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Stage 2 Property Assessment
Additional Lands and ROWs
Goshen Wind Energy Centre
FIT-FETX82X
Municipalities of Bluewater and South Huron
Multiple Lots and Concessions
Geographic Townships of Hay, Stephen and Usborne
Huron County, Ontario

Prepared for
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Licenced under
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MTCS Licence #P007
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Original Report

EXECUTIVE SUMMARY

Under a contract awarded in February 2013, Archaeological Research Associates Ltd. carried out a Stage 2 property assessment of lands with the potential to be impacted by the proposed Goshen Wind Energy Centre in the Municipalities of Bluewater and South Huron, Huron County, Ontario. Specifically, the Stage 2 assessment encompassed 73 parcels of various sizes within the project location, comprising additional lands and portions of several municipal Right-of-Ways where project infrastructure has been proposed. This report documents the background research, fieldwork and artifact processing involved in the assessment, and presents conclusions and recommendations pertaining to archaeological concerns in these areas.

The assessment was completed as a component of a Renewable Energy Approval application (FIT-FETX82X), in advance of construction and in compliance with the requirements set out in Section 22 of Ontario Regulation 359/09 made under the *Environmental Protection Act*. The assessment was conducted on behalf of Goshen Wind, Inc., a wholly owned subsidiary of NextEra Energy Canada, ULC.

The project location for the Goshen Wind Energy Centre has been subjected to multiple archaeological assessments. A Stage 1 assessment was completed by Golder Associates Ltd. in June 2012 under licences #P001 and #P218, PIFs #P001-608-2009 and #P218-278-2011 (Golder 2012a). This study determined that Stage 2 assessment would be required "for any areas to be impacted by turbine construction, access road construction, or other infrastructure construction related activities" (Golder 2012a:46). A Stage 2 assessment of the project location was carried out by Golder Associates Ltd. between May 2011 and September 2012 under licence #P218, PIF #P218-038-2011 (Golder 2013). Golder also carried out a Stage 2 assessment of additional lands between November and December 2012 under licence #P366, PIF #P366-017-2013 (Golder 2012b).

A total of 63 archaeological sites (Locations 1–63) were identified during the Stage 2 assessments, comprising 38 Pre-Contact sites, 20 Euro-Canadian sites and 5 multi-component sites. Thirty-three of these sites were found to be of further cultural heritage value or interest and were recommended for Stage 3 site-specific assessment (Golder 2013:Table 145). Archaeological Research Associates Ltd., Stantec Consulting Ltd. and AECOM subsequently conducted Stage 3 site-specific assessments and Stage 4 mitigations of development impacts at those sites within the project location that could not be avoided through project redesign (e.g., ARA 2013c–2013f).

Following the completion of the original investigations, it was determined that additional Stage 2 assessment was required for 73 parcels of various sizes within the project location, comprising additional lands and portions of several municipal Right-of-Ways where project infrastructure has been proposed. These areas were included in the original Stage 1 assessment conducted under licences #P001 and #P218, PIFs #P001-608-2009 and #P218-278-2011 (Golder 2012a).

The Stage 2 property assessment was conducted between May and September 2013 under licence #P007, PIF #P007-535-2013. Legal permission to enter and conduct all necessary fieldwork activities on project lands was granted by the property owners. This assessment resulted in the discovery of one location of archaeological material: Location 64 on parcel GSH1505. Location 64 comprised a 28 x 16 m scatter of 16 Euro-Canadian artifacts and 1 Pre-Contact lithic tool, and 16 artifacts were collected for laboratory analysis. The diagnostic artifacts indicated that the deposit dated to the late 19th and 20th centuries, but only two of these artifacts definitively dated to pre-1900 due to long periods of production and use. The lithic multi-tool was of an undetermined Pre-Contact date. Location 64 was found to be of no further cultural heritage value or interest.

Based on these findings, Archaeological Research Associates Ltd. recommends that no further archaeological assessment of Location 64 be required, and that the remainder of the assessed lands also require no further archaeological assessment. Should the proposed project location change in this area, additional archaeological work may be required. A *Letter of Review and Acceptance into the Ontario Public Register of Archaeological Reports* is requested, as provided for in Section 65.1 of the *Ontario Heritage Act*.

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GLOSSARY OF ABBREVIATIONS

ARA – Archaeological Research Associates Ltd.
CHVI – Cultural Heritage Value or Interest
FIT – Feed-in Tariff
MTC – (Former) Ministry of Tourism and Culture
MTCS – Ministry of Tourism, Culture and Sport
NB – Northern Boundary
PIF – Project Information Form
O. Reg. – Ontario Regulation
RAS – River Aux Sable Concession
REA – Renewable Energy Approval
ROW – Right-of-Way
SB – Southern Boundary
SD – Supplementary Documentation

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1.0 PROJECT CONTEXT

1.1 Development Context

Under a contract awarded in February 2013, ARA carried out a Stage 2 property assessment of lands with the potential to be impacted by the proposed Goshen Wind Energy Centre in the Municipalities of Bluewater and South Huron, Huron County, Ontario. Specifically, the Stage 2 assessment encompassed 73 parcels of various sizes within the project location, comprising additional lands and portions of several municipal ROWs where project infrastructure has been proposed. This report documents the background research, fieldwork and artifact processing involved in the assessment, and presents conclusions and recommendations pertaining to archaeological concerns in these areas.

The assessment was completed as a component of a REA application (FIT-FETX82X), in advance of construction and in compliance with the requirements set out in Section 22 of O. Reg. 359/09 made under the *Environmental Protection Act*. The assessment was conducted on behalf of Goshen Wind, Inc., a wholly owned subsidiary of NextEra Energy Canada, ULC.

The Goshen Wind Energy Centre project consists of the site preparation, construction, operation and decommissioning of a Class 4 wind generating facility with a total nameplate capacity of 102 MW (see Appendix A). The major components of the project include 1) up to 72 1.6 MW GE model wind turbine generator locations and pad mounted step-up transformers (however, only 63 turbines will be constructed), 2) laydown and storage areas (including temporary staging areas, crane pads and turnaround areas surrounding each wind turbine), 3) underground, 34.5 kV, electrical collection lines to connect the turbines to the proposed transformer substation, 4) 115 kV transmission line to run from the proposed transformer substation to a breaker switch station which will connect the electricity generated by the project to the existing Hydro One 115 kV transmission line, 5) turbine access roads, 6) permanent meteorological tower(s), and 7) an operations and maintenance building (NextEra 2013).

The majority of the project location for the Goshen Wind Energy Centre was previously assessed (see Section 1.3.1). Following the completion of the original investigations, it was determined that additional Stage 2 assessment was required for 73 parcels of various sizes within the project location, comprising additional lands and portions of several municipal ROWs where project infrastructure has been proposed. These areas were included in the original Stage 1 assessment conducted under licences #P001 and #P218, PIFs #P001-608-2009 and #P218-278-2011 (Golder 2012a).

The study area for this assessment therefore comprises the 73 subject parcels, which have a total area of 45.97 ha and are widely distributed across the project location (see Map 2–Map 7). These parcels comprise parts of numerous municipal road ROWs (i.e., Kirkton Road, Crediton Road, Pepper Road, Rodgerville Road, Dashwood Road, Huron Street, Mollard Line, South Road, Bronson Line, Babylon Line, Blackbush Line, MacDonald Road, Greenway Drive, Eagleson Line, Goshen Line, Parr Line, Shipka Line, Grand Bend Line and Victoria Avenue West), private laneways and agricultural fields. In legal terms, the parcels fall within or adjacent to multiple lots and concessions in the Geographic Townships of Hay, Stephen and Usborne (see Table 1).

Table 1: Locations of Assessed Parcels

Parcel	Type	Lot	Concession	Township
GSH1006	ROW	10	9	Hay
GSH1007	ROW	15	10	Hay
GSH1012	ROW	15	NB	Stephen
GSH1013	ROW	21	9	Stephen
GSH1020	ROW	13	RAS	Stephen
GSH1022/2176	ROW	12	22, RAS	Stephen
GSH1023	ROW	14	22	Stephen
GSH1033	ROW	5	15	Stephen
GSH1034	ROW	3	12	Hay
GSH1035	ROW (East and West)	6	16	Stephen
GSH1038	ROW	11	12	Hay
GSH1039	ROW	11	13	Hay
GSH1040	ROW	7	12	Hay
GSH1043	ROW (East and North)	15	9	Hay
GSH1048	ROW	8	14	Hay
GSH1049	ROW	6	12	Hay
GSH1056	ROW	13	13	Hay
GSH1061	ROW	12	12	Stephen
GSH1062	ROW	5–6	13	Stephen
GSH1067	ROW	4	12	Stephen
GSH1068	ROW (East and West), Additional Lands – Removed from Project Design	19, 16	RAS	Stephen
GSH1072	ROW	6	11	Stephen
GSH1077 (East, Centre)	ROW	10–11	14	Stephen
GSH1077 (West)/1766 (North)	ROW	9–10	14	Stephen
GSH1095	ROW	43	SB	Stephen
GSH1118	ROW	10	11	Hay
GSH1360	ROW (North and South)	12	10	Hay
GSH1390	ROW	12	9	Hay
GSH1461	ROW	14	SB	Hay
GSH1481	ROW	8	7	Stephen
GSH1493	ROW	13	7	Stephen
GSH1498/1659	ROW	14	16–17	Stephen
GSH1505/2252/1504	Additional Lands and ROWs	15–16	15	Stephen
GSH1507	ROW	9	16	Stephen
GSH1509	ROW	8	16	Stephen
GSH1526	ROW	9	20	Stephen
GSH1528	ROW	7	20	Stephen
GSH1605	Additional Lands and ROWs (East and West)	10	19–20	Stephen
GSH1617	ROW	11	18	Stephen

Parcel	Type	Lot	Concession	Township
GSH1744/1765	ROW	11–12	14–15	Stephen
GSH1757	ROW	18	14	Stephen
GSH1758	ROW	17	14	Stephen
GSH1766 (South)	ROW	9	14	Stephen
GSH1780	ROW	6	14	Stephen
GSH1949	ROW	8	15	Stephen
GSH2028	ROW	4	9	Stephen
GSH2043	ROW	17	8	Stephen
GSH2046	ROW	14	8	Stephen
GSH2053	ROW	10	8	Stephen
GSH2056	ROW	8	8	Stephen
GSH2099	ROW	13	NB	Stephen
GSH2108	ROW	20	9	Stephen
GSH2133	ROW	15	10	Stephen
GSH2158	ROW	9	9	Stephen
GSH2236	ROW	16	16	Stephen
GSH2237	ROW	18	16	Stephen
GSH2238	ROW	19	16	Stephen
GSH2255	ROW	10	7	Usborne
GSH2381	Additional Lands	6	4	Usborne
GSH2411/2717/2956	Additional Lands	12–13	5–6	Stephen
GSH2555	Additional Lands	8	1–2	Usborne
GSH2767	ROW	5	10	Usborne
GSH2838	ROW	6	9	Usborne
GSH3065	Additional Lands	9	12	Usborne
GSH3068	Additional Lands	6	11	Usborne
Grand Bend Line from GSH1528 to GSH1016	ROW	6–7	20	Stephen
Babylon Line from GSH2058 to GSH2030	ROW	4–8	9	Stephen
Blackbush Line from GSH1758 to GSH2252	ROW	17	14	Stephen
Mollard Line from GSH1559 to GSH1099	ROW	15–16	RAS	Stephen
Bronson Line at GSH1077	ROW	11	13	Stephen
Huron Street at GSH1013	ROW	21	9	Stephen

The Stage 2 property assessment was conducted between May and September 2013 under licence #P007, PIF #P007-535-2013. Legal permission to enter and conduct all necessary fieldwork activities on project lands was granted by the property owners. In compliance with the objectives set out in Section 2.0 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:27–41), the Stage 2 assessment was carried out in order to:

- Empirically document all archaeological resources on the properties;
- Determine whether the properties contains resources requiring further assessment; and
- Recommend appropriate Stage 3 assessment strategies for identified archaeological sites.

The assessments were conducted in accordance with the provisions of the *Ontario Heritage Act*, R.S.O. 1990, c. O.18. All notes, photographs and records pertaining to the project are currently housed in ARA's processing facility located at 154 Otonabee Drive, Kitchener. Subsequent long-term storage will occur at ARA's head office located at 97 Gatewood Road, Kitchener.

The MTCS is asked to review the results and recommendations presented in this report and provide their endorsement through a *Letter of Review and Acceptance into the Ontario Public Register of Archaeological Reports*.

1.2 Historical Context

After a century of archaeological work in southern Ontario, scholarly understanding of the historic usage of lands in Huron County has become very well-developed. What follows is a detailed summary of the archaeological cultures that have settled in the vicinity of the study area over the past 11,000 years; from the earliest Palaeo-Indian hunters to the most recent Euro-Canadian farmers.

1.2.1 Pre-Contact

1.2.1.1 Palaeo-Indian Period

The first documented evidence of occupation in southern Ontario dates to around 9000 BC, after the retreat of the Wisconsin glaciers and the formation of Lake Algonquin, Early Lake Erie and Early Lake Ontario (Karrow and Warner 1990; Jackson et al. 2000:416–419). At that time small Palaeo-Indian bands moved into the region, leading mobile lives based on the communal hunting of large game and the collection of plant-based food resources (Ellis and Deller 1990:38; MCL 1997:34). Current understanding suggests that Palaeo-Indian peoples ranged over very wide territories in order to live sustainably in a post-glacial environment with low biotic productivity. This environment changed considerably during this period, developing from a sub-arctic spruce forest to a boreal forest dominated by pine (Ellis and Deller 1990:52–54, 60).

An Early Palaeo-Indian period (ca. 9000–8400 BC) and a Late Palaeo-Indian period (ca. 8400–7500 BC) are discernable amongst the lithic spear and dart points. Early points are characterized by grooves or 'flutes' near the base while the later examples lack such fluting. All types would have been used to hunt caribou and other 'big game'. Archaeological sites from both time-periods typically served as small campsites or 'way-stations' (occasionally with hearths or fire-pits), where tool manufacture/maintenance and hide processing would have taken place. For the most part, these sites tend to be small (less than 200 sq. m) and ephemeral (Ellis and Deller 1990:51–52, 60–62). Many parts of the Palaeo-Indian lifeway remain unknown.

1.2.1.2 Archaic Period

Beginning in the early 8th millennium BC, the biotic productivity of the environment began to increase as the climate warmed and southern Ontario was colonized by deciduous forests. This caused the fauna of the area to change as well, and ancient peoples developed new forms of tools and alternate hunting practices to better exploit both animal and plant-based food sources. These new archaeological cultures are referred to as 'Archaic'. Thousands of years of gradual change in

stone tool styles allows for the recognition of Early (7500–6000 BC), Middle (6000–2500 BC) and Late Archaic periods (2500–900 BC) (MCL 1997:34).

The Early and Middle Archaic periods are characterized by substantial increases in the number of archaeological sites and a growing diversity amongst stone tool types and exploited raw materials. Notable changes in Archaic assemblages include a shift to notched or stemmed projectile points, a growing prominence of net-sinkers (notched pebbles) and an increased reliance on artifacts like bone fish hooks and harpoons. In addition to these smaller items, archaeologists also begin to find evidence of more massive wood working tools such as ground stone axes and chisels (Ellis et al. 1990:65–67).

