REVISED REPORT

February 19, 2013

STAGE 2 ARCHAEOLOGICAL ASSESSMENT

Bluewater Wind Energy Centre
Location 26 through Location 35
Various Lots and Concessions
Geographic Townships of Stanley, Hay and Tuckersmith, now Municipalities of Bluewater and Huron East
Huron County, Ontario

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Executive Summary

A Stage 2 archaeological assessment was conducted by Golder on behalf of AECOM Canada Ltd. for NextEra Energy Canada's proposed Bluewater Wind Energy Centre (NEEC). The study area is located on various lots and concessions in the Geographic Townships of Stanley, Hay and Tuckersmith, now Municipalities of Bluewater and Huron East, Huron County, Ontario. The total study area is approximately 786.74 hectares. NextEra is seeking a Renewable Energy Approval (REA) for up to 40 wind turbines, only 37 will be constructed for the Project, as well as associated infrastructure. This includes laydown and storage areas, a transformer substation, underground electrical collection lines, a transmission line, turbine access roads, two permanent meteorological towers, and an operations and maintenance building. 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* (Government of Ontario 1990b).

The *Green Energy Act* (Government of Ontario 2009) enabled legislation governing project assessments and approvals to be altered to allow for a more streamlined Renewable Energy Approval (REA) process. Under Section 22 (1) of the REA, an archaeological assessment must be conducted if the proponent concludes that engaging in the project may have an impact on archaeological resources. Golder Associates Ltd. (Golder 2012b; 2012c) previously determined the potential for the recovery of pre contact Aboriginal and historic Euro-Canadian archaeological resources within the study area. Currently, Ontario Regulation 359/09 of the Environmental Protection Act governs the REA process for renewable energy projects such as wind, anaerobic digestions, solar and thermal treatment facilities.

The initial phase of Golder's Stage 2 archaeological assessment (Golder 2012c) was conducted between May 5, 2011 and March 22, 2012, resulted in the identification of 25 sites: 18 pre contact Aboriginal and seven historic Euro-Canadian. Stage 3 archaeological assessments were recommended to further evaluate the cultural heritage value or interest of four of these sites.

This second phase of Golder's Stage 2 archaeological assessment was conducted between April 4, 2012 and August 7, 2012. This report presents the results of this additional 2012 Stage 2 archaeological assessment for the NextEra Bluewater Wind Energy Centre. A total of approximately 400 hectares were assessed according to the Ministry of Tourism, Culture and Sport's 2011 *Standards and Guidelines for Consultant Archaeologists*. A total of ten archaeological locations were identified during this additional Stage 2 archaeological assessment: three pre contact Aboriginal sites and seven historic Euro-Canadian sites. **Stage 3 archaeological assessments are recommended to further evaluate the cultural heritage value or interest of seven of these archaeological locations**.

The Ministry of Tourism, Culture and Sport is asked to accept this report into the Ontario Public 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* (Government of Ontario 1990a) and may not be altered, or have artifacts removed, except by a person holding an archaeological license.

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.

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Table of Contents

TABLES

IMAGES-PHOTOS

IMAGES-PLATES

MAPS

1.0 PROJECT CONTEXT

1.1 Development Context

A Stage 2 archaeological assessment was conducted by Golder on behalf of AECOM Canada Ltd. for NextEra Energy (NEEC) Canada's proposed Bluewater Wind Energy Centre. The full Stage 2 study area is located on various lots and concessions in the Geographic Townships of Stanley, Hay and Tuckersmith, now Municipalities of Bluewater and Huron East, Huron County, Ontario (Figure 1; Table 1). The complete Stage 2 study area is approximately 786.74 hectares in total. The Project will be located on private lands in the vicinity of the shoreline of Lake Huron. The wind turbine technology proposed for the project is the GE 1.6-100 Wind Turbine with a total nameplate capacity of 60 MW, the project is categorized as a Class 4 facility. Although NextEra is seeking a Renewable Energy Approval (REA) for up to 40 wind turbines, with only 37 constructed for the Project, as well as associated infrastructure. This includes laydown and storage areas, a transformer substation, underground electrical collection lines, a transmission line, turbine access roads, two permanent meteorological towers, and an operations and maintenance building. Table 1 lists the relevant lots encompassed by the complete Stage 2 study area.

Table 1: Properties within the Bluewater Wind Energy Centre, Huron County

Geographic Township	Concession	Lot
Stanley	1 to 5	6 to 15
	6	3 to 15, part 16
	7	3 to 17
	8	3 to 19
	9	3 to 20
	10	3 to 22
	11 to 12	3 to 24
	13	3 to 15
	Bayfield Range F	9 to 11
	Bayfield Range G	6 to 8
	Bayfield Road South	6 to 25
	Lake Road East	part 1 to 9
	South Boundary	10 to 26, part 27
Hay	6 to 14	26 to 28
	North Boundary	10 to 27
Tuckersmith	1 to 4	21 to 30
	5	23 to 30
	6	26 to 30
	7	29
	1 Huron Road Survey	1 to 5, part 6

Geographic Township	Concession	Lot
	2 Huron Road Survey	1 to 7, part 8 to 10
	3 Huron Road Survey	1 to 10, part 11 to 13
	4 Huron Road Survey	1 to 13, part 14
	5 to 8 Huron Road Survey	1 to 14

The *Green Energy Act* (Government of Ontario 2009) enabled legislation governing project assessments and approvals to be altered to allow for a more streamlined Renewable Energy Approval (REA) process. Under Section 22(1) of the REA, an archaeological assessment must be conducted if the proponent concludes that engaging in the project may have an impact on archaeological resources. Golder previously determined that archaeological potential for the recovery of pre contact Aboriginal and Euro-Canadian historic archaeological resources exists within the study area (Golder 2012b; 2012c). Currently, Ontario Regulation 359/09 of the Environmental Protection Act governs the REA process for renewable energy projects such as wind, anaerobic digestions, solar and thermal treatment facilities. This assessment was undertaken in order to meet the requirements for an application for a REA, as outlined in Ontario Regulation 359/09 section 22(3) of the *Environmental Protection Act* (Government of Ontario 1990b).

Golder Associates Ltd. (Golder 2012b; Golder 2012c) previously determined the potential for the recovery of pre contact Aboriginal and historic Euro-Canadian archaeological resources within the study area.

The initial phase of Golder's Stage 2 archaeological assessment (Golder 2012c) was conducted between May 5, 2011 and March 22, 2012, and resulted in the identification of 25 sites: 18 pre contact Aboriginal and seven historic Euro-Canadian. Stage 3 archaeological assessment was recommended to further evaluate the cultural heritage value or interest of four of these archaeological locations.

This second phase of Golder's Stage 2 archaeological assessment was conducted between April 4, 2012 and September 25, 2012 and incorporates work on approximately 400 hectares including transmission line corridors, proposed wind energy components, and collector cable corridors. **This reporting presents the results of additional 2012 Stage 2 archaeological assessment for the NextEra Bluewater Wind Energy Centre.**

For the purposes of this Stage 2 archaeological assessment, the Ministry of Tourism, Culture and Sport's (MTCS) 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011) were followed. The objectives of the Stage 2 assessment were to document archaeological resources present within the study area, to determine whether any of the resources might be artifacts or archaeological sites with cultural heritage value or interest requiring further assessment, and to provide specific Stage 3 direction for the protection, management and/or recovery of the identified archaeological resources (Government of Ontario 2011).

1.1.1 Existing Conditions

The Stage 2 field assessment for the NEEC Bluewater Wind Energy Centre was conducted under the PIF P218-275-2012 issued to Scott Martin, Ph.D., by the MTCS. This phase of Stage 2 archaeological assessment took place over 27 days from April to September 2012. Table 2 presents weather conditions for this portion of the Stage 2 survey. At no time were the field or weather conditions detrimental to the recovery of archaeological

material and visibility was excellent. The study area this reporting encompasses is approximately 400 hectares and mostly consists of ploughed, well-weathered agricultural fields.

Table 2: Weather Conditions on Parcels Subject to Stage 2 Archaeological Assessment for This Report

Date	Parcel Assessed	Weather
April 4, 2012	BLW1042/BLW1658/BLW1705/BLW1783	sunny and cool
April 25, 2012	BLW1692/BLW1672/BLW1452	sunny
April 30, 2012	BLW1671	cloudy
May 7, 2012	BLW1089/BLW1036/BLW1542/BLW1370/BLW1602/BLW1705	warm, slight drizzle
May 15, 2012	BLW1671	sunny, no cloud
May 16, 2012	BLW1671	partly cloudy
May 17, 2012	BLW1671/BLW1036	sunny, no cloud
May 18, 2012	BLW1036	sunny, no cloud
May 22, 2012	BLW1049/BLW1542/BLW1329	partially overcast and warm
May 23, 2012	BLW1680/BLW1010	sunny, warm
May 24, 2012	BLW1680/BLW1010	hot
May 25, 2012	BLW1002/BLW1707	hot
June 13, 2012	BLW1498/BLW1497	warm and clear skies
June 14, 2012	BLW1848/BLW1845	hot and clear skies
June 19, 2012	BLW1813/BLW1679/BLW1049/BLW1453/BLW1671	hot and humid
June 25, 2012	BLW1845	partly overcast, warm
July 3, 2012	BLW1029	overcast, hot
July 6, 2012	BLW1037/BLW1815	hot
July 23, 2012	BLW1223	hot and humid
July 24, 2012	BLW1706/BLW1496	hot and humid, partly cloudy
July 27th, 2012	BLW1010	clear, hot and humid
August 7, 2012	BLW1034/BLW1064/BLW1497	sunny, humid
August 13, 2012	BLW1022/BLW1431/BLW1692/BLW1226/BLW1358	warm, partly cloudy, slight breeze
September 5, 2012	BLW1505/BLW1603/BLW1129	mild
September 7, 2012	BLW1031	mild, sunny, clear
September 10, 2012	BLW1358/BLW1269	cool, partly cloudy
September 25, 2012	BLW1591/BLW1622/BLW1672	sunny and warm

1.2 Archaeological Context

1.2.1 The Natural Environment

The full Bluewater study area is situated within the physiographic region of the Horseshoe Moraines (Chapman and Putnam 1984).

The Horseshoe Moraines physiographic region runs:

> *From the edge of the escarpment in the Town of Caledon [and] the moraines trend somewhat west of the Niagara Escarpment forming a belt of moderately hilly relief….Associated with the moraines is a system of old spillways with broad gravel terraces and swampy floors…..Good cross-sections of this landscape may be seen along Highway 7 from Rockwood to Georgetown.*
>
> (Chapman and Putnam 1984:128)

The study area has thirteen soils series present. The two major soil series are the Perth series (Perth clay loam) and the Huron series (Huron clay loam). The Perth soils are well suited to growing modern day crops such as beets, corn and cabbage (Hoffman *et al*. 1952: 48). Perth clay is described as imperfectly drained and tends to yield fairly even during dry seasons due to the soil's reserve supply of moisture. Huron clay series are susceptible to erosion because of their presence within sloped areas (Hoffman *et al*. 1952:45). Modern day crops are generally wheat, cereal grains and corn (Hoffman *et al*. 1952: 45). Both series would be suitable for pre contact Aboriginal practices, but not ideal given the drainage and erosion issues.

1.2.2 Previously Known Archaeological Sites and Surveys

Golder (2012b) previously conducted a Stage 1 archaeological assessment for the NEEC Bluewater Wind Energy Centre study area. In that assessment, Golder applied criteria commonly used by the Ontario Ministry of Tourism, Culture and Sport (2011) to determine areas of archaeological potential within the selected study area. The archaeological potential for Aboriginal and Euro-Canadian sites was deemed to be moderate to high on the properties optioned for the NEEC Bluewater Wind Energy Centre. For pre contact Aboriginal sites, this assessment was based on the presence of nearby potable water sources, level topography, agriculturally suitable soils and known archaeological sites. For post-contact Aboriginal sites this assessment was based on the presence of nearby potable water sources, level topography and historic Euro-Canadian anecdotal evidence. The determination of historic Euro-Canadian archaeological potential also includes the documented occupation of the area from the middle of the 19th century onwards, as well as the presence of historic transportation routes. As a result, Stage 2 archaeological assessment was recommended for potential wind turbine sites and their associated infrastructure.

According to the Archaeological Sites Database (ASDB) (personal communication, Robert von Bitter, January 3, 2013), there are three registered archaeological sites located within one kilometre of the study area. Table 3 summarizes the nature of these sites. Two of the registered sites are historic Euro-Canadian sites while the third is a pre-contact Aboriginal findspot found in the vicinity of one of the historic sites.

Table 3: Registered Archaeological Sites Within One Kilometre of the Study Area

Borden Number	Site Name	Site Type	Culture	Year	Found
AiHj-1	The Clark Site	Farmstead	Historic Euro-Canadian	1987	19th century domestic cultural material
AjHi-4	Van Egmond Estate	House	Historic Euro-Canadian	N/A	N/A
AjHi-10	N/A	Findspot	Pre-Contact Aboriginal	1980	One scraper, two pieces of chipping detritus

The Clark Site (AiHj-1), located on Lot 5 Concession 9 of Stanley Township, falls within the boundary of the study area. This site is a 19th century Euro-Canadian farmstead that was originally identified in 1987 during an archaeological assessment prior to the construction and installation of an Ontario Hydro transmission line (Mayer, Pihl, Poulton and Associates Inc, 1987). The site was noted as being potentially impacted by one of the planned hydro towers (Tower 2S) and was thus recommended for further investigation to delineate the site boundaries. Further surface collections were conducted in 1988 producing a clearer picture of the limits of the scatter area and resulted in recommendations to either protect the site from construction impacts or for archaeological mitigation (Mayer, Pihl, Poulton and Associates Inc., 1988). Information regarding the outcome of this recommendation or any further work has not been identified.

The Clark Site falls just outside of an area previously surveyed by Golder for the subject project (Golder, 2012). Fortunately, due to changes in the development plan for the Bluewater Wind Energy Centre, the Clark Site (AiHj-1), will remain well outside of the area to be impacted by the planned development (Supplemental Document B, Figure 10).

Golder (2012c) conducted the initial Stage 2 field assessment for NEEC Bluewater Wind Energy Centre in 2011 and early 2012. During this investigation, a total of 25 archaeological sites - 18 pre contact Aboriginal and 7 historic Euro-Canadian - were identified. These are summarized in Table 4 along with their recommendations for further archaeological assessment. Four historic Euro-Canadian sites: Location 13 (AiHj-6), Location 14 (AiHk-1), Location 24 (AiHj-9), and Location 25 (AjHj-14) will require further evaluation of their cultural heritage value or interest.

Table 4: Archaeological Sites Identified by Golder (2012b)

Location	Borden Number	Type	Affiliation	Stage 3 Recommended?	Golder Reporting
1		Isolated findspot	Pre contact Aboriginal	No	2012b
2		Isolated findspot	Pre contact Aboriginal	No	2012b
3		Isolated findspot	Pre contact Aboriginal	No	2012b
4	AjHj-5	Isolated findspot	Pre contact Aboriginal, Early Woodland Meadowood (*circa* 950 to B.C.)	No	2012b
5		Isolated findspot	Pre contact Aboriginal	No	2012b

Location	Borden Number	Type	Affiliation	Stage 3 Recommended?	Golder Reporting
6	AjHj-12	Isolated findspot	Pre contact Aboriginal, Late Archaic Crawford Knoll (*circa* 1500 to 1100 B.C.)	No	2012b
7		Isolated findspot	Pre contact Aboriginal	No	2012b
8	AjHj-13	Isolated findspot	Pre contact Aboriginal, Early Woodland (*circa* 950 to 400 B.C.)	No	2012b
9		Isolated findspot	Pre contact Aboriginal	No	2012b
10		Domestic scatter	Historic Euro-Canadian, late 19th to early 20th century	No	2012b
11		Isolated findspot	Pre contact Aboriginal	No	2012b
12		Isolated findspot	Pre contact Aboriginal	No	2012b
13	AiHj-6	Domestic scatter	Historic Euro-Canadian, mid-to-late 19th century	Yes	2012b
14	AiHk-1	Domestic scatter	Historic Euro-Canadian, mid-to-late 19th century	Yes	2012b
15	AiHj-7	Isolated findspot	Pre contact Aboriginal, Terminal Archaic Turkey Tail (*circa* 1500 to 500 B.C.)	No	2012b
16		Domestic scatter	Historic Euro-Canadian, late 19th and early 20th century	No	2012b
17		Isolated findspot	Pre contact Aboriginal	No	2012b
18		Isolated findspot	Pre contact Aboriginal	No	2012b
19		Isolated findspot	Pre contact Aboriginal	No	2012b
20		Domestic scatter	Historic Euro-Canadian, late 19th and early 20th century	No	2012b
21		Isolated findspot	Pre contact Aboriginal	No	2012b
22		Isolated findspot	Pre contact Aboriginal	No	2012b
23		Isolated findspot	Pre contact Aboriginal	No	2012b
24	AiHj-9	Domestic scatter	Historic Euro-Canadian, mid-to-late 19th century	Yes	2012b
25	AjHj-14	Domestic scatter	Historic Euro-Canadian, mid-to-late 19th century	Yes	2012b

Information concerning specific site locations is protected by provincial policy, and is not fully subject to the Freedom of Information Act. The release of such information in the past has led to looting or various forms of illegally conducted site destruction. Confidentiality extends to all media capable of conveying location, including maps, drawings, or textual descriptions of a site location. The MTCS will provide information concerning site location to the party or an agent of the party holding title to a property, or to a licensed archaeologist with relevant cultural resource management interests.

1.2.3 Pre contact Aboriginal Archaeological Resources and Surveys

Table 5 provides a general outline of the culture history for Southern Ontario, based on chapters in Ellis and Ferris (eds.) (1990).

Table 5: Cultural Chronology for Huron County

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
	Riviere au Vase	A.D. 500 - 800	thin-bodied, low, uncollared and uncastellated vertical to weakly everted rim pottery
Late Woodland	Ontario Iroquoian Tradition		
	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
	Western Basin Tradition		
	Younge	A.D. 800 - 1100	intensification of farming, heterogeneous vessel forms, sizes, and decorative motifs
	Springwells	A.D. 1100-1400	intensification of settlement, collared, castellated, and decorated rim vessels
	Wolf	A.D. 1400 - 1550/1600	Parker festooned pottery vessels
Contact Aboriginal	Various Algonkian Groups	A.D. 1700 - 1875	early written records and treaties
Late Historic	Euro-Canadian	A.D. 1796 - present	European settlement

The study area within Huron County was most likely occupied by Algonkian-speaking groups who exhibited cultural influence from Iroquoian-speaking groups, both before and after European contact. Generally, the pre

contact Aboriginal presence in much of southern Ontario reflects occupation by Northern Iroquoian speakers. During and following the Iroquois Wars of the mid-17th century and the dispersal of the Iroquoian-speaking Huron-Petun and Neutral, a considerable reduction in the extent of territory occupied by Iroquoian speakers occurred in southern Ontario. Beginning about 1690, Algonkian speakers from northern Ontario began to move southwards (Ferris 2009; Rogers 1978:761; Schmalz 1991). It has been presumed that occupation of Huron County before about 1690 would have been by Iroquoians, but the Middle Woodland Saugeen Complex, known best from locations just north of Huron County in the Saugeen River valley such as the Donaldson site, is most often interpreted as Algonkian (Fiedel 1999), arguing for an occupation of Huron County by Algonkian speakers for millennia.

Dating somewhat later than the Donaldson site, Wright (1974:303; Fox 1990:461) believed that the isolated occurrence of a palisaded village in neighbouring Bruce County at the Middle Ontario Iroquoian-like (Middleport substage) Nodwell site established a case for immigration by the Iroquoian-speaking Huron. More recently, however, Rankin (2000) has argued that the Nodwell village represents a short-lived sedentary farming experiment by hunter-gatherers, probably indigenous Algonkian speakers, who may have been ancestral to the Odawa (see also Warrick 2008:159). French missionaries indicated relatively close ties between the Odawa and the Huron-Petun (Fox 1990; cf. Feest and Feest 1978:773).

Ferris (1999:119-120) has also pointed out the potential misuse in the literature of the designation “Huron” to describe sites in Huron and Bruce County. As Koenig (2005:61-61) indicates, there are some who argue that the ancestors of those Algonkian speaking First Nations now occupying the shores of Lake Huron and Bruce Peninsula only arrived in the mid-1800s, relating to known relocations from the U.S. and the establishment of reserves (Surtees 1971:48). In southwestern Ontario, however, members of the Three Fires Confederacy (Chippewa, Ottawa and Potawatomi) were immigrating from Ohio and Michigan in the late 1700s (Feest and Feest 1978:778-779). Still, archaeological sites in Huron County point to much earlier settlement, probably by at least some of their ancestors. So, during the Late Woodland period, there is evidence that the study area could have been inhabited by Algonkian- or Iroquoian-speaking groups, or a combination of groups.

1.3 Historical Context

1.3.1 Post-contact Aboriginal Archaeological Resources and Surveys

While, it is difficult to trace ethnic affiliation during the period of initial contact between Aboriginal and European groups, Koenig states that “there is no doubt that some native groups regularly occupied sites on the [Bruce] peninsula at the end of [the early historic] period” (2005:62). Feest and Feest (1978:772-773) imply that the Bruce Peninsula was Odawa territory from 1616 and early 17th century French glass trade beads at the Glen and Cripps sites on the northern tip of the Bruce Peninsula appear to attest to this (Fox 1990:465-466). Fox not only points to Odawa (or Ottawa) settlement on the Bruce Peninsula during the mid-1600s at Hunter’s Point, but also to sites in the southern Bruce County littoral such as the Hunter site on the Saugeen Reserve, dating about 1600 (1990:462, 472), as well as the Inverhuron-Lucas site (1990:463). Abandonment of this area by the Odawa seems to have occurred, at least briefly, in the mid-1600s due to the Iroquois Wars (Fox 1990:472).

By 1690, Algonkian speakers from the north appear to have begun to repopulate Huron and Bruce County (Rogers 1978:761). This is the period in which the Mississaugas are known to have moved into southern

Ontario and the Lower Great Lakes watersheds (Konrad 1981). Although noted as "MIS" (i.e. Mississauga), Tanner (1987:13) shows First Nation occupation at the mouth of the Saugeen River in the late 1700s. Villages, sometimes temporary, fishing camps and portage trails were documented by surveyors and other Euro-Canadian visitors and settlers (Koenig 2005:62).

Historical Euro-Canadian records also mention that while the Huron Tract was being surveyed, First Nations guides were often employed because of their knowledge of the land. These historical mentions claim that First Nations groups often travelled through Huron County for hunting and gathering but never stayed very long (Hay Township Book Committee (HTBC) 1996:3). They also were known to help settlers clear their land and open roads and aid in advising women on medicinal herbs and medicines for the sick (HTBC 1996:3). First Nations groups were also known to have lived at a temporary campsite north of Egmondville just outside the study area as they traversed a seasonal route between the Lake Erie shoreline in the summer and the Saugeen Peninsula in the winter (Campbell 1968). Despite the presence of Post-contact Aboriginal groups within the study area, no archaeological sites have been registered with the ASDB for this area.

The study area also first enters the historic record when the Ojibwa and Chippewa First Nations entered into Treaty 27½,

> *…being an agreement made at Amherstburg in the Western District of the Province of Upper Canada on the 26th of April, 1825, between James Givens, Esquire, Superintendent of Indian Affairs, on behalf of His Majesty King George the Fourth and the Chiefs and Principal Men of the part of the Chippewa Nation of Indians, inhabiting and claiming the tract of land …. Wawanosh Township in the County of Huron was named after Way-way-nosh the principal Chief of the Band making this Treaty.*
>
> (Morris 1943:26-27)

While it is difficult to exactly delineate treaty boundaries today, Figure 2 provides an approximate outline of the limits of Treaty Number 27½.

1.3.2 Historic Euro-Canadian Archaeological Resources and Surveys

1.3.2.1 Stanley Township

Stanley Township was surveyed by John McDonald (McDonald 1835) using the "2400 acre section" system. John McDonald created rectangular 200 acre lots in this township, with the fronts of the lots fronting onto road allowances (Figure 3). The settlers of the township were mostly English Protestants and Scottish Catholics with some Germans of different religious denominations (Scott 1966:158). There were often arguments as to where families would settle, ending up with each denomination getting their own concession (Scott 1966:158). This phenomenon has been preserved today in the names of the roads, such as Babylon Line where the Catholics resided and Goshen Line where the Protestants resided (Scott 1966: 158). Rev. Mr. Cooper was the first Euro-Canadian settler of the township in 1833 when he settled on the London Road (Scott 1966: 158-159).

A good resource for identifying potential historic Euro-Canadian archaeological sites is the 1879 *Illustrated Historical Atlas of the County of Huron* (Belden 1879). The Stanley Township map provides both the names of the landowners and the majority of structures as they were located on properties in the last half of the 19th century (Figure 4). In addition to houses, the structures noted include brickyards, cemeteries, churches, hotels,

manufactories, mills and schools. Table 6 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. For a summary of historic villages and settlements within the Bluewater study area see Golder (2012a).

Table 6: Historic Properties with Potentially Significant Structures According to the Map of Stanley Township in the 1879 Illustrated Historical Atlas of the County of Huron

Structure	Lot	Concession	Status
School House	6	3	Still standing, now a home
Cheese Factory	13	6	No longer standing
School House	6 and 7	7	No longer standing
Saw Mill	14	7	No longer standing
Grist Mill	14	7	No longer standing
School House	13	8	No longer standing
Church	15	9	No longer standing
Church	14	10	No longer standing
Cemetery	12	11	No longer standing
Church	10	11	No longer standing
Saw Mill	7	13	No longer standing
School House	10	13	No longer standing
Church	11	South Boundary	No longer standing
School House	21 and 22	South Boundary	Still standing, now a home
Church	23	South Boundary	No longer standing

1.3.2.2 Hay Township

John McDonald (McDonald 1835) surveyed the majority of Hay Township in 100-acre lots (Figure 5), where the concession roads and side roads are one and one quarter miles apart (HTBC 1996:6). The only exception to the 100-acre lots survey is the Lake Range Concessions East and West (HTBC 1996:6). The Canada Company soon realized after their purchase of land in Hay Township that it was rather difficult to clear and settle on these properties. They then decided to lease the land for five or ten year periods, to immigrants who had little or no money (HTBC 1996:4).

The first wave of Euro-Canadian settlement began with the arrival of British families in 1833. The first two settlers were John C. Hillock (or Hullock) and Andrew McConnell (HTBC 1996:21). The second stage was the settlement of French-Canadians. This occurred in the 1840s after French-Canadian loggers who had temporarily come to Hay Township for work returned with their families to settle. This group was best known

most for its settlement at St. Joseph, outside of the study area (Scott 1966:58). They were the first loggers to come to the township in 1830s who later settled permanently in the 1840s (Scott 1966:58). The third stage was the arrival of German immigrants in the 1850s. They settled mostly along the eastern and western borders of the township (HTBC 1996:30).

A good resource for identifying potential historic Euro-Canadian archaeological sites is the 1879 *Illustrated Historical Atlas of the County of Huron* (Belden 1879). The Hay Township map provides both the names of the landowners and the majority of structures as they were located on properties in the last half of the 19th century (Figure 6). In addition to houses, the structures noted include brickyards, cemeteries, churches, hotels, manufactories, mills and schools. Table 7 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. For a summary of historic villages and settlements within the Bluewater study area see Golder (2012a).

Table 7: Historic Properties with Potentially Significant Structures According to the Map of Hay Township in the 1879 Illustrated Historical Atlas of the County of Huron

Structure	Lot	Concession	Status
Church	28	7	No longer standing
Cemetery	28	7	No longer standing
Cemetery	28	12	No longer standing

1.3.2.3 Tuckersmith Township

John McDonald used the 1000 acre sectional system, which divided the lots into 100 acre parcels, when surveying the township (Figure 7). Tuckersmith got its name from one the original directors of the Canada Company, Mr. Martin Tucker Smith (Scott 1966:145). In 1830 it was apparent that there would be little or no settlement in the area if there was not a proper road going through the land. The Canada Company contracted Anthony Van Egmond and his son, Constant, to build the Huron Road (Scott 1966:50-51). The road was finished in 1832, but after a very short time it was noted that it was poorly drained and therefore the corduroy was torn up and replaced by turnpike (Scott 1966:52). Early Euro-Canadian settlement was slower than anticipated but did increase in the next few years. Over half of the initial settlers of the area were of Scottish origin and were Presbyterians, just over a third of the settlers were Methodist and Anglicans who were mostly of English origin and the remainder of the settlers were Roman Catholics of Irish origin (Scott 1966:145).

The Brantford Buffalo Railway came through Tuckersmith in 1858 (Andreae 1997:127). It later became known as the Buffalo and Lake Huron Railway (Scott 1966:232). It is still operating today but is now known as the Goderich-Exeter railway.

A good resource for identifying potential historic Euro-Canadian archaeological sites is the 1879 *Illustrated Historical Atlas of the County of Huron* (Belden 1879). The Tuckersmith Township map provides both the names

of the landowners and the majority of structures as they were located on properties (Figure 8). In addition to houses, the structures noted include brickyards, cemeteries, churches, hotels, manufactories, mills and schools. Table 8 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. For a summary of historic villages and settlements within the Bluewater study area see Golder (2012a).

Table 8: Historic Properties with Potentially Significant Structures According to the Map of Tuckersmith Township in the 1879 Illustrated Historical Atlas of the County of Huron

Structure	Lot	Concession	Status
School House	5	4 Huron Road Survey	No longer standing, modern building in its place
Cemetery	23	5	No longer standing
Cemetery	27	1	Still standing

1.3.3 Recent Reports

Other than the existing historic documentation, the Bluewater Wind Energy Centre has recently been documented in two archaeological assessments. These include the Stage 1 archaeological assessment conducted by Golder, entitled *Stage 1 Archaeological Assessment: NextEra Energy Canada, ULC, Bluewater Wind Energy Centre, Huron County, Ontario* (Golder 2012b) produced by Golder on February 13, 2012 under PIF P001-609-2010, and the first portion of the Stage 2 archaeological assessment conducted by Golder, entitled *Stage 2 Archaeological Assessment: NextEra Energy Canada, ULC, Bluewater Wind Energy Centre, Huron County, Ontario* (Golder 2012c) produced by Golder on March 23, 2012 under PIFs 218-040-2011 and P319-017-2012.

2.0 FIELD METHODS

Taking into account the approximately 400 hectare area to be impacted by the wind farm development, and its associated laydown and storage areas, a transformer substation, underground electrical collection lines, a transmission line, turbine access roads, two permanent meteorological towers, approximately 70 hectares (17.5%) of the project area was subject to pedestrian survey and approximately seven hectares (1.75%) was subject to test pitting. Area deemed wet due to nearby watercourses, area deemed steeply sloped leading down to nearby watercourses and areas identified as disturbed by previous construction activities, the majority being in the municipal right-of way, especially along the transmission route, account for 323 acres (80.75%). As per the *Standards and Guidelines for Consultant Archaeologists* (Section 7.8.6, Standard 1a), photos 1 through 55 provide a representative sample of parts of the study area that confirm conditions allowed the standards for pedestrian and test pit survey to be met. These photos provide photographic documentation of areas exempt from assessment due to disturbance (Photo 37; 44; 46), poorly drained areas and watercourses (Photos: 46; 52; and 54), or sloped areas. A photographic key is provided in the Stage 2 Survey Methods and Results figures in Section 9.0 below.

As the study area is characterized by ploughed and well-weathered agricultural fields (Photos: 6; 8;18; 20; 23; 25; and 50), the Stage 2 assessment was conducted using pedestrian survey at five metre intervals (Photos:1; 3; 7; 9; 10; 12; 17; 19-22; 23; 26; 33-36; 38-43; 45; 48; 55). Numerous areas existed within the study area where pedestrian survey was possible, despite conditions visible on aerial photography. These included seasonal watercourses of widths less than one metre and treed windbreaks with widths less than five metres (in ploughed agricultural fields). Their presence did not impact pedestrian survey transects since they were accommodated between five metre transects, being less than five metres in width.

