Part of 4	2	Eli Sherk	Cemetery	Haldimand County Reformed Mennonite Cemetery still remains	
N half of 5	2	Adam Nablo	Church	No longer standing	
Part of 19	2	Henry Zimmerman	Church, Schoolhouse	No longer standing, but associated Sweets Corners Union cemetery not recorded on map remains	
SE quadrant of 6	t of 6 3 Abraham Orth Church, Cemetery		Rainham White Church no longer standing; cemetery still remains		
Part of 6	3	George Schwyer	Cemetery, Schoolhouse	Schoolhouse no longer standing; cemetery no longer visible	
Part of 10	3	Samuel Sherr	Mill	No longer standing	
Part of 12	3	Robert Holland	Mill	No longer standing	





Lot	Concession	Owner	Structure	Status
W half of 1	4	William Holmes	Cottonwood Mansion, Schoolhouse	Cottonwood Mansion still stands; schoolhouse no longer standing
NE quadrant of 2	4	Jacob Weaver	Mill	No longer standing
Part of 6	4	Benjamin Ullman	Church, Cemetery	Trinity Lutheran Cemetery remains; Church no longer standing
Part of 13	4	Ralph Featherstone	Church	Bethel Brethren in Christ Church no longer standing but associated cemetery not recorded on map remains
Part of 7	5	Jacob Lemmer	Church	Modern church at this location
Part 6	6	Nicolas Raicheld	School	No longer standing

Some known historic remains not recorded in the 1879 historical atlas also exist: the abandoned Bretzler family cemetery on Lot 5, Concession 3 (Haldimand County Branch Ontario Genealogical Society 2001) and the Fisherville Redeemer Lutheran cemetery on Lot 5, Concession 4 (Haldimand County Branch Ontario Genealogical Society 2006).

Finally, at the time of the 1879 map there were two post offices which are discussed below: Fisherville and Rainham Centre.

3.3.2.1 Fisherville

Fisherville is located on Lots 6 and 7 of Concessions 4 and 5 (Figure 7). This settlement is located at the centre of the German community in Rainham Township with approximately 150 residences; it once had a wagon shop, a hotel and a blacksmith shop as well as other businesses (H. R. Page and Company 1877/9: 12). Since the 19th century the size of Fisherville has decrease but today there are still a few old buildings and homes that remain (Plate 1).

Given the abandonment and destruction of former buildings in the area of Fisherville over time, further archaeological investigation would be necessary if turbines and associated infrastructure were to be placed in the vicinity of the former outskirts of the community.







Plate 1: Streetscape of Fisherville, Looking Southwest



3.3.2.2 Rainham Centre

Rainham Centre is located on Lots 12 and 13 of Concessions 1 and 2 (Figure 7). There were less than 75 residences in the late 19th century and no businesses in the community at that time (H. R. Page and Company 1877/9: 12). As indicated on Figure 7, there were two churches, associated cemeteries as well as a schoolhouse and a town hall at this location. Evidence still remains today of the Rainham Centre Cemetery and of the former location of the church (Plate 2). There is also evidence of the former location of the Rainham Baptist Church and the remaining cemetery (Plate 3). The school house is also still standing but there is no evidence of the town hall.





Plate 2: Location of Rainham Centre Cemetery and Former Church, Lot 12 Concession 1, Rainham Township



Plate 3: Location of Rainham Centre Baptist Cemetery and Former Church, Lot 12 Concession 1, Rainham Township







4.0 **PROPERTY INSPECTION**

The study area was visually evaluated on June 24th, July 7th and July 9th, 2010. Figure 8 illustrates the direction and location of all photographs taken. As can be seen in Plates 4 to 9, visibility was excellent and the weather was warm and bright, varying from clear to cloudy when the photographs were taken. The figures illustrate the relatively flat topography of the area (Plate 4) with the occasional gentle slope (Plate 5), Lake Erie running just south and outside of the study area (Plate 6), the small creeks (Plate 7) and woodlots (Plate 8) that are throughout the study area and the hydro corridor (Plate 9) that runs through the western portion of the study area.