Towards the end of the Middle Archaic (ca. 3500 BC), the archaeological evidence suggests that populations were 1) increasing in size, 2) paying more attention to ritual activities, 3) engaging in long distance exchange (e.g., in items such as copper) and 4) becoming less mobile (Ellis et al. 1990:93; MCL 1997:34). Late Archaic peoples typically made use of shoreline/riverine sites located in rich environmental zones during the spring, summer and early fall, and moved further inland to deer hunting and fruit-gathering sites during late fall and winter (Ellis et al. 1990:114).

During the Late Archaic these developments continued, and new types of projectile points appeared along with the first true cemeteries. Excavations of burials from this time-frame indicate that human remains were often cremated and interred with numerous grave goods, including items such as projectile points, stone tools, red ochre, materials for fire-making kits, copper beads, bracelets, beaver incisors, and bear maxilla masks (Ellis et al. 1990:115–117). Interestingly, these true cemeteries may have been established in an attempt to solidify territorial claims, linking a given band or collection of bands to a specific geographic location.

From the tools unearthed at Archaic period sites it is clear that these people had an encyclopaedic understanding of the environment that they inhabited. The number and density of the sites that have been found suggest that the environment was exploited in a successful and sustainable way over a considerable period of time. The success of Archaic lifeways is attested to by clear evidence of steady population increases over time. Eventually, these increases set the stage for the final period of Pre-Contact occupation—the Woodland Period (Ellis et al. 1990:120).

1.2.1.3 Early and Middle Woodland Periods

The beginning of the Woodland period is primarily distinguished from the earlier Archaic by the widespread appearance of pottery. Although this difference stands out prominently amongst the archaeological remains, it is widely believed that hunting and gathering remained the primary subsistence strategy throughout the Early Woodland period (900–400 BC) and well into the Middle Woodland period (400 BC–AD 600). In addition to adopting ceramics, communities also grew in size during this period and participated in developed and widespread trade relations (Spence et al. 1990; MCL 1997:34).

The first peoples to adopt ceramics in the vicinity of the study area are associated with the Meadowood archaeological culture. This culture is characterized by distinctive Meadowood preforms, side-notched Meadowood points and Vinette 1 ceramics (thick and crude handmade pottery with cord-marked decoration). Meadowood peoples are believed to have been organized

in bands of roughly 35 people, and some of the best documented sites are fall camps geared towards the hunting of deer and the gathering of nuts (Spence et al. 1990:128–137).

Ceramic traditions continued to develop during the subsequent Middle Woodland period, and three distinct archaeological cultures emerged in southern Ontario: 'Point Peninsula' north and northeast of Lake Ontario, 'Couture' near Lake St. Clair and 'Saugeen' in the rest of southwestern Ontario (see Map 8). These cultures all shared a similar method of decorating pottery, using either dentate or pseudo-scallop shell stamp impressions, but they differed in terms of preferred vessel shape, zones of decoration and surface finish (Spence et al. 1990:142–43).

The local Saugeen complex, which appears to have extended from Lake Huron to as far east as the Humber River, is characterized by stamped pottery, distinctive projectile points, cobble spall scrapers and a lifeway geared towards the exploitation of seasonally-available resources such as game, nuts and fish (Spence et al. 1990:147–156). Although relatively distant from the study area, the Donaldson site along the Saugeen River may be representative of a typical Saugeen settlement; it was occupied in the spring by multiple bands that came to exploit spawning fish and bury members who had died elsewhere during the year (Finlayson 1977:563–578). The archaeological remains from this site include post-holes, hearth pits, garbage-dumps (middens), cemeteries and even a few identifiable rectangular structures (Finlayson 1977:234–514).

During the Middle to Late Woodland transition (AD 600–900), the first rudimentary evidence of maize (corn) horticulture appears in southern Ontario. Based on the available archaeological evidence, which comes primarily from the vicinity of the Grand and Credit Rivers, this pivotal development was not particularly widespread (Fox 1990a:171, Figure 6.1). The adoption of maize horticulture instead appears to be linked to the emergence of the Princess Point complex, whose material remains include decorated ceramics (combining cord roughening, impressed lines and punctuate designs), triangular projectile points, T-based drills, steatite and ceramic pipes, and ground stone chisels and adzes (Fox 1990a:174-188).

The distinctive artifacts and horticultural practices of Princess Point peoples have led to the suggestion that they were directly ancestral to the later Iroquoian-speaking populations of southern Ontario (Warrick 2000:427). These artifacts have not been found in the vicinity of the study area, however, suggesting that a gradual transition between Middle Woodland and Late Woodland lifeways took place here instead.

1.2.1.4 Late Woodland Period

In the Late Woodland period (ca. AD 900–1600), the practice of maize horticulture spread beyond the western end of Lake Ontario, allowing for population increases which in turn led to larger settlement sizes, higher settlement density and increased social complexity among the peoples involved. During this time-frame two distinct linguistic groups are believed to have coexisted in southern Ontario, including Iroquoian-speaking peoples north and west of Lake Ontario and Algonkian-speaking peoples north of Lake Simcoe, along the Georgian Bay littoral, on the Bruce Peninsula and in the vicinity of Lake St. Clair. The study area is located in an area where the cultural remains of both of these peoples are archaeologically attested.

The Algonkians who lived in the vicinity of the study area are associated with the Western Basin Tradition—one of the most poorly understood Pre-Contact populations in southern Ontario. The Western Basin Tradition has a long developmental history of ceramic styles and settlement-subsistence strategies, and four distinct archaeological phases have been identified. These include the Riviere au Vase Phase (AD 600–800/900), the Younge Phase (AD 800/900–1200), the Springwells Phase (AD 1200–1400) and the Wolf Phase (AD 1400–1550/1600) (Murphy and Ferris 1990:189–194). The Simons site, a Western Basin settlement associated with the Riviere au Vase Phase, is located near the southwestern part of the project location.

Riviere au Vase Phase peoples subsisted on seasonally-abundant resources and had a fair degree of mobility, and Younge Phase peoples continued the trend of exploiting seasonally-abundant resources (contrasting the complex developments of Early Iroquoians). During the Springwells Phase, a shift took place in settlement and subsistence patterns in which warm weather villages emerged with longhouses and palisades (likely related to an increased emphasis on maize horticulture). In the Wolf Phase, subsistence and settlement patterns are poorly understood due to a lack of excavated sites, which may be linked to the establishment of a frontier zone with the Iroquoian-speaking Neutral to the east (Murphy and Ferris 1990:261–263).

Iroquoian archaeological remains from this area show three major stages of cultural development prior to European contact: 'Early Iroquoian', 'Middle Iroquoian' and 'Late Iroquoian' (Dodd et al. 1990; Lennox and Fitzgerald 1990; Williamson 1990). Early Iroquoians (AD 900–1300) lived in small villages (ca. 0.4 ha) of between 75 and 200 people, and each settlement consisted of four or five longhouses up to 15 m in length. The houses contained central hearths and pits for storing maize (which made up 20–30% of their diet), and the people produced distinctive pottery with decorative incised rims (Warrick 2000:434–438). The best documented Early Iroquoian culture in the area is the Glen Meyer complex, which is characterized by well-made and thin-walled pottery, ceramic pipes, gaming discs, and a variety of stone, bone, shell and copper artifacts (Williamson 1990:295–304).

Over the next century (AD 1300–1400), Middle Iroquoian culture became dominant in southwestern Ontario, and distinct 'Uren' and 'Middleport' stages of development have been identified. Both houses and villages dramatically increased in size during this time: longhouses grew to as much as 33 m in length, settlements expanded to 1.2 ha in size and village populations swelled to as many as 600 people. Middle Iroquoian villages were also better planned, suggesting emerging clan organization, and most seem to have been occupied for perhaps 30 years prior to abandonment (Dodd et al. 1990:356–359; Warrick 2000:439–446). Both Early Iroquoian and Middle Iroquoian site clusters are attested in the vicinity of the study area (Warrick 2000:434–446).

During the Late Iroquoian period (AD 1400–1600), the phase just prior to widespread European contact, it becomes possible to differentiate between the archaeologically-represented groups that would become the Huron/Petun and the Neutral Nations. The study area itself lies on the outskirts of the territorial boundaries of the Pre-Contact Neutral Nation.

The Neutral Nation is well represented archaeologically: typical artifacts include ceramic vessels and pipes, lithic chipped stone tools, ground stone tools, worked bone, antler and teeth, and

exotic goods obtained through trade with other Aboriginal (and later European) groups (Lennox and Fitzgerald 1990:411–437). The population growth so characteristic of earlier Middleport times appears to have slowed considerably during the Late Iroquoian period, and the Pre-Contact Neutral population likely stabilized at around 20,000 by the early 16th century (Warrick 2000:446).

Pre-Contact Neutral villages were much larger than Middleport villages, with average sizes in the neighbourhood of 1.7 ha. Exceptional examples of these could reach 5 ha in size, containing longhouses over 100 m in length and housing 2,500 individuals. This seemingly rapid settlement growth is thought to have been linked to Middleport 'baby boomers' starting their own families and needing additional living space (Warrick 2000:446–449).

It has been suggested that the size of these villages, along with the necessary croplands to sustain them, may have had some enduring impacts on the landscapes that surrounded them. In particular, there has been a correlation postulated between Pre-Contact era corn fields and modern stands of white pine (Janusas 1987:69–70, Figure 7). Aside from these villages, the Pre-Contact Neutral also made use of hamlets, agricultural field cabins, specialized camps (e.g., fishing camps) and cemeteries (MCL 1997:35; Warrick 2000:449).

For the most part, Pre-Contact Neutral archaeological sites occur in isolated clusters defined by some sort of geographic region, usually within a watershed or another well-defined topographic feature. It is believed that these clusters represent distinct tribal units, which may have been organized as a larger confederacy akin to the historic Five Nations Iroquois (Lennox and Fitzgerald 1990:410). Nineteen main clusters of villages have been identified, the closest manifestation of which is known simply as the 'London Cluster'. This cluster, which includes the Lawson, Windermere, Ronto, Smallman, Black Kat and Mathews sites, appears to have flourished primarily in the 15th century (Lennox and Fitzgerald 1990: Table 13.1).

Late Pre-Contact Neutral sites are largely absent in this part of southern Ontario, indicative of substantial shifts in local settlement patterns (see Map 9). There was a definite contraction of earlier territories by the early 16th century (perhaps linked to the consolidation of tribal units), and by AD 1534 the Neutral appear to have moved east of the Grand River (Warrick 2000:454). Although scholars once thought that this shift was linked to a desire for better access to European goods, the fact that the fur trade did not begin for several decades has led to the recognition of an alternate reason—war. Later historical sources suggest that the Neutral were engaged in hostilities with the Fire Nation (possibly the Mascouten), the Algonkian-speaking people to the west known as the Western Basin Tradition. Remains from the frontier zone include strongly fortified villages and earthworks, clearly illustrating a defensive mindset (Lennox and Fitzgerald 1990:437–438; Warrick 2000:449–451).

The end of the Late Woodland period can be conveniently linked to the arrival and spread of European fur traders in southern Ontario, and a terminus of AD 1600 effectively serves to demarcate some substantial changes in Aboriginal material culture. Prior to the establishment of the fur trade, items of European manufacture are extremely rare on Pre-Contact Neutral sites, save for small quantities of reused metal scrap. With the onset of the fur trade ca. AD 1580, European trade goods appear in ever-increasing numbers, and glass beads, copper kettles,

iron axes and iron knives have all been found during excavations (Lennox and Fitzgerald 1990:425–432).

1.2.2 Early Contact

1.2.2.1 European Explorers

The first European to venture into what would become southern Ontario was Étienne Brûlé, who was sent by Samuel de Champlain in the summer of 1610 to accomplish three goals: 1) to consolidate an emerging friendship between the French and the First Nations, 2) to learn their languages, and 3) to better understand their unfamiliar customs. Other Europeans would subsequently be sent by the French to train as interpreters. These men became c*oureurs de bois*, "living Indian-style ... on the margins of French society" (Gervais 2004:182). Such 'woodsmen' played an essential role in all later communications with the First Nations.

Champlain himself made two trips to Ontario: in 1613, he journeyed up the Ottawa River searching for the North Sea, and in 1615/1616, he travelled up the Mattawa River and descended to Lake Nipissing and Lake Huron to explore Huronia (Gervais 2004:182–185). He learned about many First Nations groups during his travels, including prominent Iroquoian-speaking peoples such as the Wendat (Huron), Petun (Tobacco) and '*la nation neutre*' (the Neutrals), and a variety of Algonkian-speaking Anishinabeg bands. Champlain's map of *Nouvelle France* from 1632 encapsulates his accumulated knowledge of the area (see Map 10). Although the distribution of the Great Lakes is clearly an abstraction, prolific Neutral village sites can be seen 'west' of *Lac St. Louis* (Lake Ontario).

1.2.2.2 Trading Contacts and Conflict

The first half of the 17th century saw a marked increase in trading contacts between the First Nations and European colonists, especially in southern Ontario. Archaeologically, these burgeoning relations are clearly manifested in the widespread appearance of items of European manufacture by AD 1630, including artifacts such as red and turquoise glass beads, scissors, drinking glasses, keys, coins, firearms, ladles and medallions. During this time, many artifacts such as projectile points and scrapers began to be manufactured from brass, copper and iron scrap, and some European-made implements completely replaced more traditional tools (Lennox and Fitzgerald 1990:432–437).

Nicholas Sanson's *Le Canada, ou Nouvelle France* (1656) provides an excellent representation of southern Ontario at this time of heightened contact. Here the lands of the Neutral Nation are clearly labelled with the French rendering of their Huron name, '*Attawandaron*' (see Map 11). Unfortunately, this increased contact had the disastrous consequence of introducing European diseases into First Nations communities. These progressed from localized outbreaks to much more widespread epidemics (MCL 1997:35; Warrick 2000:457). Archaeological evidence of disease-related population reduction appears in the form of reduced longhouse sizes, the growth of multi-ossuary cemeteries and the loss of traditional craft knowledge and production skills (Lennox and Fitzgerald 1990:432–433).

1.2.2.3 Five Nations Invasion

The importance of European trading contacts eventually led to increasing factionalism and tension between the First Nations, and different groups began to vie for control of the lucrative fur trade (itself a subject of competition between the French and British). In what would become Ontario, the Huron, the Petun, and their Anishinabeg trading partners allied themselves with the French. In what would become New York, the League of the Haudenosaunee (the Five Nations Iroquois at that time) allied themselves with the British. The latter alliance may have stemmed from Champlain's involvement in Anishinabeg and Huron attacks against Iroquoian strongholds in 1609 and 1615, which engendered enmity against the French (Lajeunesse 1960:xxix). Interposed between the belligerents, the members of the Neutral Nation refused to become involved in the conflict.

Numerous military engagements occurred between the two opposing groups during the first half of the 17th century, as competition over territories rich in fur-bearing animals increased. These tensions boiled over in the middle of the 17th century, leading to full-scale regional warfare (MNCFN 2010:5). In a situation likely exacerbated by epidemics brought by the Europeans and the decimation of their population, a party of roughly 1,000 Mohawk and Seneca warriors set upon Huronia in March 1649. The Iroquois desired to remove the Huron Nation altogether, as they were a significant obstacle to controlling the northern fur trade (Hunt 1940:91–92).