When archaeological resources were identified, the survey transect was decreased to a one metre interval and spanned a minimal 20 metre radius around the identified artifact within the limits of the project boundaries. This approach established if the artifact was an isolated find or if it was part of a larger artifact scatter. If the artifact was part of a larger scatter, the one metre interval was continued until the full extent of the scatter was defined (Government of Ontario 2011).

The vast majority of the transmission line route consisted of raised road bed and ditch. Disturbance of these areas by previous road construction activities was confirmed by a visual inspection.

Test pit survey was conducted in five metre transects (Photos 4; 13; 28; 29) and each test pit was approximately 30 centimetres in diameter and was excavated five centimetres into sterile subsoil (Photos 2; 11; 14; 16; 30;32; 49; 51). The stratigraphy of each pit was examined for cultural features or evidence of fill. All soil matrix was screened through six millimetre mesh hardware cloth to facilitate the recovery of small artifacts and then used to backfill the pit. All artifacts were collected according to their associated test pit. In the event an artifact was encountered in a test pit, eight additional test pits were dug at less than 2.5 metre intervals within a radius of five metres around the initial positive test pit and then an additional one-by-one metre test unit was placed over the initial positive test pit (Photos: 5; 15; 31).

All formal and diagnostic artifact types were collected and a UTM reading was taken using a Trimble Recon handheld GPS unit with a GPS Holux GR-271 CF Receiver, using the North American Datum (NAD) 83, with a minimal accuracy of two metres. UTM coordinates were recorded for all 10 archaeological sites. These are presented in Supplement A. Figure 9-A provides a Key Plan, Figure 9-B provides a Stage 2 Survey Methods

Overview, and Figures 9-01 through 9-16 illustrate the field assessment methods for the study area in detail, while the results of this survey are illustrated separately in Supplement B.

Two First Nations monitors also participated in the Stage 2 archaeological assessment; their roles are summarized in Supplement C.

3.0 STAGE 2 RECORD OF FINDS

The Stage 2 archaeological assessment was conducted employing the methods described in Section 2.0. An inventory of the documentary record generated by fieldwork is provided in Table 9 below and the Stage 2 archaeological assessment results are discussed here. Golder's Stage 2 survey of the proposed NEEC Bluewater Wind Energy Centre properties identified a total of 10 locations: three pre contact Aboriginal and seven historic Euro-Canadian. A summary of the artifacts collected from each of these sites, their spatial extent, and a description of the artifacts left in the field are provided below. Supplement A, which lists the UTM coordinates for each of these locations, and Supplement B, which illustrates the Stage 2 survey methods and results, and are included as supplementary documents to this report.

Table 9: Inventory of Documentary Record

Document Type	Current Location of Document Type	Additional Comments
Field Notes	Golder offices in London and Mississauga	In original field book and stored digitally in project file
Hand Drawn Maps	Golder offices in London and Mississauga	In original field book and stored digitally in project file
Maps Provided by Client	Golder offices in London and Mississauga	Hard and digital copies in project file
Digital Photographs	Golder office in Mississauga	Stored digitally in project file

All of the material culture collected during the NEEC Bluewater Wind Energy Centre Stage 2 survey is contained in one banker's box. It will be temporarily housed at Golder's Mississauga office until formal arrangements can be made for their transfer to an MTCS collections facility.

The 10 archaeological sites investigated during the Stage 2 archaeological assessment include three locations with a pre contact Aboriginal lithic industry component. The chert types identified in the discussion below include:

- **Haldimand chert:** a relatively high quality raw material that outcrops along the Bois Blanc formation between Kohler and Hagersville, as well as in Cayuga, Ontario, occurring as nodules and lenses several centimetres in diameter in limestones and dolomites. It is also widely available from secondary deposits along the eastern Lake Huron shore in Bruce County (Golder 2009). Its colour is typically pale grey to white. The macroscopic structure is homogenous to mottled and sometimes banded and tiny fossils and cavities lined with quartz crystals are common (Luedtke 1992).
- **Kettle Point chert:** a relatively high quality raw material that outcrops between Kettle Point and Ipperwash, on Lake Huron. Currently, Kettle Point occurs as submerged outcrops extending for approximately 1350 metres into Lake Huron. Secondary deposits of Kettle Point chert have been reported in Essex County and in the Ausable Basin.
- **Onondaga chert:** a high quality raw material that outcrops along the north shore of Lake Erie east of the embouchure of the Grand River. This material can also be recovered from secondary glacial deposits across much of southwestern Ontario, east of Chatham. The structure of the chert is usually mottled and streaked, with veins filled with chalcedony or quartz crystals and a shiny lustre (Luedtke 1992).

3.1 Location 26 (AjHj-15)

Location 26 (AjHj-15), located in the north western corner of parcel BLW1705 south of Centennial Road and east of Bannockburn Line, is a historic Euro-Canadian site with an isolated pre contact Aboriginal component (Sup. Doc. B, Figure 16; Sup. Doc. D, Figure 1). The site was identified during the Stage 2 pedestrian survey of the proposed transmission line corridor. This location consisted of a 25 metre (north-south axis) by 40 metre (east-west axis) surface scatter of over 100 mid-to-late 19th century artifacts as well as one pre contact artifact. In total, 31 artifacts were collected during the Stage 2 assessment and approximately 100 were left behind. The Stage 2 assemblage includes: 25 domestic, four structural, one metal and one pre contact Aboriginal lithic artifact (Table 10). Each artifact class is discussed in greater detail below.

Table 10: Location 26 (AjHj-15) Artifact Summary

Artifact	Frequency	%
Euro Canadian Artifacts		
domestic	25	80.64
structural	4	12.90
metal hardware	1	3.23
Total Euro Canadian Artifacts	**30**	**96.77**
Pre contact Aboriginal Artifacts		
biface	1	3.23
Total Pre contact Aboriginal Artifacts	**1**	**3.23**
Total Artifacts	**31**	**100.00**

3.1.1 Domestic Artifacts

A total of 25 domestic artifacts were collected from Location 26 (AjHj-15). This assemblage consists of 14 ceramic pieces and 11 fragments of glass.

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3.1.1.1 Ceramic Artifacts

In total, 14 fragments of ceramic hollowwares and flatwares were collected during the Stage 2 assessment of Location 26 (AjHj-15). Included in this total are seven fragments of ironstone, six fragments of whiteware and one fragment of semi-porcelain. Table 11 provides a breakdown of the ceramic assemblage by ware type, while Table 12 provides a more detailed breakdown by decorative style.

Table 11: Summary of Ceramic Collection According to Ware type, Location 26 (AjHj-15)

Artifact	Frequency	%
ironstone	7	50.00
whiteware	6	42.86
semi-porcelain	1	7.14
Total	**14**	**100.00**

Table 12: Summary of Ceramic Collection According to Decorative Style, Location 26 (AjHj-15)

Artifact	Frequency	%
ironstone, plain	4	28.57
whiteware, plain	3	21.43
ironstone, transfer print	2	14.29
whiteware, stamped	2	14.29
ironstone, moulded	1	7.14
whiteware, transfer print	1	7.14
semi-porcelain, plain	1	7.14
Total	**14**	**100.00**

Ironstone

The most common ceramic type collected during the Stage 2 assessment of Location 26 (AjHj-15) was ironstone (n=7, or 50%). Ironstone or graniteware is a variety of refined white earthenware introduced in the 1830's that became extremely popular by the 1870's and 1880's due to its robust structure which made it more durable for life on Canadian homesteads (Kenyon 1985). It is usually much thicker than other whiteware and often decorated with raised moulded designs of wheat or fruit. Four fragments of ironstone in the assemblage are plain (Plate 1:1), two fragments are transfer printed (Plate 1:2), and one is a moulded fire-damaged rim sherd (Plate 1:3).

In the 1830s and 1840s, the blue shade used in transfer printing became lighter in hue and the designs more open, and colours other than blue increased in popularity. From about 1850 to 1890 only the colours blue, black, and brown were common (Adams 1994). The transfer printed fragments in the assemblage are both blue with an indeterminate design.

During the 1870s to 1880s, ironstone was the most popular type of tableware ceramic in Ontario, and its white varieties rarely had coloured decoration - instead, it often had raised moulded designs. The most popular and enduring of these was the "wheat" pattern, though a grape vine motif was also favoured quite often (Kenyon 1980). The moulded ironstone fragment in the assemblage displays the popular wheat motif.

White Earthenware

A total of six whiteware fragments were collected during the Stage 2 assessment of Location 26 (AjHj-15). Whiteware is a variety of earthenware with a near-colourless glaze that replaced earlier near-white ceramics such as pearlware and creamware. This shift in ware types began to occur by the early 1830s (Miller 1991). Early whiteware tends to have a porous paste, with more vitrified, harder ceramics becoming increasingly common later in the 19th century. Three fragments of whiteware in the assemblage are plain (Plate 1:4), two are sponge-stamped (Plate 1:5) and one is transfer printed (Plate 1:6).

Stamped and sponge decorated whiteware ceramics were a form of inexpensive tableware in which a sponge was used to apply an underglaze pigment. All-over sponging became popular by the 1840s and remained common until the 1870s. Both stamped and spongewares were produced in hollowware form and were among the cheapest wares available. Although the technique was widely applied, it is considered Scottish. The principal overseas customer for these inexpensive cheerful wares was Canada, where it was distributed out of Quebec and other settlements along the St. Lawrence River (Cruikshank 1982:1-7; 52-53). The stamped fragments in the assemblage display an indeterminate blue design and a polychromatic floral rim design, respectively.

Transfer printed whiteware involved the transfer of an intricate pattern from a sheet of treated paper to the underglaze surface of the clay. Before 1830, almost all transfer printed wares were blue. After 1830, colours such as light blue, black, brown, green, purple and red became more common (Collard 1967). Transfer printed whiteware ceramics were less densely decorated than the earlier pearlware types, with more of the white background showing through the designs. The transfer printed fragment in the assemblage displays an indeterminate blue design.

Semi-Porcelain

There was one semi-porcelain artifact collected from Location 26 (AjHj-15). During the first half of the 19th century, the English improved pottery techniques resulting in the production of durable and decorative wares with trade names such as semi-porcelain. This hard earthenware sought to emulate imported porcelains but lacked true translucency. In 1850, semi-porcelains were reintroduced and this vitreous, hard-glazed white earthenware resembling bone china soon dominated the marketplace (Hughes 1961). The recovered artifact is a plain body fragment (Plate 1:7).

3.1.1.2 Glass Artifacts

Eleven fragments of glass were recovered from Location 26 (AjHj-15). This collection includes 9 fragments of bottle glass and two fragments of press-moulded dish glass.

The bottle glass assemblage includes four aqua fragments, three light green fragments, one sun coloured amethyst fragment and one olive fragment. Aqua glass generally originates from medical and pharmaceutical products including patent medicine bottles of the 19th and 20th century (Kendrick 1971). Sun coloured amethyst glass generally suggests a date range starting in the 1880s and continuing to 1920 (Lindsey 2012). One of the aqua fragments is an example of the oil finish (Plate 1:8), a bottle finish popular in the mid-to-late 19th century.

Two fragments of press-moulded dish glass are included in the assemblage. Both are sun coloured amethyst and appear to be from the same large serving dish. Pressed glass item of various forms (plates, compotes, goblets), often with intricate decoration, were very popular in Canada from the 1870's to the 1920s (Adams 1994; Jones and Sullivan 1989).

3.1.2 Structural Artifacts

There were four structural artifacts collected from Location 26 (AjHj-15). These artifacts consist of two machine-cut nails (Plate 1:9), one hand wrought nail (Plate 1:10) and one fragment of window glass.

Hand wrought nails were handmade and are identifiable by their irregular heads, hammered body texture, and all four sides coming to a taper. Wrought nails were the most commonly used nail in Upper Canada until about 1830 when machine cut nails started to become more popular (Adams 1994). Machine cut nails are temporally later than wrought nails, the result of a machinated process for cutting metal. They are square and often have a square or rectangular head, though early varieties can exhibit hand-hammered heads. They were invented as early as 1790, but did not become common in Ontario until 1830.

A single fragment of window glass was recovered in the Stage 2 assessment. Ian Kenyon (1980) provides a pre-1850 date for window panes that have an average thickness of less than 1.6 mm. Window pane thickness increased throughout the 19th century as the trend shifted towards using larger windows when building homes. The window glass fragment in the assemblage is equal to or less than 1.6 mm, and thus can be dated to pre-1850, but this window glass assemblage is too small to be accurately used as a diagnostic indicator.

3.1.3 Miscellaneous Metal Hardware

One heavily corroded metal artifact was recovered during the Stage 2 assessment. It appears to be a small hinge from something mechanical, possibly a toy.

3.1.4 Pre contact Aboriginal Artifacts

There was one pre contact Aboriginal artifact collected from Location 26 (AjHj-15). This artifact is a biface manufactured from heat-treated greywacke (Plate 1:11). The biface has a broken base and measures 46.02 millimetres in length, 26.50 millimetres in width, and is 7.39 millimetres in thickness.

3.1.5 Artifact Catalogue

Table 13 presents the Stage 2 artifact catalogue for Location 26 (AjHj-15).

Table 13: Location 26 (AjHj-15) Artifact Catalogue

Cat. #	Context	Depth	Artifact	Freq.	Comments
1	surface collection 1	0 cm	nail, cut	1	fragment
2	surface collection 11	0 cm	nail, cut	1	fragment
3	surface collection 13	0 cm	nail, wrought	1	

Cat. #	Context	Depth	Artifact	Freq.	Comments
4	surface collection 2	0 cm	misc. metal hardware	1	gear or toy piece
5	surface collection 3	0 cm	glass, dish	1	sun coloured amethyst, moulded, rim
6	surface collection 12	0 cm	glass, dish	1	sun coloured amethyst, moulded, body
7	surface collection 4	0 cm	glass, bottle	1	green, body
8	surface collection 14	0 cm	glass, bottle	1	olive, wine bottle, body
9	surface collection 15	0 cm	glass, bottle	1	amethyst, square bottle
10	surface collection 5	0 cm	glass, window	1	> 1.6mm
11	surface collection 16	0 cm	glass, bottle	1	clear, threaded, jar finish
12	surface collection 6	0 cm	glass, bottle	1	aqua, oil finish
13	surface collection 31	0 cm	glass, bottle	1	light green, body
14	surface collection 30	0 cm	glass, bottle	1	aqua, body
15	surface collection 17	0 cm	glass, bottle	1	green, body
16	surface collection 18	0 cm	glass, bottle	1	green, body
17	surface collection 29	0 cm	ironstone, moulded	1	rim, wheat pattern
18	surface collection 7	0 cm	ironstone, plain	1	rim
19	surface collection 10	0 cm	whiteware, plain	1	foot ring
20	surface collection 8	0 cm	ironstone, transfer print	1	blue, nature scene with animals
21	surface collection 9	0 cm	ironstone, plain	1	rim of large dish or chamber pot
22	surface collection 19	0 cm	ironstone, plain	1	body
23	surface collection 28	0 cm	ironstone, plain	1	body
24	surface collection 23	0 cm	ironstone, transfer print	1	blue
25	surface collection 24	0 cm	semi-porcelain, plain	1	body
26	surface collection 27	0 cm	whiteware, stamped	1	blue, body
27	surface collection 22	0 cm	whiteware, plain	1	foot ring
28	surface collection 26	0 cm	whiteware, plain	1	foot ring
29	surface collection 25	0 cm	whiteware, transfer print	1	blue
30	surface collection 21	0 cm	whiteware, stamped	1	rim, pink band, blue floral
31	surface collection 20	0 cm	biface	1	base broken, heat-treated, greywacke

3.2 Location 27

Location 27 is located in parcel BLW1671 south of Staffa Road and east of Tower Line (Sup. Doc. B, Figure 10; Sup. Doc. D Figure 2). It is a pre contact Aboriginal site and artifacts from this location consist of a fragment from a rejuvenated core, possibly reused as a scraper, manufactured of Haldimand chert (Plate 2:1), and a small piece of chipping detritus manufactured from Onondaga chert (Plate 2:2) six metres apart on an east-west axis. Despite intensifying the survey transect and investigation, no other artifacts were identified at this location.

3.2.1 Artifact Catalogue

Table 14 presents the Stage 2 artifact catalogue for Location 27.

Table 14: Location 27 Artifact Catalogue

Cat. #	Context	Depth	Artifact	Freq.	Comments
1	surface collection 1	0 cm	core	1	rejuvenated core, possibly reused as a scraper, Haldimand chert
2	surface collection 2	0 cm	chipping detritus	1	small fragment, Onodaga chert

3.3 Location 28 (AiHj-15)

Location 28 (AiHj-15), located in parcel BLW1036 south of Centennial Road and west of Babylon Line, is a historic Euro-Canadian site identified through Stage 2 test pit survey and test unit excavation of the collector cable corridor (Sup. Doc. B, Figure 7; Sup. Doc. D, Figure 3). This location consisted of a 10 metre (north-south axis) by 20 metre (east-west axis) scatter of positive test pits. In total, 26 artifacts were collected during test pitting and the excavation of a one-by-one metre test unit: 15 domestic, nine structural, and two miscellaneous metal hardware (Table 15). Each artifact class is discussed in greater detail below.

Table 15: Location 28 (AiHj-15) Artifact Summary

Artifact	Frequency	%
domestic	15	57.69
structural	9	34.61
metal hardware	2	7.69
Total Artifacts	**26**	**100.00**

3.3.1 Domestic Artifacts

A total of 15 domestic artifacts were collected from Location 28 (AiHj-15). All of the domestic artifacts in this assemblage are fragments of ceramics.

3.3.1.1 Ceramic Artifacts

In total, 15 fragments of ceramic hollowwares and flatwares were collected during the Stage 2 assessment of Location 28 (AiHj-15). Included in this total are 14 fragments of utilitarian earthenware and one fragment of ironstone. Table 16 provides a breakdown of the ceramic assemblage by ware type, while Table 17 provides a more detailed breakdown by decorative style.

Table 16: Summary of Ceramic Collection According to Ware type, Location 28 (AiHj-15)

Artifact	Frequency	%
utilitarian	14	93.33
ironstone	1	6.67
Total	**15**	**100.00**

Table 17: Summary of Ceramic Collection According to Decorative Style, Location 28 (AiHj-15)

Artifact	Frequency	%
red earthenware, plain	9	60.00
red earthenware, lead glazed	5	33.33
ironstone, transfer print	1	6.67
Total	**15**	**100.00**

Utilitarian Earthenware

The most common ceramic type collected during the Stage 2 assessment of Location 28 (AiHj-15) was utilitarian earthenware (n=14, or 93.33%). Red and yellow earthenware vessels were manufactured throughout the late 18th and 19th centuries and were the most common utilitarian ware in the first half of the 19th century, eventually being replaced by more durable stoneware vessels (Miller 1987). Of the red earthenware artifacts included in this assemblage, five pieces show the remains of a yellow/brown lead glaze on one side.

Ironstone

One plain rim fragment of ironstone was recovered during the Stage 2 assessment (Plate 3:1). Ironstone or graniteware is a variety of refined white earthenware introduced in the 1830's that became extremely popular by the 1870's and 1880's due to its robust structure which made it more durable for life on Canadian homesteads (Kenyon 1985).

3.3.2 Structural Artifacts

There were nine structural artifacts collected from Location 28 (AiHj-15). These artifacts consist of five wire-drawn nails (Plate 3:2), one machine-cut nail (Plate 3:3), one indeterminate nail, one screw and one fragment of window glass.

Machine cut nails are temporally later than wrought nails and they were invented as early as 1790, but did not become common in Ontario until 1830. Wire drawn nails are identical to the type of nails currently used today, with a flat, round head and a wire shaft. They became popular in the 1890's and continue to be used today (Adams 1994).

A total of one fragment of window glass was recovered in the Stage 2 assessment. Ian Kenyon (1980) provides a pre-1850 date for window panes that have an average thickness of less than 1.6 mm. Window pane thickness increased throughout the 19th century as the trend shifted towards using larger windows when building homes. The window glass fragment in the assemblage is equal to or greater than 1.7 mm, and thus can be dated to post-1850, but the sample of window glass is too small to be used as a reliable temporal indicator.

3.3.3 Miscellaneous Metal Hardware

Two heavily corroded metal artifacts were recovered during the Stage 2 assessment. This artifact assemblage consists of one piece of heavily corroded metal wire, and one heavily corroded long metal strap with a bolt and nut attached.

3.3.4 Artifact Catalogue

Table 18 presents the Stage 2 artifact catalogue for Location 28 (AiHj-15).

Table 18: Location 28 (AiHj-15) Artifact Catalogue

Cat. #	Context	Depth	Artifact	Freq.	Comments
1	Test pit	-	glass, window	1	> 1.7 millimetres
2	Test pit	-	nail, cut	1	
3	Test pit	-	nail, wire	2	
4	Test pit	-	nail, indeterminate	1	no head, heavily corroded
5	Test pit	-	screw	1	Roberts head (square)
6	Test pit	-	metal wire	1	
7	Test pit	-	misc., metal hardware	1	metal strap with bolt and nut
8	Test pit	-	earthenware, red	14	9 plain, 5 lead glaze
9	Test pit	-	ironstone, plain	1	rim fragment
10	1x1metre unit	12 cm	nail, wire	3	

3.4 Location 29 (AjHj-16)

Location 29 (AjHj-16), located in parcel BLW1049 south of Pavillion Road and west of Babylon Line, is a historic Euro-Canadian site that was identified during the Stage 2 test pit survey of the proposed collector cable corridor (Sup. Doc. B, Figure 4; Sup. Doc. D, Figure 4). This location measures roughly 55 metres (north-south axis) by 33 metres (east-west axis). In total, 49 artifacts were collected during the Stage 2 assessment through test pitting and the excavation of two one-by-one metre test units: 90 domestic, 32 structural, five recent material, 41 faunal remains, two metal items, two miscellaneous items, and two personal items (Table 19). Each artifact class is discussed in greater detail below.

Table 19: Location 29 (AjHj-16) Artifact Summary

Artifact	Frequency	%
domestic	90	51.72
faunal	41	23.56
structural	32	18.39
recent	5	2.87
metal	2	1.15
miscellaneous	2	1.15
personal	2	1.15
Total Artifacts	**174**	**100.00**

3.4.1 Domestic Artifacts

A total of 90 domestic artifacts were collected from Location 29 (AjHj-16). Included in the domestic assemblage are 45 fragments of ceramic hollowwares and flatwares, and 45 fragments of glass including bottle, lamp/chimney and drinking glass.

3.4.1.1 Ceramic Artifacts

In total, 45 fragments of ceramic hollowwares and flatwares were collected during the Stage 2 assessment of Location 29 (AjHj-16). Included in this total are 17 fragments of whiteware, 17 fragments of undetermined ceramics, eight fragments of ironstone, two fragments of utilitarian earthenware and one fragment of porcelain. Table 20 provides a breakdown of the ceramic assemblage by ware type, while Table 21 provides a more detailed breakdown by decorative style.

Table 20: Summary of Ceramic Collection According to Ware type, Location 29 (AjHj-16)

Artifact	Frequency	%
whiteware	17	37.78
undetermined	17	37.78
ironstone	8	17.78

Artifact	Frequency	%
utilitarian	2	4.44
porcelain	1	2.22
Total	**45**	**100.00**

Table 21: Summary of Ceramic Collection According to Decorative Style, Location 29 (AjHj-16)

Artifact	Frequency	%
ceramic, undetermined	17	37.78
whiteware, plain	10	22.22
ironstone, plain	5	11.11
whiteware, transfer print	3	6.67
whiteware, stamped	3	6.67
ironstone, moulded	2	4.44
whiteware, banded	1	2.22
ironstone, transfer print	1	2.22
earthenware, red	1	2.22
earthenware, yellow	1	2.22
porcelain, painted	1	2.22
Total	**45**	**100.00**

Whiteware

The most common ceramic type collected during the Stage 2 assessment of Location 29 (AjHj-16) was whiteware (n=17, or 37.78%). Whiteware is a variety of earthenware with a near-colourless glaze that replaced earlier near-white ceramics such as pearlware and creamware. This shift in ware types began to occur by the early 1830s (Miller 1991). Early whiteware tends to have a porous paste, with more vitrified, harder ceramics becoming increasingly common later in the 19th century. Ten fragments of whiteware in the assemblage are plain (Plate 4:1), three are transfer printed (Plate 4:2), three are sponge-stamped (Plate 4:3) and one is banded (Plate 4:4).

Transfer printed whiteware involved the transfer of an intricate pattern from a sheet of treated paper to the underglaze surface of the clay. Before 1830, almost all transfer printed wares were blue. After 1830, colours such as light blue, black, brown, green, purple and red became more common (Collard 1967). Transfer printed whiteware ceramics were less densely decorated than the earlier pearlware types, with more of the white background showing through the designs. The three transfer printed whiteware fragments in the assemblage are blue.

Stamping is a variation of the sponging decorative method. With this technique, a sponge was cut into simple designs (e.g. geometric shapes, leaves, flowers). These stamps were then loaded with pigment and repeatedly

dabbed around the ceramic to form a coarse design. This technique was used from the 1850s to the early 20th century (Adams 1994). Two of the stamped whiteware fragments in the assemblage display a blue floral design, and the third displays a green floral design.

Banded wares were decorated with horizontal bands of coloured slip applied in varying widths. Colours are predominantly muted earth tones including, black, green, brown, orange, yellow, grey, and pale blue. Banding occurred both as a primary decorative element and in conjunction with other design elements such as marbling, or the dendritic patterns found on mocha ware. Banded patterns can be found on whiteware from 1830 to the 20th century (Sussman 1997). After 1850 annular wares became available only on the blue banded variety and its use continued into the 20th century (Sussman 1997). The banded whiteware fragment in the assemblage displays brown slip banding.

Undetermined Ceramics

Unfortunately, 17 of the ceramic pieces recovered from Location 29 (AjHj-16) could not be catalogued into a specific ceramic-ware classification. All appear to have been burnt. These pieces are so heavily damaged and fragmentary that it is impossible to accurately identify them by ceramic type. In order to avoid altering the separate ceramic totals, percentages and ultimately the temporal data for the site the damaged pieces were simply classified as miscellaneous undetermined ceramics.

Ironstone

Eight fragments of ironstone were recovered during the Stage 2 assessment. Ironstone or graniteware is a variety of refined white earthenware introduced in the 1840's that became extremely popular by the 1870's and 1880's due to its robust structure which made it more durable for life on Canadian homesteads (Kenyon 1985). Five fragments of ironstone in the assemblage are plain (Plate 4:5), two are moulded with indeterminate patterns (Plate 4:6) and one is black transfer printed (Plate 4:7).

During the 1870s to 1880s it was the most popular type of tableware ceramic in Ontario, and its white varieties rarely had coloured decoration. Instead, it often had raised moulded designs. The most popular and enduring of these was the "wheat" pattern, though a grape vine motif was also favoured quite often, as well as a pattern involving corn cobs (Kenyon 1980). In the 1830s and 1840s, the blue shade used in transfer printing became lighter in hue and the designs more open, and colours other than blue increased in popularity. From about 1850 to 1890 only the colours blue, black, and brown were common (Adams 1994).

Utilitarian Earthenware

Two utilitarian earthenware fragments were recovered during the Stage 2 assessment, one red and one yellow, both with lead glaze. Red and yellow earthenware vessels were manufactured throughout the late 18th and 19th centuries and were the most common utilitarian ware in the first half of the 19th century, eventually being replaced by more durable stoneware vessels (Miller 1987).

Porcelain

One porcelain fragment was recovered during the Stage 2 assessment (Plate 4:8). Porcelain is a type of earthenware fired at such a high temperature that the clay has begun to vitrify; consequently the ceramic is

translucent when held up to light. The Canadian pioneer generally preferred utilitarian earthenwares, but by mid-19th century, English potteries such as Copeland and Minton, were producing porcelains for the Canadian marketplace. Porcelain was not required as much as utilitarian ceramics, but it was always in steady demand (Collard 1967:163,175). By the turn of the century, porcelain became relatively common as production techniques had been developed in Europe which greatly reduced costs. The porcelain fragment in the assemblage is a rim sherd with a painted gold band.

3.4.1.2 Glass Artifacts

Forty-five fragments of glass were recovered from Location 29 (AjHj-16). This collection includes 37 fragments of drinking glass, five fragments of chimney or lamp glass and three fragments of bottle glass. All glass fragments in the assemblage are clear, colourless or "clear" glass was relatively uncommon prior to the 1870s but became quite common after the wide spread use of automatic bottle machines in the mid-to-late 1910s (Toulouse 1969; Kendrick 1971; Fike 1987).

3.4.2 Faunal Remains

Forty-one pieces of faunal remains are included in the assemblage. Thirteen fragments are cut cancellous/long bone proximal and distal ends from a medium-sized mammal, 13 are cortical long bone fragments from a medium to large sized mammal, eight are cancellous fragments from a medium to large sized mammal, four are ungulate tooth fragments (3 of which are bovine), two are mandibular fragments from a medium to large sized mammal and one is the proximal end of a cow tibia.

3.4.3 Structural Artifacts

There were 15 structural artifacts collected from Location 29 (AjHj-16). These assemblage consists of seven fragments of brick (six red and one yellow), five machine-cut nails (Plate 4:9), two fragments of window glass and one wire-drawn nail (Plate 4:10).

Machine cut nails are temporally later than wrought nails, the result of a machinated process for cutting metal. They are square and often have a square or rectangular head, though early varieties can exhibit hand-hammered heads. They were invented as early as 1790, but did not become common in Ontario until 1830. Wire drawn nails are identical to the type of nails currently used today, with a flat, round head and a wire shaft. They became popular in the 1890's and continue to be used today (Adams 1994).

A total of two fragments of window glass were recovered in the Stage 2 assessment. Ian Kenyon (1980) provides a pre-1850 date for window panes that have an average thickness of less than 1.6 mm, but the sample of window glass in this assemblage is too small to be used reliably as a diagnostic indicator.

3.4.4 Recent Material

There were five pieces of recent material recovered during the Stage 2 assessment. The recent material assemblage consists of four fragments of porcelain electrical insulators, and one plastic pen fragment.

3.4.5 Metal Artifacts

There were two metal artifacts included in the assemblage - two heavily corroded metal strap fragments.

3.4.6 Miscellaneous Artifacts

There were two artifacts recovered during the Stage 2 assessment that must be classified as miscellaneous including one piece of burnt wood and one small fragment of coal.

3.4.7 Personal Artifacts

Two personal items were recovered during the Stage 2 assessment of Location 29 (AjHj-16), and both are marbles, one of which is a cat's eye glass marble (Plate 4:11), and the other of which is a clay marble (Plate 4:12).

3.4.8 Artifact Catalogue

Table 22 presents the Stage 2 artifact catalogue for Location 29 (AjHj-16).