Plate 4: Typical Flat Landscape within the Study Area, Looking South off of Concession Road 6



Plate 5: Typical Gentle Rolling Landscape within the Study Area, Looking Northwest off Concession Road 4





Plate 6: Lake Erie Shoreline, Looking West



Plate 7: Typical Creek within the Study Area, Looking South off of Concession 6







Plate 8: Typical Woodlot of the Study Area, Located on Kohler Road, Looking North



Plate 9: Hydro Corridor, Looking North From Concession 6





5.0 ANALYSIS AND CONCLUSIONS

5.1 Potential for Pre-contact Aboriginal Archaeological Sites

Archaeological potential is established by determining the likelihood that archaeological resources may be present on a subject property. Archaeological potential criteria commonly used by the Ministry of Tourism and Culture (Government of Ontario 1997) were applied to determine areas of archaeological potential within the study area. These variables include: distance to various types of water sources, soil texture and drainage, glacial geomorphology and the general topographic variability of the area.

There are a total of 41 registered archaeological sites within the study area, 36 being identified as Aboriginal or with an Aboriginal component. The sites range in time from Archaic to Late Woodland. This attests to the long history of Aboriginal occupation in this part of southern Ontario.

Distance to modern or ancient water sources is generally accepted as the most important determinant of past human settlement patterns and, considered alone, may result in a determination of archaeological potential. However, any combination of two or more other criteria, such as well-drained soils, or topographic variability, may also indicate archaeological potential. Finally, extensive land disturbance can eradicate archaeological potential (Wilson and Horne 1995).

In archaeological potential modeling, a distance to water criterion of 300 metres is generally employed for primary water courses, including lakeshores, rivers and large creeks, while a criterion of 200 metres is applied to secondary water sources, including swamps and small creeks. For the present project, there are several creeks and their tributaries throughout the study area and the study area also fronts Lake Erie.

Soil texture can be an important determinant of past settlement, usually in combination with other factors such as topography. The study area is fairly level, with no areas of steep slope, making it suitable for settlement except close to the beach line along Lake Erie. With respect to soil texture, Aboriginal groups practicing agriculture preferred well drained lighter (sandy) soils to heavier soils. The soils of the study area are mostly silty clay with some beach sands along Lake Erie and alluvial deposits along the creeks and rivers. The study area would have been suitable for pre-contact Aboriginal agriculture, although not ideal. These soils provide moderate archaeological potential for pre-contact Aboriginal sites within the study area.

Outside of these criteria, the documented chert outcrops associated with the study area discussed in Section 3.2 should also be mentioned. They also contribute to the archaeological potential for pre-contact Aboriginal remains.

When the above noted archaeological potential criteria are applied to the study area, the archaeological potential for pre-contact Aboriginal sites is deemed to be high (Figure 9). This assessment is due to the presence of water sources, the level land without areas of steep slope, the silty clay soils and documented Aboriginal activity.





5.2 Potential for Historic Archaeological Sites

The criteria used by the Ontario Ministry of Culture to determine potential for historic archaeological sites include the presence of: 1) particular, resource-specific features that would have attracted past subsistence or extractive uses; 2) areas of initial, non-Aboriginal settlement; 3) early historic transportation routes; and 4) properties designated under the Ontario Heritage Act (Government of Ontario 1997:14).

There is evidence of Euro-Canadian settlement extending back to the late 18th and early 19th century during the initial settlement of Walpole and Rainham. By the late 19th century, all lots and concessions were occupied and based on the information from the 1879 historical atlas (Figures 5 and 7) buildings were present on the majority of the lots. The 19th century road grid is still in use and portions of the Great Western Loop Line Railway run through the study area. While no properties are designated under the Ontario Heritage Act within the study area, nine archaeological sites with a historic Euro-Canadian component have been recorded.