The Huron met their defeat in towns such as Saint Ignace and Saint Louis (Sainte-Marie was abandoned and burned by the Jesuits in the spring of 1649). Those that were not killed were either adopted in the Five Nations as captives or dispersed to neighbouring regions and groups (Ramsden 1990:384). The Petun shared a similar fate, and the remnants of the affected groups formed new communities outside of the disputed area, settling in Quebec (modern-day Wendake), in the area of Michilimackinac and near Lake St. Clair (where they were known as the Wyandot).

Anishinabeg populations from southern Ontario, including the Ojibway, Odawa, and Pottawatomi, fled westward to escape the Iroquois (Schmalz 1977:2). The Neutral were targeted in 1650 and 1651, and the Iroquois took multiple frontier villages (one with over 1,600 men) and numerous captives (Coyne 1895:18). The advance of the Iroquois led to demise of the Neutral Nation as a distinct cultural entity (Lennox and Fitzgerald 1990:456).

For the next four decades, southern Ontario remained an underpopulated wilderness (Coyne 1895:20). This rich hunting ground was exploited by the Haudenosaunee to secure furs for trade with the Dutch and the English, and settlements were established along the north shore of Lake Ontario at places like Teiaiagon on the Humber River and Ganatswekwyagon on the Rouge River (Williamson 2008:51). The Haudenosaunee are also known to have traded with the northern Anishinabeg during the second half of the 17th century (Smith 1987:19).

Due to their mutually violent history, the Haudenosaunee did not permit French explorers and missionaries to travel directly into southern Ontario for much of the 17th century. Instead, they had to journey up the Ottawa River to Lake Nipissing and then paddle down the French River into Georgian Bay (Lajeunesse 1960:xxix). New France was consequently slow to develop in

southern Ontario, at least until the fall of several Iroquoian strongholds in 1666 and the opening of the St. Lawrence and Lake Ontario route to the interior (Lajeunesse 1960:xxxii).

In 1669, the Haudenosaunee allowed an expedition of 21 men to pass through their territory. This expedition, which included François Dollier de Casson (a Sulpician priest) and René Bréhant de Galinée, managed to reach and explore the Grand River, which they named *le Rapide* after the swiftness of its current. These men descended the Grand to reach Lake Erie, and they wintered at the future site of Port Dover (Coyne 1895:21). Galinée's map is one of the earliest documented representations of the interior of southwestern Ontario (see Map 12). In it, he notes the locations of several former Neutral villages at the western end of Lake Ontario, likely consisting of abandoned ruins.

1.2.2.4 Anishinabeg Influx

The fortunes of the Five Nations began to change in the 1690s, as disease and casualties from battles with the French took a toll on the formerly-robust group (Smith 1987:19). On July 19, 1701, the Haudenosaunee ceded lands in southern Ontario to King William III with the provision that they could still hunt freely in their former territory (Coyne 1895:28). However, this agreement appears to have lacked any sort of binding formality.

According to the traditions of the Algonkian-speaking Anishinabeg, Ojibway, Odawa and Potawatomi bands began to mount an organized counter-offensive against the Iroquois in the late 17th century (MNCFN 2010:5). Around the turn of the 18th century, the Anishinabeg of the Great Lakes expanded into Haudenosaunee lands, and attempted to trade directly with the French and the English (Smith 1987:19). This led to a series of battles between the opposing groups, in which the Anishinabeg were more successful (Coyne 1895:28).

Haudenosaunee populations subsequently withdrew into New York State, and Anishinabeg bands established themselves in southern Ontario. Many of these bands were mistakenly grouped together by the immigrating Europeans under the generalized designations of 'Chippewa/ Ojibway' and 'Mississauga'. 'Mississauga', for example, quickly became a term applied to many Algonkian-speaking groups around Lake Erie and Lake Ontario (Smith 1987:19), despite the fact that the Mississaugas were but one part of the larger Ojibway Nation (MNCFN 2010:3).

The Anishinabeg are known to have taken advantage of the competition between the English and French over the fur trade, and they were consequently well-supplied with European goods. The Mississaugas, for example, traded primarily with the French and received "everything from buttons, shirts, ribbons to combs, knives, looking glasses, and axes" (Smith 1987:22). The British, on the other hand, were well-rooted in New York State and enjoyed mutually beneficial relations with the Haudenosaunee.

As part of this influx, many members of the Algonkian-speaking Ojibway, Potawatomi and Odawa First Nations came back to Lake Huron littoral. Collectively, these people came to be known as the Chippewas of Saugeen Ojibway Territory (also Saugeen Ojibway Nation). These Algonkian-speakers established themselves in the Bruce Peninsula, all of Bruce and Grey Counties, and parts of Huron, Dufferin, Wellington, and Simcoe Counties (Schmalz 1977:233).

Throughout the 1700s and into the 1800s, Anishinabeg populations hunted, fished, gardened and camped along the rivers, floodplains and forests of southern Ontario (Warrick 2005:2). However, their 'footprint' was exceedingly light, and associated archaeological sites are both rare and difficult to detect. Historical records often play a pivotal role in reconstructing Anishinabeg lifeways during the timeframe, as the first European colonists often wrote about the locations of Aboriginal camps and hunting grounds.

Historical maps from the 18th century shed valuable light on the cultural landscape of the Early Contact period. H. Popple's *A Map of the British Empire in America* (1733), for example, does not show any prominent settlements in the vicinity of the study area, which is a result of the ephemeral environmental impact of the mobile Ojibway (see Map 13). The traditional territories of the former Neutral and Petun Nations are also depicted in this map.

1.2.2.5 Relations and Ambitions

The late 17th and early 18th centuries bore witness to the continued growth and spread of the fur trade across all of what would become the Province of Ontario. The French, for example, established and maintained trading posts along the Upper Great Lakes, offering enticements to attract fur traders from the First Nations. Even further north, Britain's Hudson Bay Company dominated the fur trade. Violence was common between the two parties, and peace was only achieved with the Treaty of Utrecht in 1713 (Ray 2013). Developments such as these resulted in an ever-increasing level of contact between European traders and local Aboriginal communities.

As the number of European men living in Ontario increased, so too did the frequency of their relations with Aboriginal women. Male employees and former employees of French and British companies began to establish families with these women, a process which resulted in the ethnogenesis of a distinct Aboriginal people: the Métis. Comprised of the descendants of those born from such relations (and subsequent intermarriage), the Métis emerged as a distinct Aboriginal people during the 1700s (MNO 2011).

Métis settlements developed along freighting waterways and watersheds, and were tightly linked to the spread and growth of the fur trade. These settlements were part of larger regional communities, connected by "the highly mobile lifestyle of the Métis, the fur trade network, seasonal rounds, extensive kinship connections and a shared collective history and identity" (MNO 2011).

In 1754, hostilities over trade and the territorial ambitions of the French and the British led to the Seven Years' War (often called the French and Indian War in North America), in which many Anishinabeg bands fought on behalf of the French. After the French surrender in 1760, these bands adapted their trading relationships accordingly, and formed a new alliance with the British (Smith 1987:22). In addition to cementing British control over the Province of Quebec, the Crown's victory over the French also proved pivotal in catalyzing the Euro-Canadian settlement process. The resulting population influx caused the demographics of many areas to change considerably.

R. Sayer and J. Bennett's *General Map of the Middle British Colonies in America* (1776) provides an excellent view of the ethnic landscape of southern Ontario prior to the widespread arrival of European settlers. This map clearly depicts the Thames River, numerous tributaries draining into Lake Huron, the territory of the Ojibway, and the virtually untouched lands of southwestern Ontario (see Map 14).

1.2.3 The Euro-Canadian Era

1.2.3.1 British Colonialism

With the establishment of absolute British control came a new era of land acquisition and organized settlement. In the *Royal Proclamation* of 1763, which followed the Treaty of Paris, the British government recognized the title of the First Nations to the land they occupied. In essence, the 'right of soil' had to be purchased by the Crown prior to European settlement (Lajeunesse 1960:cix). Numerous treaties and land surrenders were accordingly arranged by the Crown, and great swaths of territory were acquired from the Ojibway and other First Nations. These first purchases established a pattern "for the subsequent extinction of Indian title" (Gentilcore and Head 1984:78).

The first land purchases in Ontario took place along the shores of Lake Ontario and Lake Erie, as well as in the immediate 'back country'. Such acquisitions began in August 1764, when a strip of land along the Niagara River was surrendered by Six Nations, Chippewa and Mississauga chiefs (NRC 2010). Although many similar territories were purchased by the Crown in subsequent years, it was only with the conclusion of the American Revolutionary War (1775–1783) that the British began to feel a pressing need for additional land. In the aftermath of the conflict, waves of United Empire Loyalists came to settle in the Province of Quebec, driving the Crown to seek out property for those who had been displaced. This influx had the devastating side effect of sparking the slow death of the fur trade, which was a primary source of income for many First Nations groups.

By the mid-1780s, the British recognized the need to 1) secure a military communication route from Lake Ontario to Lake Huron other than the vulnerable passage through Niagara, Lake Erie and Lake St. Clair; 2) acquire additional land for the United Empire Loyalists; and 3) modify the administrative structure of the Province of Quebec to accommodate future growth. The first two concerns were addressed through the negotiation of numerous 'land surrenders' with Anishinabeg groups north and west of Lake Ontario, and the third concern was mitigated by the establishment of the first administrative districts in the Province of Quebec.

On July 24, 1788, Sir Guy Carleton, Baron of Dorchester and Governor-General of British North America, divided the Province of Quebec into the administrative districts of Hesse, Nassau, Mecklenburg and Lunenburg (Archives of Ontario 2009). The vicinity of the study area fell within the Hesse District at this time, which consisted of a massive tract of land encompassing all of the western and inland parts of the province extending due north from the tip of Long Point on Lake Erie in the east. According to early historians, "this division was purely conventional and nominal, as the country was sparsely inhabited … the necessity for minute and accurate boundary lines had not become pressing" (Mulvany et al. 1885:13).

Further change came in December 1791, when the Parliament of Great Britain's *Constitutional Act* created the Provinces of Upper Canada and Lower Canada from the former Province of Quebec. Colonel John Graves Simcoe was appointed as Lieutenant-Governor of Upper Canada, and he became responsible for governing the new province, directing its settlement and establishing a constitutional government modelled after that of Britain (Coyne 1895:33).

Simcoe initiated several schemes to populate and protect the newly-created province, employing a settlement strategy that relied on the creation of shoreline communities with effective transportation links between them. These communities, inevitably, would be composed of lands obtained from the First Nations, and many more purchases were subsequently arranged. In July 1792, Simcoe divided the province into 19 counties consisting of previously-settled lands, new lands open for settlement and lands not yet acquired by the Crown. These new counties stretched from Essex in the west to Glengarry in the east. Three months later, in October 1792, an Act of Parliament was passed whereby the four districts established by Lord Dorchester were renamed as the Western, Home, Midland and Eastern Districts (Archives of Ontario 2009).

The vicinity of the study area nominally fell within the boundaries of Kent County in the Western District at this time, which comprised all of the territory of Upper Canada that was not included in the other 18 counties (Archives of Ontario 2009). In essence, Kent was the largest county ever created, stretching from Lake Erie to Hudson's Bay (McGeorge 1939:36). This arrangement would not last, however, and the 'northern' parts of Kent County would soon be sectioned off to form separate counties.

D.W. Smyth's *A Map of the Province of Upper Canada* (1800) clearly shows the layout of the earliest townships north and west of Lake Ontario, and demonstrates that the vicinity of the study area remained largely untouched by early British colonialism (see Map 15). This area comprised part of the 'Great Tract of Wood Land' that stretched from the St. Clair River to Lake Simcoe and beyond, and remained in the possession of the First Nations.

1.2.3.2 Huron County

Shortly after the creation of Upper Canada, the original arrangement of the province's districts and counties was deemed inadequate. As population levels increased, smaller administrative bodies became desirable, resulting in the division of the largest units into more 'manageable' component parts. The first major changes in the southwest took place in 1798, when an Act of Parliament called for the realignment of the Home and Western Districts and the formation of the London and Niagara Districts. Many new counties and townships were subsequently created (Archives of Ontario 2009).

The vicinity of the study area nominally became part of the London District at this time (Archives of Ontario 2009), although the lands would remain in Aboriginal hands for nearly three decades. J. Purdy's *A Map of Cabotia* (1814) shows the layout of the London District during these early years, as well as the lands that would become Huron County (see Map 16).

Between 1815 and 1824, heavy immigration from the Old World resulted in the doubling of the non-Aboriginal population of Upper Canada from 75,000 to 150,000. This dramatic increase was a result of the outcome of the War of 1812 and the Crown's efforts to populate the province's

interior. A total of six major land-cession agreements were then pursued, which would yield nearly 3,000,000 ha of lands for Euro-Canadian settlement (Surtees 1994:112). These agreements were concerned with lands located well beyond the original waterfront settlements of Upper Canada, and included the Lake Simcoe-Nottawasaga, Ajetance, Rice Lake, Rideau, Long Woods and Huron Tract Purchases (Surtees 1994:113–119).

In October 1818, John Askin, Superintendent of Indian Affairs at Amherstburg, was sent to the Thames River area between London and Chatham in order to arrange for the purchase of a large tract of land to the north. Askin met with the chiefs of the Ojibway bands of the Chenal Ecarté, the St. Clair River, Bear Creek, the Sable River and the Thames River, and began negotiations for lands on the Thames River and on Lake Huron just north of the Sable River, extending inland as far as the Grand River Tract. The Ojibway leaders agreed to sell the land, and stipulated that 1) six reserves be set aside for them and that 2) a blacksmith and farm instructor be stationed near the reserves (Surtees 1994:117).

Based on Askin's report, the government decided to purchase the subject tract through two agreements: the 'Long Woods Purchase' and the 'Huron Tract Purchase'. The Long Woods area interested the Crown the most, as it was immediately north of the Thames River and was the next logical destination for Euro-Canadian settlers. Askin met with the Ojibway in 1819, and a provisional agreement was created which involved the surrender of 210,000 ha in exchange for an annuity of 600 pounds in currency and goods. The Huron Tract provisional agreement was also negotiated that same year, in which over 1,000,000 ha were to be sold for an annuity of 1,375 pounds in currency and goods (Surtees 1994:117–118).

Neither agreement was executed, however, as objections over the nature of the cash payments led to the revision of both proposals. The Long Woods Purchase was finally completed on November 28, 1822, and almost 552,190 ha were exchanged for 600 pounds in currency (NRC 2010). Specifically, a *per capita* payment of 2 pounds 10 shillings was agreed upon, to a maximum of 240 persons (Surtees 1994:118). The Huron Tract Purchase took longer to settle, and it was not pursued in earnest until John Galt's Canada Company began to materialize. This purchase was completed on July 10, 1827 for 1,375 pounds in currency (NRC 2010). Over the ensuing years, these lands would become parts of Waterloo, Wellington, Huron, Lambton, Middlesex and Oxford Counties.

The initial settlement of the Huron Tract was largely tied to the activities of the Canada Company, which held its first meeting on July 30, 1824 in a tavern in London, England. The Canada Company consisted primarily of British businessmen, such as John Galt and Charles Bosanquet, who were brought together by a shared goal of increasing settlement and prosperity in Upper Canada while turning a tidy profit at the same time (Coleman 1978:15). The Canada Company was officially incorporated on August 19, 1826 by royal charter, and the developers were granted significant powers and privileges by King George IV. Prominent among these powers was the ability to purchase large tracts of Crown Land and Reserve Land, including Clergy Reserves. The Company would eventually come to possess nearly 931,500 ha worth of properties in Upper Canada, subsequently selling them to early settlers (Cumming 1972:5).