Table 22: Location 29 (Borden #) Artifact Catalogue

Cat. #	Context	Depth	Artifact	Freq.	Comments
1	test pit	-	nail, cut	1	
2	test pit	-	nail, wire	1	
3	test pit	-	nail, cut	1	
4	test pit	-	nail, cut	1	
5	test pit	-	nail, cut	1	
6	test pit	-	whiteware, transfer print	1	blue
7	test pit	-	whiteware, stamped	1	green floral
8	test pit	-	porcelain, painted	1	rim, gold painted band, possible figurine
9	test pit	-	ironstone, plain	1	
10	test pit	-	whiteware, stamped	1	blue
11	test pit	-	whiteware, stamped	1	blue
12	test pit	-	ironstone, transfer print	1	black
13	test pit	-	whiteware, transfer print	1	blue

Cat. #	Context	Depth	Artifact	Freq.	Comments
14	test pit	-	marble, glass	1	cats eye
15	test pit	-	marble, clay	1	
16	test pit	-	brick	1	red
17	test pit	-	earthenware, red	1	glazed
18	test pit	-	glass, bottle	1	clear, panel body
19	test pit	-	glass, window	1	> 1.7 mm thick
20	test pit	-	glass, window	1	> 1.7 mm thick
21	1x1 m test unit #1	0-18 cm	brick	2	1 yellow, 1 red
22	1x1 m test unit #1	0-18 cm	recent material	4	electric insulator
23	1x1 m test unit #1	0-18 cm	recent material	1	plastic pen section
24	1x1 m test unit #2	0-23 cm	ironstone, plain	2	
25	1x1 m test unit #2	0-23 cm	whiteware, plain	3	
26	1x1 m test unit #2	0-23 cm	glass, chimney/lamp	5	very tiny
27	1x1 m test unit #2	0-23 cm	nail, cut	1	
33	1x1 m test unit #2	0-23 cm	faunal remains	38	13 cut cancellous med-lrd mammal, 10 cortical long bone med-lrg mammal, 8 cancellous med-lrg mammal, 4 ungulate tooth fragments (3 definitely cow), 2 mandible fragments (med-lrg mammal - pig?), 1 cow proximal tibia
34	1x1 m test unit #2	0-23 cm	brick	5	red
35	1x1 m test unit #2	0-23 cm	mortar	5	
36	1x1 m test unit #2	0-23 cm	whiteware, banded	1	brown slip banded rim
37	1x1 m test unit #2	0-23 cm	glass, drinking	37	clear tumbler fragments
38	1x1 m test unit #2	0-23 cm	glass, bottle	2	1 colourless body fragment, 1 aqua body fragment
39	1x1 m test unit #2	0-23 cm	glass, window	3	2 > 1.7mm, 1 < 1.6 mm
40	1x1 m test unit #2	0-23 cm	wood, burnt	1	
41	1x1 m test unit #2	0-23 cm	coal	1	
42	1x1 m test unit #2	0-23 cm	nail, cut	4	heavily corroded
43	1x1 m test unit #2	0-23 cm	metal, miscellaneous	2	heavily corroded metal strap fragments
44	1x1 m test unit #2	0-23 cm	ironstone, plain	2	1 cup foot ring
45	1x1 m test unit #2	0-23 cm	ceramic, undetermined	17	burnt refined white earthenware
46	1x1 m test unit #2	0-23 cm	whiteware, plain	7	

3.5 Location 30 (AjHi-12)

Location 30 (AjHi-12), located in parcel BLW1329 north of Centennial Road and west of Division Line, is a historic Euro-Canadian site that was identified during the Stage 2 pedestrian survey of the proposed transmission line corridor (Sup. Doc. B, Figure 14; Sup. Doc. D, Figure 5). The location consists of a 70 metre (west-east axis) by 20 metre (north-south axis) surface scatter of around 80 mid-to-late 19th century artifacts. In total, 64 artifacts were collected during the Stage 2 assessment through controlled surface pickup including: 63 domestic and one structural item (Table 23). Each artifact class is discussed in greater detail below.

Table 23: Location 30 (AjHi-12) Artifact Summary

Artifact	Frequency	%
domestic	63	98.44
structural	1	1.56
Total Artifacts	**64**	**100.00**

3.5.1 Domestic Artifacts

A total of 63 domestic artifacts were collected from Location 30 (AjHi-12). Sixty of the domestic artifacts in this assemblage are fragments of ceramics and three are glass.

3.5.1.1 Ceramic Artifacts

In total, 60 fragments of ceramic hollowwares and flatwares were collected during the Stage 2 assessment of Location 30 (AjHi-12). Included in this total are 32 fragments of whiteware, 12 fragments of ironstone, nine fragments of utilitarian earthenware and stoneware, five fragments of pearlware, one fragments of semi-porcelain and one fragment of yellowware. Table 24 provides a breakdown of the ceramic assemblage by ware type, while Table 25 provides a more detailed breakdown by decorative style.

Table 24: Summary of Ceramic Collection According to Ware type, Location 30 (AjHi-12)

Artifact	Frequency	%
whiteware	32	53.33
ironstone	12	20.00
utilitarian	9	15.00
pearlware	5	8.33
semi-porcelain	1	1.67
yellowware	1	1.67
Total	**60**	**100.00**

Table 25: Summary of Ceramic Collection According to Decorative Style, Location 30 (AjHi-12)

Artifact	Frequency	%
whiteware, plain	15	25.00
ironstone, plain	6	10.00
whiteware, transfer print	5	8.33
stoneware, salt glazed/Albany slip	5	8.33
whiteware, flow transfer print	4	6.67
whiteware, sponged	4	6.67
pearlware, plain	4	6.67
red earthenware, lead glaze	4	6.67
ironstone, edged	3	5.00
ironstone, moulded	2	3.33
whiteware, banded	2	3.33
whiteware, stamped	2	3.33
yellowware, plain	1	1.67
pearlware, painted	1	1.67
ironstone, transfer print	1	1.67
semi-porcelain	1	1.67
Total	**60**	**100.00**

Whiteware

The most common ceramic type collected during the Stage 2 assessment of Location 30 (AjHi-12) was whiteware (n=32, or 53.33%). Whiteware is a variety of earthenware with a near-colourless glaze that replaced earlier near-white ceramics such as pearlware and creamware. This shift in ware types began to occur by the early 1830s (Miller 1991). Fifteen fragments of whiteware in the assemblage are plain (Plate 5:1), five are transfer printed (Plate 5:2), four are flow transfer printed (Plate 5:3), four are sponged (Plate 5:4), two are banded (Plate 5:5) and two are stamped (Plate 5:6).

Transfer printed whiteware involved the transfer of an intricate pattern from a sheet of treated paper to the underglaze surface of the clay. Before 1830, almost all transfer printed wares were blue. After 1830, colours such as light blue, black, brown, green, purple and red became more common (Collard 1967). Transfer printed whiteware ceramics were less densely decorated than the earlier pearlware types, with more of the white background showing through the designs. All five of the transfer printed whiteware fragments recovered during the Stage 2 assessment are blue, two with a floral design.

Flow transfer printed whiteware, in which the pigment flows into the glaze due to the introduction of volatile chlorides during firing, became popular in the 1840s and 1850s, with a later revival in the 1890s (Collard 1967:118). Though blue was the most popular colour for flow transfer printing, other colours were also sometimes used. All four of the flow transfer printed whiteware fragments in the assemblage are blue.

Sponged whiteware ceramics were a form of inexpensive tableware in which a sponge was used to apply an underglaze pigment. All-over sponging became popular by the 1840s and remained common until the 1870s. Three of the four sponged fragments in the assemblage are blue, and one is green and brown.

Banded wares were decorated with horizontal bands of coloured slip applied in varying widths. Banded designs are most frequently found on whiteware, and became popular after the 1830s (Sussman 1997). One of the two banded whiteware fragments in the assemblage displays blue slip banding, and the other is banded in speckled pinkish-brown.

Stamped and sponge decorated whiteware ceramics were a form of inexpensive tableware in which a sponge was used to apply an underglaze pigment. All-over sponging became popular by the 1840s and remained common until the 1870s. Both stamped and spongewares were produced in hollowware form and were among the cheapest wares available (Cruikshank 1982:1-7; 52-53). One of the stamped fragments in the assemblage is blue, and one is a red rim sherd.

Ironstone

Twelve fragments of ironstone were recovered during the Stage 2 assessment. Ironstone or graniteware is a variety of refined white earthenware introduced in the 1830's that became extremely popular by the 1870's and 1880's due to its robust structure which made it more durable for life on Canadian homesteads (Kenyon 1985). Six fragments of ironstone in the assemblage are plain (Plate 5:7), three are edged (Plate 5:8), two are moulded (Plate 5:9) and one is transfer printed (Plate 5:10).

Miller (1987) outlines the production range for edged wares according to rim decoration as follows: scalloped rim with impressed curved lines, 1780-1840; scalloped rim with impressed straight lines, 1795-1840; scalloped rim with impressed bud, 1800-1850; embossed raised patterns, 1820-1845; unscalloped and impressed rim, 1825-1891; and unscalloped and unmoulded rim, 1850-1897. The popularity of edged wares continued even as ironstone became more commonly used. One of the three edged ironstone fragments in the assemblage displays a 19th century blue impressed "chickenfoot" pattern on an unscalloped rim, and the other two are too damaged to determine their overall design.

During the 1870s to 1880s ironstone was the most popular type of tableware ceramic in Ontario, and its white varieties rarely had coloured decoration. Instead, it often had raised moulded designs. The most popular and enduring of these was the "wheat" pattern, though a grape vine motif was also favoured quite often, as well as a pattern involving corn cobs (Kenyon 1980). Both moulded ironstone fragments in the assemblage have damaged indeterminate designs.

One fragment of ironstone in assemblage is transfer printed, with an indeterminate blue design. In the 1830s and 1840s, the blue shade used in transfer printing became lighter in hue and the designs more open, and colours other than blue increased in popularity. From about 1850 to 1890 only the colours blue, black, and brown were common (Adams 1994).

Utilitarian Earthenware and Stoneware

There were four red earthenware fragments collected from Location 30 (AjHi-12). Red and yellow earthenware vessels were manufactured throughout the late 18th and 19th centuries and were the most common utilitarian

ware in the first half of the 19th century, eventually being replaced by more durable stoneware vessels (Miller 1987). The red earthenware artifacts include: two fragments with brown glaze, one a light brown and one dark brown; and two fragments with an interior light yellow slip.

Five fragments of stoneware were collected from this location. Stoneware vessels were produced throughout the 19th century and became more durable and refined over time. All five fragments have a clear salt glaze exterior and an Albany Slip interior and are likely fragments of the same vessel.

Pearlware

A total of five fragments of pearlware were collected during the Stage 2 assessment (Plate 5:11). Pearlware, sometimes referred to as "China glazed", is a variety of earthenware that was popular from 1780 to 1840. When placed on white earthenware bisque, this glaze gave the impression of a "whiter" ware than the earlier yellow tinted creamware (Miller 1987). Four of the pieces are plain body fragments, and one piece is the base of a small plate or saucer with blue painted bands.

Semi-Porcelain

There was one fragment of semi-porcelain collected during the Stage 2 assessment (Plate 5:12). During the first half of the 19th century, the English improved pottery techniques resulting in the production of durable and decorative wares with trade names such as semi-porcelain. This hard earthenware sought to emulate imported porcelains but lacked true translucency. In 1850, semi-porcelains were reintroduced and this vitreous, hard-glazed white earthenware resembling bone china soon dominated the marketplace (Hughes 1961). The recovered artifact is a plain rim from a saucer.

Yellowware

One plain yellowware fragment was recovered during the Stage 2 assessment (Plate 5:13). Yellowware has a buff to dark yellow fabric with a clear lead glaze giving the vessel a yellow appearance and was used primarily for kitchenwares and storage vessels with a date range of 1840 to present day with a peak popularity of 1870 to 1900. By the mid-19th century, yellowware hollowware forms included such decorative techniques as: slip-banding, mocha designs and a thick slip with an elaborate decoration. Other decorative methods included moulded relief, underglaze painted, finger trailing, and luster. Though much of the yellowware found in North America was produced in England, there were several producers in Canada who operated from the mid-19th century until about 1930. Yellowware declined as whitewares began to dominate, but production of yellowware continued on into the 20th century (Gallo 1985).

3.5.1.2 Glass Artifacts

Three fragments of domestic bottle glass were recovered from Location 30 (AjHi-12). These pieces include: one blue bottle body fragment; one aqua neck and a mid-to-late19th double ring finish of a panel bottle (Plate 5:14); and one small sun coloured amethyst brandy finish. Aqua glass generally originates from medical and pharmaceutical products including patent medicine bottles of the 19th and 20th century (Kendrick 1971). Sun coloured amethyst glass generally suggests a date range from the 1880s and continuing to 1920 (Lindsey 2012).

3.5.2 Structural Artifacts

There was one structural artifact collected from Location 30 (AjHi-12) - a large fragment of yellow brick.

3.5.3 Artifact Catalogue

Table 26 presents the Stage 2 artifact catalogue for Location 30 (AjHi-12).

Table 26: Location 30 (AjHi-12) Artifact Catalogue

Cat. #	Context	Depth	Artifact	Freq.	Comments
1	surface collection	0 cm	brick	1	yellow
2	surface collection 1	0 cm	stoneware, salt glaze	1	brown salt glaze interior, yellow exterior
3	surface collection 2	0 cm	earthenware, red	1	lead brown glaze
4	surface collection 3	0 cm	pearlware, painted	1	blue bands, vessel base
5	surface collection 4	0 cm	ironstone, edged	1	blue, un-scalloped, chickenfoot, impressed, 1825-1891
6	surface collection 5	0 cm	ironstone, edged	1	blue, un-scalloped, un-impressed, 1850-1897
7	surface collection 6	0 cm	whiteware, flow transfer print	1	blue
8	surface collection 7	0 cm	ironstone, edged	1	scalloped, impressed, 1825-1891
9	surface collection 8	0 cm	whiteware, banded	1	blue
10	surface collection 9	0 cm	whiteware, flow transfer print	2	blue
11	surface collection 10	0 cm	whiteware, flow transfer print	1	blue
12	surface collection	0 cm	whiteware, stamped	1	blue
13	surface collection 11	0 cm	whiteware, sponged	1	blue
14	surface collection	0 cm	whiteware, sponged	1	blue
15	surface collection 12	0 cm	whiteware, transfer print	1	blue, floral
16	surface collection	0 cm	whiteware, transfer print	1	blue, floral and leg
17	surface collection 13	0 cm	whiteware, transfer print	1	blue
18	surface collection	0 cm	whiteware, transfer print	1	blue
19	surface collection	0 cm	whiteware, stamped	1	red band, rim
20	surface collection 14	0 cm	ironstone, transfer print	1	blue

Cat. #	Context	Depth	Artifact	Freq.	Comments
21	surface collection	0 cm	glass, bottle	1	aqua, double ring finish and neck
22	surface collection	0 cm	glass, bottle	1	sc amethyst, neck and finish
23	surface collection	0 cm	whiteware, transfer print	1	blue
24	surface collection	0 cm	whiteware, sponged	1	blue
25	surface collection	0 cm	stoneware, salt glaze	1	salt glaze exterior, Albany slip interior
26	surface collection	0 cm	stoneware, salt glaze	1	salt glaze exterior, Albany slip interior
27	surface collection	0 cm	stoneware, salt glaze	1	salt glaze exterior, Albany slip interior
28	surface collection	0 cm	stoneware, salt glaze	1	salt glaze exterior, Albany slip interior
29	surface collection	0 cm	ironstone, moulded	1	dimpled
30	surface collection 23	0 cm	semi-porcelain	1	rim
31	surface collection	0 cm	ironstone, plain	1	
32	surface collection	0 cm	whiteware, plain	1	
33	surface collection	0 cm	ironstone, plain	1	
34	surface collection	0 cm	whiteware, plain	1	
35	surface collection	0 cm	ironstone, plain	1	
36	surface collection	0 cm	ironstone, plain	1	
37	surface collection 15	0 cm	pearlware, plain	1	
38	surface collection	0 cm	ironstone, plain	1	
39	surface collection	0 cm	ironstone, plain	1	
40	surface collection	0 cm	whiteware, plain	1	
41	surface collection	0 cm	ironstone, moulded	1	
42	surface collection 22	0 cm	whiteware, plain	1	
43	surface collection	0 cm	whiteware, sponged	1	green, brown and grey
44	surface collection	0 cm	whiteware, plain	1	rim
45	surface collection	0 cm	whiteware, plain	1	
46	surface collection 21	0 cm	whiteware, banded	1	grey peppered glaze
47	surface collection	0 cm	whiteware, plain	1	
48	surface collection 16	0 cm	pearlware, plain	1	
49	surface collection 17	0 cm	pearlware, plain	1	
50	surface collection 18	0 cm	pearlware, plain	1	
51	surface collection	0 cm	whiteware, plain	1	handle
52	surface collection	0 cm	whiteware, plain	1	
53	surface collection 19	0 cm	whiteware, plain	1	

Cat. #	Context	Depth	Artifact	Freq.	Comments
54	surface collection	0 cm	whiteware, plain	1	
55	surface collection	0 cm	whiteware, plain	1	
56	surface collection	0 cm	whiteware, plain	1	
57	surface collection	0 cm	whiteware, plain	2	
58	surface collection 20	0 cm	yellowware, plain	1	
59	surface collection	0 cm	earthenware, red	1	yellow glaze
60	surface collection	0 cm	earthenware, red	1	brown salt glaze
61	surface collection	0 cm	earthenware, red	1	dark brown salt glaze
62	surface collection	0 cm	glass, bottle	1	blue

3.6 Location 31 (AjHj-17)

Location 31 (AjHj-17), located in parcel BLW1680 north of Centennial Road and west of Babylon Line, is a historic Euro-Canadian site approximately 12 metre (east-west axis) by 24 metre (north-south axis) identified during the Stage 2 test pit survey of the proposed collector cable corridor (Sup. Doc. B, Figure 4; Sup. Doc. D, Figure 6). In total, 199 artifacts were collected during the Stage 2 assessment through test pitting and the excavation of a one-by-one metre test unit including: 166 domestic, 28 structural, four faunal remains, and one recent material (Table 27). Each artifact class is discussed in greater detail below.

Table 27: Location 31 (AjHj-17) Artifact Summary

Artifact	Frequency	%
domestic	166	83.42
structural	28	14.07
faunal	4	2.01
recent	1	0.50
Total Artifacts	**199**	**100.00**

3.6.1 Domestic Artifacts

A total of 166 domestic artifacts were collected from Location 31 (AjHj-17). All of the domestic artifacts in this assemblage are fragments of ceramics (n=160) or glass (n=6).

3.6.1.1 Ceramic Artifacts

In total, 160 fragments of ceramic hollowwares and flatwares were collected during the Stage 2 assessment of Location 31 (AjHj-17). Included in this total are: 147 fragments of ironstone, ten fragments of whiteware, two fragments of utilitarian earthenware and one fragment of semi-porcelain. Table 28 provides a breakdown of the ceramic assemblage by ware type, while Table 29 provides a more detailed breakdown by decorative style.

Table 28: Summary of Ceramic Collection According to Ware type, Location 31 (AjHj-17)

Artifact	Frequency	%
ironstone	147	91.88
whiteware	10	6.25
utilitarian	2	1.25
semi-porcelain	1	0.63
Total	**160**	**100.00**

Table 29: Summary of Ceramic Collection According to Decorative Style, Location 31 (AjHj-17)

Artifact	Frequency	%
ironstone, plain	131	81.89
ironstone, painted	11	6.88
whiteware, plain	7	4.38
ironstone, sponged	3	1.88
ironstone, moulded	2	1.25
utilitarian, red earthenware	2	1.25
whiteware, transfer print	1	0.63
whiteware, banded	1	0.63
whiteware, painted	1	0.63
semi-porcelain	1	0.63
Total	**160**	**100.00**

Ironstone

The most common ceramic type collected during the Stage 2 assessment of Location 31 (AjHj-17) is ironstone (n=147, or 91.88%). Ironstone or graniteware is a variety of refined white earthenware introduced in the 1830's that became extremely popular by the 1870's and 1880's due to its robust structure which made it more durable for life on Canadian homesteads (Kenyon 1985). One hundred and thirty-one fragments of ironstone in the assemblage are plain (127 of which belong to an undecorated chamber pot) (Plate 6:1), eleven are hand painted (Plate 6:2), three are sponged (Plate 6:3) and two are moulded (Plate 6:4).

Eleven hand painted ironstone fragments are included in the assemblage. Three exhibit the red painted bands indicative of common "hotel ware". Three also exhibit painted blue bands, and three display a polychromatic pink and green floral design with late palette colours.

Sponged ceramics were a form of inexpensive tableware in which a sponge was used to apply an underglaze pigment. All-over sponging became popular by the 1840s and remained common until the 1870s. The sponged fragments in the assemblage are blue and appear to be part of the same small bowl.

During the 1870s to 1880s ironstone was the most popular type of tableware ceramic in Ontario, and its white varieties rarely had coloured decoration. Instead, it often had raised moulded designs. The most popular and enduring of these was the "wheat" pattern, though a grape vine motif was also favoured quite often, as well as a pattern involving corn cobs (Kenyon 1980). Both moulded fragments in the assemblage display the popular grape vine motif.

Whiteware

Ten fragments of whiteware were recovered during the Stage 2 assessment. Whiteware is a variety of earthenware with a near-colourless glaze that replaced earlier near-white ceramics such as pearlware and creamware. This shift in ware types began to occur by the early 1830s (Miller 1991). Seven fragments of whiteware in the assemblage are plain (Plate 6:5), one fragment is transfer printed (Plate 6:6), one fragment is banded (Plate 6:7) and one fragment is hand painted (Plate 6:8).

Transfer printed whiteware involved the transfer of an intricate pattern from a sheet of treated paper to the underglaze surface of the clay. Before 1830, almost all transfer printed wares were blue. After 1830, colours such as light blue, black, brown, green, purple and red became more common (Collard 1967). Transfer printed whiteware ceramics were less densely decorated than the earlier pearlware types, with more of the white background showing through the designs. The transfer printed fragment in the assemblage exhibits a brown transfer pattern of an indeterminate design.

Banded wares were decorated with horizontal bands of coloured slip applied in varying widths. Banding occurred both as a primary decorative element and in conjunction with other design elements such as marbling, or the dendritic patterns found on mocha ware. Banded designs are most frequently found on whiteware, and became popular after the 1830s (Sussman 1997). The banded fragment in the assemblage displays green slip banding.

The hand painted whiteware fragment in the assemblage displays a red painted band on the rim, indicative of common "hotel ware".

Utilitarian Earthenware and Stoneware

There were two red earthenware pieces collected from Location 31 (AjHj-17). Red and yellow earthenware vessels were manufactured throughout the late 18th and 19th centuries and were the most common utilitarian ware in the first half of the 19th century, eventually being replaced by more durable stoneware vessels (Miller 1987). One piece has a clear glaze interior and a non glazed exterior, and the other has a non glazed exterior and is missing the interior surface.

Semi-Porcelain

There was one semi-porcelain artifact recovered during the Stage 2 assessment (Plate 6:9). During the first half of the 19th century, the English improved pottery techniques resulting in the production of durable and decorative wares with trade names such as semi-porcelain. This hard earthenware sought to emulate imported porcelains

but lacked true translucency. In 1850, semi-porcelains were reintroduced and this vitreous, hard-glazed white earthenware resembling bone china soon dominated the marketplace (Hughes 1961). The recovered artifact is small plain body fragment.

3.6.1.2 Glass Artifacts

There were six fragments of domestic glass collected from Location 31 (AjHj-17). These artifacts include five fragments of a lamp or chimney glass and one small fragment of a tumbler.

3.6.2 Structural Artifacts

There were 28 structural artifacts collected from the Stage 2 investigation of Location 31 (AjHj-17). These assemblage includes: 16 brick fragments (nine red and seven yellow), six pieces of mortar, three fragments of window glass, two cut nails (Plate 6:10) and one wire nail (Plate 6:11).

A total of three fragments of window glass were recovered in the Stage 2 assessment. Window pane thickness increased throughout the 19th century as the trend shifted towards using larger windows when building homes (Kenyon 1980). All three window glass fragments in the assemblage are greater than 1.7 mm.

Machine cut nails are temporally later than wrought nails, invented as early as 1790, but did not become common in Ontario until 1830 (Adams 1994). Wire drawn nails are identical to the type of nails currently used today, with a flat, round head and a wire shaft. They became popular in the 1890's and continue to be used today.

3.6.3 Faunal Remains

Four fragments of faunal remains were recovered during the Stage 2 assessment. The faunal assemblage includes two medium-sized mammalian scapular fragments (likely from a deer), a fragmentary tibia (also likely from a deer) and one medium-sized mammalian cortical long bone fragment.

3.6.4 Recent Artifacts

One piece of recent material recovered during the Stage 2 assessment - a plastic faux-pearl bead.

3.6.5 Artifact Catalogue

Table 30 presents the Stage 2 artifact catalogue for Location 31 (AjHj-17).

Table 30: Location 31 (AjHj-17) Artifact Catalogue

Cat. #	Context	Depth	Artifact	Freq.	Comments
1	test pits		brick	13	7 red, 6 yellow
2	test pits		nail, wire	1	
3	test pits		nail, cut	1	
4	test pits		nail, cut	1	
5	test pits		mortar	6	
6	test pits		bead	1	plastic, faux pearl
7	test pits		glass, drinking	1	clear
8	test pits		semi-porcelain, plain	1	
9	test pits		whiteware, plain	1	burnt
10	test pits		ironstone, moulded	2	grape motif
11	test pits		ironstone, plain	4	
12	test pits		whiteware, plain	4	
13	test pits		whiteware, banded	1	3 green bands
14	test pits		whiteware, painted	1	pink edge band
15	1x1m test unit	0-27 cm	ironstone, sponged	3	2 rim and one base, same vessel, sugar bowl
16	1x1m test unit	0-27 cm	ironstone, painted	4	blue hand painted edge
17	1x1m test unit	0-27 cm	ironstone, plain	127	chamber pot
18	1x1m test unit	0-27 cm	ironstone, painted	3	pink banded
19	1x1m test unit	0-27 cm	whiteware, plain	2	
20	1x1m test unit	0-27 cm	ironstone, painted	3	pink and green paint, floral
21	1x1m test unit	0-27 cm	whiteware, transfer print	1	floral, brown, burnt
22	1x1m test unit	0-27 cm	ironstone, painted	1	light blue
23	1x1m test unit	0-27 cm	brick	3	2 red, 1 yellow
24	1x1m test unit	0-27 cm	faunal remains	4	two medium-mammal scapular fragments (likely deer), one tibia fragment (likely deer), one med. mam cortical bone fragment
25	1x1m test unit	0-27 cm	earthenware, red	2	1 with interior glaze, 1 unglazed
26	1x1m test unit	0-27 cm	glass, chimney/lamp	5	
27	1x1m test unit	0-27 cm	glass, window	3	> 1.7mm

3.7 Location 32 (AjHj-18)

Location 32 (AjHj-18), located in parcel BLW1010 north of Centennial Road and west of Babylon Line, is a historic Euro-Canadian site that was identified during the Stage 2 test pit survey of the proposed collector cable corridor (Sup. Doc. B, Figure 4; Sup. Doc. D, Figure 7). This location consists of an approximately 10 metre (east-west axis) by 5 metre (north-south axis) scatter of historic Euro-Canadian artifacts. In total, 632 artifacts were collected during the Stage 2 assessment through test pitting and the excavation of a one-by-one metre test unit including: 323 faunal, 186 domestic artifacts, 87 structural, 19 personal, 15 metal and two miscellaneous (Table31). Each artifact class is discussed in greater detail below.

Table 31: Location 32 (AjHj-18) Artifact Summary

Artifact	Frequency	%
faunal	323	51.11
domestic	186	29.43
structural	87	13.77
personal	19	3.01
metal	15	2.37
miscellaneous	2	0.32
Total Artifacts	**632**	**100.00**

3.7.1 Domestic Artifacts

A total of 186 domestic artifacts were collected from Location 32 (AjHj-18). Included in the domestic assemblage are 167 fragments of ceramic hollowwares and flatwares, and 19 fragments of glass including bottle, lamp/chimney and dish glass.

3.7.1.1 Ceramic Artifacts

In total, 167 fragments of ceramic hollowwares and flatwares were collected during the Stage 2 assessment of Location 32 (AjHj-18). Included in this total are 62 fragments of whiteware, 51 fragments of ironstone, 39 fragments of utilitarian earthenware and stoneware and 15 fragments of pearlware. Table 32 provides a breakdown of the ceramic assemblage by ware type, while Table 33 provides a more detailed breakdown by decorative style.

Table 32: Summary of Ceramic Collection According to Ware type, Location 32 (AjHj-18)

Artifact	Frequency	%
whiteware	62	37.13
ironstone	51	30.54
utilitarian	39	23.35
pearlware	15	8.98
Total	**167**	**100**

Table 33: Summary of Ceramic Collection According to Decorative Style, Location 32 (AjHj-18)

Artifact	Frequency	%
earthenware, red	34	20.36
ironstone, plain	31	18.56
whiteware, plain	25	14.97
pearlware, plain	13	7.78
whiteware, stamped	9	5.39
whiteware, painted	9	5.39
whiteware, transfer print	8	4.79
whiteware, edged	7	4.19
ironstone ,painted	7	4.19
ironstone, transfer print	6	3.59
ironstone, edged	5	3.00
earthenware, yellow	3	1.80
whiteware, sponged	2	1.20
whiteware, flow transfer print	2	1.20
pearlware, painted	2	1.20
stoneware, salt glazed	2	1.20
ironstone, banded	1	0.60
ironstone, moulded	1	0.60
Total	**167**	**100.00**

Whiteware

The most common ceramic type collected during the Stage 2 assessment of Location 32 (AjHj-18) was whiteware (n=62, or 37.13%). Whiteware is a variety of earthenware with a near-colourless glaze that replaced earlier near-white ceramics such as pearlware and creamware. This shift in ware types began to occur by the early 1830s (Miller 1991). Twenty-five fragments of whiteware in the assemblage are plain (Plate 7:1), nine are stamped (Plate 7:2), nine are hand-painted (Plate 7:3), eight are transfer printed (Plate 7:4), seven are edged (Plate 7:5), two are sponged (Plate 7:6) and two are flow transfer printed (Plate 7:7).

Stamped and sponge decorated whiteware ceramics were a form of inexpensive tableware in which a sponge was used to apply an underglaze pigment. All-over sponging became popular by the 1840s and remained common until the 1870s. Both stamped and spongewares were produced in hollowware form and were among the cheapest wares available (Cruikshank 1982:1-7; 52-53). Eight of the stamped whiteware fragments in the assemblage have floral designs with blue painted bands, and one is a rim sherd with a brown floral design. One of the sponged whiteware fragments in the assemblage is blue, and the other is blue and red.

Nine hand-painted whiteware fragments are included in the assemblage. Four of these fragments are polychromatic and the colours visible are bright green, red and black. They are part of a broad-stoke floral pattern. Chrome painted designs of this type were popular between approximately 1830 and 1860 (Collard

1967). Four of the painted fragments have painted rim bands, two of which are red and may be examples of the common “hotel-ware” design, and two of which have polychromatic layered coloured rim bands. The final fragment displays a monochromatic blue broad-stroke floral pattern.

Transfer printed whiteware involved the transfer of an intricate pattern from a sheet of treated paper to the underglaze surface of the clay. Before 1830, almost all transfer printed wares were blue. After 1830, colours such as light blue, black, brown, green, purple and red became more common (Collard 1967). Transfer printed whiteware ceramics were less densely decorated than the earlier pearlware types, with more of the white background showing through the designs. Of the eight transfer printed whiteware fragments included in the assemblage, four are brown, two are blue, one is black and one is pink, some with geometric and some with floral designs.

Miller (1987) outlines the production range for edged wares according to rim decoration as follows: scalloped rim with impressed curved lines, 1780-1840; scalloped rim with impressed straight lines, 1795-1840; scalloped rim with impressed bud, 1800-1850; embossed raised patterns, 1820-1845; unscalloped and impressed rim, 1825-1891; and unscalloped and unmoulded rim, 1850-1897. All of the edged whiteware fragments in the assemblage are blue, and all are too fragmentary to be diagnostic.

Flow transfer ware enjoyed a long period of popularity, beginning around 1844 and tapering off around 1900 (Collard 1967; Miller 1991). Though blue was the most popular colour for flow transfer printing, other colours were also sometimes used. The two flow transfer printed whiteware fragments in the assemblage are blue.