When the archaeological potential criteria are applied to the study area, the archaeological potential for historic Euro-Canadian sites is deemed to be high, due to the documented history of settlement in the study area (Figure 9).



6.0 RECOMMENDATIONS AND ADVICE ON COMPLIANCE WITH LEGISLATION

Golder applied archaeological potential criteria commonly used by the Ontario Ministry of Tourism and Culture to determine areas of archaeological potential within the study area. The archaeological potential for pre-contact Aboriginal and historic Euro-Canadian sites was deemed to be moderate to high on these properties. For pre-contact Aboriginal sites this assessment is based on the presence of nearby potable water sources, level topography, agriculturally suitable soils and known archaeological sites. The determination of historic Euro-Canadian archaeological potential is based on the documentation indicating occupation from the middle of the 19th century onwards as well as the presence of historic transportation routes. As a result, Stage 2 archaeological assessment is recommended for potential wind turbine sites and their associated infrastructure.

Further Stage 2 archaeological assessment is recommended for any areas to be impacted by turbine construction, access road construction, or other infrastructure construction related activities. The Ontario Ministry of Tourism and Culture is asked to review the results presented and to accept this report into the Provincial Register of archaeological reports. Additional archaeological assessment is still required; hence the archaeological sites recommended for further archaeological fieldwork remain subject to Section 48(1) of the *Ontario Heritage Act* and may not be altered, or have artifacts removed, except by a person holding an archaeological licence.

This report is submitted to the Minister of Tourism and Culture as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, R.S.O. 1990, c 0.18. The report is reviewed to ensure that the licensed consultant archaeologist has met the terms and conditions of their archaeological licence and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario.

Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48(1) of the *Ontario Heritage Act*. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out archaeological fieldwork, in compliance with sec. 48(1) of the *Ontario Heritage Act*.

The Cemeteries Act requires that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries, Ministry of Consumer Services.

GOLDER ASSOCIATES LTD.

Jeffrey Muir, B.A. Project Archaeologist

Jim Wilson, M.A. Associate, Senior Archaeologist

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8.0 IMPORTANT INFORMATION AND LIMITATIONS OF THIS REPORT

Golder Associates Ltd. (Golder) has prepared this report in a manner consistent with that level of care and skill ordinarily exercised by members of the archaeological profession currently practicing under similar conditions in the jurisdiction in which the services are provided, subject to the time limits and physical constraints applicable to this report. No other warranty, expressed or implied is made.

This report has been prepared for the specific site, design objective; developments and purpose described to Golder, by NextEra Energy Canada, ULC. The factual data, interpretations and recommendations pertain to a specific project as described in this report and are not applicable to any other project or site location.

The information, recommendations and opinions expressed in this report are for the sole benefit of the Client. No other party may use or rely on this report or any portion thereof without Golder's express written consent. If the report was prepared to be included for a specific permit application process, then upon the reasonable request of the Client, Golder may authorize in writing the use of this report by the regulatory agency as an Approved User for the specific and identified purpose of the applicable permit review process. Any other use of this report by others is prohibited and is without responsibility to Golder. The report, all plans, data, drawings and other documents as well as electronic media prepared by Golder are considered its professional work product and shall remain the copyright property of Golder, who authorizes only the Client and Approved Users to make copies of the report, but only in such quantities as are reasonably necessary for the use of the report or any portion thereof to any other party without the express written permission of Golder. The Client acknowledges the electronic media is susceptible to unauthorized modification, deterioration and incompatibility and therefore the Client cannot rely upon the electronic media versions of Golder's report or other work products.

Unless otherwise stated, the suggestions, recommendations and opinions given in this report are intended only for the guidance of the Client in the design of the specific project.

Special risks occur whenever archaeological investigations are applied to identify subsurface conditions and even a comprehensive investigation, sampling and testing program may fail to detect all or certain archaeological resources. The sampling strategies incorporated in this study comply with those identified in the Ministry of Culture's Archaeological Assessment Technical Guidelines (1993) (Stages 1-3 and Reporting Format).