Following the Crown's acquisition of the Huron Tract in 1827, the Canada Company came to own 19 of the first 21 townships established in the area. Specifically, Canada Company Lands included the Townships of Biddulph, Blanshard, Colborne, Downie, Ellice, South Easthope, North Easthope, Fullarton, Goderich, Hibbert, Hay, Hullett, Logan, McKillop, McGillivray, Stephen, Stanley, Tuckersmith and Usborne (Smith 1846:85). The Crown retained ownership of the Townships of Ashfield and Wawanosh, however, preferring to sell them independently (Smith 1846:85). The rest of the Crown Lands in the northeast remained unincorporated (see Map 17).

With these territories in hand, the Canada Company quickly began clearing and surveying operations to facilitate sales and settlement. Galt, for example, was granted funds to build a road connecting Guelph to Goderich. Tiger Dunlop was placed in charge of blazing the trail, while John McDonald and Samuel Smith were appointed as the principal surveyors (Robinson 1999:3). Roadwork began in June 1828 and was completed by November 1828, at which time the Huron Road opened. Prospective settlers attracted by the Company's advertisements and posters were given a map with the new road, and the Huron Tract began to develop just as the businessmen envisioned (Coleman 1978:33). Most of the settlers that arrived were English, Scottish and Irish, although a few Germans came as well (Smith 1846:85). By 1844, the Canada Company had successfully sold 5,241 ha of the Huron Tract (Coleman 1978:125).

Due to rising population levels, Huron County was created in the London District in 1835 to better serve the administrative needs of local residents (Archives of Ontario 2009). The Crown soon realized that the demand for land far exceeded the supply, and additional territories were sought out north of the 'Huron Tract'. The first and largest tract of land (the 'Saugeen Tract') was acquired in a treaty concluded by Sir Francis Bond Head with members of the Saugeen, Odawa and Chippewa First Nations on August 9, 1836. In addition to lands for settlement, Head also sought "the physical, cultural, and institutional separation of Aboriginal and Euro-Canadian populations" (Fitzgerald 2005:27). Forming parts of what would become Bruce, Grey, Wellington and Huron Counties, this tract consisted of 607,500 ha of land, and the only payment was a promise to assist and protect those who moved to the Bruce Peninsula (NRC 2010).

In 1837 and 1838, the layout of what would become southern Ontario was significantly altered through the creation of the Huron, Brock, Wellington, Talbot and Simcoe Districts (Archives of Ontario 2009). The vicinity of the study area became part of the Huron District at this time, but the majority of the northern lands remained unsurveyed. The Huron District was enlarged in 1840 with the addition of the Townships of Ashfield and Wawanosh (see Map 18), and in February 1841, it became part of Canada West in the new United Province of Canada. By 1845, the population of the Huron District reached 13,500, and it contained 8 grist mills, 21 saw mills and 39 schools (Smith 1846:85).

Following the abolition of the district system in 1849, the counties of Canada West were reconfigured once again. The boundaries of Huron County were redefined, and Perth County was created in the east (see Map 19). For the remainder of the Euro-Canadian era, Huron County consisted of the Townships of Stephen, Usborne, Hay, Stanley, Tuckersmith, Goderich, Colborne, Hullett, McKillop, Ashfield, Wawanosh, Morris, Grey, Turnberry and Howick (see Map 20).

The population of Huron County subsequently grew at a rapid pace, and by 1871 it had 66,165 inhabitants (Belden & Co. 1879:v). This growth later waned, however, and a population decline occurred between 1881 and 1941—likely a result of movement to other municipalities. The 2011 census profile for Huron County shows a population of 59,100 (Statistics Canada 2013), indicating that Huron County still has not recovered fully from this historic decline.

1.2.3.3 Township of Hay

In historic times, the Township of Hay was bordered by the Township of Stanley to the north, the Township of Stephen to the south, the Townships of Tuckersmith and Usborne to the east and Lake Huron to the west. The earliest settlers in the township enjoyed a favourable environmental setting, and the land was well-watered by Black Creek and numerous unnamed tributaries draining into Lake Huron. According to W.H. Smith, "the soil is good, with the exception of the land bordering on the lake" (1846:79).

The Township of Hay was named after Robert William Hay, the second undersecretary of state for the colonies of the British government in 1825 (Lee 2004:230). This land was acquired by the Crown in 1827 as part of the Huron Tract Purchase, and was subsequently sold to the Canada Company to facilitate its settlement (Mack 1992:4). In 1835 and 1837, the Canada Company's principle surveyor John MacDonald divided the township into lots for settlement, beginning with the four boundaries and finishing with the centre (McDonald 1835; 1837).

The Township of Hay was settled somewhat later than the surrounding townships, although a few settlers did arrive as early as 1832 along the London Road. Most came in 1837 and 1838, and when William Wilson arrived in 1839, the Walshes and the Bells already lived on the Tuckersmith side of the London Road, and the Cases and a few others dwelled on the Hay side (H. Belden & Co. 1879:xv). Other early residents of Hay included John Oesch, Peter Deichert, Frederick Axt, Henry Wohlnich, Henry Greb and John Goetz (Zurich Ontario 2006). The first settlers were mainly German, although those of English and Irish descent also come to the Township of Hay. Once the preferred London Road locations were taken up, the settlers established themselves along the numerous concession roads.

Overall, the rate of settlement was quite slow in the Township of Hay, and there were only 113 residents by 1846 (Smith 1846:79). The usual price for a 100 acre lot was 50 to 100 pounds, and the Canada Company's policy of one-fifth down upon purchase prevented settlers who lacked funds from taking up land in this part of Huron County (SHC 1986:9). Once the Canada Company realized that the 20% down system was hampering settlement, they introduced a new lease arrangement in 1842, in which the settler would 1) pay no money down, 2) have ten years to pay for his lot, 3) be responsible for 6% interest per year, and 4) be responsible for clearing four acres of land per year (SHC 1986:12). This new lease system encouraged more rapid settlement, by 1879 the population reached 4,119 (H. Belden & Co. 1879:xv).

In the early years, the only way for the settlers of Hay to obtain goods was to travel to Goderich, located approximately 40 km to the north. Many settlers could not make this trip, and instead sent money with 'Jack Quick', who drove a stage between London and Goderich, to make purchases on their behalf. Jack frequently spent this money on 'sprees', but he would repay the

funds with money "given him by others for a similar purpose" (H. Belden & Co. 1879:xv). He met an untimely death falling from a wagon.

The most prominent historic communities in the Township of Hay included Zurich, Hensall, Dashwood and Exeter. Aside from these larger centres, the township also contained numerous small communities that developed around local post offices, including Drysdale, Blake, Hills Green, Kippen, Johnson's Mills, Brewster, Sarepta and Hay (see Map 21).

The most prominent historic community in the vicinity of the project location was Zurich, which developed in the vicinity of Lot 21, Concession 11 in the central part of the township. This settlement was first organized by a Swiss man named Frederick Knell, who obtained the property in July 1856. Knell established a general store and a post office at Zurich, and later erected a grist mill and a saw mill on the property known as the Mill Survey (Zurich Ontario 2006). By 1879, many other businesses and shops had opened, including three general stores, one drug store, one merchant tailor, three harness shops, three carriage shops, one tannery, one woolen mill, one grist and flouring mill, one flax mill and two good hotels. The community had a population of approximately 600 at that time (H. Belden & Co. 1879:xv).

1.2.3.4 Township of Stephen

In historic times, the Township of Stephen was bordered by the Township of Hay to the north, the Townships of Usborne and Biddulph to the east, the Township of McGillivray to the south, and the Township of Bosanquet to the west. The earliest settlers here also enjoyed a favourable environmental setting, and the land was well-watered by the Ausable River. According to one early historical source, "the land bordering on the lake, for about a mile in length, is sandy and unfit for cultivation; but most of the rest of the township is good" (Smith 1846:176)

The Township of Stephen was named after James Stephen Jr., the Under-Secretary of State for the English colonies in the Province of Canada (Mack 1992:6). Along with other townships to then north, this land was acquired by the Crown in 1827 as part of the Huron Tract Purchase, and was subsequently sold to the Canada Company to facilitate its settlement (Mack 1992:4). The township was surveyed on multiple occasions: the London Road and the lots along Concession 1 were laid out in 1829, Concessions 2–3 were surveyed by John McDonald in 1830, lots along the North Boundary, South Boundary, Lake Road and River Aux Sables were surveyed by McDonald in 1835, Lots 6–21, South Boundary were surveyed by McDonald in 1836, and Concessions 4–22 were surveyed by McDonald in 1837 (Mack 1992:10; McDonald 1835–1837).

In 1832, the McConnell brothers erected a tavern on the London Road at the request of the Canada Company. The tavern is said to have been located in the northeastern part of the township near the Ausable River, and it was likely the first structure in Stephen (Mack 1992:14). The McConnells had won the contract to cut out the northern section of the London Road, and likely received their properties, including Lots 23–25 on the Stephen side as well as several other lots on the Usborne side, as partial payment for their work (Mack 1992:14). William McConnell was a prominent early settler in the area, and he built a saw mill in 1833 and a grist mill in 1834 (Mack 1992:195–196).

In 1833, William McConnell was tasked with opening the London Road from Clinton in the north to Elginfield in the south. When the road was originally cut, the stumps were left in place so that the roots could decay, at which point the settlers who lived along the London Road were employed to remove the stumps and fill the holes (Mack 1992:37). This thoroughfare helped encourage settlement in the area and allowed settlers to make an easier passage to other villages in Huron County. In 1842, James Stanlake was appointed Overseer of Roads, and he became responsible for organizing and overseeing statute labour in the township. With little money in circulation, statute labour, a system by which every settler worked for several days a year on roads without pay, was the only way to open such long roadways in the area (Mack 1992:29).

The rate of settlement in the township was relatively slow in the early years, and the first recorded land sales date to 1832, when Isaac Rattenbury bought Lot 25, Concession 2 and Dennis O'Brien bought Lots 1–6, Concession 1 (Mack 1992:15). By 1842, there were only 17 families living in the township, and the population was 89 (Mack 1992:19). The first settlers in this area were mainly of English and Irish descent, although there were a few Germans as well (Mack 1992:24–25). By 1846, the population of the Township of Stephen reached 213 (Smith 1846:176). Settlement increased much more rapidly after 1850, and there were 740 inhabitants by 1852 (Mack 1992:20), 2,897 by 1861 (Mack 1992:105) and 3,843 by 1878 (H. Belden & Co. 1879:xvii).

The most prominent historic communities in the Township of Stephen included Francistown/Exeter, Crediton, Centralia and Grand Bend/Port Franks. Aside from these larger centres, the township also contained numerous smaller communities that developed around local post offices, including Offa, Sarepta, Dashwood, Brewster, Harpley, Corbett, Greenway, Shipka and Khiva (see Map 22).

Francistown developed in the northeastern corner of the township on Lots 23–25. As mentioned above, the earliest structure was erected here by William McConnell in 1832. In 1858, a brick hotel by the name of the Great Western Hotel (later Walper House) was built and run by Matthew Rodgers (Mack 1992:195–196). By 1856, Francistown was a bustling community with two gristmills, two saw mills, two stores, a blacksmith shop and the hotel (Mack 1992:196). Exeter, on the other hand, developed on Lot 20 south of Francistown, which was first settled by James Willis in 1832 (Mack 1992:197). This settlement grew primarily in the mid-19th century, when Isaac Carling and James 'Boss' Pickard came to the area. Carling arrived in 1847 and built a house, a tannery, a store and a three-storey brick building, whereas Pickard arrived in 1852 and erected several buildings, including his house, a three-storey store (the 'Old Reliable House'), a large warehouse and the first steam grist mill (Mack 1992:197–198). By 1856, Exeter boasted a steam saw mill, a tannery, three shoemakers, three tailors, two painters, two cabinetmakers, one cooper, one church and a post office (Mack 1992:198). In 1873, Francistown merged with Exeter and became the independent Village of Exeter (Mack 1992:200).

Crediton, located on parts of Lot 10–11, Concessions 5–7, was named in 1861 when John Parsons suggested it be named after Crediton, England because "it was six miles from Exeter" (Mack 1992:215). The earliest settlers arrived here in the late 1840s and early 1850s, and the population reached 200 in 1869 and 700 in 1880 (Mack 1992:217). By 1881, the town had three large stores, a flour and feed store, three large shoe stores, one extensive harness shop, tow

livery stables, two tailors, two hotels, one gents' furnishing store, one wagon and carriage shop, four blacksmith shops, one grist mill, one saw mill, one large flax mill, one large woolen mill, five brickyards, one furniture making factory & planing mill, and many other businesses. Crediton was the busiest community in the Township of Stephen in the late 1800s.

1.2.3.5 Township of Usborne

In historic times, the Township of Usborne was bordered by the Townships of Tuckersmith and Hibbert to the north, the Townships of Fullarton and Blanshard to the east, the Township of Biddulph to the south, and the Townships of Hay and Stephen to the west. The land in Usborne was well-watered by the Ausable River and the Little Ausable River, and according to W.H. Smith, "the greater part of the township is good land" (1846:199).

The Township of Usborne was named after Henry Usborne, one of the first Directors of the Canada Company. Along with Hay and Stephen, Usborne was acquired by the Crown in 1827 as part of the Huron Tract Purchase, and was subsequently sold to the Canada Company to facilitate its settlement (Mack 1992:4). The township was surveyed on multiple occasions: the London Road and the lots along Concession 1 were laid out in 1829, Concessions 2–3 were surveyed by John McDonald in 1830, and the rest of the lots north and south of the Thames Road were surveyed in 1838 (Dougall 1996:1).

As mentioned above, the McConnell brothers erected a tavern on the London Road in 1832, and it was likely the first structure in the vicinity of the western part of the Township of Usborne. The McConnells had won the contract to cut out the northern section of the London Road, and received properties on both the Stephen (Lots 23–25) and Usborne (Lots 17–20) sides as partial payment for their work (Mack 1992:14). The establishment of the London Road encouraged settlement and allowed for settlers to make easy passage to other villages in Huron County.

The rate of settlement in the township was relatively slow in the early years. The first documented settler was either William May or Thomas Lamb—May settled south of Exeter on the London Road on June 21, 1832, whereas Mr. Lamb settled north of Exeter at approximately the same time (H. Belden & Co. 1879:xx). By 1846, the population of the Township of Usborne was only 283. There were 295 ha under cultivation at that time, and one grist mill and one saw mill were in operation (Smith 1846:199). By 1850, however, the population had increased to 1,500, and by 1860, it had reached approximately 4,000 (Dougall 1996:1). In 1878, following the incorporation of Exeter in 1873, the population was 2,616 (H. Belden & Co. 1879:xx).

The most prominent historic communities in the Township of Usborne included Francistown/Exeter and Elimville. Aside from these larger centres, the township also contained numerous small communities that developed around local post offices, including Rodgerville, Lumley, Farquhar, Winchelsea, Woodham and Kirkton (see Map 23). Francistown/Exeter are discussed in Section 1.2.3.4.

Elimville developed on Lot 10, Concession 6–7 in the central part of the township along the Little Ausable River. Elmville was considered the 'municipal capital' of Usborne, and by 1879 it contained a hotel, two stores, several mechanics shops, two churches, a town hall and a post office. It had a population of approximately 100 at that time (H. Belden & Co. 1879:xxi).