Ironstone

Fifty-one fragments of ironstone were recovered during the Stage 2 assessment. Ironstone or graniteware is a variety of refined white earthenware introduced in the 1830’s that became extremely popular by the 1870’s and 1880’s due to its robust structure which made it more durable for life on Canadian homesteads (Kenyon 1985). Thirty-one fragments of ironstone in the assemblage are plain (Plate 7:8), seven are hand-painted (Plate 7:9) six are transfer printed (Plate 7:10), five are edged (Plate 7:11), one is banded (Plate 7:12) and one is moulded (Plate 7:13).

Seven hand-painted ironstone fragments are included in the assemblage. Six of these appear to be from the same piece of flatware, and display a painted blue band around the rim. The other fragment displays a light blue and green floral design with tulips.

In the 1830s and 1840s, the blue shade used in transfer printing became lighter in hue and the designs more open, and colours other than blue increased in popularity. From about 1850 to 1890 only the colours blue, black, and brown were common (Adams 1994). The transfer printed ironstone fragments included in the assemblage displare all blue, some with a geometric design and some displaying a pastoral scene.

Miller (1987) outlines the production range for edged wares according to rim decoration as follows: scalloped rim with impressed curved lines, 1780-1840; scalloped rim with impressed straight lines, 1795-1840; scalloped rim with impressed bud, 1800-1850; embossed raised patterns, 1820-1845; unscalloped and impressed rim, 1825-1891; and unscalloped and unmoulded rim, 1850-1897. The edged fragments in the assemblage are all blue, two with an unscalloped rim and faintly impressed straight lines, and the other two with an unscalloped rim and no impressions.

Banded wares were decorated with horizontal bands of coloured slip applied in varying widths. Banding occurred both as a primary decorative element and in conjunction with other design elements such as marbling, or the dendritic patterns found on mocha ware (Sussman 1997). The banded ironstone fragment in the assemblage displays blue and brown slip banding.

During the 1870s to 1880s ironstone was the most popular type of tableware ceramic in Ontario, and its white varieties rarely had coloured decoration. Instead, it often had raised moulded designs. The most popular and enduring of these was the "wheat" pattern, though a grape vine motif was also favoured quite often, as well as a pattern involving corn cobs (Kenyon 1980). The moulded ironstone fragment in the assemblage is damaged and the design is indeterminate.

Utilitarian Ceramics

There were 34 red earthenware fragments and three yellow earthenware fragments collected from Location 32 (AjHj-18). Red and yellow earthenware vessels were manufactured throughout the late 18th and 19th centuries and were the most common utilitarian ware in the first half of the 19th century, eventually being replaced by more durable stoneware vessels (Miller 1987). All of the red earthenware fragments have a light brown glaze and could potentially belong to the same vessel. These pieces include a large rim fragment representing a large storage container. The fragments of yellow earthenware all have a clear glaze and consist of one large piece and two smaller pieces, seemingly from the same or similar large vessel.

Two fragments of stoneware were collected from this location. Stoneware vessels were produced throughout the 19th century and became more durable and refined over time. Both fragments have a salt glaze exterior and a light brownish yellow glaze interior and potentially come from the same vessel.

Pearlware

A total of 15 fragments of pearlware were collected from Location 32 (AjHj-18). Pearlware, sometimes referred to as "China glazed", is a variety of earthenware that was popular from 1780 to 1840. When placed on white earthenware bisque, this glaze gave the impression of a "whiter" ware than the earlier yellow tinted creamware (Millar 1987). Pearlware pieces in this collection include 14 plain fragments (Plate 8:1) and one rim fragment with a green painted band and blue stamped design (Plate 8:2).

3.7.1.2 Glass Artifacts

Nineteen fragments of glass were recovered from Location 32 (AjHj-18). This collection includes 11 lamp or chimney glass fragments (8 of which are colourless and 3 of which are frosted), seven fragments of bottle glass and one colourless fragment of press-moulded dish glass.

The bottle glass assemblage includes four aqua body fragments and three olive wine bottle body fragments. Aqua glass generally originates from medical and pharmaceutical products including patent medicine bottles of the 19th and 20th century (Kendrick 1971).

Pressed glass item of various forms (plates, compotes, goblets), often with intricate decoration, were very popular in Canada from the 1870's to the 1920s (Adams 1994; Jones and Sullivan 1989). The press-moulded glass fragment in the assemblage displays a geometric pattern and appears to be a fragment of a serving dish.

3.7.2 Faunal Remains

Three hundred and twenty-three pieces of faunal remains are included in the assemblage. Of these, 124 are burnt and/or calcined mammalian and avian bone fragments, 116 are unburnt cortical and cancellous fragments (mostly mammalian with some avian), 27 are vertebral fragments from a medium to large mammal, 15 are long bone fragments from a medium to large mammal, 11 are rib fragments from a medium to large mammal, seven are diaphyses from the long bones of a juvenile medium to large mammal, four are avian long bone fragments (one of which is likely from a duck), three are innominate bone fragments from a large mammal, two are astragalus bones from a medium to large mammal, two are mandibular fragments (one of which is from a pig) and one is a phalanx from a medium to large mammal.

3.7.3 Structural Artifacts

There were 87 structural artifacts collected from Location 32 (AjHj-18). These assemblage consists of 28 machine-cut nails (Plate 8:3), 22 fragments of window glass, 18 fragments of brick (9 red and 9 yellow), 12 hand wrought nails (Plate 8:4), one small wrought spike (Plate 8:5) and one indeterminate headless nail.

Wrought nails were the most commonly used nail in Upper Canada until about 1830 when machine cut nails started to become more popular (Adams 1994). Cut nails are temporally later than wrought nails, the result of a machinated process for cutting metal. They were invented as early as 1790, but did not become common in Ontario until 1830.

A total of 22 fragments of window glass were recovered in the Stage 2 assessment. Ian Kenyon (1980) provides a pre-1850 date for window panes that have an average thickness of less than 1.6 mm. Window pane thickness increased throughout the 19th century as the trend shifted towards using larger windows when building homes. Of the window glass fragments in the assemblage, two are damaged by fire, 16 are greater than 1.7 millimetres and can be dated to post-1850, and one is less than 1.6 millimetres and can be dated to pre-1850.

3.7.4 Personal Artifacts

A total of 19 personal items were recovered during the Stage 2 assessment of Location 32 (AjHj-18). Included in the personal items assemblage are: eight shoe or boot eyelets (Plate 8:6), four white clay pipe bowl fragments (Plate 8:7), two fragmentary white clay pipe stems (Plate 8:8), one white clay pipe elbow and bowl fragment (Plate 8:9), a four-holed bone button (Plate 8:10), an "agate" pressed ceramic button (Plate 8:11), a fragmentary metal button with a scrap of fabric attached (Plate 8:12) and a single small clay marble (Plate 8:13).

White clay pipes were very popular throughout the 19th century, with a decline in use by 1880 when they were replaced by briar pipes and cigarettes (Adams 1994:93). Most white clay pipes found in Upper Canada were manufactured either in Quebec or Scotland; occasionally examples from English, Dutch, French and American makers are also found. Sometimes the maker's name and/or city of manufacture were impressed on one side of the pipe stem, a practise which did not become popular until the 1840s (Adams 1994:93).

Agate buttons are similar in colour and size (usually about 10mm) to modern shirt buttons. The “agate” was in fact a type of pressed ceramic powder made using the so-called “Prosser” process patented in 1840. Agate buttons became widely distributed in Canada by the late 1840s and are common on sites from this time on (Adams 1995).

3.7.5 Metal Artifacts

There were 15 metal artifacts included in the assemblage including 14 thin metal fragments, possibly from cans or metal sheeting, and one fragment of iron strapping.

3.7.6 Miscellaneous Artifacts

There were two artifacts recovered during the Stage 2 assessment that are classified as miscellaneous. This includes one fragment of charcoal and a broken whetstone, likely used for sharpening knives and other tools (Plate 8:14).

3.7.7 Artifact Catalogue

Table 34 presents the Stage 2 artifact catalogue for Location 32 (AjHj-18).

Table 34: Location 32 (AjHj-18) Artifact Catalogue

Cat. #	Context	Depth	Artifact	Freq.	Comments
1	test pit	-	nail, cut	1	broken, square head
2	test pit	-	nail, cut	1	square head
3	test pit	-	nail, cut	1	square head
4	test pit	-	glass, bottle	1	olive green, wine bottle, body
5	test pit	-	glass, window	1	> 1.7 mm thick
6	test pit	-	brick	1	red
7	test pit	-	brick	1	yellow
8	test pit	-	mortar	1	white
9	test pit	-	earthenware, red	1	lead glaze, body
10	test pit	-	earthenware, red	1	lead glaze, rim
11	test pit	-	earthenware, red	1	lead glaze, body
12	test pit	-	earthenware, red	1	lead glaze, body
13	test pit	-	earthenware, red	1	lead glaze, body
14	test pit	-	earthenware, red	1	lead glaze, body
15	test pit	-	earthenware, red	1	lead glaze, rim
16	test pit	-	earthenware, red	1	lead glaze, body

Cat. #	Context	Depth	Artifact	Freq.	Comments
17	test pit	-	earthenware, red	1	lead glaze, body
18	test pit	-	earthenware, red	1	lead glaze, body
19	test pit	-	earthenware, red	1	lead glaze, body
20	test pit	-	earthenware, red	1	lead glaze, body
21	test pit	-	earthenware, red	1	lead glaze, body
22	test pit	-	earthenware, red	1	lead glaze, body
23	test pit	-	earthenware, red	1	lead glaze, body
24	test pit	-	whiteware, sponged	1	blue, body
25	test pit	-	whiteware, plain	1	body
26	test pit	-	whiteware, plain	1	body
27	test pit	-	ironstone, plain	1	body
28	test pit	-	ironstone, plain	1	body
29	test pit	-	pearlware, plain	1	body
30	test pit	-	ironstone, banded	1	blue and brown Industrial slip
31	test pit	-	ironstone, transfer print	1	blue, buildings depicted
32	test pit	-	ironstone, transfer print	1	blue, buildings depicted
33	test pit	-	whiteware, transfer print	1	red
34	test pit	-	whiteware, plain	1	body
35	test pit	-	ironstone, plain	1	body
36	test pit	-	whiteware, flow transfer print	1	blue
37	test pit	-	whiteware, flow transfer print	1	blue
38	test pit	-	faunal remains	1	
39	test pit	-	faunal remains	1	
40	test pit	-	faunal remains	1	
41	test pit	-	faunal remains	1	
42	test pit	-	faunal remains	1	
43	test pit	-	faunal remains	1	
44	test pit	-	faunal remains	1	
45	test pit	-	faunal remains	1	
46	test pit	-	faunal remains	1	
47	test pit	-	faunal remains	1	
48	test pit	-	faunal remains	1	

Cat. #	Context	Depth	Artifact	Freq.	Comments
49	1x1m test unit	0-23 cm	brick	16	8 yellow, 8 red
50	1x1m test unit	0-23 cm	mortar	3	coarse grain sand
51	1x1m test unit	0-23 cm	whet stone	1	whet stone
52	1x1m test unit	0-23 cm	mortar	1	Limestone with mortar on it
53	1x1m test unit	0-23 cm	button, bone	1	4 holes
54	1x1m test unit	0-23 cm	button, glass	1	4 holes, white, Prosser button
55	1x1m test unit	0-23 cm	clay marble	1	
56	1x1m test unit	0-23 cm	white clay pipe, stem	2	
57	1x1m test unit	0-23 cm	white clay pipe, elbow	1	partial bowl, partial mark, recently broken
58	1x1m test unit	0-23 cm	white clay pipe, bowl	4	
59	1x1m test unit	0-23 cm	nail, cut	25	
60	1x1m test unit	0-23 cm	nail, indeterminate	1	
61	1x1m test unit	0-23 cm	nail, wrought	1	head missing, spike
62	1x1m test unit	0-23 cm	nail, wrought	12	
63	1x1m test unit	0-23 cm	metal strap	1	
64	1x1m test unit	0-23 cm	metal, misc.	14	possible can rims and pieces, possible knife blade
65	1x1m test unit	0-23 cm	glass, chimney/lamp	3	frosted
66	1x1m test unit	0-23 cm	glass, dish	1	clear, moulded, geometric pattern
67	1x1m test unit	0-23 cm	glass, window	2	burnt
68	1x1m test unit	0-23 cm	glass, bottle	2	olive green, wine bottle, body
69	1x1m test unit	0-23 cm	glass, chimney/lamp	8	clear
70	1x1m test unit	0-23 cm	glass, window	19	4 <1.6 mm, 15 >1.7mm

Cat. #	Context	Depth	Artifact	Freq.	Comments
71	1x1m test unit	0-23 cm	shoe/boot, eyelet	8	
72	1x1m test unit	0-23 cm	faunal remains	312	124 burnt, 116 assorted mam and avian frags, 27 vertebral med-lrg mam, 15 long bone frags med-lrg mam, 11 ribs med-lrg mam, 7 diaphyses juvenile med-lrg mam, 4 avian long bone frags, 3 innominates lrg mam, 2 mandibles (1 pig), 2 astragalus med-lrg mam, I phalanx med-lrg mam
73	1x1m test unit	0-23 cm	charcoal	1	
74	1x1m test unit	0-23 cm	earthenware, yellow	3	
75	1x1m test unit	0-23 cm	earthenware, red	19	lead glaze, 1 rim
76	1x1m test unit	0-23 cm	whiteware, stamped	9	blue lines and floral, 1 brown
77	1x1m test unit	0-23 cm	pearlware, painted	1	green band, blue floral stamp
78	1x1m test unit	0-23 cm	pearlware, plain	13	body, rims, base, foot ring
79	1x1m test unit	0-23 cm	whiteware, transfer print	7	brown and blue, one burnt
80	1x1m test unit	0-23 cm	whiteware, painted	9	polychrome, bands, flowers, pink, green, black, blue
81	1x1m test unit	0-23 cm	whiteware, sponged	1	blue and red
82	1x1m test unit	0-23 cm	whiteware, plain	22	
83	1x1m test unit	0-23 cm	ironstone, edged	5	blue, uncalloped faintly impressed and non impressed
84	1x1m test unit	0-23 cm	ironstone, painted	6	blue bands
85	1x1m test unit	0-23 cm	ironstone, transfer print	4	blue, geometric design
86	1x1m test unit	0-23 cm	ironstone, plain	28	some burnt pieces
87	1x1m test unit	0-23 cm	whiteware, edged	7	blue, various and indeterminate
88	1x1m test unit	0-23 cm	ironstone, painted	1	light blue and green floral

Cat. #	Context	Depth	Artifact	Freq.	Comments
89	1x1m test unit	0-23 cm	ironstone, moulded	1	burnt rim
90	1x1m test unit	0-23 cm	stoneware, salt glaze	2	yellow/brown glaze
91	1x1m test unit	0-23 cm	button, metal	1	partial metal button, some remains of fabric
92	1x1m test unit	0-23 cm	glass, bottle	4	light aqua, 2 burnt pieces

3.8 Location 33 (AiHj-16)

Location 33 (AiHj-16), located in parcel BLW1498 south of Staffa Road and west of Bronson Line, is a historic Euro-Canadian site that is approximately 5 metres by 5 metres and was identified during the Stage 2 test pit survey of the proposed collector cable corridor (Sup. Doc. B, Figure 9; Sup. Doc. D, Figure 8). In total, 28 artifacts were collected during the Stage 2 assessment through test pitting and the excavation of a one-by-one metre test unit including: 24 domestic, 3 structural, and one personal item (Table 35). Each artifact class is discussed in greater detail below.

Table 35: Location 33 (AiHj-16) Artifact Summary

Artifact	Frequency	%
domestic	24	85.71
structural	3	10.71
personal	1	3.57
Total Artifacts	**28**	**100.00**

3.8.1 Domestic Artifacts

A total of 24 domestic artifacts were collected from Location 33 (AiHj-16). This includes 22 fragments of ceramic hollowwares and flatwares, and two fragments of glass.

3.8.1.1 Ceramic Artifacts

In total, 22 fragments of ceramic hollowwares and flatwares were collected during the Stage 2 assessment of Location 33 (AiHj-16). Included in this total are 13 fragments of whiteware, five fragments of semi-porcelain, two fragments of ironstone and two fragments of utilitarian earthenware. Table 36 provides a breakdown of the ceramic assemblage by ware type, while Table 37 provides a more detailed breakdown by decorative style.

Table 36: Summary of Ceramic Collection According to Ware type, Location 33 (AiHj-16)

Artifact	Frequency	%
whiteware	13	59.09
semi-porcelain	5	22.73
ironstone	2	9.09
utilitarian	2	9.09
Total	**22**	**100.00**

Table 37: Summary of Ceramic Collection According to Decorative Style, Location 33 (AiHj-16)

Artifact	Frequency	%
whiteware, plain	8	36.36
semi-porcelain, plain	5	22.73
whiteware, sponged	3	13.64
whiteware, transfer print	2	9.09
ironstone, stamped	1	4.54
ironstone, plain	1	4.54
red earthenware, plain	1	4.54
yellow earthenware, lead glaze	1	4.54
Total	**22**	**100.00**

Whiteware

The most common ceramic type collected during the Stage 2 assessment of Location 33 (AiHj-16) was whiteware (n=13, or 59.09%). Whiteware is a variety of earthenware with a near-colourless glaze that replaced earlier near-white ceramics such as pearlware and creamware. This shift in ware types began to occur by the early 1830s (Miller 1991). Eight fragments of whiteware in the assemblage are plain (Plate 9:1), three are sponged (Plate 9:2) and two are transfer printed (Plate 9:3).

Sponge decorated whiteware ceramics were a form of inexpensive tableware in which a sponge was used to apply an underglaze pigment. All-over sponging became popular by the 1840s and remained common until the 1870s. Both stamped and spongewares were produced in hollowware form and were among the cheapest wares available (Cruikshank 1982:1-7; 52-53). Two of the sponged whiteware fragments in the assemblage are blue, and the other is red and green.

Transfer printed whiteware involved the transfer of an intricate pattern from a sheet of treated paper to the underglaze surface of the clay. Before 1830, almost all transfer printed wares were blue. After 1830, colours such as light blue, black, brown, green, purple and red became more common (Collard 1967). Transfer printed whiteware ceramics were less densely decorated than the earlier pearlware types, with more of the white

background showing through the designs. Both transfer printed whiteware fragments in the assemblage are blue with an indeterminate design.

Semi-Porcelain

Five pieces of plain semi-porcelain were recovered during the Stage 2 assessment (Plate 9:4). During the first half of the 19th century, the English improved pottery techniques resulting in the production of durable and decorative wares with trade names such as semi-porcelain. This hard earthenware sought to emulate imported porcelains but lacked true translucency. In 1850, semi-porcelains were reintroduced and this vitreous, hard-glazed white earthenware resembling bone china soon dominated the marketplace (Hughes 1961).

Ironstone

One plain fragment (Plate 9:5) and one stamped fragment of ironstone (Plate 9:6) were recovered during the Stage 2 assessment. Ironstone or graniteware is a variety of refined white earthenware introduced in the 1830's that became extremely popular by the 1870's and 1880's due to its robust structure which made it more durable for life on Canadian homesteads (Kenyon 1985). It is usually much thicker than other whiteware and often decorated with raised moulded designs of wheat or fruit.

Stamped decorated whiteware ceramics were a form of inexpensive tableware in which a sponge was used to apply an underglaze pigment. Both stamped and spongewares were produced in hollowware form and were among the cheapest wares available (Cruikshank 1982:1-7; 52-53). The stamped fragment in the assemblage displays a green floral design.

Utilitarian Earthenware

Two fragments of utilitarian earthenwares were recovered during the Stage 2 assessment. Red and yellow earthenware vessels were manufactured throughout the late 18th and 19th centuries and were the most common utilitarian ware in the first half of the 19th century, eventually being replaced by more durable stoneware vessels (Miller 1987). One of the utilitarian fragments recovered is unglazed red earthenware, and the other is lead glazed yellow earthenware.

3.8.2 Structural Artifacts

There were three structural artifacts collected from Location 33 (AiHj-16) including one wire-drawn nail (Plate 9:7), one fragment of red brick and one piece of window glass.

Wire drawn nails are identical to the type of nails currently used today, with a flat, round head and a wire shaft. They became popular in the 1890's and continue to be used today (Adams 1994). Ian Kenyon (1980) provides a pre-1850 date for window panes that have an average thickness of less than 1.6 mm. The window glass fragment in the assemblage is equal to or greater than 1.7 mm, and thus can be dated to post-1850, but the sample size of window glass produced by this site is too small to be useful as a diagnostic tool.

3.8.3 Personal Artifacts

A single fragment of white clay pipe bowl makes up the personal artifact assemblage (Plate 9:8). White clay pipes were very popular throughout the 19th century, with a decline in use by 1880 when they were replaced by briar pipes and cigarettes (Adams 1994:93). Most white clay pipes found in Upper Canada were manufactured either in Quebec or Scotland; occasionally examples from English, Dutch, French and American makers are also found (Adams 1994:93).

3.8.4 Artifact Catalogue

Table 38 presents the Stage 2 artifact catalogue for Location 33 (AiHj-16).

Table 38: Location 33 (AiHj-16) Artifact Catalogue

Cat. #	Context	Depth	Artifact	Freq.	Comments
1	1x1m test unit	15 cm	glass, undetermined	1	melted sun coloured amethyst glass (bead?)
2	1x1m test unit	15 cm	brick, red	1	red
3	1x1m test unit	15 cm	whiteware, sponged	2	1 blue, 1 red and green
4	1x1m test unit	15 cm	whiteware, transfer print	2	blue, indeterminate design
5	1x1m test unit	15 cm	earthenware, red	1	plain/unglazed
6	1x1m test unit	15 cm	whiteware, plain	5	
7	1x1m test unit	15 cm	ironstone, plain	1	
8	1x1m test unit	15 cm	nail, wire drawn	1	heavily corroded, double head
9	test pit		earthenware, yellow	1	rim, buff lead glaze
10	test pit		white clay pipe bowl	1	fragmentary
11	test pit		ironstone, stamped	1	green floral
12	test pit		whiteware, plain	1	
13	test pit		semi-porcelain	5	1 foot ring frag, body frags.
14	test pit		glass, window	1	> 1.7 mm
15	test pit		whiteware, plain	2	
16	test pit		whiteware, sponged	1	blue
17	test pit		glass, undetermined	1	melted aqua bottle glass

3.9 Location 34 (AjHj-19)

Location 34 (AjHj-19), a pre contact Aboriginal site, was identified during the Stage 2 pedestrian survey of the proposed collector cable corridor (Sup. Doc. B, Figure 4; Sup. Doc. D, Figure 9). The site, located on property BLW1064 north of Pavillion Road and east of Goshen Line, consists of an isolated projectile point manufactured

from Onondaga chert (Plate 10:1). As detailed in Section 2.0, survey intervals were intensified to one metre for a twenty metre radius surrounding this projectile point, but no additional artifacts were identified.

This projectile point is broken at the base. It has a length of 61.56 millimetres, an incomplete basal width of 12.5 millimetres, a shoulder width of 23.59 millimetres and a thickness of 7.93 millimetres. The projectile point has been identified as a Lamoka point. In Ontario, this projectile point type dates to *circa* 3200-2200 B.C., during the Narrow Point Late Archaic (Ellis et al. 2009:812; Ritchie 1971:29, 82-85).

3.9.1 Artifact Catalogue

Table 39 represents the Stage 2 artifact catalogue for this pre contact Aboriginal site.

Table 39: Location 34 (AjHj-19) Artifact Catalogue

Cat. #	Context	Depth	Artifact	Freq.	Comments
1	surface collection	0 cm	projectile point	1	Onondaga chert, broken base, Lamoka Point

3.10 Location 35 (AjHj-20)

Location 35 (AjHj-20), a pre contact Aboriginal site, was identified during the Stage 2 pedestrian survey of the proposed collector cable corridor (Sup. Doc. B, Figure 4; Sup. Doc. D, Figure 10). The site, located on property BLW1064 north of Pavillion Road and east of Goshen Line, consists of an isolated projectile point manufactured from Kettle Point chert (Plate 11:1). As detailed in Section 2.0, survey intervals were intensified to one metre for a twenty metre radius surrounding this projectile point, but no additional artifacts were identified.

This projectile point is complete. It has a length of 40.2 millimetres, a basal width of 17.63 millimetres, a shoulder width of 17.59 millimetres, an inter-notch width of 11.34 millimetres and a thickness of 5.27 millimetres. The projectile point has been identified as a Brewerton side-notch point. In Ontario, this projectile point type dates to *circa* 3780-3200 B.C., during the Middle Archaic (Ellis et al. 2009:807-811; Kenyon 1981).

3.10.1 Artifact Catalogue

Table 40 represents the Stage 2 artifact catalogue for this pre contact Aboriginal site.

Table 40: Location 35 (AjHj-20) Artifact Catalogue

Cat. #	Context	Depth	Artifact	Freq.	Comments
1	surface collection	0 cm	projectile point	1	Kettle Point chert, complete, Brewerton side-notch

4.0 ANALYSIS AND CONCLUSIONS

This additional 2012 Stage 2 assessment of the Bluewater Wind Energy Centre resulted in the identification of 10 archaeological sites, including 3 pre contact Aboriginal, 1 multi-component and 6 Euro-Canadian historic. Analyses of each location are provided below.

4.1 Location 26 (AjHj-15)

The artifacts collected during the Stage 2 assessment of Location 26 (AjHj-15) represent a scatter of over 100 artifacts spanning the 19th century, with an isolated pre contact Aboriginal component. Thirty-one artifacts were collected from the surface including 25 domestic items, as well as four structural items, one piece of metal hardware and one pre contact Aboriginal bifacially worked lithic tool. Ceramics present in the domestic assemblage are largely ironstone and whiteware, with an isolated fragment of late 19th century semi-porcelain. In addition, there is an oil finish bottle neck and top that may indicate pre-1900 occupation of the site.

Spatially, Location 26 (AjHj-15) is located on Lot 10, Concession 4, in the Geographic Township of Stanley, Huron County, Ontario. Donald McDougall is listed as owning this lot on the 1879 map of the Township of Stanley. The location is situated on the northwestern side of this lot, with a house indicated just to the east. The presence of over 20 artifacts dating the period of use to the mid-to-late 19th century as well as the presence of a homestead within the vicinity on the historic mapping lends cultural heritage value or interest to the site. Based on these considerations, the artifacts identified fulfill the criteria for a Stage 3 archaeological investigation as per Section 2.2 Standard 1c of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011), to further evaluate its cultural heritage value or interest. The site has been registered with the Ministry of Tourism, Culture and Sport, and has been assigned Borden number AjHj-15.

4.2 Location 27

The Stage 2 assessment of Location 27 produced two pre contact Aboriginal artifacts, a small spent core manufactured from Haldimand chert and a piece of chipping detritus manufactured from Onondaga chert. These artifacts are temporally non-diagnostic except for the fact that they were produced by a pre contact Aboriginal people. Given the isolated nature of the finds, the cultural heritage value or interest of the site is considered to be sufficiently documented.

4.3 Location 28 (AiHj-15)

The artifacts collected during the Stage 2 assessment of Location 28 (AiHj-15) represent an assemblage spanning the 19th century. Twenty-six artifacts were collected during the excavation of test pits and a 1.0 x 1.0 metre test unit, including 15 domestic items, as well as nine structural items and two fragments of metal hardware. Ceramics present in the domestic assemblage are largely ironstone, with a single fragment of utilitarian earthenware. In addition, the assemblage includes a fragment of window glass that can be dated to post-1850.

Spatially, Location 28 (AiHj-15) is located on Lot 9, Concession 9, in the Geographic Township of Stanley, Huron County, Ontario. John Peck is listed as owning this lot on the 1879 map of the Township of Stanley. The location is situated in the northeastern end of the lot, with one house indicated just to the south and two houses

just to the east. The presence of over 20 artifacts dating the period of use to the mid-to- late 19th century as well as the presence of several homesteads within the vicinity on the historic mapping lends cultural heritage value or interest to the site. Based on these considerations, the artifacts identified fulfill the criteria for a Stage 3 archaeological investigation as per Section 2.2 Standard 1c of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011), to further evaluate its cultural heritage value or interest. The site has been registered with the Ministry of Tourism, Culture and Sport, and has been assigned AiHj-15.

4.4 Location 29 (AjHj-16)

The artifacts collected during the Stage 2 assessment of Location 29 (AjHj-16) represent an assemblage spanning the 19th century. One hundred and seventy-four artifacts were collected during the excavation of test pits and two 1.0 x 1.0 metre test units, including 90 domestic items, 41 pieces of faunal remains, 32 structural items, five pieces of recent material, as well as two metal, two miscellaneous and two personal artifacts. Ceramics present in the domestic assemblage are largely whiteware and ironstone.

Spatially, Location 29 (AjHj-16) is located on Lot 15, Concession 9, in the Geographic Township of Stanley, Huron County, Ontario. William Keys is listed as owning this lot on the 1879 map of the Township of Stanley. The location is situated in the northeastern corner of the lot where a house is indicated, and is situated just north of a church and west of another house. The presence of over 20 artifacts dating the period of use to the mid-to-late 19th century as well as the presence of several homesteads and a church within the vicinity on the historic mapping lends cultural heritage value or interest to the site. Based on these considerations, the artifacts identified fulfill the criteria for a Stage 3 archaeological investigation as per Section 2.2 Standard 1c of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011), to further evaluate its cultural heritage value or interest. The site has been registered with the Ministry of Tourism, Culture and Sport, and has been assigned AjHj-16.

4.5 Location 30 (AjHi-12)

The artifacts collected during the Stage 2 assessment of Location 30 (AjHi-12) represent a scatter of approximately 80 artifacts spanning the 19th century. Sixty-four artifacts were collected from the surface including 63 domestic items and one structural item. Ceramics present in the domestic assemblage are largely whiteware and ironstone. In addition, several fragments of pearlware ceramics are included in the assemblage, which may suggest an early-to-mid 19th century occupation date for the site.

Spatially, Location 30 (AjHi-12) is located on Lot 26, Concession 4, in the Geographic Township of Tuckersmith, Huron County, Ontario. A. Gordon is listed as owning a portion of this lot on the 1879 map of the Township of Tuckersmith. The location is situated in the southeastern corner of the lot, just north of where a house is indicated, and just northwest of another. The presence of over 20 artifacts dating the period of use to the mid-to-late 19th century as well as the presence of several homesteads within the vicinity on the historic mapping lends cultural heritage value or interest to the site. Based on these considerations, the artifacts identified fulfill the criteria for a Stage 3 archaeological investigation as per Section 2.2 Standard 1c of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011), to further evaluate its cultural heritage value or interest. The site has been registered with the Ministry of Tourism, Culture and Sport, and has been assigned AjHi-12.

4.6 Location 31 (AjHj-17)

The artifacts collected during the Stage 2 assessment of Location 31 (AjHj-17) represent an assemblage spanning the 19th century. One hundred and ninety-nine artifacts were collected during the excavation of test pits and a 1.0 x 1.0 metre test unit, including 166 domestic items, 28 structural items, four pieces of faunal remains and one fragment of recent material. Ceramics present in the domestic assemblage are largely ironstone, with a small amount of whiteware and utilitarian earthenware. In addition, the assemblage includes several fragments of window glass that can be dated to post-1850.

Spatially, Location 31 (AjHj-17) is located on Lot 12, Concession 9, in the Geographic Township of Stanley, Huron County, Ontario. William L. Keys is listed as owning this lot on the 1879 map of the Township of Stanley. The location is situated in the northeastern corner of the lot where a house is indicated, and is situated just to the south and northwest of two more houses, respectively. The presence of over 20 artifacts dating the period of use to the mid-to- late 19th century as well as the presence of several homesteads within the vicinity on the historic mapping lends cultural heritage value or interest to the site. Based on these considerations, the artifacts identified fulfill the criteria for a Stage 3 archaeological investigation as per Section 2.2 Standard 1c of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011), to further evaluate its cultural heritage value or interest. The site has been registered with the Ministry of Tourism, Culture and Sport, and has been assigned Borden number AjHj-17.