APPENDIX A

Archaeological Sites Inside of and Within One Kilometre of the Study Area



APPENDIX A ARCHAEOLOGICAL SITES INSIDE OF AND WITHIN ONE KILOMETRE OF THE STUDY AREA

Borden Number	Site Name	Site Type	Cultural Affiliation	Researcher	Date
AeGx-18	SC-16	lithic scatter	pre-contact Aboriginal	W. Bruechert	1987
AfGw-81	Gates Creek 1	campsite/cabin	Archaic/Woodland/ historic Euro-Canadian	F. Moerschfelder	1981
AfGw-82	Fitzgerald	village	Woodland	W. Fox/L.Parker	1984/ 1992
AfGw-83	Gates Creek 3	campsite	Archaic/Woodland	F. Moerschfelder	1981
AfGw-84	Gates Creek 4	campsite	Woodland	F. Moerschfelder	1981
AfGw-85	Gates Creek 5	campsite	pre-contact Aboriginal	F. Moerschfelder	1981
AfGw-86	Gates Creek 6	campsite	Woodland	F. Moerschfelder	1981
AfGw-87	Gates Creek 7	campsite	Woodland/historic Euro-Canadian	F. Moerschfelder	1981
AfGw-91	Lynch	campsite	Archaic	F. Moerschfelder	n.d.
AfGw-93	Wardell's Creek – Moerschfelder	chipping station	Archaic	F. Moerschfelder	1982
AfGx-84	Walker	campsite	Archaic/Woodland	W. Bruechert	1985
AfGx-85	Van Vliet	campsite	Archaic	W. Bruechert	1985
AfGx-86	Walker 2	lithic scatter	pre-contact Aboriginal	W. Bruechert	1985
AfGx-87	Fencer	indeterminate	pre-contact Aboriginal	W. Bruechert	1985
AfGx-103	SC-2	lithic scatter	pre-contact Aboriginal	W. Bruechert	1986
AfGx-104	SC-3	lithic scatter	pre-contact Aboriginal	W. Bruechert	1986
AfGx-105	SC-4	lithic scatter	pre-contact Aboriginal	W. Bruechert	1986
AfGx-106	SC-5	lithic scatter	pre-contact Aboriginal	W. Bruechert	1986
AfGx-107	Rock	lithic scatter	pre-contact Aboriginal	W. Bruechert	1986
AfGx-108	Woodlot	lithic scatter	pre-contact Aboriginal	W. Bruechert	1986
AfGx-109	Roadside	lithic scatter	pre-contact Aboriginal	W. Bruechert	1986
AfGx-110	SC-IX	lithic scatter	pre-contact Aboriginal	W. Bruechert	1986
AfGx-111	SC-15	lithic scatter	pre-contact Aboriginal	W. Bruechert	1987
AfHa-11	Pekka	indeterminate	pre-contact Aboriginal	P. Hamalainen	1976
AfHa-118	Pear Tree	indeterminate	pre-contact Aboriginal	R. Pearce	n.d.
AfHa-123	Chanyi	indeterminate	pre-contact Aboriginal	R. Pearce	1979
AfHa-136	McCarthy	indeterminate	pre-contact Aboriginal	P. Lennox	n.d.
AfHa-137	Lynch	homestead	historic Euro-Canadian	P. Lennox	1982
AfHa-147	Reicheld Site	lithic scatter	pre-contact Aboriginal	W. Bruechert	1986
AfHa-165	-	homestead	historic Euro-Canadian	R. Williamson	1989
AfHa-201	Hunjet	campsite	pre-contact Aboriginal/ historic Euro-Canadian	P. Lennox	1994



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APPENDIX A ARCHAEOLOGICAL SITES INSIDE OF AND WITHIN ONE KILOMETRE OF THE STUDY AREA