1.2.3.6 The Study Area

As discussed in Section 1.1, the study area for this assessment comprises 73 parcels falling within or adjacent to multiple lots and concessions in the Geographic Townships of Hay, Stephen and Usborne ((see Table 1). The lots in these townships were laid out ca. 1830, and the vicinity of the study area was relatively well-settled for the remainder of the Euro-Canadian era.

In an attempt to reconstruct the historic land use of the study area, ARA examined three historical maps that documented past residents, structures (e.g., homes, businesses and public buildings) and features during the late 19th century. These maps, published in H. Belden & Co.'s *Illustrated Historical Atlas of the County of Huron, Ontario* (1879), were of the most detailed scale available (50 chains to 1 inch for the Township of Hay, 60 chains to 1 inch for the Townships of Stephen and Usborne). Georeferenced views of these historical maps, showing the 73 parcels, appear in Map 24–Map 28 (McGill University 2001).

H. Belden & Co.'s *Illustrated Historical Atlas* (1879) indicates that nearly all of the subject lots were settled by the late 19th century, and numerous Euro-Canadian owners are depicted on the township maps. These maps also provide useful information concerning historically-surveyed roadways, public buildings and prominent natural features in the area. The Euro-Canadian residents within or adjacent to the subject parcels are summarized in Table 2.

Table 2: Euro-Canadian Residents within or adjacent to the Subject Parcels, according to H. Belden & Co.'s *Illustrated Historical Atlas of the County of Huron, Ontario* (1879) (McGill University 2001)

Parcel	Lot	Concession	Township	Property Owner(s)
GSH1006	10	9	Hay	Goderich Mfg. Co.
GSH1007	15	10	Hay	C. Wagner
GSH1012	15	NB	Stephen	J. Ford
GSH1013	21	9	Stephen	S. Brockenshire
GSH1020	13	RAS	Stephen	Canada Company
GSH1022/2176	12	22, RAS	Stephen	M. Elliot, Canada Company
GSH1023	14	22	Stephen	A. Smith
GSH1033	5	15	Stephen	Canada Company
GSH1034	3	12	Hay	I. Bean
GSH1035	6	16	Stephen	A. McEachen, Canada Company
GSH1038	11	12	Hay	E. Restemeyer
GSH1039	11	13	Hay	D.B. Geiger
GSH1040	7	12	Hay	J. Eckstein
GSH1043	15	9	Hay	S. Cober
GSH1048	8	14	Hay	C. Muller
GSH1049	6	12	Hay	J. Weber
GSH1056	13	13	Hay	J. Rhuby
GSH1061	12	12	Stephen	J. Hooper
GSH1062	5–6	13	Stephen	H. Doyle, O. Johnson

Parcel	Lot	Concession	Township	Property Owner(s)
GSH1067	4	12	Stephen	J. Reardon
GSH1068	19, 16	RAS	Stephen	Canada Company
GSH1072	6	11	Stephen	A. O'Leary
GSH1077 (East, Centre)	10–11	14	Stephen	V.J. & J. Ratz, D. Collins
GSH1077 (West)/1766 (North)	9–10	14	Stephen	Canada Company, V.J. & J. Ratz
GSH1095	43	SB	Stephen	J.T. Wason
GSH1118	10	11	Hay	J. Ragier
GSH1360	12	10	Hay	J. Gingrich, P. Kaylor
GSH1390	12	9	Hay	J. Coxworth
GSH1461	14	SB	Hay	T. Peach
GSH1481	8	7	Stephen	S. Naylor
GSH1493	13	7	Stephen	G. Brown
GSH1498/1659	14	16–17	Stephen	E. Schnarr, J. McCormick, D. Lynch
GSH1505/2252/1504	15–16	15	Stephen	T. Lamport, B. McCarty
GSH1507	9	16	Stephen/Usborne	T. Murray
GSH1509	8	16	Stephen	M. Keough
GSH1526	9	20	Stephen	W. Hickey
GSH1528	7	20	Stephen	J. Ford
GSH1605	10	19–20	Stephen	A. Thompson, J.W. Watson
GSH1617	11	18	Stephen	Canada Company
GSH1744/1765	11–12	14–15	Stephen	R. McEachen, T. Rourke, R. McInnis, H. McCormick, D. Collins
GSH1757	18	14	Stephen	C. Willett
GSH1758	17	14	Stephen	Canada Company
GSH1766 (South)	9	14	Stephen	Canada Company
GSH1780	6	14	Stephen	Canada Company
GSH1949	8	15	Stephen	Canada Company
GSH2028	4	9	Stephen	N. Clark
GSH2043	17	8	Stephen	M. Swartz
GSH2046	14	8	Stephen	J. Finkbiner
GSH2053	10	8	Stephen	J. Hill
GSH2056	8	8	Stephen	R. Flynn
GSH2099	13	NB	Stephen	T. Wilrtz
GSH2108	20	9	Stephen	J & S. Brockenshire
GSH2133	15	10	Stephen	J. Smith
GSH2158	9	9	Stephen	W. Banes
GSH2236	16	16	Stephen	Canada Company
GSH2237	18	16	Stephen	Canada Company
GSH2238	19	16	Stephen	Canada Company
GSH2255	10	7	Stephen	W. Sweet
GSH2381	6	4	Usborne	P. Beaham
GSH2411/2717/2956	12–13	5–6	Stephen	J. Kuhn, J. Fahner, R.D. Young
GSH2555	8	1–2	Usborne	T. May, Mrs. P. Sweet

Parcel	Lot	Concession	Township	Property Owner(s)
GSH2767	5	10	Usborne	J. Simpson
GSH2838	6	9	Usborne	A. Rowcliffe
GSH3065	9	12	Usborne	W. Marshall, W. Webb
GSH3068	6	11	Usborne	R. Fletcher, F. Burns
Grand Bend Line from GSH1528 to GSH1016	6–7	20	Stephen	D. Ransom, M. McLinchy
Babylon Line from GSH2058 to GSH2030	4–8	9	Stephen	N. Clark, J. & R. Hodgins, W. Lawson, J. Lawson, G. Lawson, J. Brown
Blackbush Line from GSH1758 to GSH2252	17	14	Stephen	Canada Company
Mollard Line from GSH1559 to GSH1099	15–16	RAS	Stephen	Canada Company
Bronson Line at GSH1077	11	13	Stephen	D. Collins
Huron Street at GSH1013	21	9	Stephen	S. Brockenshire

1.2.4 Summary of Past and Present Land Use

During Pre-Contact and Early Contact times, the vicinity of the study area would have comprised a mixture of coniferous trees, deciduous trees and open areas. It seems clear that the First Nations managed the landscape to some degree, but the extent of such management is unknown. During the early 19th century, Euro-Canadian settlers arrived in the area and began to clear the forests for agricultural purposes. Over the course of the Euro-Canadian era, this locality would have comprised primarily agricultural lands and historically-surveyed road allowances in the Townships of Hay, Stephen and Usborne. Presently, the project location consists of agricultural lands, hedgerows, woodlots and parts of several municipal road ROWs and private laneways. The subject parcels comprise parts of numerous municipal road ROWs (i.e., Kirkton Road, Crediton Road, Pepper Road, Rodgerville Road, Dashwood Road, Huron Street, Mollard Line, South Road, Bronson Line, Babylon Line, Blackbush Line, MacDonald Road, Greenway Drive, Eagleson Line, Goshen Line, Parr Line, Shipka Line, Grand Bend Line and Victoria Avenue West), private laneways and agricultural fields.

1.2.5 Additional Background Information

In the course of the previous archaeological assessments conducted for the project, additional research concerning the settlement history and land use of the study area was carried out. In accordance with the requirements set out in Section 7.5.7 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:125), the title, author and PIF number(s) of the related works appear below:

- Title: *Stage 1 Archaeological Assessment, NextEra Energy Canada, ULC, Goshen Wind Energy Centre, Various Lots and Concessions, Geographic Townships of Hay, Stephen and Usborne, now Municipalities of Bluewater and South Huron, Huron County, Ontario.* Author: Golder Associates Ltd. PIFs #P001-608-2010 and #P218-278-2011 (Golder 2012a).

- Title: *Additional Stage 2 Archaeological Assessment, NextEra Energy Canada, ULC, Goshen Wind Energy Centre, Huron County, Ontario*. Author: Golder Associates Ltd. PIF #P366-017-2012 (Golder 2012b).
- Title: *Stage 2 Archaeological Assessment, NextEra Energy Canada, ULC, Goshen Wind Energy Centre, Various Lots and Concessions, Geographic Townships of Hay, Stephen and Usborne, now Municipalities of Bluewater and South Huron, Huron County, Ontario*. Author: Golder Associates Ltd. PIF #P218-038-2011 (Golder 2013).
- Title: *Stage 3 Site-Specific Assessment, Location 33 (AhHk-145), Goshen Wind Energy Centre, FIT-FETX82X, Part of Lot 12, River Aux Sables, Municipality of South Huron, Geographic Township of Stephen, Huron County, Ontario*. Author: Archaeological Research Associates Ltd. PIF #P007-510-2013 (ARA 2013c).
- Title: *Stage 3 Site-Specific Assessment, Location 47 (AhHj-17), Goshen Wind Energy Centre, FIT-FETX82X, Part of Lot 14, Concession 7, Municipality of South Huron, Geographic Township of Stephen, Huron County, Ontario*. Author: Archaeological Research Associates Ltd. PIF #P007-515-2013 (ARA 2013d).
- Title: *Stage 3 Site-Specific Assessment, Location 62 (AhHi-7), Goshen Wind Energy Centre, FIT-FETX82X, Part of Lot 7, Concession 1, Municipality of South Huron, Geographic Township of Usborne, Huron County, Ontario*. Author: Archaeological Research Associates Ltd. PIF #P007-518-2013 (ARA 2013e).
- Title: *Stage 4 Mitigation of Development Impacts, Location 62 (AhHi-7), Goshen Wind Energy Centre, FIT-FETX82X, Part of Lot 7, Concession 1, Municipality of South Huron, Geographic Township of Usborne, Huron County, Ontario*. Author: Archaeological Research Associates Ltd. PIF #P089-0037-2013 (ARA 2013f).

The additional information included in these reports was considered during the formulation of fieldwork strategies and recommendations pertaining to archaeological concerns within the study area (see Section 2.0).

1.3 Archaeological Context

1.3.1 Previous Archaeological Work

The project location for the Goshen Wind Energy Centre has been subjected to multiple archaeological assessments. A Stage 1 assessment was completed by Golder in June 2012 under licences #P001 and #P218, PIFs #P001-608-2009 and #P218-278-2011 (Golder 2012a). This assessment encompassed an irregularly-shaped 35,260 ha block of lands located on various lots and concessions in the Geographic Townships of Hay, Stephen and Usborne, now Municipalities of Bluewater and South Huron, Huron County, Ontario (Golder 2012a:1).

Based on the presence of multiple features of archaeological potential, including 18 previously-identified archaeological sites, proximity to primary and secondary water sources, level topography, agriculturally suitable soils, documented early settlement and historic transportation routes, Golder determined that the majority of the study area had potential for both Pre-Contact and Euro-Canadian archaeological sites (Golder 2012a:43–45). This study determined that Stage 2 assessment would be required "for any areas to be impacted by turbine construction,

access road construction, or other infrastructure construction related activities" (Golder 2012a:46).

A Stage 2 assessment of the project location was carried out by Golder between May 2011 and September 2012 under licence #P218, PIF #P218-038-2011 (Golder 2013). Golder also carried out a Stage 2 assessment of additional lands between November and December 2012 under licence #P366, PIF #P366-017-2013 (Golder 2012b).

A total of 63 archaeological sites (Locations 1–63) were identified during the Stage 2 assessments, comprising 38 Pre-Contact sites, 20 Euro-Canadian sites and 5 multi-component sites. Thirty-three of these sites were found to be of further CHVI and were recommended for Stage 3 site-specific assessment (Golder 2013:Table 145). ARA, Stantec and AECOM subsequently conducted Stage 3 site-specific assessments and Stage 4 mitigations of development impacts at those sites within the project location that could not be avoided through project redesign (e.g., ARA 2013c–2013f).

1.3.2 Summary of Registered Archaeological Sites

An archival search was conducted using the MTCS's Ontario Archaeological Sites Database in order to determine the presence of any registered archaeological resources which might be located within a 1 km radius of the project location (MTCS 2013a). The results of this search, coupled with the results of past assessments carried out for the project (see Section 1.3.1), indicate that there are 83 registered or known archaeological sites within these limits. The excavation results from these sites are summarized in Table 3.

Table 3: Registered or Known Sites within 1 km of the Project Location

Site Name	Borden No.	Year(s) Assessed	Cultural Affiliation	Site Type	Comments
Dawsey Homestead	AhHj-2	1987	Multi component, Euro-Canadian and Middle Archaic	Homestead and Campsite?	172 Euro-Canadian artifacts, 11 lithic artifacts
Location 1	N/A	2012	Undetermined Pre-Contact	Findspot	Isolated find of chipping detritus of Kettle Point chert; no further work recommended
Location 2	N/A	2012	Undetermined Pre-Contact	Findspot	Isolated find of chipping detritus of Kettle Point chert; no further work recommended
Location 3	AhHk-146	2012	Undetermined Pre-Contact	Findspot	5 lithic artifacts identified; no further work recommended
Location 4	N/A	2012	Undetermined Pre-Contact	Findspot	Isolated find of an end scraper of Kettle Point chert; no further work recommended
Location 5	AhHk-139	2012	Paleo-Indian	Undetermined	Artifacts scattered over a 80 x 100 m area, 32 of which were collected for analysis; Stage 3 recommended
Location 6	N/A	2012	Undetermined Pre-Contact	Findspot	Isolated find of a utilized flake of Kettle Point chert; no further work recommended
Location 7	AhHk-140	2012	Mid–late 19th century Euro-Canadian	Scatter	Artifacts scattered over a 21 x 50 m area, 16 collected for analysis; Stage 3 recommended.