4.7 Location 32 (AjHj-18)

The artifacts collected during the Stage 2 assessment of Location 32 (AjHj-18) represent an assemblage spanning the 19th century. Six hundred and thirty-two artifacts were collected during the excavation of test pits and a 1.0 x 1.0 metre test unit, including 323 pieces of faunal remains, 186 domestic, 87 structural, 19 personal, 15 metal and two miscellaneous items. Ceramics present in the domestic assemblage are largely whiteware and ironstone. In addition, several fragments of pearlware ceramics are included in the assemblage, which may suggest an early-to-mid 19th century occupation date for the site.

Spatially, Location 32 (AjHj-18) is located on Lot 13, Concession 9, in the Geographic Township of Stanley, Huron County, Ontario. Andrew Keys is listed as owning a portion of this lot on the 1879 map of the Township of Stanley. The location is situated in the east end of the lot, just north of where two houses are indicated, and northwest of a schoolhouse. The presence of over 20 artifacts dating the period of use to the mid-to- late 19th century as well as the presence of several homesteads and a schoolhouse within the vicinity on the historic mapping lends cultural heritage value or interest to the site. Based on these considerations, the artifacts identified fulfill the criteria for a Stage 3 archaeological investigation as per Section 2.2 Standard 1c of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011), to further evaluate its cultural heritage value or interest. The site has been registered with the Ministry of Tourism, Culture and Sport, and has been assigned Borden number AjHj-18.

4.8 Location 33 (AiHj-16)

The artifacts collected during the Stage 2 assessment of Location 33 (AiHj-16) represent an assemblage spanning the 19th century. Twenty-eight artifacts were collected during the excavation of test pits and a 1.0 x 1.0

metre test unit, including 24 domestic, three structural items and one personal item. Ceramics present in the domestic assemblage are largely whiteware. In addition, the assemblage includes a fragment of window glass that can be dated to post-1850.

Spatially, Location 33 (AiHj-16) is located on Lot 5, Concession 12, in the Geographic Township of Stanley, Huron County, Ontario. John Thirsle is listed as owning a portion of this lot on the 1879 map of the Township of Stanley. The location is situated in the west end of the lot, just north of where a house is indicated, and just east of two more houses. The presence of over 20 artifacts dating the period of use to the mid-to- late 19th century as well as the presence of several homesteads within the vicinity on the historic mapping lends cultural heritage value or interest to the site. Based on these considerations, the artifacts identified fulfill the criteria for a Stage 3 archaeological investigation as per Section 2.2 Standard 1c of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011), to further evaluate its cultural heritage value or interest. The site has been registered with the Ministry of Tourism, Culture and Sport, and has been assigned Borden number AiHj-16.

4.9 Location 34 (AjHj-19)

The Stage 2 pedestrian assessment of Location 34 (AjHj-19) resulted in the recovery of one pre contact Aboriginal artifact, a broken projectile point. It has been identified as a Lamoka point. In Ontario, this projectile point type dates to *circa* 3200-2200 B.C., during the Narrow Point Late Archaic (Ellis et al. 2009:812). Given the isolated nature of the find, the cultural heritage value or interest of the site is considered to be sufficiently documented. The site has been registered with the Ministry of Tourism, Culture and Sport, and has been assigned Borden number AjHj-19.

4.10 Location 35 (AjHj-20)

The Stage 2 pedestrian assessment of Location 35 (AjHj-20) resulted in the recovery of one pre contact Aboriginal artifact, a broken projectile point. It has been identified as a Brewerton side-notch point. In Ontario, this projectile point type dates to *circa* 3780-3200 B.C., during the Middle Archaic (Ellis et al. 2009:807-811). Given the isolated nature of the find, the cultural heritage value or interest of the site is considered to be sufficiently documented. The site has been registered with the Ministry of Tourism, Culture and Sport, and has been assigned Borden number AhHj-20.

4.11 Preliminary Indication of Sites Possibly Requiring Stage 4 Archaeological Assessment

This preliminary indication of whether any site could be eventually recommended for Stage 4 archaeological assessment is required under the *Standards and Guidelines for Consultant Archaeologists* Section 7.8.3 Standard 2c. No firm recommendation for or against Stage 4 archaeological assessment will be made until the forthcoming Stage 3 archaeological assessment has been conducted. In addition, any sites recommended for Stage 3 archaeological assessment, but not listed here, could still require Stage 4 archaeological assessment pending the outcome of the Stage 3 field work. In any case, it is anticipated that no sites will be subject to Stage 4 archaeological assessment. However, this judgement could change once the Stage 3 field work has been conducted.

5.0 RECOMMENDATIONS

A Stage 2 archaeological assessment was conducted by Golder on behalf of AECOM Canada Ltd. for NextEra Energy (NEEC) Canada's proposed Bluewater Wind Energy Centre. The study area is located on various lots and concessions in the Geographic Townships of Stanley, Hay and Tuckersmith, now Municipalities of Bluewater and Huron East, Huron County, Ontario (Figure 1). The study area is approximately 786.74 hectares in area. This area incorporates the proposed turbine locations, underground electric cable corridors, access roads, service roads, vehicle and crane turnarounds, substations, transmission lines, and equipment lay down and set-up locations for 37 wind turbines (although 41 potential locations will be permitted and are studied here) included in the NEEC Bluewater Wind Energy Centre.

The additional Stage 2 assessment of the Bluewater Wind Energy Project resulted in the identification of 10 archaeological sites, including 3 pre contact Aboriginal and seven historic Euro-Canadian. Recommendations for each location are found below.

5.1 Location 26 (AjHj-15)

The Stage 2 assessment of Location 26 (AjHj-15) resulted in the recovery of 30 mid-to-late 19th century historic Euro-Canadian artifacts and one pre contact Aboriginal artifact. Only the portion of the site located on the proposed T-line corridor was assessed and yielded a surface collection of 31 artifacts; a higher concentration of artifacts was observed to the outside of the study area but only artifacts located on the proposed T-line corridor were recovered. Given that mid-to-late 19th century whiteware and ironstone ceramics comprised 92.86% of the recovered ceramic assemblage, **it is recommended that Location 26 (AjHj-15) be subject to a Stage 3 assessment prior to any ground disturbance activities to further test the nature and density of the site.**

The Stage 3 assessment should employ both the controlled surface pick-up and hand excavated test unit methodology as outlined in Table 3.1 of the Ministry of Tourism, Culture and Sport's *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). Prior to conducting the field work the area should be re-ploughed and allowed to weather for the controlled surface pick-up. The test unit excavation should consist of one metre by one metre square test units laid out in a five metre grid as well as additional units (amounting to 20% of the grid total) placed based on areas of interest within the site. All units should be excavated by hand to a depth of five centimetres within the subsoil. Site specific land registry research should also be conducted as part of the Stage 3 assessment.

5.2 Location 27

The Stage 2 assessment of Location 27 resulted in the recovery of two pre contact Aboriginal artifacts, a spent core and a piece of chipping detritus. Despite the intensification of survey intervals no additional artifacts were recovered. Given that the cultural heritage value or interest of the site has been sufficiently documented, **no further archaeological assessment is recommended for Location 27**.

5.3 Location 28 (AiHj-15)

The Stage 2 assessment of Location 28 (AiHj-15) (AiHj-15) resulted in the recovery of 26 mid-to-late 19th century historic Euro-Canadian artifacts. Only the portion of the site located on the proposed collector cable corridor was

assessed and yielded a collection of 26 artifacts through test excavation; a higher concentration of artifacts was observed to the outside of the study area but only artifacts located on the proposed collector cable corridor were recovered. Given that mid-to-late 19th century ironstone and utilitarian ceramics comprised 100.00% of the recovered ceramic assemblage, **it is recommended that Location 28 (AiHj-15) be subject to a Stage 3 assessment prior to any ground disturbance activities to further test the nature and density of the site.**

The Stage 3 assessment should employ both the controlled surface pick-up and hand excavated test unit methodology as outlined in Table 3.1 of the Ministry of Tourism, Culture and Sport's *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). Prior to conducting the field work the area should be re-ploughed and allowed to weather for the controlled surface pick-up. The test unit excavation should consist of one metre by one metre square test units laid out in a five metre grid as well as additional units (amounting to 20% of the grid total) placed based on areas of interest within the site. All units should be excavated by hand to a depth of five centimetres within the subsoil. Site specific land registry research should also be conducted as part of the Stage 3 assessment.

5.4 Location 29 (AjHj-16)

The Stage 2 assessment of Location 29 (AjHj-16) resulted in the recovery of 174 mid-to-late 19th century historic Euro-Canadian artifacts. Given that mid-to-late 19th century whiteware, ironstone and utilitarian ceramics comprised 60% of the recovered ceramic assemblage, **it is recommended that Location 29 (AjHj-16) be subject to a Stage 3 assessment prior to any ground disturbance activities to further test the nature and density of the site.**

The Stage 3 assessment should employ both the controlled surface pick-up and hand excavated test unit methodology as outlined in Table 3.1 of the Ministry of Tourism, Culture and Sport's *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). The test unit excavation should consist of one metre by one metre square test units laid out in a five metre grid as well as additional units (amounting to 20% of the grid total) placed based on areas of interest within the site. All units should be excavated by hand to a depth of five centimetres within the subsoil. Site specific land registry research should also be conducted as part of the Stage 3 assessment.

5.5 Location 30 (AjHi-12)

The Stage 2 assessment of Location 30 (AjHi-12) resulted in the recovery of 64 mid-to-late 19th century historic Euro-Canadian artifacts. Only the portion of the site located on the proposed T-line corridor was assessed and yielded a surface collection of 64 artifacts; a higher concentration of artifacts was observed to the outside of the study area but only artifacts located on the proposed T-line corridor were recovered. Given that mid-to-late 19th century whiteware and ironstone ceramics comprised 73.33% of the recovered ceramic assemblage and the inclusion of early 19th century pearlware in the assemblage as well, **it is recommended that Location 30 (AjHi-12) be subject to a Stage 3 assessment prior to any ground disturbance activities to further test the nature and density of the site.**

The Stage 3 assessment should employ both the controlled surface pick-up and hand excavated test unit methodology as outlined in Table 3.1 of the Ministry of Tourism, Culture and Sport's *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). Prior to conducting the field work the area should

be re-ploughed and allowed to weather for the controlled surface pick-up. The test unit excavation should consist of one metre by one metre square test units laid out in a five metre grid as well as additional units (amounting to 20% of the grid total) placed based on areas of interest within the site. All units should be excavated by hand to a depth of five centimetres within the subsoil. Site specific land registry research should also be conducted as part of the Stage 3 assessment.

5.6 Location 31 (AjHj-17)

The Stage 2 assessment of Location 31 (AjHj-17) resulted in the recovery of 199 mid-to-late 19th century historic Euro-Canadian artifacts. Given that mid-to-late 19th century whiteware and ironstone ceramics comprised 98.13% of the recovered ceramic assemblage, **it is recommended that Location 31 (AjHj-17) be subject to a Stage 3 assessment prior to any ground disturbance activities to further test the nature and density of the site.**

The Stage 3 assessment should employ both the controlled surface pick-up and hand excavated test unit methodology as outlined in Table 3.1 of the Ministry of Tourism, Culture and Sport's *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). The test unit excavation should consist of one metre by one metre square test units laid out in a five metre grid as well as additional units (amounting to 20% of the grid total) placed based on areas of interest within the site. All units should be excavated by hand to a depth of five centimetres within the subsoil. Site specific land registry research should also be conducted as part of the Stage 3 assessment.

5.7 Location 32 (AjHj-18)

The Stage 2 assessment of Location 32 (AjHj-18) resulted in the recovery of 632 mid-to-late 19th century historic Euro-Canadian artifacts. Given that mid-to-late 19th century whiteware and ironstone ceramics comprised 67.67% of the recovered ceramic assemblage and the inclusion of early 19th century pearlware in the assemblage as well, **it is recommended that Location 32 (AjHj-18) be subject to a Stage 3 assessment prior to any ground disturbance activities to further test the nature and density of the site.**

The Stage 3 assessment should employ both the controlled surface pick-up and hand excavated test unit methodology as outlined in Table 3.1 of the Ministry of Tourism, Culture and Sport's *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). The test unit excavation should consist of one metre by one metre square test units laid out in a five metre grid as well as additional units (amounting to 20% of the grid total) placed based on areas of interest within the site. All units should be excavated by hand to a depth of five centimetres within the subsoil. Site specific land registry research should also be conducted as part of the Stage 3 assessment.

5.8 Location 33 (AiHj-16)

The Stage 2 assessment of Location 33 (AiHj-16) resulted in the recovery of 632 mid-to-late 19th century historic Euro-Canadian artifacts. Given that mid-to-late 19th century whiteware and ironstone ceramics comprised 68.18% of the recovered ceramic assemblage, **it is recommended that Location 33 (AiHj-16) be subject to a Stage 3 assessment prior to any ground disturbance activities to further test the nature and density of the site.**

The Stage 3 assessment should employ both the controlled surface pick-up and hand excavated test unit methodology as outlined in Table 3.1 of the Ministry of Tourism, Culture and Sport's *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). The test unit excavation should consist of one metre by one metre square test units laid out in a five metre grid as well as additional units (amounting to 20% of the grid total) placed based on areas of interest within the site. All units should be excavated by hand to a depth of five centimetres within the subsoil. Site specific land registry research should also be conducted as part of the Stage 3 assessment.

5.9 Location 34 (AjHj-19)

The Stage 2 assessment of Location 34 (AjHj-19) resulted in the recovery of an isolated pre contact Aboriginal projectile point. Despite the intensification of survey intervals no additional artifacts were recovered. Given that the cultural heritage value or interest of the site has been sufficiently documented, **no further archaeological assessment is recommended for Location 34 (AjHj-19)**.

5.10 Location 35 (AjHj-20)

The Stage 2 assessment of Location 35 (AjHj-20) resulted in the recovery of an isolated pre contact Aboriginal projectile point. Despite the intensification of survey intervals no additional artifacts were recovered. Given that the cultural heritage value or interest of the site has been sufficiently documented, **no further archaeological assessment is recommended for Location 35 (AjHj-20)**.

5.11 Summary

The above recommendations determine that seven sites require further Stage 3 assessment. In addition to the 7 recommended sites, three sites would not be recommended for further archaeological work. Table 41 provides a breakdown of Golder's recommendations:

Table 41: Recommendations for Further Stage 3 Assessment

Location	Borden Number	Affiliation	Stage 3 Recommended?
26	AjHj-15	Historic Euro-Canadian	Yes
27	N/A	Pre contact Aboriginal	No
28	AiHj-15	Historic Euro-Canadian	Yes
29	AjHj-16	Historic Euro-Canadian	Yes
30	AjHi-12	Historic Euro-Canadian	Yes
31	AjHj-17	Historic Euro-Canadian	Yes
32	AjHj-18	Historic Euro-Canadian	Yes
33	AiHj-16	Historic Euro-Canadian	Yes
34	AjHj-19	Pre contact Aboriginal	No
35	AjHj-20	Pre contact Aboriginal	No

While all of these sites were documented during the Stage 2 archaeological field work conducted within the NEEC Bluewater Wind Energy Centre study area, seven require further Stage 3 assessment. The remaining three sites have been sufficiently documented.

The Ministry of Tourism, Culture and Sport is asked to accept this report into the Ontario Public 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.

6.0 ADVICE ON COMPLIANCE WITH LEGISLATION

This report is submitted to the Ministry of Tourism, Culture and Sport as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, R.S.O. 1990, c 0.18. The report is reviewed to ensure that it complies with the standards and guidelines that are issued by the Minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the Ministry of Tourism, Culture and Sport, a letter will be issued by the ministry stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.

It is an offence under Sections 48 and 69 of the *Ontario Heritage Act* for any party other than a licensed archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such time as a licensed archaeologist has completed fieldwork on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeology Reports referred to in Section 65.1 of the *Ontario Heritage Act*.

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*, R.S.O. 1990 c. C.4 and the *Funeral, Burial and Cremation Services Act*, 2002, R.S.O. 2002, c.33 (when proclaimed in force) require that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Consumer Services.

Archaeological sites recommended for further archaeological fieldwork or protection remain subject to Section 48(1) of the *Ontario Heritage Act* and may not be altered, or have artifacts removed from them, except by a person holding an archaeological licence.

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8.0 IMAGES

8.1 Photos

Photo 1: Stage 2, pedestrian survey at five metre intervals, facing southeast, BLW1034, August 7, 2012.

Photo 2: Stage 2, excavated test pit, facing north, BLW1049, May 18, 2012.

Photo 3: Stage 2, pedestrian survey at five metre intervals, facing north, BLW1049, June 19, 2012.

Photo 4: Stage 2, excavating test pit, facing west, BLW1680, May 23, 2012.

Photo 5: Stage 2, one x one metre excavated test unit, facing north, BLW1680, May 24, 2012.

Photo 6: Stage 2, field conditions, facing north, BLW1680, June 6, 2012.

Photo 7: Stage 2, pedestrian survey at five metre intervals, facing north, BLW1680, June 6, 2012.

Photo 8: Stage 2, field conditions, facing west, BLW1064, August 7, 2012.

Photo 9: Stage 2, pedestrian survey at five metre intervals, facing northwest, BLW1064, August 7, 2012.

Photo 10: Stage 2, pedestrian survey at five metre, intervals, facing west, BLW1542, May 7, 2012.

Photo 11: Stage 2, test pit, facing north, BLW1036, May 17, 2012.

Photo 12: Stage 2, pedestrian survey at five metre intervals, facing west, BLW1679, June 5, 2012.

Photo 13: Stage 2, establishing test pit, facing west, BLW1679, June 19, 2012.

Photo 14: Stage 2, excavated test pit, facing north, BLW1679, June 19, 2012.

Photo 15: Stage 2, excavated one by one metre test pit, facing north, BLW1036, May 18, 2012.

Photo 16: Stage 2, excavated test pit, facing north, BLW1036, May 18, 2012.

Photo 17: Stage 2, pedestrian survey at five metre intervals, facing north, BLW1680, May 23, 2012.

Photo 18: Stage 2, field conditions, facing north, BLW1680, May 23, 2012.

Photo 19: Stage 2, pedestrian survey at five metre intervals, facing east, BLW1603, September 5, 2012.

Photo 20: Stage 2, field conditions, facing east, BLW1602, May 5, 2012.

Photo 21: Stage 2, pedestrian survey at five metre intervals, facing west, BLW1602, May 5, 2012.

Photo 22: Stage 2, pedestrian survey at five metre intervals, facing west, BLW1431, August 13, 2012.

Photo 23: Stage 2, field conditions, facing north, BLW1431, August 13, 2012.

Photo 24: Stage 2, pedestrian survey at five metre intervals, facing east, BLW1022, August 13, 2012.

Photo 25: Stage 2, field conditions, facing north, BLW1022, August 13, 2012.

Photo 26: Stage 2, pedestrian survey at five metre intervals, facing northwest, BLW1497, June 13, 2012.

Photo 27: Stage 2, field conditions, facing south, BLW1497, June 13, 2012.

Photo 28: Stage 2, test pit excavation, facing northwest, BLW1496, July 24, 2012.

Photo 29: Stage 2, test pit excavation, facing east, BLW1496, July 24, 2012.

Photo 30: Stage 2, excavated test pit, facing north, BLW1496, July 24, 2012.

Photo 31: Stage 2, one metre x one metre excavated test unit, facing south, BLW1671, May 16, 2012.

Photo 32: Stage 2, excavated test pit, facing north, BLW1671, May 16, 2012.

Photo 33: Stage 2, pedestrian survey at five metre intervals, facing northeast, BLW1671, May 16, 2012.

Photo 34: Stage 2, pedestrian survey at five metre intervals, facing northeast, BLW1813, June 19, 2012.

Photo 35: Stage 2, pedestrian survey at five metre interval, facing northwest, BLW1813, June 19, 2012.

Photo 36: Stage 2, pedestrian survey at five metre intervals, facing west, BLW1370, May 5, 2012.

Photo 37: Stage 2, disturbed area, facing southeast, BLW1370, May 5, 2012.

Photo 38: Stage 2, pedestrian survey at five metre intervals, facing east, BLW1692, Aug 13, 2012.

Photo 39: Stage 2, pedestrian survey at five metre intervals, facing east, BLW1358, August 13, 2012.

Photo 40: Stage 2, pedestrian survey at five metre intervals, facing west, BLW1329, May 22, 2012.

Photo 41: Stage 2, pedestrian survey at five metre intervals, facing south, BLW1269, September 10, 2012.

Photo 42: Stage 2, pedestrian survey at five metre intervals, facing northeast, BLW1272, June 5, 2012.

Photo 43: Stage 2, pedestrian survey at five metre intervals, facing east, BLW1270, June 5, 2012.

Photo 44: Stage 2, disturbed area, facing southeast, BLW1270, June 5, 2012.

Photo 45: Stage 2, assessing ploughed field at five metre intervals, facing south, BLW1707, May 25, 2012.

Photo 46: Stage 2, disturbed area, creek cutting through woodlot, facing north, BLW1707, May 25, 2012.

Photo 47: Stage 2, excavating test pit, facing west, BLW1705, April 4, 2012.

Photo 48: Stage 2, pedestrian survey at five metre intervals, facing east, BLW1751, June 5, 2012.

Photo 49: Stage 2, excavated test unit, facing south, BLW1706, July 24, 2012.

Photo 50: Stage 2, field conditions, facing north, BLW1431, August 13, 2012.

Photo 51: Stage 2, excavated test pit, facing north, BLW1705, April 4, 2012.

Photo 52: Stage 2, disturbed area, facing south, BLW1705, April 4, 2012.

Photo 53: Stage 2, ravine, facing south, BLW1226, August 13, 2012.

Photo 54: Stage 2, pond in examination area, facing north, BLW1223, July 23, 2012.

Photo 55: Stage 2, pedestrian survey at five metre intervals, facing north, BLW1129. September 5, 2012.

8.2 Plates

Plate 1: Location 26 (AjHj-15) Multiple Component Artifacts, actual size

Plate 2: Location 27 Pre contact Aboriginal Artifacts, actual size

1: Core
Loc. 27, cat. # 1

2: Chipping Detritus
Loc. 27, cat. # 2

Plate 3: Location 28 (AiHj-15) Historic Euro-Canadian Artifacts, actual size

1: Plain Ironstone
Loc. 28, cat. # 9

2: Wire Drawn Nail
Loc. 28, cat. # 3

3: Machine Cut Nail
Loc. 28, cat. # 2

Plate 4: Location 29 (AjHj-16) Historic Euro-Canadian Artifacts, actual size

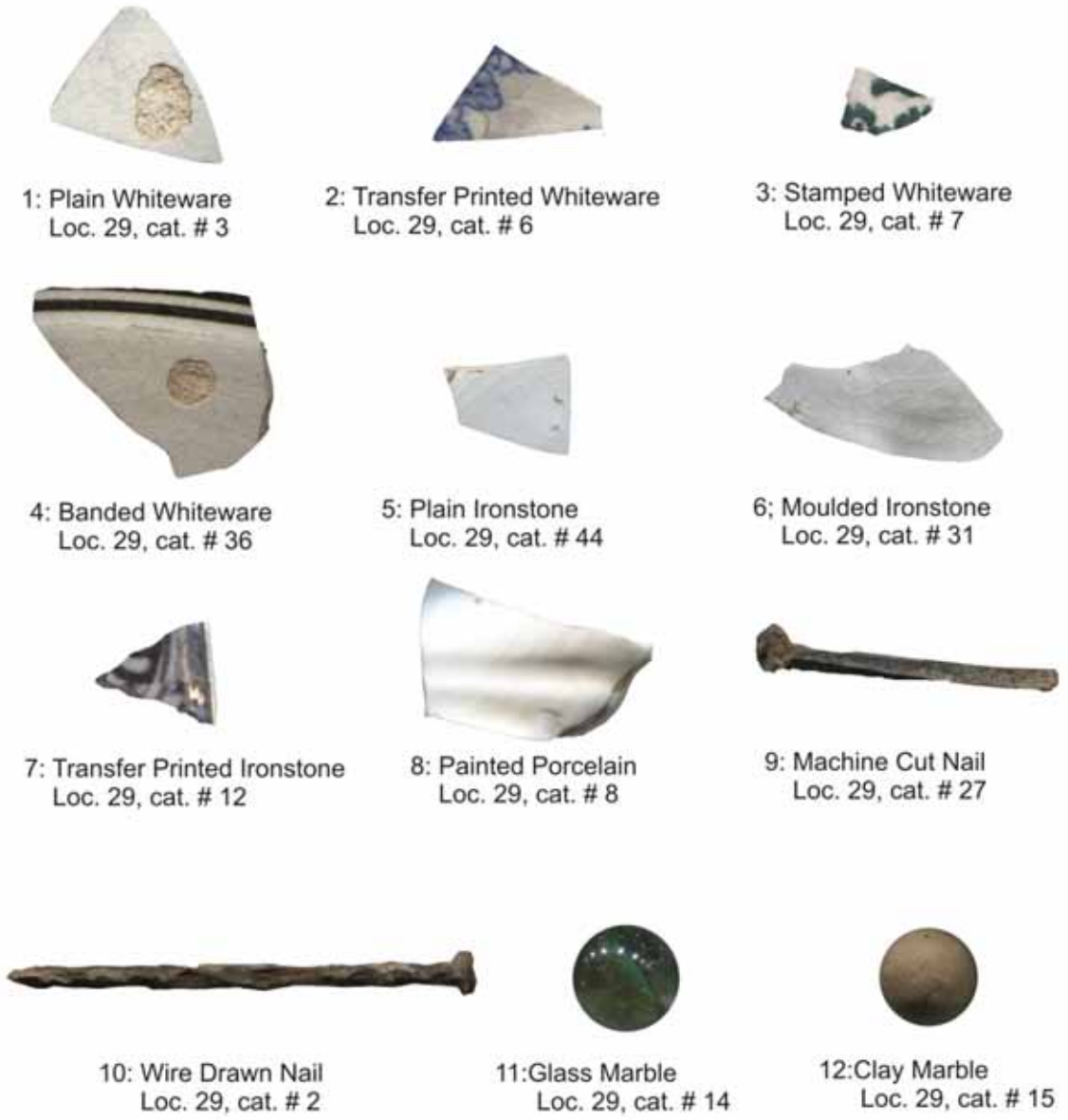


Plate 5: Location 30 (AjHi-12) Historic Euro-Canadian Artifacts, actual size

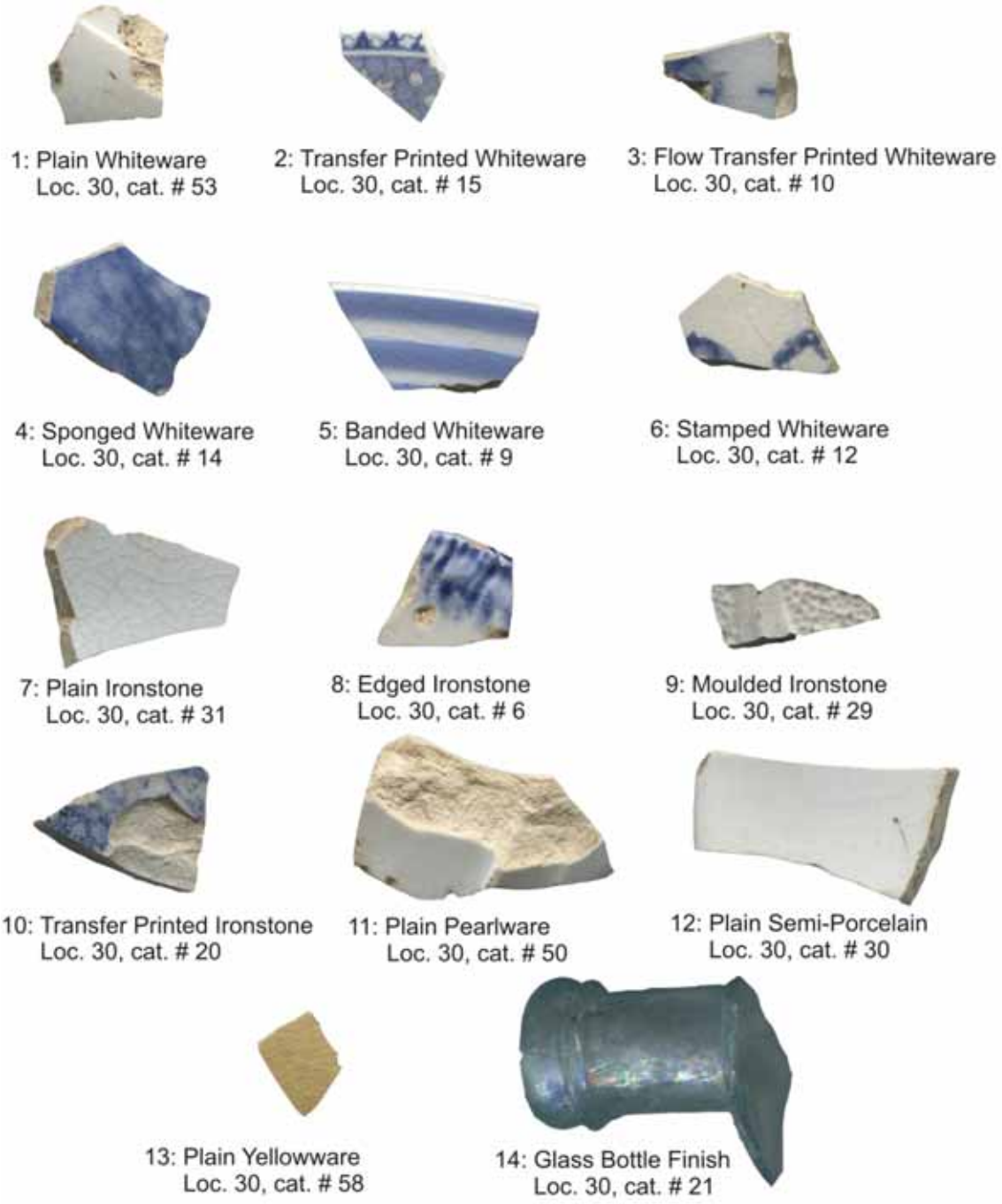


Plate 6: Location 31 (AjHj-17) Historic Euro-Canadian Artifacts, actual size

Plate 7: Location 32 (AjHj-18) Historic Euro-Canadian Artifacts, actual size

1: Plain Whiteware
Loc. 32, cat. # 82

2: Stamped Whiteware
Loc. 32, cat. # 76

3: Painted Whiteware
Loc. 32, cat. # 80

4: Transfer Printed Whiteware
Loc. 32, cat. # 79

5: Edged Whiteware
Loc. 32, cat. # 87

6: Sponged Whiteware
Loc. 32, cat. # 81

': Flow Transfer Printed Whiteware
Loc. 32, cat. # 37

8: Plain Ironstone
Loc. 32, cat. # 87

9: Painted Ironstone
Loc. 32, cat. # 88

10: Transfer Printed Ironstone
Loc. 32, cat. # 85

11: Edged Ironstone
Loc. 32, cat. # 83

12: Banded Ironstone
Loc. 32, cat. # 30

13: Moulded Ironstone
Loc. 32, cat. # 89

Plate 8: Location 32 (AjHj-18) Historic Euro-Canadian Artifacts, actual size

Plate 9: Location 33 (AiHj-16) Historic Euro-Canadian Artifacts, actual size

Plate 10: Location 34 (AjHj-19) Pre contact Aboriginal Artifact, actual size

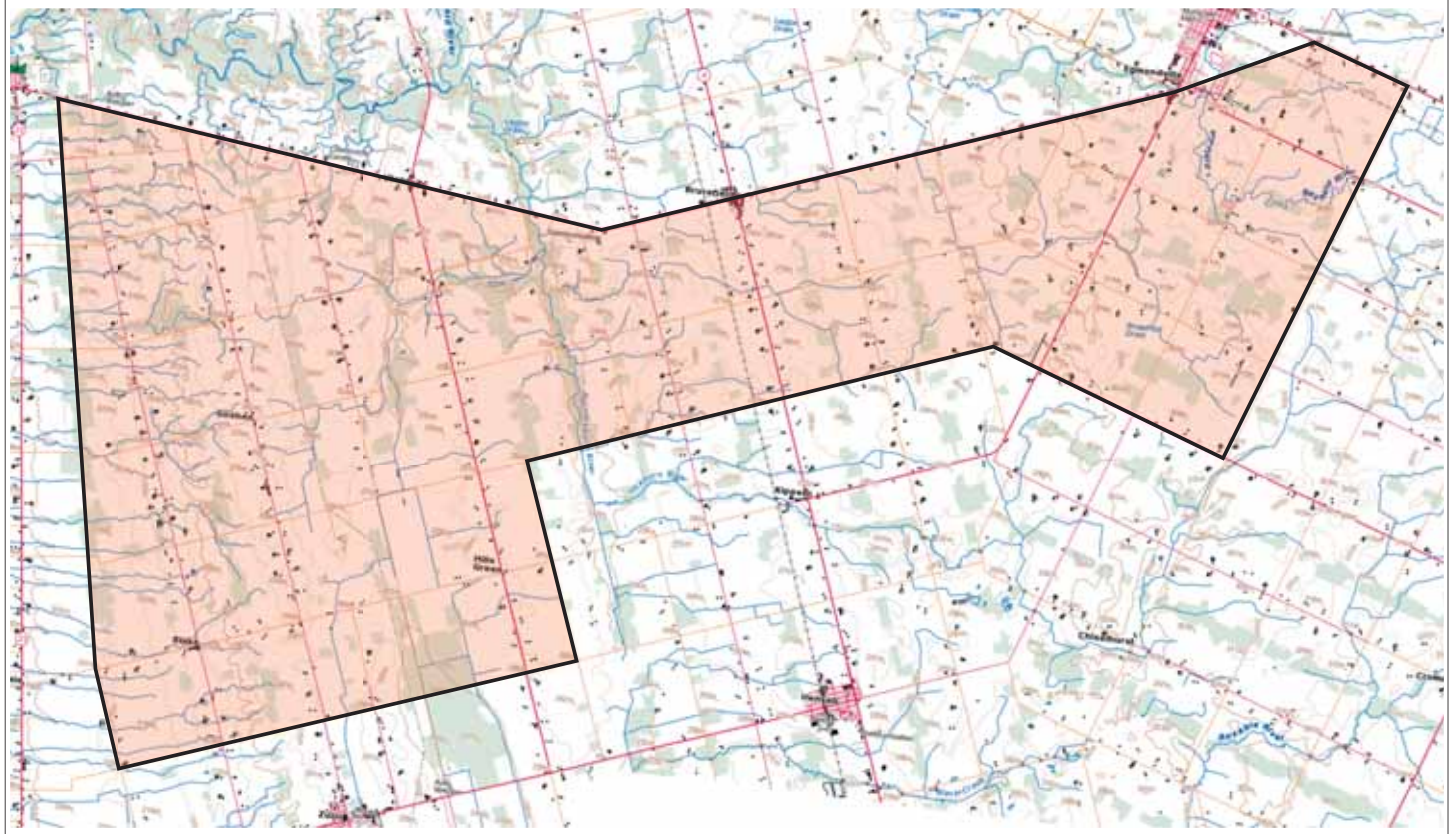
1: Projectile Point
Loc. 34, cat. # 1

Plate 11: Location 35 (AjHj-20) Pre contact Aboriginal Artifact, actual size

1: Projectile Point
Loc. 35, cat. # 1

9.0 MAPS

All maps will follow on succeeding pages.