Borden Number	Site Name	Site Type	Cultural Affiliation	Researcher	Date
AfHa-202	Cotter	campsite/ structure	pre-contact Aboriginal/ historic Euro-Canadian	P. Lennox	1991
AfHa-203	Raymond-Cook	homestead	historic Euro-Canadian	P. Lennox	1992
AfHa-204	Wilson Lemon	homestead	historic Euro-Canadian	P. Lennox	1992
AfHa-231	PRISM 114	midden	mid-19 th century Euro-Canadian	D. Robertson	2002
AfHa-244	Prism Site 121	campsite	pre-contact Aboriginal	D. Poulton	2002
AfHa-246	Prism Site 75	lithic scatter	pre-contact Aboriginal	D. Poulton	2002
AfHa-247	Prism Site 74	lithic scatter	Early Archaic	D. Poulton	2002
AfHa-248	Prism Site 76	lithic scatter	pre-contact Aboriginal	D. Poulton	2002
AfHb-19	Tipu	indeterminate	pre-contact Aboriginal	P. Hamalainen	n.d.

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APPENDIX B

MTC Comment Letter



Ministry of Tourism and Culture Culture Programs Unit Programs & Services Br. 900 Highbury Avenue London, ON N5Y 1A4 Tel: 519-675-6898 Fax: 519-675-7777 e-mail: <u>shari.prowse@ontario.ca</u> September 21, 2010 Ministre du Tourisme et de la Culture Unité des programmes culturels Direction des programmes et des services 900, av. Highbury London, ON N5Y 1A4 Tél: 519-675-6898 Téléc: 519-675-7777 e-mail: shari.prowse@ontario.ca



Mr. Thomas Bird NextEra Energy Canada, ULC 205-5500 North Service Road Burlington, Ontario L7L 6W6

RE: Summerhaven Wind Energy Centre, Geographic Township of Walpole and Rainham, Haldimand County, FIT-FCX557W, MTC File HD00520, PIF # P243-036-2009

Dear Proponent:

This letter constitutes the Ministry of Tourism and Culture's written comments as required by s. 22(3)(a) of O. Reg. 359/09 under the *Environmental Protection Act* regarding archaeological assessments undertaken for the above project.

Based on the information contained in the report you have submitted for this project, the Ministry believes the archaeological assessment complies with the *Ontario Heritage Act's* licensing requirements, including the licence terms and conditions and the Ministry's 1993 Archaeological Assessment Technical Guidelines. Please note that the Ministry makes no representation or warranty as to the completeness, accuracy or quality of the Report.*

The report recommends the following:

Stage 1 (P243-036-2009), August 2010

The archaeological potential for pre-contact Aboriginal and historic Euro-Canadian sites was deemed to be moderate to high on these properties. For pre-contact Aboriginal sites this assessment is based on the presence of nearby potable water sources, level topography, agriculturally suitable soils and known archaeological sites. The determination of historic Euro-Canadian archaeological potential is based on the documentation indicating occupation from the middle of the 19th century onwards as well as the presence of historic transportation routes. As a result, Stage 2 archaeological assessment is recommended for potential wind turbines sites and their associated infrastructure.

Further Stage 2 archaeological assessment is recommended for any areas to be impacted by turbine construction, access road construction, or other infrastructure construction related activities.

Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48(1) of the *Ontario Heritage Act*. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out archaeological fieldwork, in compliance with sec. 48(1) of the *Ontario Heritage Act*.

The Cemeteries Act requires that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries, Ministry of Consumer Services.

The Ministry is satisfied with these recommendations.

This letter does not waive any requirements which you may have under the *Ontario Heritage Act*. A separate letter addressing archaeological licensing obligations under the Act will be sent to the archaeologist who completed the assessment and will be copied to you.

This letter does not constitute approval of the renewable energy project. Approvals of the project may be required under other statutes and regulations. It is your responsibility to obtain any necessary approvals or licences.

Please feel free to contact me if you have questions or require additional information.

Sincerely,

Shari Prowse Archaeology Review Officer

cc. Ms. Carla Parslow, Golder Associates

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

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