Site Name	Borden No.	Year(s) Assessed	Cultural Affiliation	Site Type	Comments
Location 8	N/A	2012	Undetermined Pre-Contact	Findspot	Isolated find of chipping detritus of Kettle Point chert; no further work recommended
Location 9	N/A	2012	Undetermined Pre-Contact	Scatter	A 1 x 25 m scatter of two lithic artifacts; no further work recommended
Location 10	N/A	2012	Undetermined Pre-Contact	Findspot	Isolated find of chipping detritus of Kettle Point chert; no further work recommended
Location 11	AhHj-4	2012	Mid–late 19th century Euro-Canadian	Findspot	Scatter of approximately 30 artifacts over a 24 x 60 m area; Stage 3 recommended
Location 12	N/A	2012	Undetermined Pre-Contact	Scatter	Two lithic artifacts; no further work recommended
Location 13	AiHj-10	2012	Undetermined Pre-Contact	Scatter	Scatter of chipping detritus and fire cracked rock in a 20 x 60 m area; Stage 3 recommended
Location 14	N/A	2012	Undetermined Pre-Contact	Scatter	A 3 x 2 m scatter of 2 lithic artifacts; no further work recommended
Location 15	AiHj-17	2012	Early Archaic	Findspot	Isolated find of a Kirk/Nettling corner-notched projectile point; Stage 3 recommended
Location 16	AhHj-5	2012	Mid–late 19th century Euro-Canadian	Scatter	Scatter of approximately 60 fragments in a 30 x 40 m area; Stage 3 recommended
Location 17	N/A	2012	Undetermined Pre-Contact	Findspot	Isolated find of a biface of Dundee chert; no further work recommended
Location 18	AiHj-11	2012	Early Archaic	Findspot	Single find of an Early Archaic Kirk/Nettling corner-notched projectile point; Stage 3 recommended
Location 19	AiHj-12	2012	Undetermined Pre-Contact	Findspot	Three pieces of chipping detritus and a broken projectile point; Stage 3 recommended
Location 20	AhHk-141	2012	Middle Archaic	Findspot	Single Brewerton side-notched projectile point identified, tip missing; no further work recommended
Location 21	AhHk-142	2012	19th century Euro-Canadian	Scatter	Scatter of approximately 50 artifacts; Stage 3 recommended
Location 22	AhHj-6	2012	Undetermined Pre-Contact	Findspot	Single projectile point base; no further work recommended
Location 23	AiHj-13	2012	Undetermined Pre-Contact	Findspot	Isolated broken projectile point; no further work recommended
Location 24	AhHj-7	2012	Middle Archaic	Findspot	Brewerton side notched projectile point and two additional lithic tools; Stage 3 recommended
Location 25	N/A	2012	Undetermined Pre-Contact	Scatter	2 lithic artifacts; no further work recommended
Location 26	AiHj-14	2012	Undetermined Pre-Contact	Findspot	Small scatter of nine lithic artifacts; no further work recommended
Location 27	AhHj-8	2012	Early Archaic	Findspot	Bifurcate base projectile point; Stage 3 recommended
Location 28	AhHk-143	2012	19th century Euro-Canadian	Scatter	Scatter of approximately 60 artifacts in a 23 x 36 m area; Stage 3 recommended

Site Name	Borden No.	Year(s) Assessed	Cultural Affiliation	Site Type	Comments
Location 29	N/A	2012	Undetermined Pre-Contact	Scatter	3 lithic artifacts; no further work recommended
Location 30	N/A	2012	Undetermined Pre-Contact	Scatter	4 lithic artifacts; no further work recommended
Location 31	AhHk-144	2012	Middle Archaic	Findspot	Single Brewerton side-notched projectile point identified; no further work recommended
Location 32	N/A	2012	Undetermined Pre-Contact	Findspot	Isolated find of a biface of Kettle Point chert; no further work recommended
Location 33	AhHk-145	2012	19th century Euro-Canadian	Scatter	Scatter of approximately 100 artifacts in a 25 x 50 m area; Stage 3 recommended
Location 34	AhHj-10	2012	19th century Euro-Canadian	Scatter	Scatter of approximately 70 artifacts; Stage 3 recommended
Location 35	AhHj-9	2012	Early Woodland	Findspot	Meadowood Projectile point; no further work recommended
Location 36	AhHk-147	2012	19th century Euro-Canadian	Scatter	Scatter of over 200 artifacts in a 90 x 80 m area; Stage 3 recommended
Location 37	AhHj-11	2012	19th century Euro-Canadian	Scatter	Scatter of over 300 artifacts; Stage 3 recommended
Location 38	AhHk-148	2012	19th century Euro-Canadian, small Pre-Contact Aboriginal component	Scatter	Scatter of over 300 Euro-Canadian artifacts and a small amount of Pre-Contact Aboriginal lithics in a 85 x 95 m area; Stage 3 recommended
Location 39	AhHj-12	2012	19th century Euro-Canadian, small Pre-Contact Aboriginal component	Scatter	Scatter of over 600 artifacts; Stage 3 recommended
Location 40	N/A	2012	Undetermined Pre-Contact	Findspot	Isolated find of a biface of Kettle Point chert; no further work recommended
Location 41	N/A	2012	Undetermined Pre-Contact	Findspot	Isolated find of chipping detritus of Kettle Point chert; no further work recommended
Location 42	N/A	2012	Undetermined Pre-Contact	Findspot	Isolated find of a partial ground stone celt; no further work recommended
Location 43	AhHj-13	2012	19th century Euro-Canadian, small Pre-Contact Aboriginal component	Scatter	Discrete cluster of over 500 artifacts; Stage 3 recommended
Location 44	AhHj-14	2012	19th century Euro-Canadian	Scatter	Discrete cluster of approximately 80 artifacts; Stage 3 recommended
Location 45	AhHj-15	2012	19th century Euro-Canadian	Scatter	Discrete cluster of approximately 80 artifacts; Stage 3 recommended
Location 46	AhHj-16	2012	19th century Euro-Canadian	Scatter	Discrete cluster of approximately 80 artifacts, Stage 3 recommended
Location 47	AhHj-17	2012	19th century Euro-Canadian	Scatter	Scatter of over 100 artifacts; Stage 3 recommended
Location 48	AhHj-18	2012	19th century Euro-Canadian, small Pre-Contact Aboriginal component	Scatter	Scatter of over 150 artifacts, Stage 3 recommended
Location 49	AhHj-19	2012	19th century Euro-Canadian	Scatter	scatter of approximately 250 artifacts; Stage 3 recommended
Location 50	AhHj-20	2012	19th century Euro Canadian	Scatter	Cluster of approximately 250 artifacts. Stage 3 recommended

Site Name	Borden No.	Year(s) Assessed	Cultural Affiliation	Site Type	Comments
Location 51	AhHj-21	2012	Middle Archaic	Findspot	1 Brewerton projectile point and 6 additional lithics; Stage 3 recommended
Location 52	AhHj-22	2012	Middle Archaic	Findspot	1 Brewerton projectile point and 3 additional lithics; no further work recommended
Location 53	N/A	2012	Undetermined Pre-Contact	Findspot	Isolated blank fragment of Kettle point chert; no further work recommended
Location 54	AhHj-23	2012	Early Archaic	Findspot	1 Kirk/Nettling corner notched projectile point; Stage 3 recommended
Location 55	AiHj-18	2012	Late Archaic	Findspot	Isolated find of a Small Point Late Archaic Innes projectile point; no further work recommended
Location 56	AhHj-24	2012	19th century Euro-Canadian	Scatter	Scatter of approximately 150 artifacts; Stage 3 recommended
Location 57	AhHj-25	2012	19th century Euro-Canadian	Scatter	Scatter of approximately 125 artifacts; Stage 3 recommended
Location 58	N/A	2012	Undetermined Pre-Contact	Findspot	Isolated find of chipping detritus of Kettle Point chert; no further work recommended
Location 59	N/A	2012	Euro-Canadian	Scatter	A 15 x 15 m scatter of 16 Euro-Canadian artifacts; no further work recommended
Location 60	AhHi-5	2012	19th century Euro-Canadian	Scatter	Scatter of over 100 artifacts in a 25 x 35 m area; Stage 3 recommended
Location 61	AhHi-6	2012	19th century Euro-Canadian	Scatter	Scatter of over 100 artifacts in a 25; Stage 3 recommended
Location 62	AhHi-7	2012	19th century Euro-Canadian, small Pre-Contact Aboriginal component	Scatter	Scatter of over 200 artifacts in a 40 x 40 m area; Stage 3 recommended
Location 63	N/A	2012	Undetermined Pre-Contact	Findspot	Isolated find of a biface manufactured of Kettle Point chert; no further work recommended
Location 64	N/A	2013	Late 19th–20th century Euro-Canadian	Scatter	A 28 x 16 m scatter of 17 Euro-Canadian artifacts
Location 65	N/A	2013	Euro-Canadian	Scatter	Field and laboratory work in progress
N/A	AiHj-3	1985	Undetermined Pre-Contact	2 Findspots	1 graver, 1 core
N/A	AhHj-3	1987	Undetermined Pre-Contact	Findspot	1 biface
N/A	AiHj-2	1987	Undetermined Pre-Contact	Findspot	2 pieces of chipping detritus, 5 m apart
N/A	AiHi-1	1990	Undetermined Pre-Contact	Lithic Scatter	diffuse scatter of lithics, 4 loci
N/A	AiHi-2	1990	Late Archaic	Campsite?	10 artifacts per square, lithics, including 4 points and 1 bone fragment
N/A	AiHi-3	1990	Undetermined Pre-Contact	Undetermined	6 artifacts
N/A	AiHi-4	1990	Undetermined Pre-Contact	Undetermined	11 lithics
N/A	AhHk-99	2003	Euro-Canadian and Pre-Contact Aboriginal	Scatter	2 Euro-Canadian artifacts and 1 Pre-Contact Aboriginal artifact
N/A	AhHk-100	2004	Multi component, Euro-Canadian and Late Archaic	Undetermined and campsite	42 Euro-Canadian artifacts, 2,072 Pre-Contact artifacts
N/A	AhHk-101	2004	Middle Woodland and Late Woodland	Campsite	1,184 artifacts

Site Name	Borden No.	Year(s) Assessed	Cultural Affiliation	Site Type	Comments
N/A	AhHk-102	2004	Early Archaic and Woodland	Campsite	573 artifacts
N/A	AhHk-103	2004	Late Woodland	Campsite	1231 artifacts
N/A	AhHk-104	2004	Middle Archaic and Late Archaic	Campsite	1122 artifacts
N/A	AhHk-105	2004	Late Archaic	Lithic Scatter	919 artifacts
N/A	AhHk-109	2004	Late Woodland	camp	260 artifacts
N/A	AhHk-111	2004	Early Woodland and Middle Woodland	Undetermined	239 artifacts
Sarepta Tavern/Post Office	AiHj-4	1992	Euro-Canadian	Historic Commercial	Large quantities of Euro-Canadian artifacts, hand-pump waterwell

Dozens of these previously-identified sites are located within 1 km of the specific parcels assessed for this report. These sites are summarized in Table 4. The abundance of registered sites in the vicinity of the study area demonstrates the desirability of this locality for early settlement and resource exploitation.

Table 4: Registered Archaeological Sites within 1 km of the Subject Parcels

Parcel	Sites within 1 km
GSH1006	Location 8, Location 9
GSH1007	Location 15 (AhHj-7), Location 26 (AiHj-14)
GSH1012	None
GSH1013	Location 10, Location 11 (AhHj-4), Location 12, Location 25, Location 37 (AhHj-11)
GSH1020	Location 3, Location 4, Location 5 (AhHk-139), Location 28 (AHHk-143), Location 33 (AhHk-145), Location 38 (AhHk-148)
GSH1022/2176	Location 2, Location 3, Location 4, Location 5 (AhHk-139), Location 28 (AhHk-143), Location 33 (AhHk-145)
GSH1023	Location 1, Location 2, Location 3, Location 4, Location 5 (AhHk-139)
GSH1033	Location 49 (AhHj-19)
GSH1034	None
GSH1035	Location 49 (AhHj-19)
GSH1038	None
GSH1039	Location 55 (AhHj-18)
GSH1040	Location 17, Location 18 (AhHj-11), Location 19 (AhHj-12), Location 41, Location 59
GSH1043	Location 15 (AhHj-7)
GSH1048	None
GSH1049	Location 41, Location 59
GSH1056	Location 13 (AhHj-10), Location 14
GSH1061	Location 50 (AhHj-20), Location 51 (AhHj-21), Location 52 (AhHj-22), Location 53
GSH1062	Location 30, Location 46 (AhHj-16)
GSH1067	Location 16 (AhHj-5), Location 30

Parcel	Sites within 1 km
GSH1068	Location 20 (AhHk-141), Location 21 (AhHk-142), Location 28 (AhHk-143), Location 38 (AhHk-148)
GSH1072	Location 6, Location 16 (AhHj-5)
GSH1077 (East, Centre)	Location 34 (AhHj-10), Location 44 (AhHj-14), Location 45 (AhHj-15), Location 51 (AhHj-21), Location 52 (AhHj-22), Location 53
GSH1077 (West)/ 1766 (North)	Location 34 (AhHj-10), Location 44 (AhHj-14), Location 45 (AhHj-15)
GSH1095	Location 21 (AhHk-142)
GSH1118	None
GSH1360	Location 26 (AhHj-14)
GSH1390	None
GSH1461	None
GSH1481	Location 27 (AhHj-8)
GSH1493	Location 42, Location 43 (AhHj-13)
GSH1498/1659	Location 7 (AhHk-140), Location 32
GSH1505/2252/1504	Location 54 (AhHj-23), Location 56 (AhHj-24)
GSH1507	None
GSH1509	None
GSH1526	None
GSH1528	None
GSH1605	Location 36 (AhHk-147)
GSH1617	Location 36 (AhHk-147)
GSH1744/1765	Location 34 (AhHj-10), Location 44 (AhHj-14), Location 45 (AhHj-15)
GSH1757	Location 63
GSH1758	Location 54 (AhHj-23), Location 56 (AhHj-24)
GSH1766 (South)	Location 34 (AhHj-10), Location 44 (AhHj-14), Location 45 (AhHj-15)
GSH1780	Location 30, Location 46 (AhHj-16)
GSH1949	Location 45 (AhHj-15)
GSH2028	Location 48 (AhHj-18)
GSH2043	Location 10, Location 11 (AhHj-4), Location 42
GSH2046	None
GSH2053	Location 35 (AhHj-9), Location 42, Location 57 (AhHj-25)
GSH2056	Location 35 (AhHj-9), Location 57 (AhHj-25)
GSH2099	None
GSH2108	Location 12, Location 25, Location 37 (AhHj-11)
GSH2133	None
GSH2158	Location 35 (AhHj-9), Location 57 (AhHj-25)
GSH2236	Location 32, Location 54 (AhHj-23), Location 56 (AhHj-24)
GSH2237	Location 31 (AhHk-144)
GSH2238	Location 31 (AhHk-144)
GSH2255	Location 27 (AhHj-8), Location 42
GSH2381	None

Parcel	Sites within 1 km
GSH2411/2717/2555/2956	None
GSH2555	Location 62 (AhHi-7)
GSH2767	None
GSH2838	Location 60 (AhHi-5), Location 61 (AhHi-6)
GSH3065	None
GSH3068	None
Grand Bend Line from GSH1528 to GSH1016	None
Babylon Line from GSH2058 to GSH2030	Location 35 (AhHj-9), Location 48 (AhHj-18), Location 57 (AhHj-25)
Blackbush Line from GSH1758 to GSH2252	Location 54 (AhHj-23), Location 56 (AhHj-24)
Mollard Line from GSH1559 to GSH1099	Location 20 (AhHk-141), Location 21 (AhHk-142), Location 28 (AhHk-143), Location 38 (AhHk-148)
Bronson Line at GSH1077	Location 50 (AhHj-20), Location 51 (AhHj-21), Location 52 (AhHj-22), Location 53
Huron Street at GSH1013	Location 10, Location 11 (AhHj-4), Location 12, Location 37 (AhHj-11)

1.3.3 Natural Environment

Environmental factors played a substantial role in shaping early land-use and site selection processes, particularly in small Pre-Contact societies with non-complex, subsistence-oriented economies. Euro-Canadian settlers also gravitated towards favourable environments, particularly those with agriculturally-suitable soils and a moderate climate. In order to fully comprehend the archaeological context of the study area, the following five features of the local natural environment must be considered: 1) forests; 2) drainage systems; 3) climatic conditions; 4) physiography; and 5) soil types.

The study area lies within the Great Lakes-St. Lawrence forest, which is a transitional zone between the southern deciduous forest and the northern boreal forest covering approximately 20,000,000 ha. Vegetation here consists of a mixture of coniferous trees and deciduous trees, as well as many species of ferns, fungi, shrubs and mosses. The most prominent conifers are eastern white pine, red pine, eastern hemlock and white cedar, while deciduous trees are best represented by yellow birch, sugar and red maple, basswood and red oak. Other species more commonly occurring in the north are also present, including white and black spruce, jack pine, aspen and white birch (MNR 2013).