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LEGEND

STUDY AREA

REFERENCE

DRAWING BASED ON
Government of Canada
1999 *Topographic Map Sheet 40 P/11: Seaforth* (Edition 8). Centre for Topographic Information, Natural Resources Canada, Ottawa.
2000 *Topographic Map Sheet 40 P/4: Parkhill* (Edition 8). Centre for Topographic Information, Natural Resources Canada, Ottawa.
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NOTES

THIS DRAWING IS SCHEMATIC ONLY AND IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING TEXT.

ALL LOCATIONS ARE APPROXIMATE.

PROJECT
STAGE 2 ARCHAEOLOGICAL ASSESSMENT
BLUEWATER WIND ENERGY CENTRE
HURON COUNTY, ONTARIO

TITLE
LOCATION OF STUDY AREA

Golder Associates

PROJECT No.		10-1151-0201-2000	FILE No.	10115 t0201-2000-R02001
			SCALE	AS SHOWN REV.
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FIGURE 1

LEGEND

Treaty Boundary

Approximate Location of Study Area

Treaty No. 381, Volume 3 (May 9th, 1781): Mississauga and Chippewa
Crawford's Purchase (Oct. 9th, 1783): Algonquin and Iroquois
Crawford's Purchase (Oct. 9th, 1783): Mississauga
Crawford's Purchases (1784, 1787, 1788): Mississauga
John Collins' Purchase (1785): Chippewa
Treaty No. 2 (May 19th, 1790): Odawa, Chippewa, Pottawatomi, and Huron
Treaty No. 3 (Dec. 2nd, 1792): Mississauga
Haldimand Tract: from the Crown to the Mohawk (1793)
Tyendinaga: from the Crown to the Mohawk (1793)
Treaty No. 3¼ (Oct. 24th, 1795): from the Crown to Joseph Brant
Treaty No. 5 (May 22nd, 1798): Chippewa
Treaty No. 6 (Sep. 7th, 1796): Chippewa
Treaty No. 7 (Sep. 7th, 1796): Chippewa
Treaty No. 13 (Aug. 1st, 1805): Mississauga
Treaty No. 13A (Aug. 2nd, 1805): Mississauga
Treaty No. 16 (Nov. 18th, 1815): Chippewa
Treaty No. 18 (Oct. 17th, 1818): Chippewa
Treaty No. 19 (Oct. 28th, 1818): Chippewa
Treaty No. 20 (Nov. 5th, 1818): Chippewa
Treaty No. 21 (Mar. 9th, 1819): Chippewa
Treaty No. 27 (May 31st, 1819): Mississauga
Treaty No. 27½ (Apr. 25th, 1825): Ojibwa and Chippewa
Treaty No. 35 (Aug. 13th, 1833): Wyandot or Huron
Treaty No. 45 (Aug. 9th, 1836): Chippewa and Odawa
Treaty No. 45½ (Aug. 9th, 1836): Saugeen
Treaty No. 57 (Jun. 1st, 1847): Iroquois of St. Regis
Treaty No. 61, Robinson Treaty (Sep. 9th, 1850): Ojibwa
Treaty No. 72 (Oct. 30th, 1854): Chippewa
Treaty No. 82 (Feb. 9th, 1857): Chippewa
Williams Treaty (Oct. 31st and Nov. 15th, 1923): Chippewa and Mississauga
Williams Treaty (Oct. 31st, 1923): Chippewa

NOTES

THIS DRAWING IS SCHEMATIC ONLY AND IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING TEXT.
ALL LOCATIONS ARE APPROXIMATE.

REFERENCE

1. Base Data - MNR NRVIS, obtained 2004, CANMAP v2006.4
2. Treaty Boundary - Approximate Treaty Boundary was created by Golder Associates Ltd. Jan. 2009.
MORRIS, J.L. 1943. Indians Of Ontario. Reprinted 1964. Department Of Lands And Forests, Toronto.
Produced by Golder Associates Ltd under licence from Ontario Ministry of Natural Resources, © Queens Printer 2008
Projection: Transverse Mercator Datum: NAD 83 Coordinate System: UTM Zone 17

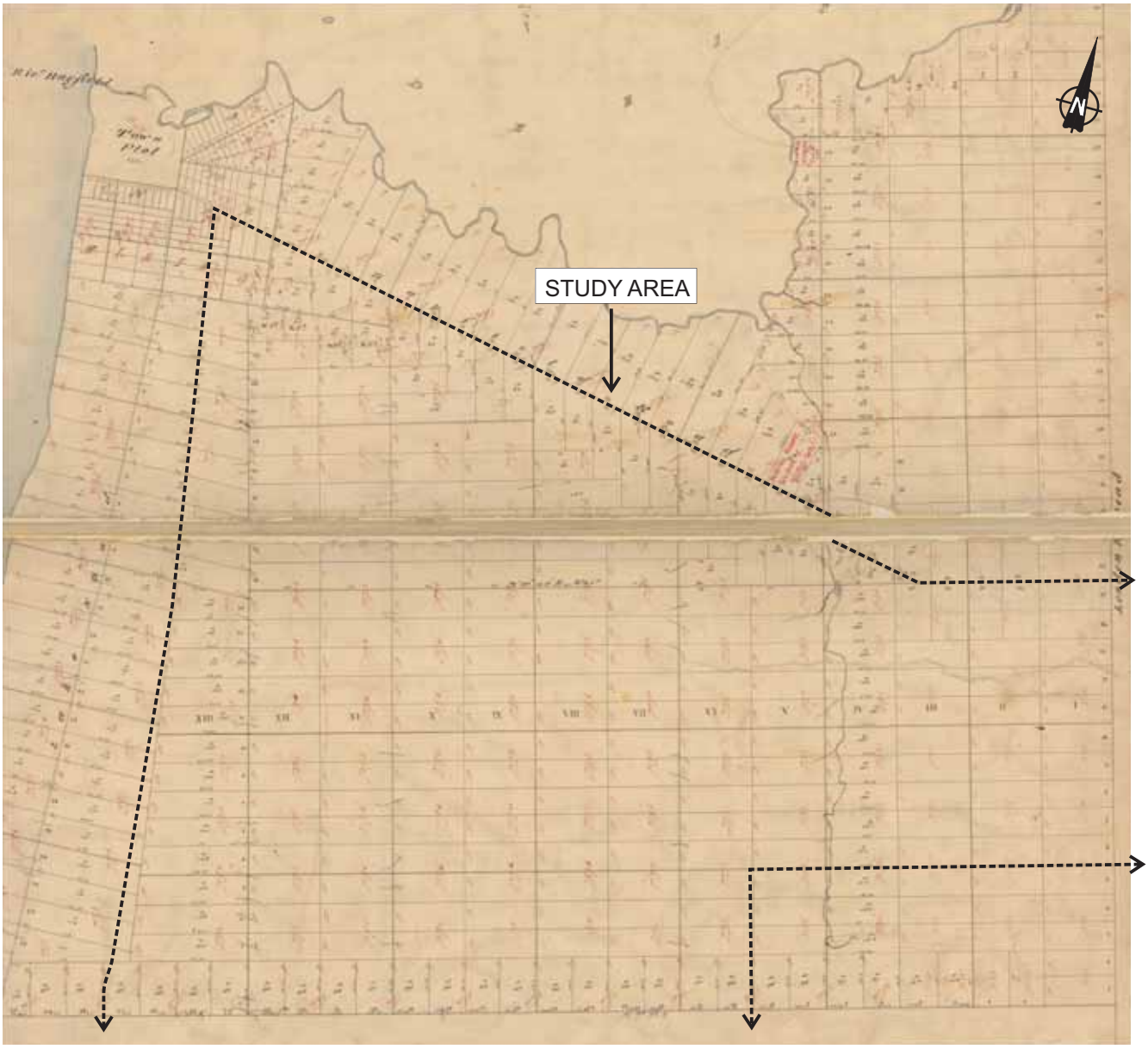
PROJECT
STAGE 2 ARCHAEOLOGICAL ASSESSMENT
BLUEWATER WIND ENERGY CENTRE
HURON COUNTY, ONTARIO

TITLE
TREATY BOUNDARIES BASED ON MORRIS 1943

Golder Associates

PROJECT No.	10-1151-0201-2000	FILE No.	10115102O1-2000-R02002
GIS	JMC Jan. 23/09	SCALE	1:2,500,000 REV.
CADD	AL AUG 13/10		
CHECK	CAP OCT 05/12		

FIGURE 2



REFERENCE

DRAWING BASED ON
McDonald, John
1835b *Stanley Township*. Map on file with the Ministry of Natural Resources Crown Land Survey Records Office, Peterborough, Ontario.

NOTES

THIS DRAWING IS SCHEMATIC ONLY AND IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING TEXT.

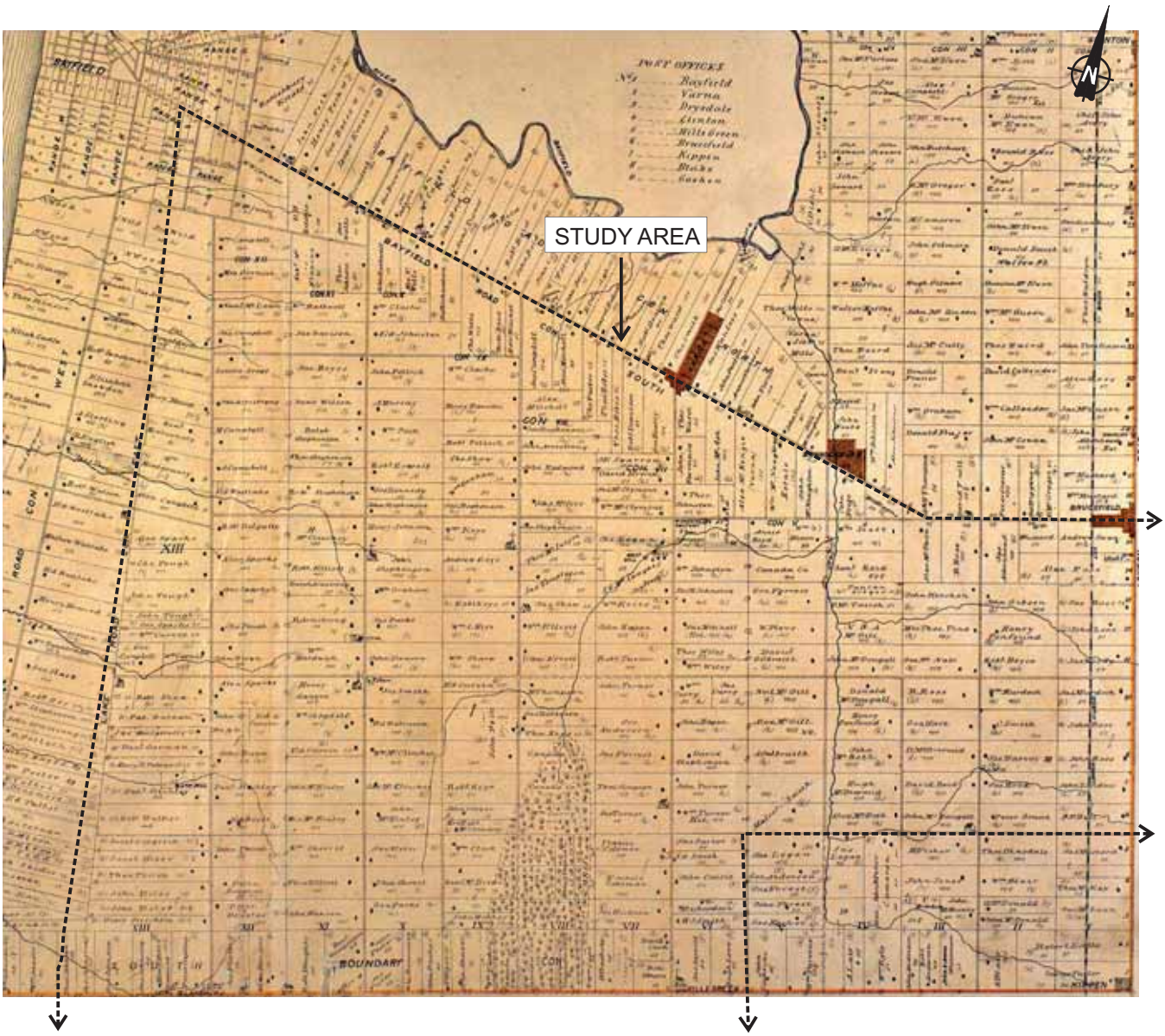
ALL LOCATIONS ARE APPROXIMATE.

PROJECT
STAGE 2 ARCHAEOLOGICAL ASSESSMENT
BLUEWATER WIND ENERGY CENTRE
HURON COUNTY, ONTARIO

TITLE
A PORTION OF THE 1835 MAP OF STANLEY TOWNSHIP

Golder Associates

PROJECT No.		10-1151-0201-2000	FILE No. 1011510201-2000-R02003
			SCALE NOT TO SCALE REV.
CADD	AL	AUG 13/10	**FIGURE 3**
CHECK	CAP	OCT 05/12	



REFERENCE

DRAWING BASED ON
Belden, H. and Company
1879 *Illustrated Historical Atlas Of Huron County.*
1972 reprint. Ross Cumming, Owen Sound.

NOTES

THIS DRAWING IS SCHEMATIC ONLY AND IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING TEXT.

ALL LOCATIONS ARE APPROXIMATE.

PROJECT
STAGE 1 ARCHAEOLOGICAL ASSESSMENT
BLUEWATER WIND ENERGY CENTRE
HURON COUNTY, ONTARIO

TITLE
A PORTION OF THE 1879 MAP OF STANLEY TOWNSHIP

Golder Associates

PROJECT No.		10-1151-0201-2000	FILE No.	1011510201-2000-R02004
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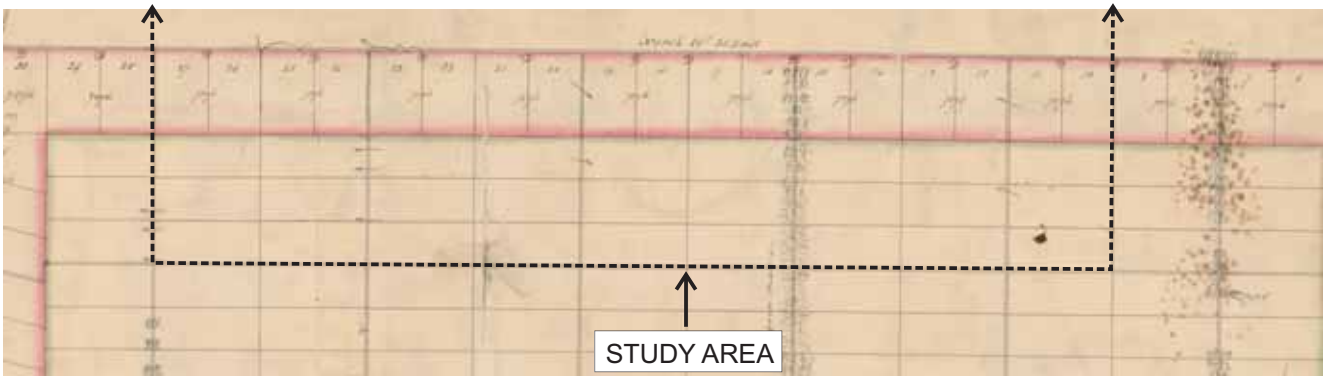
CADD	AL	AUG 13/10		
CHECK	CAP	OCT 05/12		

FIGURE 4



REFERENCE

DRAWING BASED ON
McDonald, John
1837 *Hay Township*. Map on file with the Ministry of Natural Resources Crown Land Survey Records Office, Peterborough, Ontario.

NOTES

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ALL LOCATIONS ARE APPROXIMATE.

PROJECT **STAGE 2 ARCHAEOLOGICAL ASSESSMENT BLUEWATER WIND ENERGY CENTRE HURON COUNTY, ONTARIO**

TITLE **A PORTION OF THE 1837 MAP OF HAY TOWNSHIP**

Golder Associates

PROJECT No.		10-1151-0201-2000	FILE No.	1011510201-2000-R02005
			SCALE	NOT TO SCALE REV.
CADD	AL	AUG 13/10		
CHECK	CAP	OCT 05/12	**FIGURE 5**	

REFERENCE

DRAWING BASED ON
Belden, H. and Company
1879 *Illustrated Historical Atlas Of Huron County.*
1972 reprint. Ross Cumming, Owen Sound.

NOTES

THIS DRAWING IS SCHEMATIC ONLY AND IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING TEXT.

ALL LOCATIONS ARE APPROXIMATE.

PROJECT **STAGE 2 ARCHAEOLOGICAL ASSESSMENT BLUEWATER WIND ENERGY CENTRE HURON COUNTY, ONTARIO**

TITLE **A PORTION OF THE 1879 MAP OF HAY TOWNSHIP**

Golder Associates

PROJECT No.		10-1151-0201-2000	FILE No.	1011510201-2000-R02006
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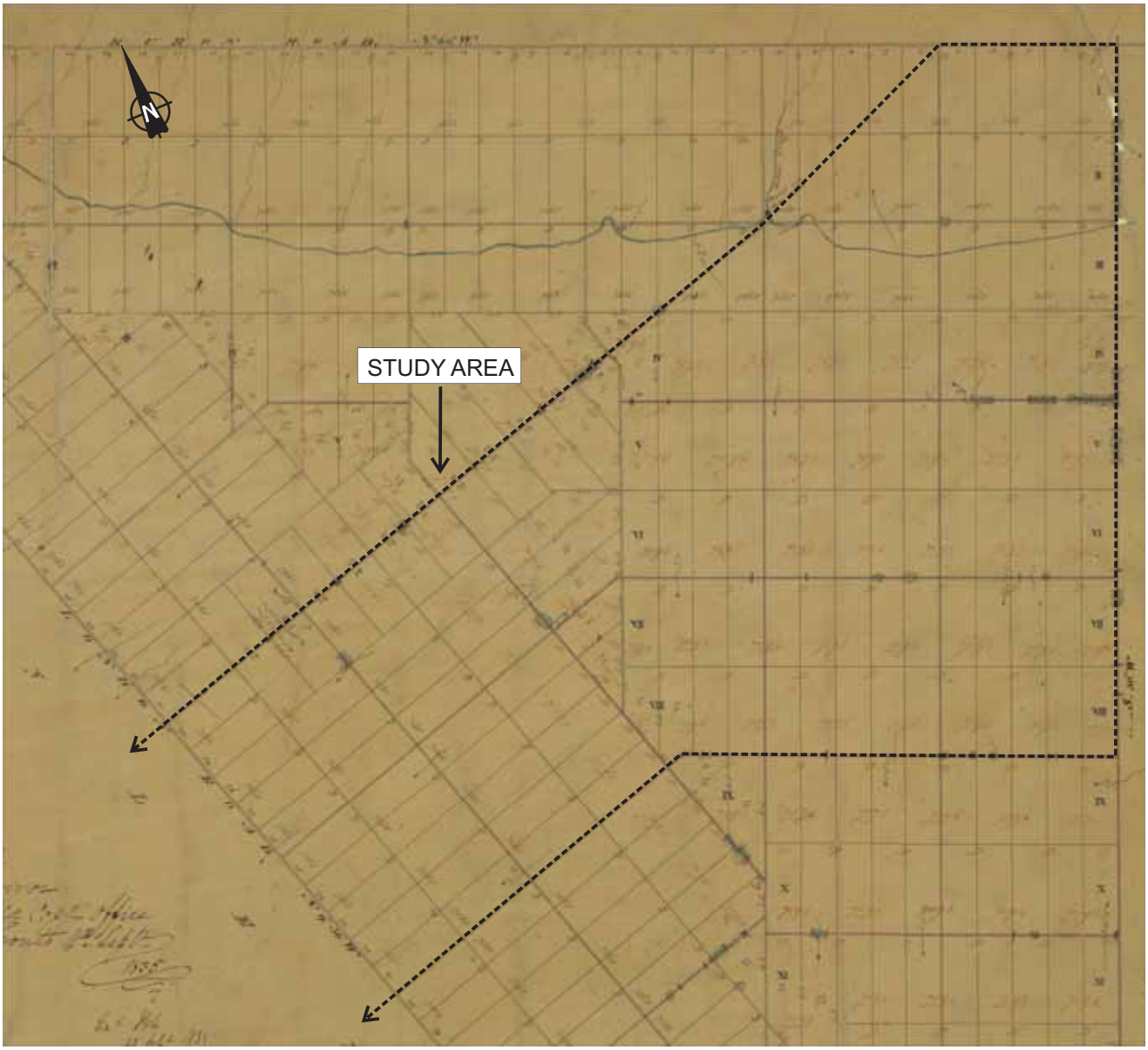
CADD	AL	AUG 13/10		
CHECK	CAP	OCT 05/12	**FIGURE 6**	



REFERENCE

DRAWING BASED ON
McDonald, John
1835c *Tuckersmith Township*. Map on file with the Ministry of Natural Resources Crown Land Survey Records Office, Peterborough, Ontario.

NOTES

THIS DRAWING IS SCHEMATIC ONLY AND IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING TEXT.

ALL LOCATIONS ARE APPROXIMATE.

PROJECT
STAGE 2 ARCHAEOLOGICAL ASSESSMENT
BLUEWATER WIND ENERGY CENTRE
HURON COUNTY, ONTARIO

TITLE
A PORTION OF THE 1835 MAP OF TUCKERSMITH TOWNSHIP

Golder Associates

PROJECT No.		10-1151-0201-2000	FILE No.	1011510201-2000-R02007
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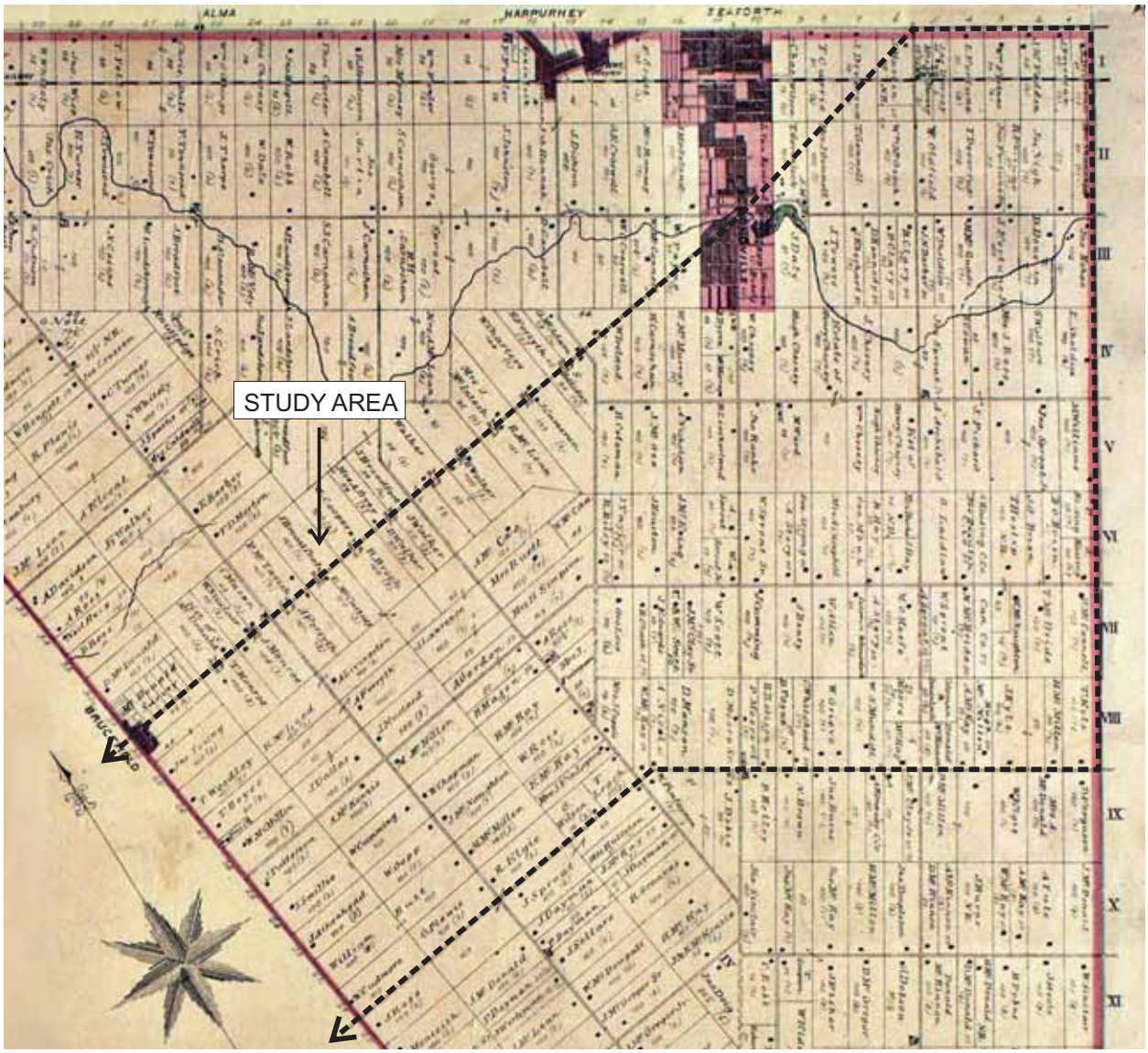
CADD	AL	AUG 13/10		
CHECK	CAP	OCT 05/12		

FIGURE 7



REFERENCE

DRAWING BASED ON
Belden, H. and Company
1879 *Illustrated Historical Atlas Of Huron County.*
1972 reprint. Ross Cumming, Owen Sound.

NOTES

THIS DRAWING IS SCHEMATIC ONLY AND IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING TEXT.

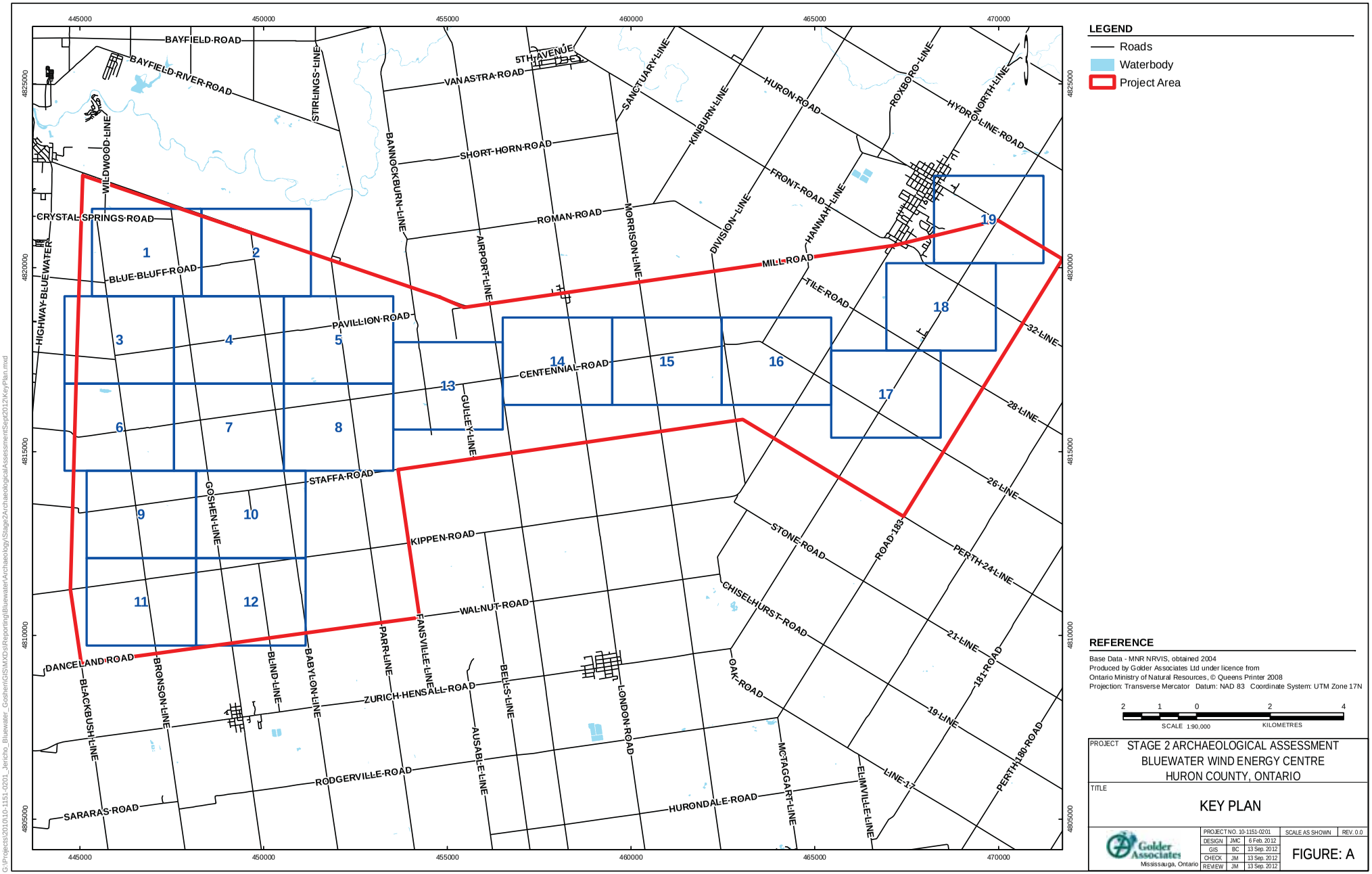
ALL LOCATIONS ARE APPROXIMATE.

PROJECT **STAGE 2 ARCHAEOLOGICAL ASSESSMENT BLUEWATER WIND ENERGY CENTRE HURON COUNTY, ONTARIO**

TITLE **A PORTION OF THE 1879 MAP OF TUCKERSMITH TOWNSHIP**

Golder Associates

PROJECT No.		10-1151-0201-2000	FILE No.	1011510201-2000-R02008
			SCALE	NOT TO SCALE REV.
CADD	AL	AUG 13/10		
CHECK	CAP	OCT 05/12		**FIGURE 8**



LEGEND

- Roads
- Waterbody
- Project Area

REFERENCE

Base Data - MNR NRVIS, obtained 2004
Produced by Golder Associates Ltd under licence from
Ontario Ministry of Natural Resources, © Queens Printer 2008
Projection: Transverse Mercator Datum: NAD 83 Coordinate System: UTM Zone 17N

2 1 0 2 4
SCALE 1:90,000 KILOMETRES

PROJECT STAGE 2 ARCHAEOLOGICAL ASSESSMENT
BLUEWATER WIND ENERGY CENTRE
HURON COUNTY, ONTARIO

TITLE KEY PLAN

Golder Associates
Mississauga, Ontario

PROJECT NO. 10-1151-0201			SCALE AS SHOWN	REV. 0.0
DESIGN	JMC	6 Feb. 2012	FIGURE: A
GIS	BC	13 Sep. 2012	
CHECK	JM	13 Sep. 2012	
REVIEW	JM	13 Sep. 2012	

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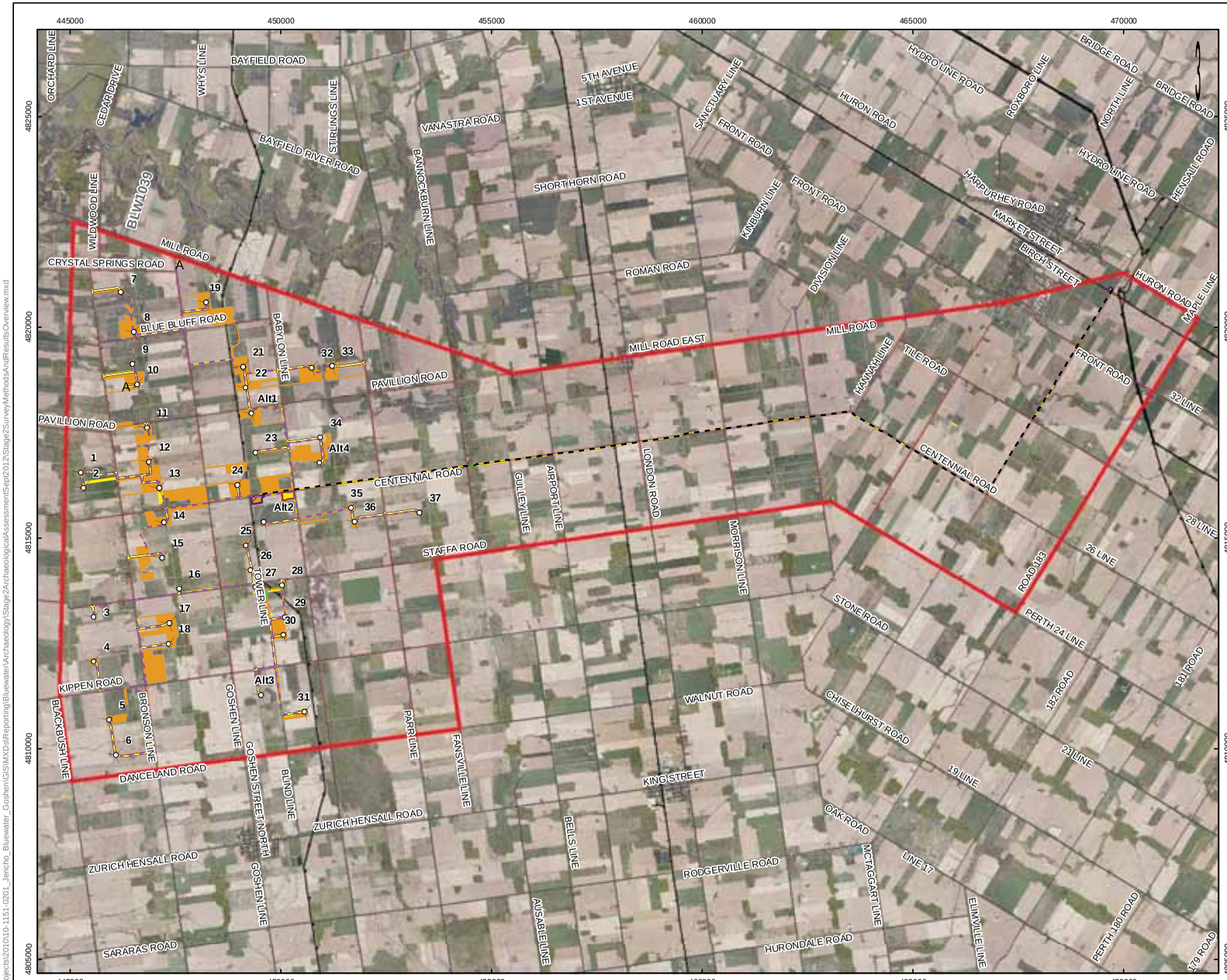

LEGEND

- Turbine Layout
- A MET Location
- Collector Cable
- Transmission Line
- Access Road
- Roads
- Railways
- Utility Line
- Watercourse
- Previous Stage 2 Archaeological Assessment
- Stage 2 Pedestrian Survey at 5m Intervals (This Report)
- Stage 2 Test Pit Survey at 5m Intervals (This Report)
- Disturbed - Not Assessed
- Staging/Laydown Area
- Substation
- Land Parcel
- Waterbody
- Wetland
- Project Area

REFERENCE

Base Data - MNR NRVIS, obtained 2004, CANMAP v2006.4
Produced by Golder Associates Ltd under licence from
Ontario Ministry of Natural Resources, © Queens Printer 2008
Projection: Transverse Mercator Datum: NAD 83 Coordinate System: UTM Zone 17N

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Scale 1:90,000 Metres

PROJECT STAGE 2 ARCHAEOLOGICAL ASSESSMENT
BLUEWATER WIND ENERGY CENTRE
HURON COUNTY, ONTARIO

TITLE
STAGE 2 SURVEY METHODS AND RESULTS OVERVIEW

Golder Associates
Mississauga, Ontario

PROJECT NO. 10-1151-0201			SCALE AS SHOWN REV. 0.0
DESIGN	JMC	16 May. 2011	
GIS	JMC	5 Oct. 2012	
CHECK	CP	5 Oct. 2012	
REVIEW	CP	5 Oct. 2012	

FIGURE: B

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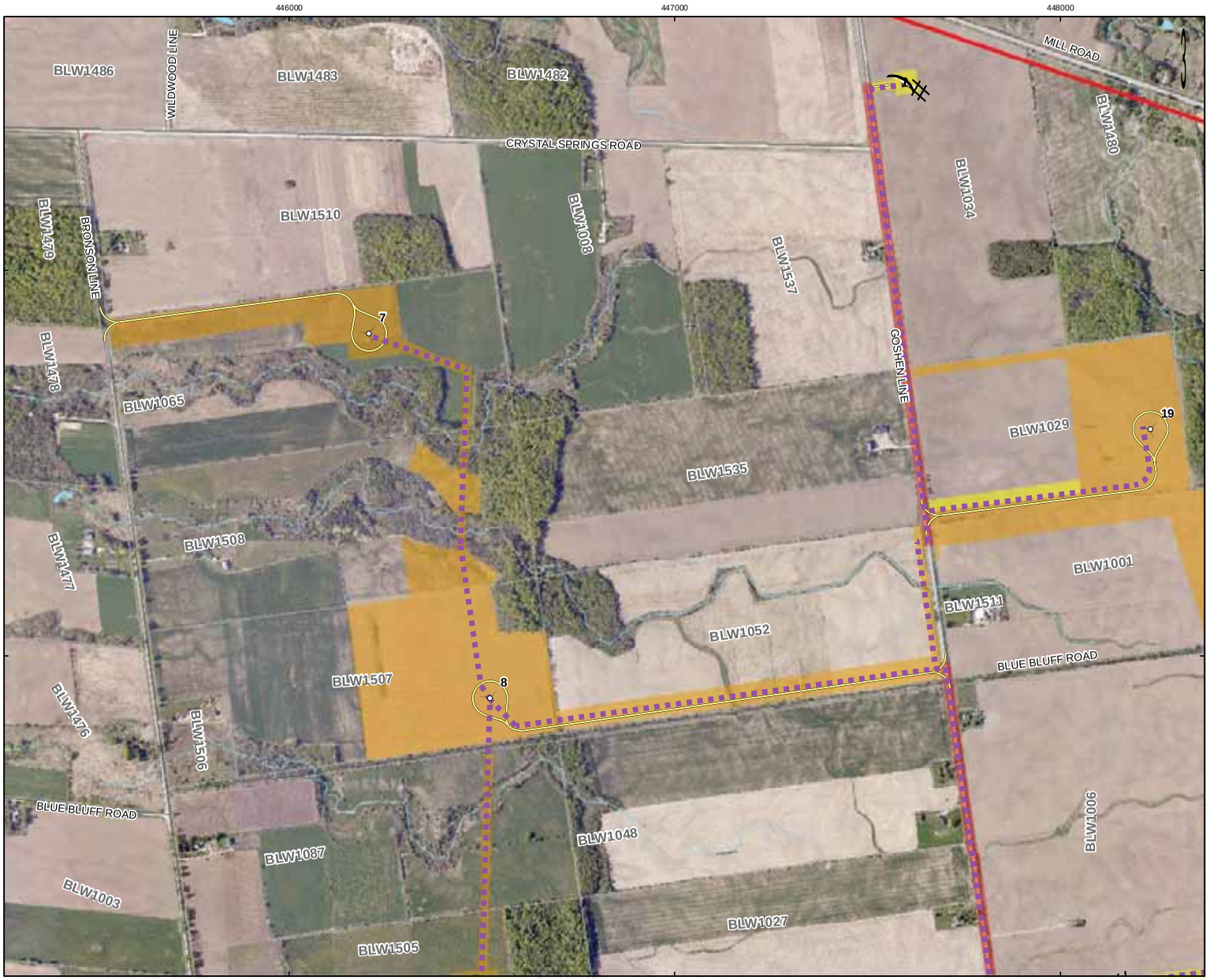

LEGEND

- Photographic Direction
- Turbine Layout
- A MET Location
- Collector Cable
- Transmission Line
- Access Road
- Roads
- Railways
- Utility Line
- Watercourse
- Previous Stage 2 Archaeological Assessment
- Stage 2 Pedestrian Survey at 5m Intervals (This Report)
- Stage 2 Test Pit Survey at 5m Intervals (This Report)
- Disturbed - Not Assessed
- Staging/Laydown Area
- Substation
- Land Parcel
- Project Area
- Waterbody
- Wetland

REFERENCE

Base Data - MNR NRVIS, obtained 2004, CANMAP v2006.4
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Projection: Transverse Mercator Datum: NAD 83 Coordinate System: UTM Zone 17N

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Scale 1:10,000 Metres

PROJECT STAGE 2 ARCHAEOLOGICAL ASSESSMENT
BLUEWATER WIND ENERGY CENTRE
HURON COUNTY, ONTARIO

TITLE
STAGE 2 SURVEY METHODS

Golder Associates
Mississauga, Ontario

PROJECT NO. 10-1151-0201			SCALE AS SHOWN	REV. 0.0
DESIGN	JMC	16 May. 2011	FIGURE: 9-01
GIS	BC	7 Jan. 2013	
CHECK	AJ	7 Jan. 2013	
REVIEW	CP	7 Jan. 2013	

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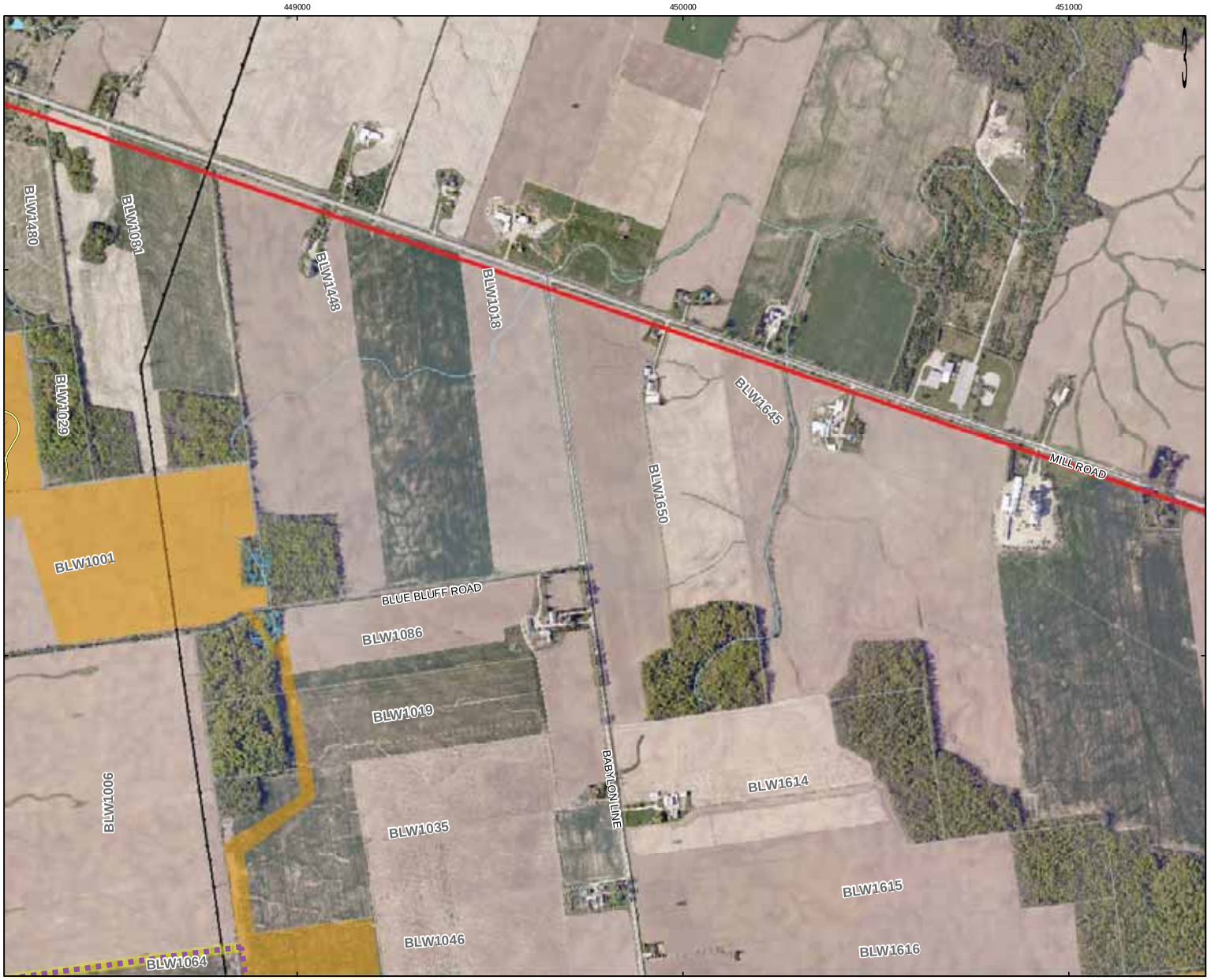

LEGEND

- Photographic Direction
- Turbine Layout
- A MET Location
- Collector Cable
- Transmission Line
- Access Road
- Roads
- Railways
- Utility Line
- Watercourse
- Previous Stage 2 Archaeological Assessment
- Stage 2 Pedestrian Survey at 5m Intervals (This Report)
- Stage 2 Test Pit Survey at 5m Intervals (This Report)
- Disturbed - Not Assessed
- Staging/Laydown Area
- Substation
- Land Parcel
- Project Area
- Waterbody
- Wetland

REFERENCE

Base Data - MNR NRVIS, obtained 2004, CANMAP v2006.4
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Projection: Transverse Mercator Datum: NAD 83 Coordinate System: UTM Zone 17N

100 50 0 100 200 300 400
Scale 1:10,000 Metres

PROJECT: STAGE 2 ARCHAEOLOGICAL ASSESSMENT
BLUEWATER WIND ENERGY CENTRE
HURON COUNTY, ONTARIO

TITLE: STAGE 2 SURVEY METHODS

Golder Associates
Mississauga, Ontario

PROJECT NO. 10-1151-0201			SCALE AS SHOWN	REV. 0.0
DESIGN	JMC	16 May. 2011		
GIS	BC	7 Jan. 2013		
CHECK	AJ	7 Jan. 2013		
REVIEW	CP	7 Jan. 2013		

FIGURE: 9-02

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LEGEND

- Photographic Direction
- Turbine Layout
- A MET Location
- Collector Cable
- Transmission Line
- Access Road
- Roads
- Railways
- Utility Line
- Watercourse
- Previous Stage 2 Archaeological Assessment
- Stage 2 Pedestrian Survey at 5m Intervals (This Report)
- Stage 2 Test Pit Survey at 5m Intervals (This Report)
- Disturbed - Not Assessed
- Staging/Laydown Area
- Substation
- Land Parcel
- Project Area
- Waterbody
- Wetland

REFERENCE

Base Data - MNR NRVIS, obtained 2004, CANMAP v2006.4
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Projection: Transverse Mercator Datum: NAD 83 Coordinate System: UTM Zone 17N

100 50 0 100 200 300 400
Scale 1:10,000 Metres

PROJECT STAGE 2 ARCHAEOLOGICAL ASSESSMENT
BLUEWATER WIND ENERGY CENTRE
HURON COUNTY, ONTARIO

TITLE
STAGE 2 SURVEY METHODS

Golder Associates
Mississauga, Ontario

PROJECT NO. 10-1151-0201		SCALE AS SHOWN	REV. 0.0
DESIGN	JMC	16 May. 2011	FIGURE: 9-03
GIS	BC	7 Jan. 2013	
CHECK	AJ	7 Jan. 2013	
REVIEW	CP	7 Jan. 2013	

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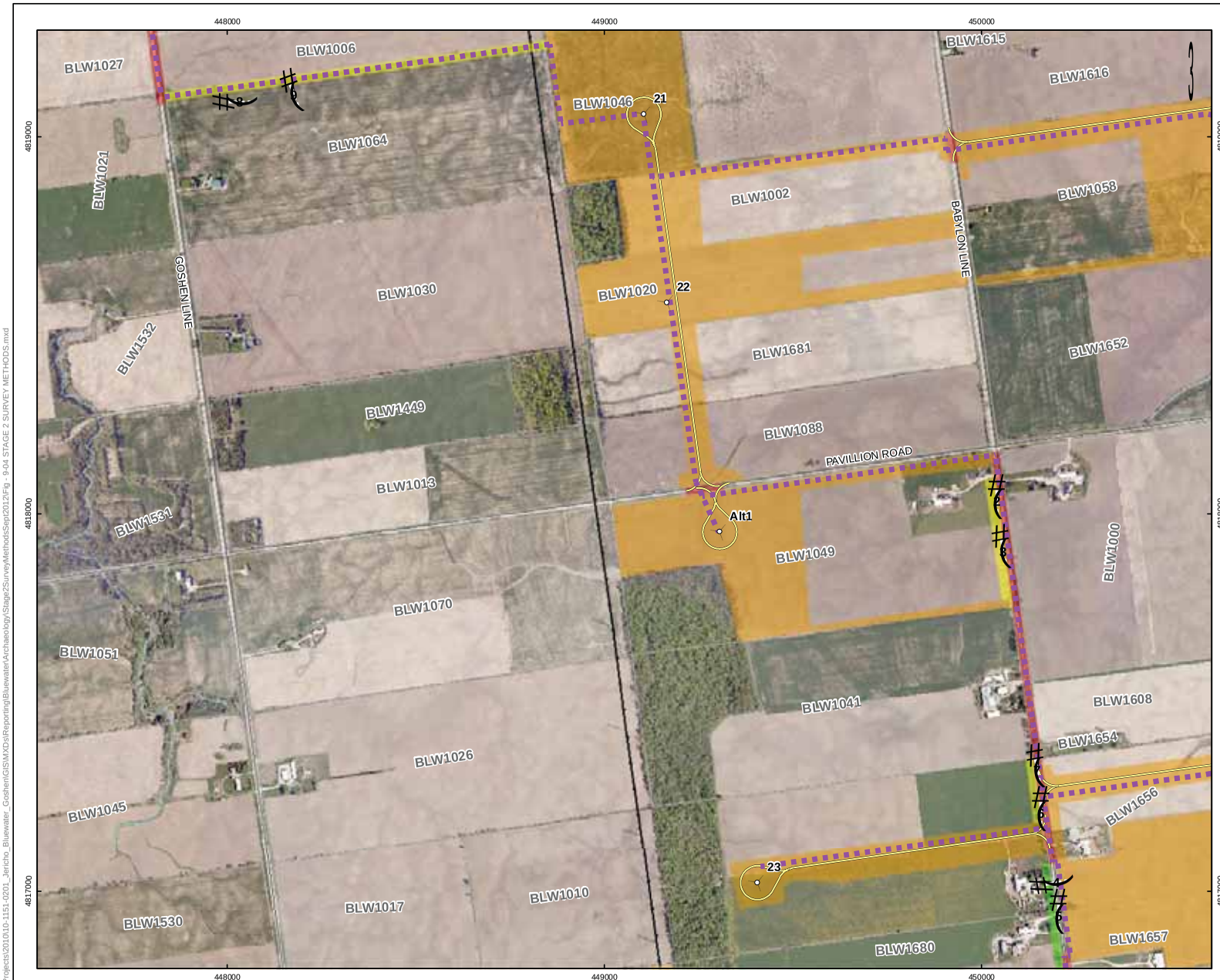

LEGEND

- Photographic Direction
- Turbine Layout
- A MET Location
- Collector Cable
- Transmission Line
- Access Road
- Roads
- Railways
- Utility Line
- Watercourse
- Previous Stage 2 Archaeological Assessment
- Stage 2 Pedestrian Survey at 5m Intervals (This Report)
- Stage 2 Test Pit Survey at 5m Intervals (This Report)
- Disturbed - Not Assessed
- Staging/Laydown Area
- Substation
- Land Parcel
- Project Area
- Waterbody
- Wetland

REFERENCE

Base Data - MNR NRVIS, obtained 2004, CANMAP v2006.4
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Projection: Transverse Mercator Datum: NAD 83 Coordinate System: UTM Zone 17N

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Scale 1:10,000 Metres

PROJECT STAGE 2 ARCHAEOLOGICAL ASSESSMENT
BLUEWATER WIND ENERGY CENTRE
HURON COUNTY, ONTARIO

TITLE
STAGE 2 SURVEY METHODS

Golder Associates
Mississauga, Ontario

PROJECT NO. 10-1151-0201			SCALE AS SHOWN	REV. 0.0
DESIGN	JMC	16 May. 2011	
GIS	BC	7 Jan. 2013	
CHECK	AJ	7 Jan. 2013	
REVIEW	CP	7 Jan. 2013	

FIGURE: 9-04

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LEGEND

- Photographic Direction
- Turbine Layout
- A MET Location
- Collector Cable
- Transmission Line
- Access Road
- Roads
- Railways
- Utility Line
- Watercourse
- Previous Stage 2 Archaeological Assessment
- Stage 2 Pedestrian Survey at 5m Intervals (This Report)
- Stage 2 Test Pit Survey at 5m Intervals (This Report)
- Disturbed - Not Assessed
- Staging/Laydown Area
- Substation
- Land Parcel
- Project Area
- Waterbody
- Wetland

REFERENCE

Base Data - MNR NRVIS, obtained 2004, CANMAP v2006.4
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Scale 1:10,000 Metres

PROJECT STAGE 2 ARCHAEOLOGICAL ASSESSMENT
BLUEWATER WIND ENERGY CENTRE
HURON COUNTY, ONTARIO

TITLE
STAGE 2 SURVEY METHODS

Golder Associates
Mississauga, Ontario

PROJECT NO. 10-1151-0201			SCALE AS SHOWN	REV. 0.0
DESIGN	JMC	16 May. 2011	FIGURE: 9-05
GIS	BC	7 Jan. 2013	
CHECK	AJ	7 Jan. 2013	
REVIEW	CP	7 Jan. 2013	

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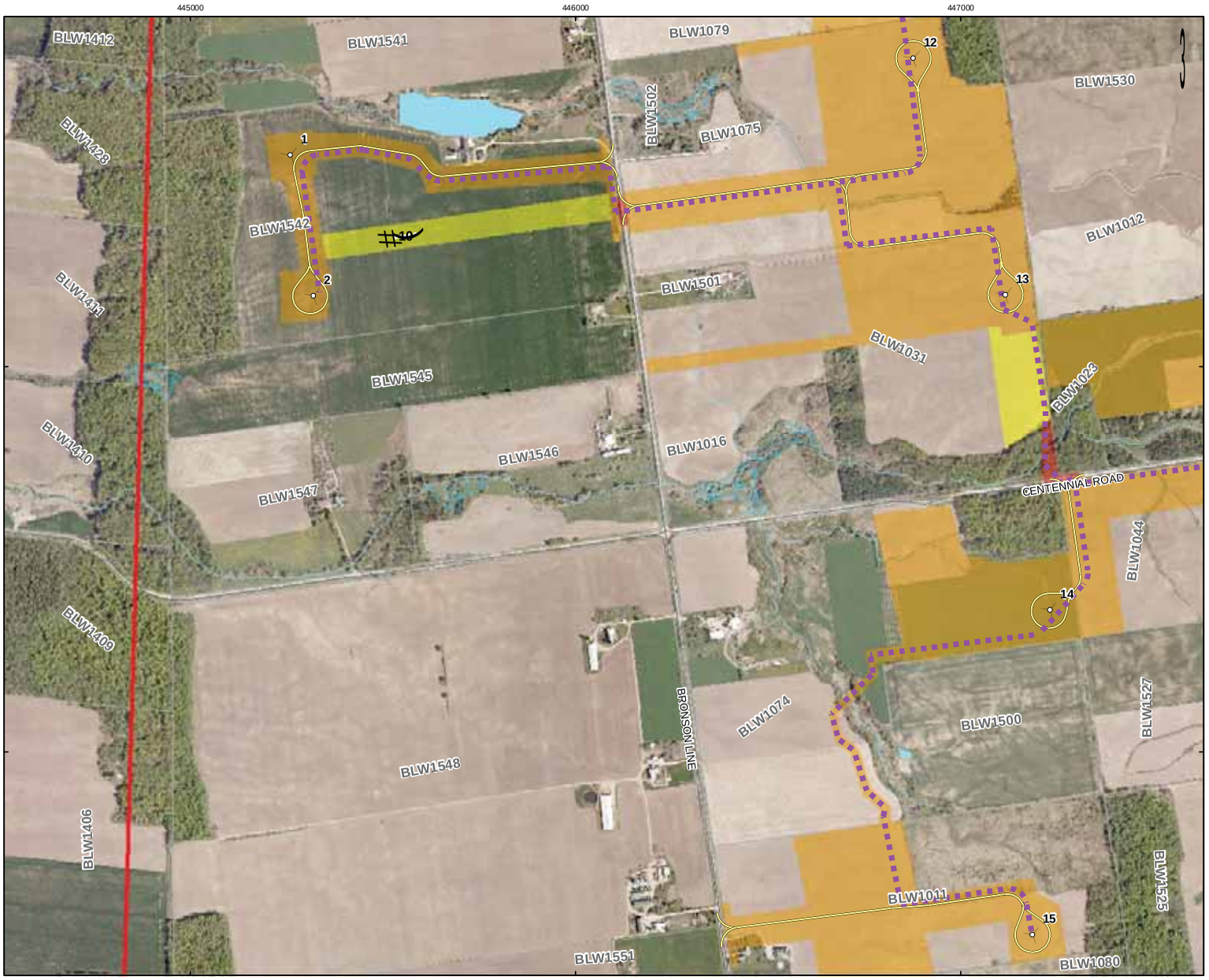

LEGEND

- Photographic Direction
- Turbine Layout
- A MET Location
- Collector Cable
- Transmission Line
- Access Road
- Roads
- Railways
- Utility Line
- Watercourse
- Previous Stage 2 Archaeological Assessment
- Stage 2 Pedestrian Survey at 5m Intervals (This Report)
- Stage 2 Test Pit Survey at 5m Intervals (This Report)
- Disturbed - Not Assessed
- Staging/Laydown Area
- Substation
- Land Parcel
- Project Area
- Waterbody
- Wetland

REFERENCE

Base Data - MNR NRVIS, obtained 2004, CANMAP v2006.4
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PROJECT STAGE 2 ARCHAEOLOGICAL ASSESSMENT
BLUEWATER WIND ENERGY CENTRE
HURON COUNTY, ONTARIO

TITLE
STAGE 2 SURVEY METHODS

Golder Associates
Mississauga, Ontario

PROJECT NO. 10-1151-0201			SCALE AS SHOWN	REV. 0.0
DESIGN	JMC	16 May. 2011	FIGURE: 9-06
GIS	BC	7 Jan. 2013	
CHECK	AJ	7 Jan. 2013	
REVIEW	CP	7 Jan. 2013	