Only part of the original forest cover remains standing today, however, as early Euro-Canadian agriculturalists conducted large-scale clearing operations to prepare the land for cultivation. In Pre-Contact times, however, this dense forest would have been particularly bountiful. It is believed that the First Nations of the Great Lakes region exploited close to 500 plant species for food, beverages, food flavourings, medicines, smoking, building materials, fibres, dyes and basketry (Mason 1981:59–60). Furthermore, this diverse vegetation would have served as both home and food for a wide range of game animals, including white tailed deer, turkey, passenger pigeon, cottontail rabbit, elk, muskrat and beaver (Mason 1981:60).

In terms of local drainage systems, the parcels fall within parts of the South Gilles, Upper Parkhill, Lower Parkhill, Black Creek, Upper Ausable and Little Ausable watersheds, all of which comprise part of the Ausable Bayfield Conservation Authority (ABCA 2013). Multiple waters sources are located in the vicinity of each parcel, and the distances between the sources and these parcels are summarized in Table 5.

Table 5: Summary of Distances between Parcels and Water Sources

Parcel	Closest Water Source	Distance to Closest Water Source
GSH1006	Tributary into Lake Huron	470 m west
GSH 1007	Tributary into Lake Huron	165 m west
GSH1012	Tributary of Ausable River	135 m south
GSH1013	Mud Creek	695 m west
GSH1020	Tributary of Parkhill Creek	5 m west
GSH1022/2176	Tributary of Parkhill Creek	50 m north
GSH1023	Tributary of Parkhill Creek	144 m north
GSH1033	Unnamed Stream	412 m south
GSH1034	Tributary of Lake Huron	187 m northeast
GSH1035	Tributary of Parkhill Creek	241 m southeast
GSH1038	Tributary of Lake Huron	149 m north
GSH1039	Tributary of Lake Huron	224 m northwest
GSH1040	Tributary of Lake Huron	54 m north
GSH1043	Black Creek	506 m east
GSH1048	Tributary of Lake Huron	289 m south
GSH1049	Tributary of Lake Huron	453 m northwest
GSH1056	Tributary of Lake Huron	5 m east
GSH1061	Tributary of Parkhill Creek	599 m
GSH1062	Tributary of Parkhill Creek	193 m southwest
GSH1067	Tributary of Parkhill Creek	420 m north
GSH1068	Tributary of Parkhill Creek	5 m south
GSH1072	Tributary of Parkhill Creek	962 m west
GSH1077 (East, Centre)	Tributary of Parkhill Creek	1 m north
GSH1077 (West)/1766 (North)	Tributary of Parkhill Creek	376 m northeast
GSH1095	Tributary of Parkhill Creek	612 m east
GSH1118	Tributary of Lake Huron	113 m north
GSH1360	Tributary of Lake Huron	76 m north
GSH1390	Hay Swamp	181 m east
GSH1461	Tributary of Ausable River	205 m southwest
GSH1481	Tributary of Mud Creek	822 m southwest
GSH1493	Tributary of Ausable River	1,113 m east
GSH1498/1659	Tributary of Parkhill Creek	113 m south
GSH1505/2252/1504	Tributary of Lake Huron	1 m west
GSH1507	Tributary of Parkhill Creek	226 m south

Parcel	Closest Water Source	Distance to Closest Water Source
GSH1509	Tributary of Parkhill Creek	Traversed in the south
GSH1526	Tributary of Parkhill Creek	108 m south
GSH1528	Tributary of Parkhill Creek	103 m southwest
GSH1605	Tributary of Parkhill Creek	1 m east
GSH1617	Tributary of Parkhill Creek	Adjacent in the south
GSH1744/1765	Tributary of Parkhill Creek	87 m south
GSH1757	Tributary of Lake Huron	317 m southwest
GSH1758	Tributary of Lake Huron	10 m north
GSH1766 (South)	Tributary of Parkhill Creek	94 m south
GSH1780	Tributary of Parkhill Creek	184 m southeast
GSH1949	Tributary of Parkhill Creek	363 m north
GSH2028	Tributary of Mud Creek	9 m north
GSH2043	Tributary of Mud Creek	20 m south
GSH2046	Tributary of Mud Creek	14 m north
GSH2053	Tributary of Mud Creek	172 m west
GSH2056	Tributary of Mud Creek	538 m southeast
GSH2099	Hay Swamp	148 m east
GSH2108	Mud Creek	272 m west
GSH2133	Mud Creek	291 m east
GSH2158	Tributary of Mud Creek	467 m north
GSH2236	Tributary of Lake Huron	218 m east
GSH2237	Tributary of Lake Huron	271 m north
GSH2238	Tributary of Lake Huron	200 m south
GSH2255	Tributary of Mud Creek	111 m west
GSH2381	Little Ausable River	324 m east
GSH2411/2717/2956	Hay Swamp	467 m northeast
GSH2555	Tributary of Ausable River	Traversed in the centre
GSH2767	Tributary of Mud Creek	487 m northwest
GSH2838	Tributary of Mud Creek	325 m north
GSH3065	Tributary of Fish Creek	507 m southeast
GSH3068	Fish Creek	Traversed in the centre
Grand Bend Line from GSH1528 to GSH1016	Tributary of Parkhill Creek	Traversed in the centre
Babylon Line from GSH2058 to GSH2030	Tributary of Mud Creek	Traversed in the south
Blackbush Line from GSH1758 to GSH2252	Tributary of Lake Huron	191 m south
Mollard Line from GSH1559 to GSH1099	Tributary of Parkhill Creek	Traversed in the north
Bronson Line at GSH1077	Tributary of Parkhill Creek	Traversed in the centre
Huron Street at GSH1013	Tributary of Mud Creek	587 m north

The local climatic region is that of the Western Uplands, which comprises the majority of Huron County save for a narrow strip of land along the Lake Huron shoreline known as the Lake Huron-Georgian Bay region. In the vicinity of the study area (Brucefield), the climate is

characterized by mean July temperatures of 20.0 ºC and mean February temperatures of -7.8 ºC. The area experiences a growing season that typically lasts between 189 and 196 days, with approximately 125 to 140 frost-free days per year. The average annual precipitation level is 874 mm, with between 200 and 300 cm of snowfall per year (Hoffman et al. 1952:19–23). On the whole, this agriculturally-favourable climate would have been well-suited for the general farm crops grown during the Euro-Canadian period.

Physiographically, the subject parcels fall within parts of the Huron Fringe, Huron Slope, the western belt of the Horseshoe Moraines and the Stratford Till Plain. These regions can be summarized as follows:

- The Huron Fringe is a narrow strip of land along the southern and eastern shores of Lake Huron covering an area of 112,664 ha. This area comprises the wave-cut terraces of glacial Lake Algonquin and Lake Nipissing with their boulders, gravel bars and sand dunes (Chapman and Putnam 1984:161–162).
- The Huron Slope is a 258,999 ha strip of land situated between the Algonquin shorecliff and the Wyoming Moraine. In general terms, this area comprises a clay plain modified by a narrow strip of sand and the twin beaches of glacial Lake Warren (flaking the moraine). The surface below the beaches has been smoothed, whereas the surface above the beaches is similar to that of the Stratford till plain (Chapman and Putnam 1984:160–161).
- The Horseshoe Moraines region consists of two principal landform components: 1) irregular, stony knobs and ridges which are composed mostly of till with some sand and gravel deposits (kames); and 2) more-or-less pitted sand and gravel terraces and swampy valley floors (Chapman and Putnam 1984:127–129).
- The Stratford Till Plain is a broad clay plain characterized by ground moraines interrupted by terminal moraines, extending from London to Listowel. The till, consisting of brown calcareous silty clay, is a product of the Huron ice lobe. The area tends to be muddy and prone to abundant rain and snow resulting from its location east of Lake Huron (Chapman and Putnam 1984:133–135).

These diverse physiographic elements have accumulated over grey shale and limestone bedrock belonging to the Middle Devonian Dundee formation (Davidson 1989:42).

A wide variety of soil types occur within the subject parcels, which is unsurprising given their broad spatial distribution. In general, the assessed lands contain Bookton sandy loam, Huron clay loam, Perth clay loam, Toledo clay loam, Brookston clay loam, Burford loam, Berrien sandy loam, Muck and/or Bottomland soils. The specific soil type(s) occurring within each parcel and their associated drainage qualities are summarized in Table 6.

Table 6: Summary of Soil Types by Parcel

Parcel	Material Type	Drainage Qualities
GSH1006	Bookton Sandy Loam	Good
GSH 1007	Huron Clay Loam	Good
GSH1012	Perth Clay Loam	Imperfect
GSH1013	Huron Clay Loam	Good

Parcel	Material Type	Drainage Qualities
GSH1020	Toledo Clay Loam	Poor
GSH1022/2176	Toledo Clay Loam	Poor
GSH1023	Brookston Clay Loam	Poor
GSH1033	Perth Clay Loam	Imperfect
GSH1034	Burford Loam	Good
GSH1035	Brookston Clay Loam	Poor
GSH1038	Huron Clay Loam	Good
GSH1039	Berrien Sandy Loam	Imperfect
GSH1040	Bottom Land	Variable
GSH1043	Berrien Sandy Loam, Bookton Sandy Loam	Imperfect, Good
GSH1048	Brookston Clay Loam	Poor
GSH1049	Perth Clay Loam	Imperfect
GSH1056	Bottom Land	Variable
GSH1061	Perth Clay Loam	Imperfect
GSH1062	Burford Loam, Perth Clay Loam	Good, Imperfect
GSH1067	Huron Clay Loam, Perth Clay Loam	Good, Imperfect
GSH1068	Toledo Clay Loam	Poor
GSH1072	Huron Clay Loam	Good
GSH1077 (East, Centre)	Berrien Sandy Loam, Bottom Land	Imperfect, Variable
GSH1077 (West)/1766 (North)	Berrien Sandy Loam	Imperfect
GSH1095	Brookston Clay Loam	Poor
GSH1118	Huron Clay Loam	Good
GSH1360	Bookton Sandy Loam, Huron Clay Loam	Good, Good
GSH1390	Berrien Sandy Loam, Bookton Sandy Loam	Imperfect, Good
GSH1461	Perth Clay Loam	Imperfect
GSH1481	Huron Clay Loam	Good
GSH1493	Huron Clay Loam	Good
GSH1498/1659	Brookston Clay Loam	Poor
GSH1505/2252/1504	Brookston Clay Loam, Berrien Sandy Loam, Bottom Land	Poor, Imperfect, Variable
GSH1507	Brookston Clay Loam	Poor
GSH1509	Brookston Clay Loam	Poor
GSH1526	Brookston Clay Loam, Bottom Land	Poor, Variable
GSH1528	Brookston Clay Loam	Poor
GSH1605	Berrien Sandy Loam, Bottom Land	Imperfect, Variable
GSH1617	Berrien Sandy Loam	Imperfect
GSH1744/1765	Bottom Land, Perth Clay Loam	Variable, Imperfect
GSH1757	Brookston Clay Loam	Poor
GSH1758	Brookston Clay Loam	Poor
GSH 1766 (South)	Berrien Sandy Loam	Imperfect
GSH1780	Burford Loam	Good
GSH1949	Berrien Sandy Loam	Imperfect
GSH2028	Perth Clay Loam	Imperfect

Parcel	Material Type	Drainage Qualities
GSH2043	Perth Clay Loam	Imperfect
GSH2046	Perth Clay Loam	Imperfect
GSH2053	Perth Clay Loam	Imperfect
GSH2056	Perth Clay Loam	Imperfect
GSH2099	Brady Sandy Loam	Imperfect
GSH2108	Huron Clay Loam, Muck (Bog)	Good, Poor
GSH2133	Huron Clay Loam	Good
GSH2158	Perth Clay Loam	Imperfect
GSH2236	Brookston Clay Loam	Poor
GSH2237	Berrien Sandy Loam	Imperfect
GSH2238	Berrien Sandy Loam	Imperfect
GSH2255	Huron Clay Loam	Good
GSH2381	Brookston Clay Loam	Poor
GSH2411/2717/2956	Perth Clay Loam	Imperfect
GSH2555	Brookston Clay Loam, Perth Clay Loam	Poor, Imperfect
GSH2767	Perth Clay Loam	Imperfect
GSH2838	Huron Clay Loam	Good
GSH3065	Huron Clay Loam, Perth Clay Loam	Good, Imperfect
GSH3068	Bottom Land, Huron Clay Loam, Perth Clay Loam	Variable, Good, Imperfect
Grand Bend Line from GSH1528 to GSH1016	Brookston Clay Loam, Bottom Land	Poor, Variable
Babylon Line from GSH2058 to GSH2030	Perth Clay Loam	Imperfect
Blackbush Line from GSH1758 to GSH2252	Brookston Clay Loam	Poor
Mollard Line from GSH1559 to GSH1099	Toledo Clay Loam	Poor
Bronson Line at GSH1077	Burford Loam, Huron Clay Loam, Perth Clay Loam	Good, Good, Imperfect
Huron Street at GSH1013	Huron Clay Loam	Good

In summary, the study area possesses a number of environmental characteristics which would have made it attractive to both Pre-Contact and Euro-Canadian populations. The rich Great Lakes-St. Lawrence forest and the nearby water sources would have attracted a wide variety of game animals, and consequently, early hunters. The areas of well-drained soils would have been ideal for the maize horticulture of Middle to Late Woodland peoples and the mixed agriculture practiced by later Euro-Canadian populations. Finally, the proximity of the study area to the Ausable River and Lake Huron would also have influenced its settlement and land-use history. Such major waterways functioned as principal transportation routes in both Pre- and Post-Contact times.

1.3.4 Archaeological Fieldwork and Property Conditions

The Stage 2 property assessment was carried out on May 27, June 13, 19, July 2, 10, 30, August 9, 12–15, 19–20, 26–29 and September 3, 9, 2013 under MTCS licence #P007, PIF #P007-535-2013. This assessment encompassed all of the parcels indicated in Table 1 and involved 1) the on-site documentation of all areas of no archaeological potential, and 2) test pit and pedestrian survey in the identified areas of archaeological potential. Legal permission to enter and conduct all necessary fieldwork activities on project lands was granted by the property owners.

Key personnel involved during the assessment were P. Racher, Project Director; C.J. Gohm, Deliverables Manager; V. Cafik, Assistant Project Manager; S. Brown and J. Haxell, Field Operations Managers; S. Bolstridge, P. Epler, M. McCready and A. O'Shaughnessy, Field Directors; H. Buckton, A. Moulton and T. Taylor, Assistant Field Directors; J. Haxell, A. O'Shaughnessy and R. Tobicoe, GPS Technicians; and 29 additional crewmembers.

As discussed in Section 1.2.4, the subject parcels comprise parts of numerous municipal road ROWs (i.e., Kirkton Road, Crediton Road, Pepper Road, Rodgerville Road, Dashwood Road, Huron Street, Mollard Line, South Road, Bronson Line, Babylon Line, Blackbush Line, MacDonald Road, Greenway Drive, Eagleson Line, Goshen Line, Parr Line, Shipka Line, Grand Bend Line and Victoria Avenue West), private laneways and agricultural fields. The specific property characteristics, assessment methods and rationale, and weather and lighting conditions for the days of assessment are summarized in Section 2.1.