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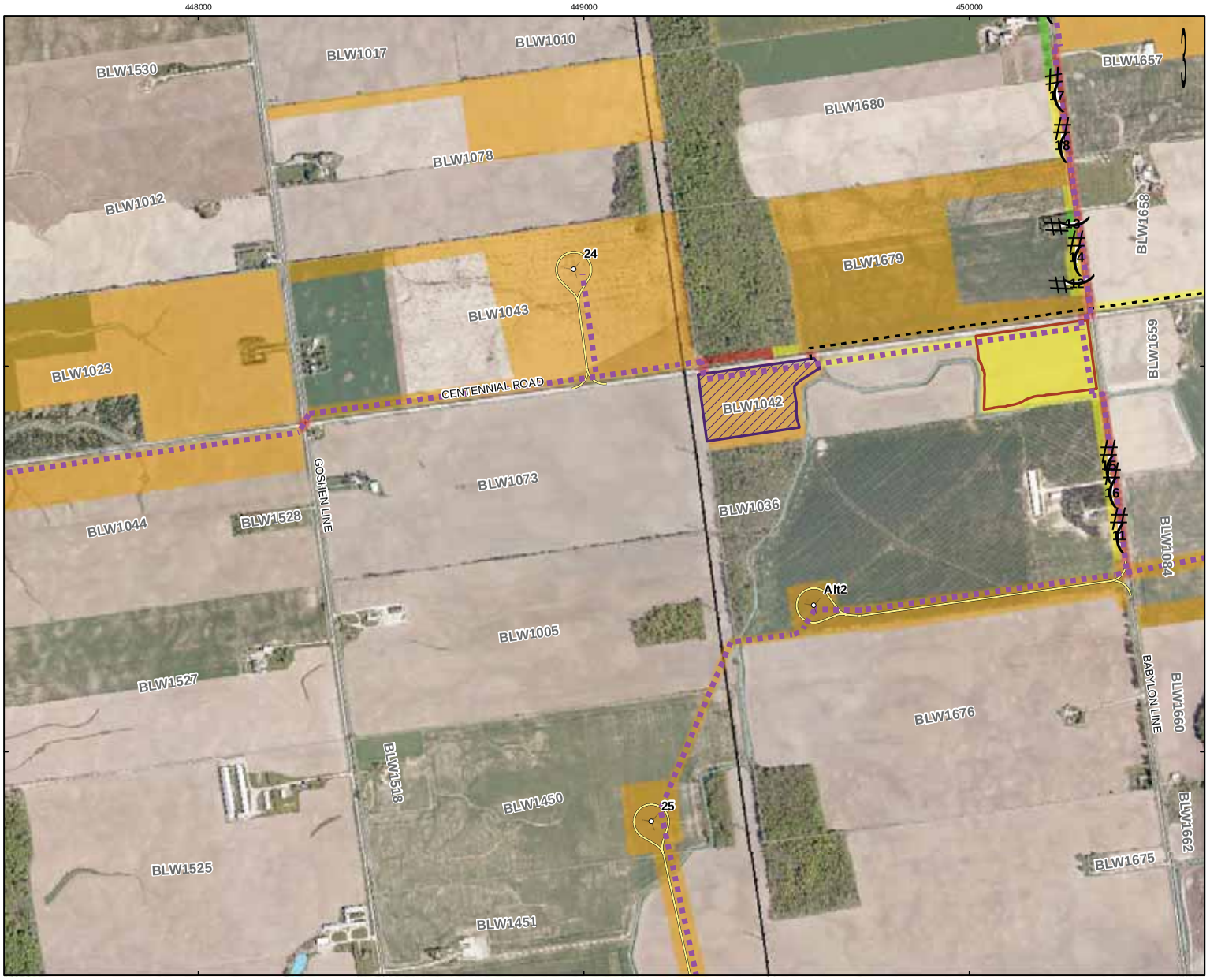

LEGEND

- Photographic Direction
- Turbine Layout
- A MET Location
- Collector Cable
- Transmission Line
- Access Road
- Roads
- Railways
- Utility Line
- Watercourse
- Previous Stage 2 Archaeological Assessment
- Stage 2 Pedestrian Survey at 5m Intervals (This Report)
- Stage 2 Test Pit Survey at 5m Intervals (This Report)
- Disturbed - Not Assessed
- Staging/Laydown Area
- Substation
- Land Parcel
- Project Area
- Waterbody
- Wetland

REFERENCE

Base Data - MNR NRVIS, obtained 2004, CANMAP v2006.4
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100 50 0 100 200 300 400
Scale 1:10,000 Metres

PROJECT STAGE 2 ARCHAEOLOGICAL ASSESSMENT
BLUEWATER WIND ENERGY CENTRE
HURON COUNTY, ONTARIO

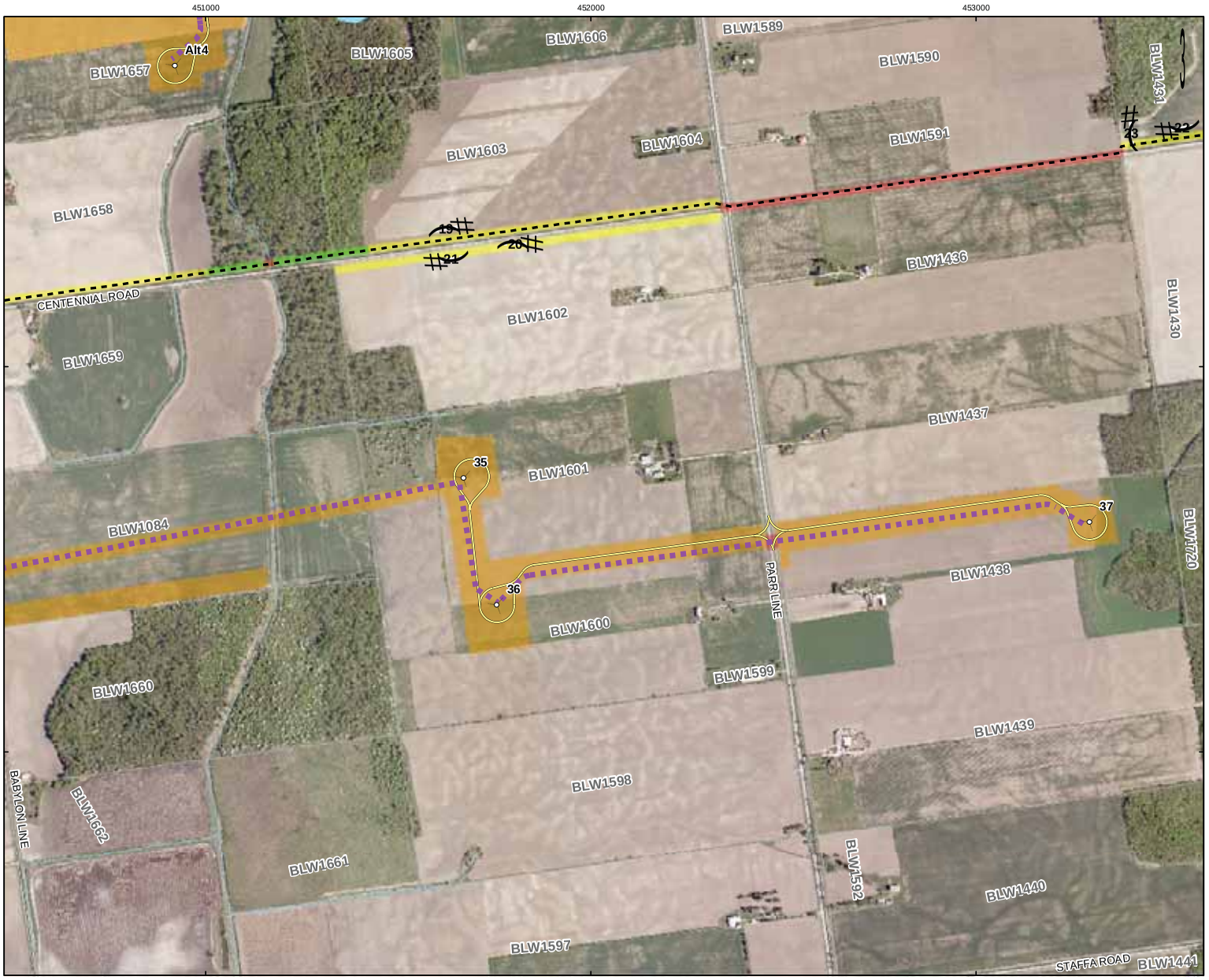
TITLE
STAGE 2 SURVEY METHODS

Golder Associates
Mississauga, Ontario

PROJECT NO. 10-1151-0201			SCALE AS SHOWN	REV. 0.0
DESIGN	JMC	16 May. 2011	
GIS	BC	7 Jan. 2013	
CHECK	AJ	7 Jan. 2013	
REVIEW	CP	7 Jan. 2013	

FIGURE: 9-07

G:\Projects\2010\10-1151-0201_Jericho_Bluewater_Goshen\GIS\MXDs\Reporting\Bluewater\Archaeology\Stage2SurveyMethods\Sep\2012\Fig_9-07 STAGE 2 SURVEY METHODS.mxd



LEGEND

- Photographic Direction
- Turbine Layout
- A MET Location
- Collector Cable
- Transmission Line
- Access Road
- Roads
- Railways
- Utility Line
- Watercourse
- Previous Stage 2 Archaeological Assessment
- Stage 2 Pedestrian Survey at 5m Intervals (This Report)
- Stage 2 Test Pit Survey at 5m Intervals (This Report)
- Disturbed - Not Assessed
- Staging/Laydown Area
- Substation
- Land Parcel
- Project Area
- Waterbody
- Wetland

REFERENCE

Base Data - MNR NRVIS, obtained 2004, CANMAP v2006.4
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100 50 0 100 200 300 400
Scale 1:10,000 Metres

PROJECT STAGE 2 ARCHAEOLOGICAL ASSESSMENT
BLUEWATER WIND ENERGY CENTRE
HURON COUNTY, ONTARIO

TITLE
STAGE 2 SURVEY METHODS

Golder Associates
Mississauga, Ontario

PROJECT NO. 10-1151-0201			SCALE AS SHOWN REV. 0.0
DESIGN	JMC	16 May. 2011	FIGURE: 9-08
GIS	BC	7 Jan. 2013	
CHECK	AJ	7 Jan. 2013	
REVIEW	CP	7 Jan. 2013	

G:\Projects\2010\10-1151-0201_Jericho_Bluewater_Goshen\GIS\MXDs\Reporting\BluewaterArchaeology\Stage2SurveyMethods\Sep\2012\Fig_9-08 STAGE 2 SURVEY METHODS.mxd

LEGEND

- Photographic Direction
- Turbine Layout
- A MET Location
- Collector Cable
- Transmission Line
- Access Road
- Roads
- Railways
- Utility Line
- Watercourse
- Previous Stage 2 Archaeological Assessment
- Stage 2 Pedestrian Survey at 5m Intervals (This Report)
- Stage 2 Test Pit Survey at 5m Intervals (This Report)
- Disturbed - Not Assessed
- Staging/Laydown Area
- Substation
- Land Parcel
- Project Area
- Waterbody
- Wetland

REFERENCE

Base Data - MNR NRVIS, obtained 2004, CANMAP v2006.4
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100 50 0 100 200 300 400
Scale 1:10,000 Metres

PROJECT STAGE 2 ARCHAEOLOGICAL ASSESSMENT
BLUEWATER WIND ENERGY CENTRE
HURON COUNTY, ONTARIO

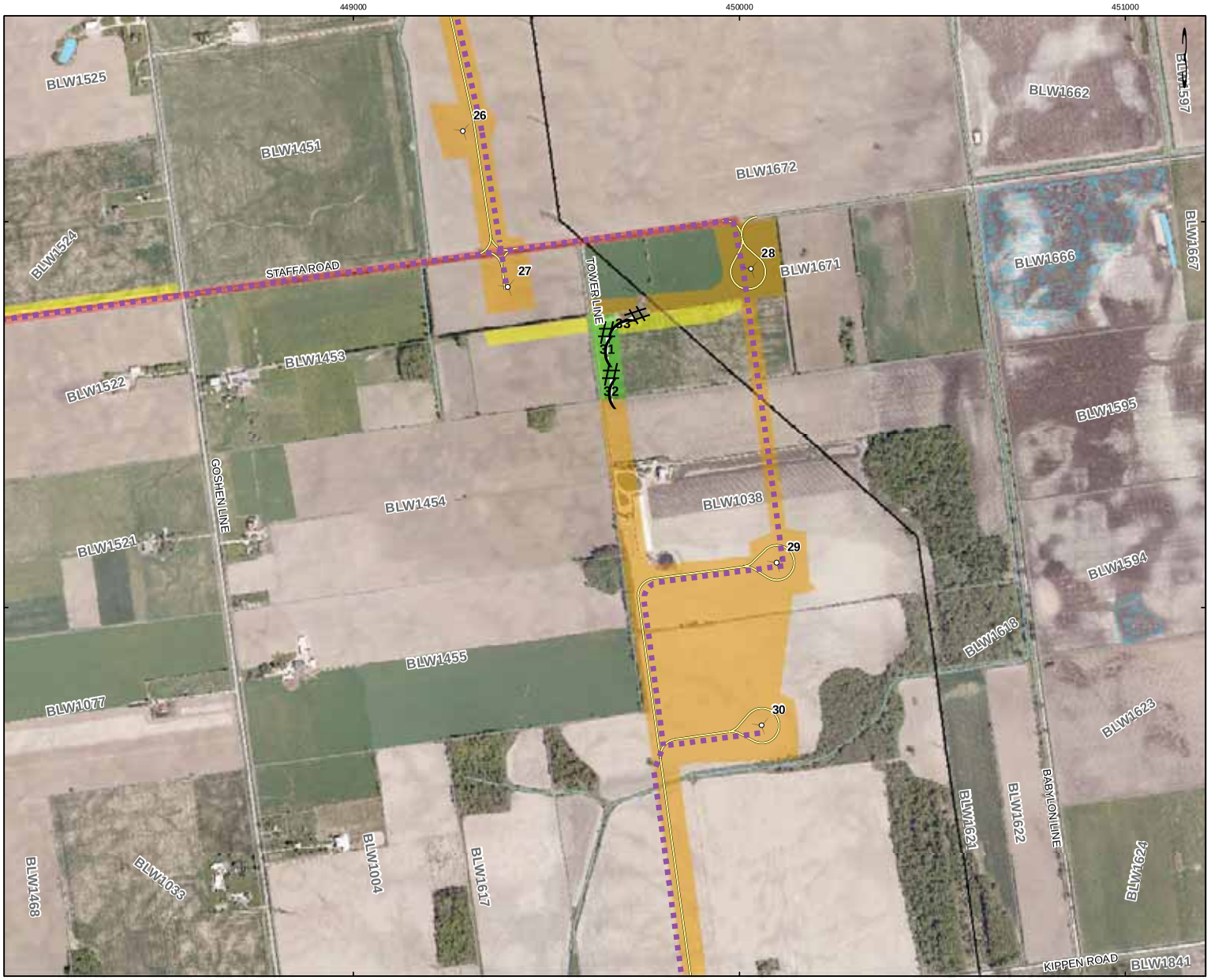
TITLE
STAGE 2 SURVEY METHODS

Golder Associates
Mississauga, Ontario

PROJECT NO. 10-1151-0201			SCALE AS SHOWN	REV. 0.0
DESIGN	JMC	16 May. 2011	
GIS	BC	7 Jan. 2013	
CHECK	AJ	7 Jan. 2013	
REVIEW	CP	7 Jan. 2013	

FIGURE: 9-09

G:\Projects\2010\10-1151-0201_Jericho_Bluewater_Goshen\GIS\MXDs\Reporting\Bluewater\Archaeology\Stage2SurveyMethodsSep\2012\Fig_9-09 STAGE 2 SURVEY METHODS.mxd



LEGEND

- Photographic Direction
- Turbine Layout
- A MET Location
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- Access Road
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- Railways
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- Watercourse
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- Disturbed - Not Assessed
- Staging/Laydown Area
- Substation
- Land Parcel
- Project Area
- Waterbody
- Wetland

REFERENCE

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PROJECT STAGE 2 ARCHAEOLOGICAL ASSESSMENT
BLUEWATER WIND ENERGY CENTRE
HURON COUNTY, ONTARIO

TITLE
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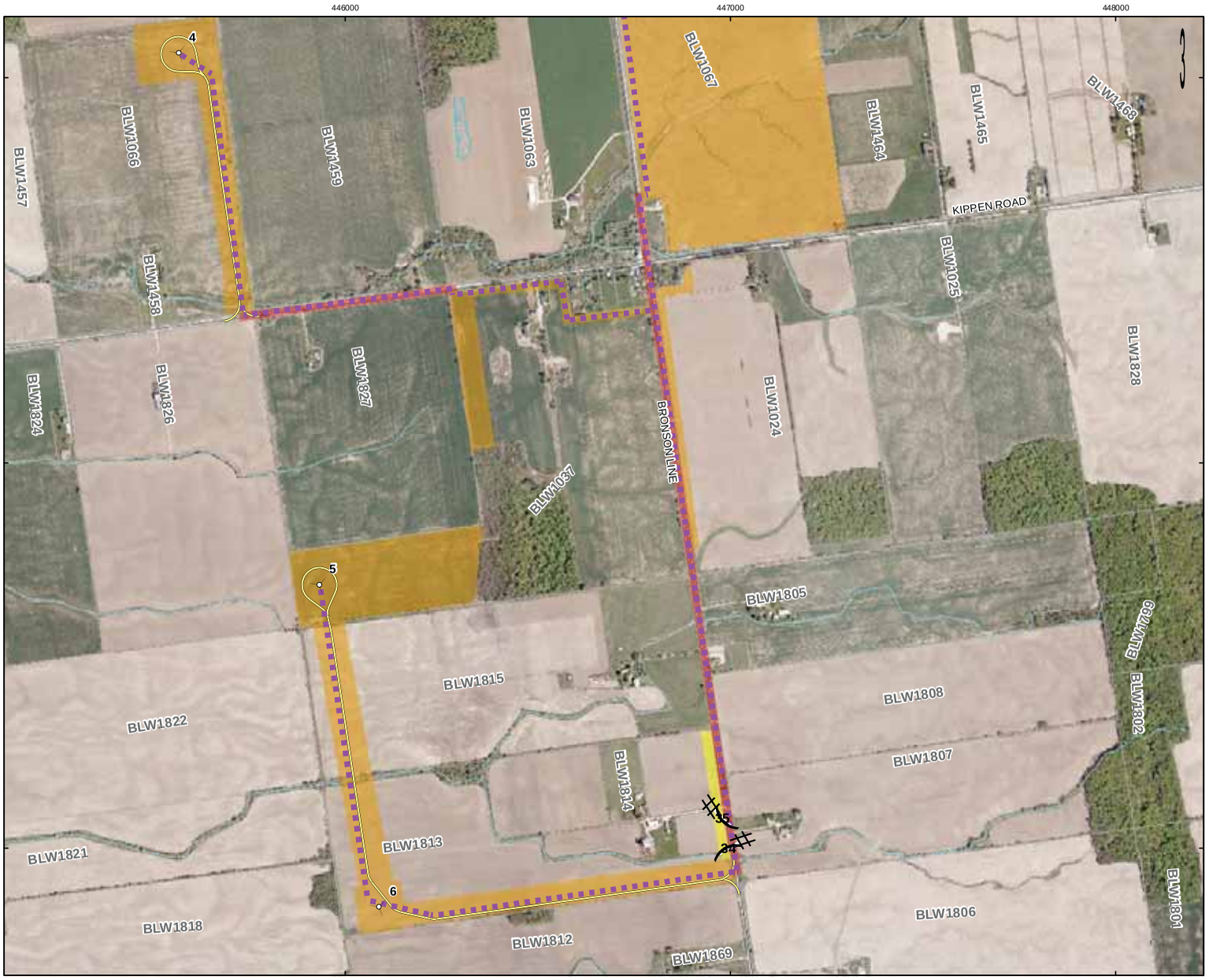

LEGEND

- Photographic Direction
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LEGEND

- Photographic Direction
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- Collector Cable
- Transmission Line
- Access Road
- Roads
- Railways
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REVIEW	CP	7 Jan. 2013		

FIGURE: 9-12

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LEGEND

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CHECK	AJ	7 Jan. 2013	
REVIEW	CP	7 Jan. 2013	

FIGURE: 9-13

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LEGEND

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GIS	BC	7 Jan. 2013	
CHECK	AJ	7 Jan. 2013	
REVIEW	CP	7 Jan. 2013	

FIGURE: 9-14

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LEGEND

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GIS	BC	7 Jan. 2013	
CHECK	AJ	7 Jan. 2013	
REVIEW	CP	7 Jan. 2013	

FIGURE: 9-15

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LEGEND

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PROJECT NO. 10-1151-0201			SCALE AS SHOWN	REV. 0.0
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GIS	BC	7 Jan. 2013	
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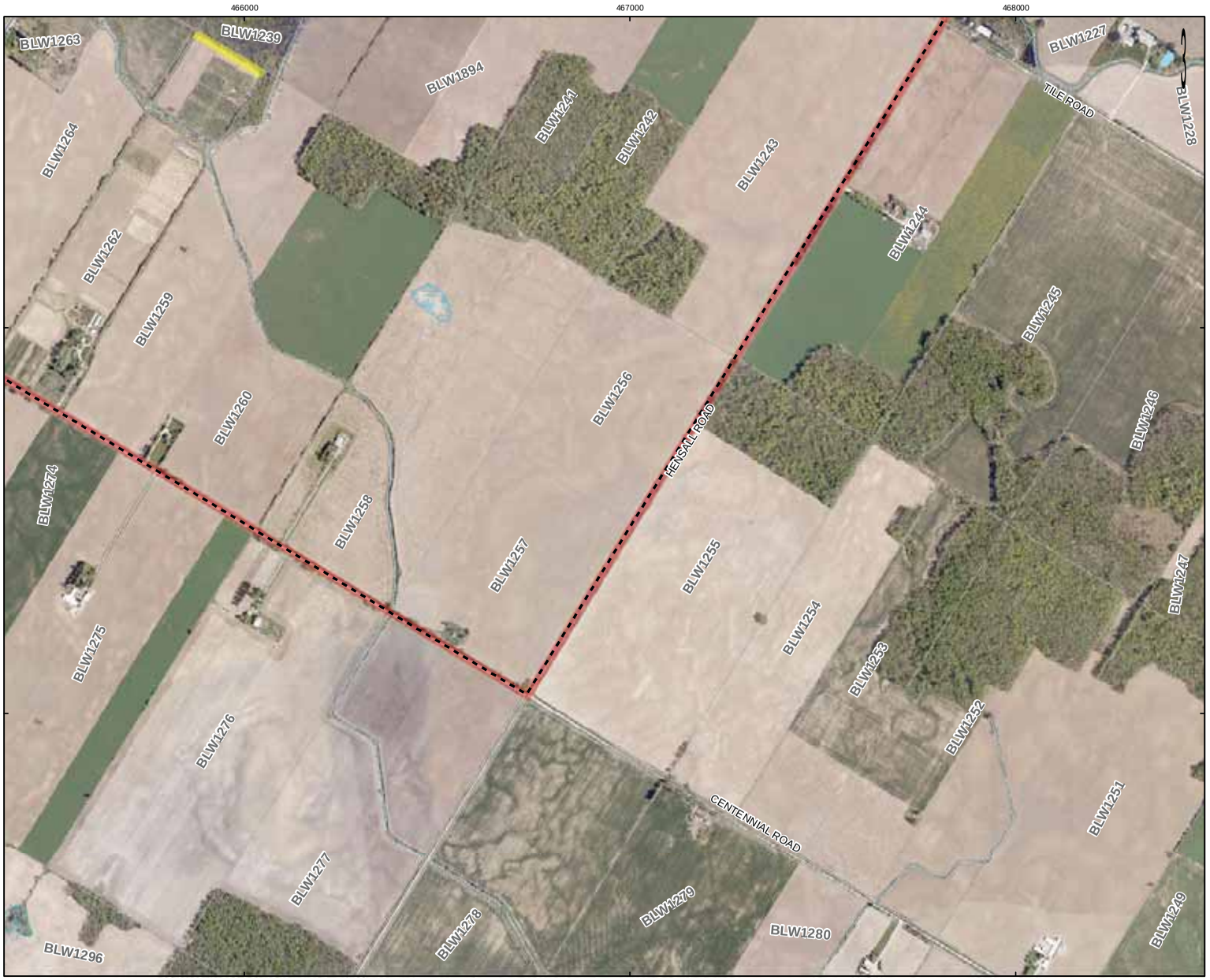

LEGEND

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PROJECT NO. 10-1151-0201			SCALE AS SHOWN REV. 0.0
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GIS	BC	7 Jan. 2013	
CHECK	AJ	7 Jan. 2013	
REVIEW	CP	7 Jan. 2013	

FIGURE: 9-17

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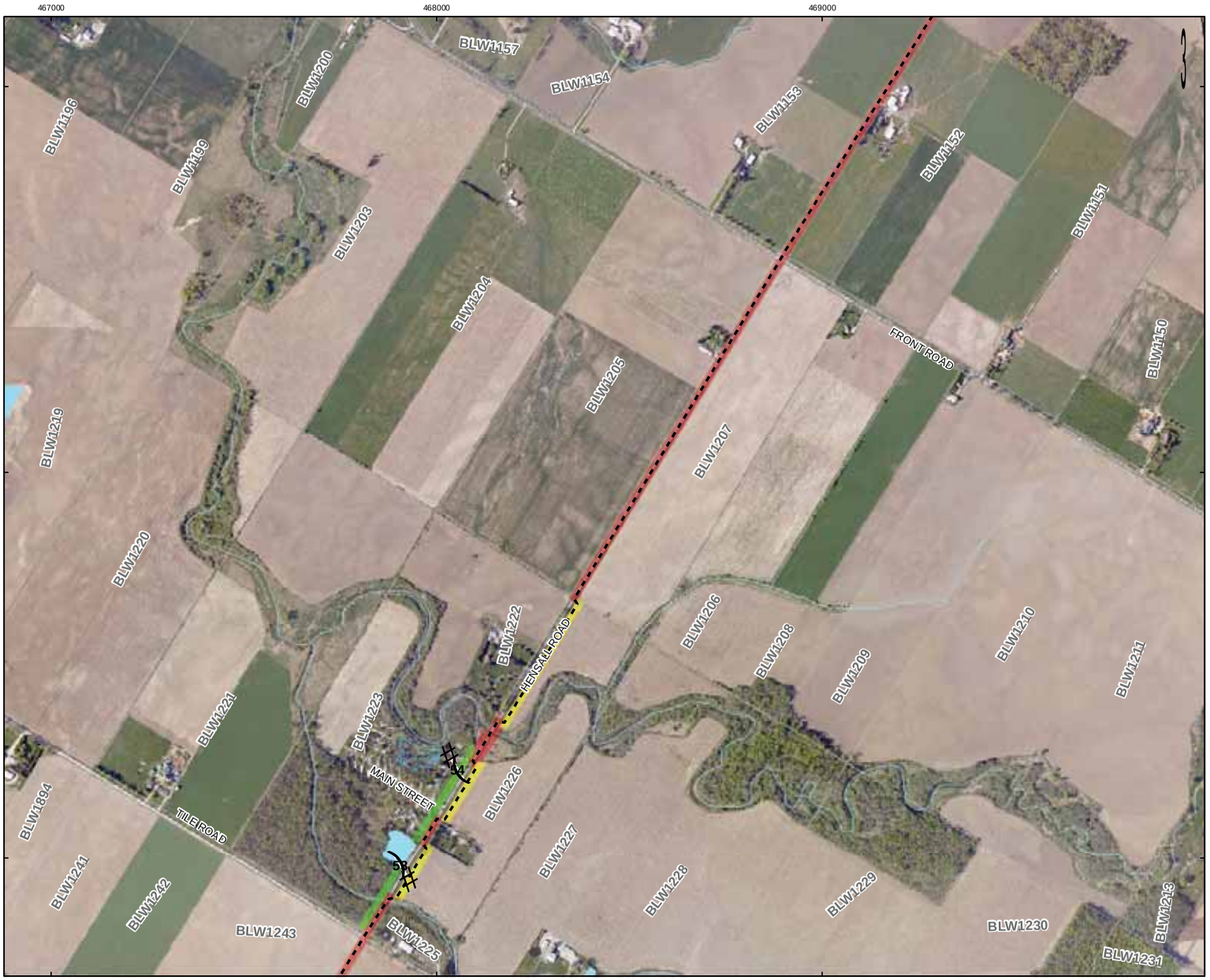

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HURON COUNTY, ONTARIO

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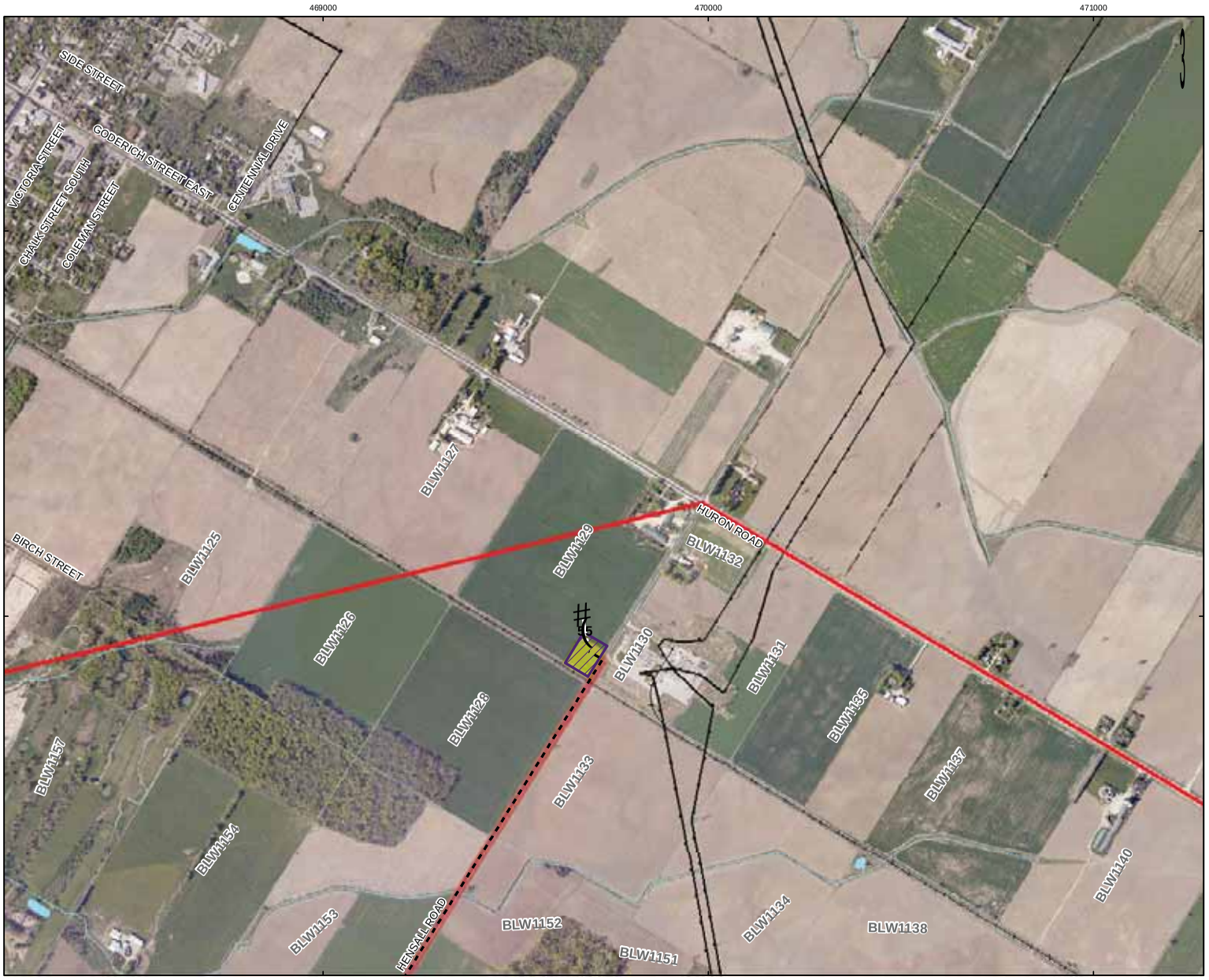

LEGEND

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10.0 IMPORTANT INFORMATION AND LIMITATIONS OF THIS REPORT

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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 Tourism, Culture and Sport's *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011).

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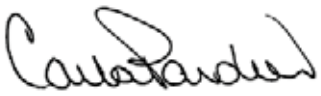

Andrea Jackson, M.LITT
Project Archaeologist

Carla Parslow, Ph.D.
Senior Archaeologist

AJ/CAP/gf

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