No unusual physical features were encountered during the assessments that affected fieldwork strategy decisions or the identification of artifacts or cultural features (e.g., dense root mats, boulders, rubble, etc.).

2.0 STAGE 2 PROPERTY ASSESSMENT

2.1 Field Methods

Given that the subject parcels consisted of actively or recently cultivated fields and lands where ploughing was not possible or viable, it was necessary to utilize both the pedestrian survey and test pit survey methods to complete the Stage 2 property assessment. The specific property characteristics, assessment methods and rationale are summarized in Table 7.

Table 7: Summary of Property Characteristics, Assessment Methods and Rationale by Parcel

Parcel	Property Characteristics	Assessment Method(s)	Rationale
GSH1006	Pepper Road, Shoulders, Ditches	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
GSH1007	Rodgerville Road, Shoulders, Ditches	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
GSH1012	Dashwood Road, Shoulders, Ditches	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
GSH1013	Huron Street, Shoulders, Ditches	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
GSH1020	Mollard Line, South Road, Shoulders, Ditches	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
GSH1022/2176	Mollard Line, Shoulders, Ditches	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
GSH1023	Agricultural Field, South Road, Shoulders, Ditches	Test Pit Survey and Combination Test Pit and Visual Inspection to Confirm Disturbance	Agricultural Field not Plough-Accessible; ROW Non-Agricultural and not Plough-Accessible
GSH1033	Agricultural Field, South Road, Shoulders, Ditches	Test Pit Survey and Combination Test Pit and Visual Inspection to Confirm Disturbance	Agricultural Field not Plough-Accessible; ROW Non-Agricultural and not Plough-Accessible
GSH1034	Bronson Line, Shoulders, Ditches	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
GSH1035	Agricultural Field, South Road, Shoulders, Ditches	Test Pit Survey and Combination Test Pit and Visual Inspection to Confirm Disturbance	Agricultural Field not Plough-Accessible; ROW Non-Agricultural and not Plough-Accessible
GSH1038	Pepper Road, Shoulders, Ditches	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
GSH1039	Pepper Road, Shoulders, Ditches	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
GSH1040	Bronson Line, Shoulders, Ditches	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
GSH1043	Babylon Line, Shoulders, Ditches (East); Rodgerville Road, Shoulders, Ditches (North)	Visual Inspection (East); Combination Test Pit and Visual Inspection to Confirm Disturbance (North)	Clearly Disturbed Due to Grading and Road Buildup (East); Non-Agricultural and not Plough-Accessible (North)
GSH1048	Blackbush Line, Shoulders, Ditches	Visual Inspection	Clearly Disturbed Due to Grading and Road Buildup
GSH1049	MacDonald Road, Shoulders, Ditches	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible

Parcel	Property Characteristics	Assessment Method(s)	Rationale
GSH1056	Bronson Line, Shoulders, Ditches	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
GSH1061	Bronson Line, Shoulders, Ditches	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
GSH1062	Agricultural Field, South Road, Shoulders, Ditches	Test Pit Survey and Visual Inspection	Agricultural Field not Plough-Accessible; ROW Clearly Disturbed Due to Grading and Road Buildup
GSH1067	Bronson Line, Shoulders, Ditches	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
GSH1068	Recently Cultivated Agricultural Land, Greenway Drive, Shoulders, Ditches	Pedestrian Survey (Additional Lands) Combination Test Pit and Visual Inspection to Confirm Disturbance (ROWs)	Ploughed and Weathered Agricultural Field in the South; Non-Agricultural and not Plough-Accessible ROWs
GSH1072	Agricultural Land, South Road, Shoulders, Ditches	Test Pit Survey, Combination Test Pit and Visual Inspection to Confirm Disturbance	Agricultural Field not Plough-Accessible; ROW non-Agricultural and not Plough-Accessible
GSH1077 (East, Centre)	Crediton Road, Shoulders, Ditches, Laneways, Agricultural and Non-Agricultural Land	Combination Test Pit and Visual Inspection to Confirm Disturbance	Agricultural Field not Plough-Accessible; ROW non-Agricultural and not Plough-Accessible
GSH1077 (West)/1766 (North)	Crediton Road, Blackbush Line, Shoulders, Ditches, Agricultural Land	Test Pit Survey; Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural; Non-Plough Accessible Agricultural Field
GSH1095	Eagleson Line, Shoulders, Ditches, Laneway, Agricultural Land	Test Pit Survey; Combination Test Pit and Visual Inspection to Confirm Disturbance	Agricultural Field not Plough-Accessible; ROW non-Agricultural and not Plough-Accessible
GSH1118	Pepper Road, Shoulders, Ditches, Agricultural Land	Combination Test Pit and Visual Inspection to Confirm Disturbance	Agricultural Field not Plough-Accessible; ROW non-Agricultural and not Plough-Accessible
GSH1360	Goshen Line, Pepper Road, Shoulders, Ditches, Driveway	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
GSH1390	Babylon Line, Shoulders, Ditches, Laneways	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
GSH1461	Dashwood Road, Shoulders, Ditches	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
GSH1481	Parr Line, Shoulders, Ditches	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
GSH1493	Parr Line, Shoulders, Ditches	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
GSH1498/1659	Shipka Line, Shoulders, Ditches	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
GSH1505/2252/1504	Kipton Road, Shoulders, Ditches, Recently Cultivated Agricultural Land	Combination Test Pit and Visual Inspection to Confirm Disturbance; Pedestrian Survey	Non-Agricultural and not Plough-Accessible; Ploughed and Weathered Agricultural Field
GSH1507	Shipka Line, Shoulders, Ditches	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
GSH1509	Shipka Line, Shoulders, Ditches	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
GSH1526	Grand Bend Line, Shoulders, Ditches	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
GSH1528	Grand Bend Line, Shoulders, Ditches, Laneways	Test Pit Survey; Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible

Parcel	Property Characteristics	Assessment Method(s)	Rationale
GSH1605	Crediton Road, Shoulders, Ditches, Recently Cultivated Agricultural Land	Test Pit Survey; Combination Test Pit and Visual Inspection to Confirm Disturbance; Pedestrian Survey	ROWs Non-Agricultural and not Plough-Accessible; Ploughed and Weathered Agricultural Field (Add Land)
GSH1617	Crediton Road, Shoulders, Ditches	Test Pit Survey; Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
GSH1744/1765	Blackbush Line, Shoulders, Ditches, Laneways	Test Pit Survey; Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
GSH1757	Blackbush Line, Shoulders, Ditches, Field Access	Test Pit Survey; Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
GSH1758	Blackbush Line, Shoulders, Ditches, Laneways, Field Access	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
GSH1766 (South)	Blackbush Line, Shoulders, Ditches	Visual Inspection	Clearly Disturbed Due to Grading and Road Buildup
GSH1780	South Road, Shoulders, Ditches	Test Pit Survey; Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
GSH1949	Blackbush Line, Shoulders, Ditches, Agricultural Field	Test Pit Survey; Combination Test Pit and Visual Inspection to Confirm Disturbance	Agricultural Field not Plough-Accessible; ROW non-Agricultural and not Plough-Accessible
GSH2028	Babylon Line, Shoulders, Ditches, Laneways	Visual Inspection	Clearly Disturbed Due to Grading and Road Buildup
GSH2043	Babylon Line, Shoulders, Ditches	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
GSH2046	Babylon Line, Shoulders, Ditches	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
GSH2053	Crediton Road, Shoulders, Ditches	Visual Inspection	Clearly Disturbed Due to Grading and Road Buildup
GSH2056	Babylon Line, Shoulders, Ditches, Laneways	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
GSH2099	Dashwood Road, Shoulders, Ditches	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
GSH2108	Huron Street, Shoulders, Ditches	Test Pit Survey; Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
GSH2133	Kirkton Road, Shoulders, Ditches	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
GSH2158	Babylon Road, Shoulders, Ditches	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
GSH2236	Kirkton Road, Shoulders, Ditches	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
GSH2237	Shipka Line, Shoulders, Ditches, Laneways	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
GSH2238	Shipka Line, Shoulders, Ditches, Laneways	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
GSH2255	Victoria Avenue West, Shoulders, Ditches	Visual Inspection	Clearly Disturbed Due to Grading and Road Buildup

Parcel	Property Characteristics	Assessment Method(s)	Rationale
GSH2381	Agricultural Land	Pedestrian Survey	Agricultural Field with appropriate crop conditions for a reduced interval to achieve 80% visibility
GSH2411/2717/2956	Agricultural Land	Pedestrian Survey (Southwest and Northwest); Test Pit Survey (East)	Ploughed and Weathered (Southwest); Appropriate crop conditions for a reduced interval to achieve 80% visibility (Northwest); Not Plough-Accessible (East)
GSH2555	Agricultural Land	Pedestrian Survey	Ploughed and Weathered Agricultural Field
GSH2767	Laneway	Visual Inspection	Clearly Disturbed Due Construction of Laneway
GSH2838	Laneways, Outbuildings, Non-Agricultural Lands	Visual Inspection	Clearly Disturbed Due to Laneway Construction and Building Footprints
GSH3065	Recently Cultivated Agricultural Land	Pedestrian Survey	Ploughed and Weathered Agricultural Field
GSH3068	Recently Cultivated Agricultural Land (West); Woodlot (East)	Pedestrian Survey (West); Test Pit Survey (East)	Ploughed and Weathered Agricultural Field; Woodlot non-Agricultural and not Plough-Accessible
Grand Bend Line from GSH1528 to GSH1016	Grand Bend Line, South Road, Shoulders, Ditches, Laneways	Test Pit Survey; Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
Babylon Line from GSH2058 to GSH2030	Babylon Line, Shoulders, Ditches, Laneways	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
Blackbush Line from GSH1758 to GSH2252	Blackbush Line, Shoulders, Ditches	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
Mollard Line from GSH1559 to GSH1099	Mollard Line, Shoulders, Ditches, Laneways	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
Bronson Line at GSH1077	Bronson Line, Shoulders, Ditches, Laneways	Visual Inspection	Clearly Disturbed Due to Grading and Road Buildup
Huron Street at GSH1013	Huron Street, Babylon Line, Shoulders, Ditches, Laneway	Test Pit Survey; Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible

Parts of the parcels associated with GSH1023, GSH1033, GSH1035, GSH1062, GSH1072, GSH1077 (West)/1766 (North), GSH1095, GSH1118 and GSH1949 traversed agricultural lands that were unsuitable for pedestrian survey at the time of assessment (i.e., there was less than 80% ground surface visibility due to crop growth, and reduced transect intervals would not improve the visibility). Due to the nature of the project location, these areas could not be ploughed without impacting non-project lands, and were subjected to test pit survey (see below). Part of parcel GSH2717 was also unsuitable for pedestrian survey at the time of assessment, and the proponent obtained approval from the MTCS to allow test pitting in this area as an alternate survey method (MTCS 2013b).

Since the assessment took place over the course of several months, daily weather and lighting conditions were variable. On any given day, however, survey was only carried out when weather and lighting conditions were ideal for finding evidence of archaeological resources. A day-by-day breakdown of these weather and lighting conditions appears in Table 8. ARA therefore confirms that fieldwork was carried out under weather and lighting conditions that met the requirements set out in Section 2.1 Standard 3 of the *Standards and Guidelines for Consultant Archeologists* (MTC 2011:29).

Table 8: Summary of Weather and Lighting Conditions

Parcel	Assessment Date	Weather Conditions	Temperature (Max °C)	Lighting Conditions
GSH1006	August 14, 2013	Cloudy	18	Good
GSH1007	August 14, 2013	Cloudy	18	Good
GSH1012	August 9, 2013	Partly Cloudy	23	Very Good
GSH1013	August 9, 2013	Partly Cloudy	23	Very Good
GSH1020	August 12, 2013	Sunny	22	Excellent
GSH1022/2176	August 13, 2013	Cloudy	18	Good
GSH1023	August 13, 2013	Cloudy	18	Good
GSH1033	August 15, 2013	Sunny	20	Excellent
GSH1034	August 15, 2013	Sunny	20	Excellent
GSH1035	August 15, 2013	Sunny	20	Excellent
	August 27, 2013	Cloudy	26	Good
GSH1038	August 14, 2013	Cloudy	18	Good
GSH1039	August 14, 2013	Cloudy	18	Good
GSH1040	August 29, 2013	Sunny	23	Excellent
GSH1043	August 14, 2013	Cloudy	18	Good
	August 29, 2013	Sunny	23	Excellent
GSH1048	August 15, 2013	Sunny	20	Excellent
GSH1049	August 15, 2013	Sunny	20	Excellent
GSH1056	August 15, 2013	Sunny	20	Excellent
GSH1061	August 19, 2013	Sunny	25	Excellent
GSH1062	August 15, 2013	Sunny	20	Excellent
GSH1067	August 14, 2013	Cloudy	18	Good
GSH1068	May 27, 2013 (Add Land)	Sunny	18	Excellent
	August 12, 2013 (ROW)	Sunny	22	Excellent
GSH1072	August 14, 2013	Cloudy	18	Good
GSH1077 (East, Center)	August 28, 2013	Cloudy	27	Good
GSH1077 (West)/1766 (North)	August 28, 2013	Cloudy	27	Good
	September 3, 2013	Cloudy	20	Good
GSH1095	August 13, 2013	Cloudy	18	Good
	August 14, 2013	Cloudy	18	Good
GSH1118	August 14, 2013	Cloudy	18	Good
GSH1360	August 14, 2013	Cloudy	18	Good
GSH1390	August 14, 2013	Cloudy	18	Good

Parcel	Assessment Date	Weather Conditions	Temperature (Max °C)	Lighting Conditions
GSH1461	August 9, 2013	Partly Cloudy	23	Very Good
GSH1481	August 9, 2013	Partly Cloudy	23	Very Good
GSH1493	August 9, 2013	Partly Cloudy	23	Very Good
GSH1498/1659	August 15, 2013	Sunny	20	Excellent
GSH1505/1504/2252	July 2, 2013	Cloudy	22	Good
	August 20, 2013	Sunny	27	Excellent
GSH1507	August 14, 2013	Cloudy	18	Good
GSH1509	August 15, 2013	Sunny	20	Excellent
GSH1526	August 13, 2013	Cloudy	18	Good
GSH1528	August 12, 2013	Sunny	22	Excellent
GSH1605	June 13, 2013 (Add Land)	Sunny	18	Excellent
	August 13, 2013 (ROW)	Cloudy	18	Good
	August 26, 2013 (ROW)	Cloudy	25	Good
	August 27, 2013 (ROW)	Cloudy	26	Good
GSH1617	August 15, 2013	Sunny	20	Excellent
GSH1744/1765	August 19, 2013	Sunny	25	Excellent
GSH1757	August 19, 2013	Sunny	25	Excellent
GSH1758	August 19, 2013	Sunny	25	Excellent
GSH1766 (South)	August 28, 2013	Cloudy	27	Good
GSH1780	August 27, 2013	Cloudy	26	Good
GSH1949	August 15, 2013	Sunny	20	Excellent
GSH2028	August 13, 2013	Cloudy	18	Good
GSH2043	August 9, 2013	Partly Cloudy	23	Very Good
GSH2046	August 9, 2013	Partly Cloudy	23	Very Good
GSH2053	August 15, 2013	Sunny	20	Excellent
GSH2056	August 13, 2013	Cloudy	18	Good
GSH2099	August 9, 2013	Partly Cloudy	23	Very Good
GSH2108	August 9, 2013	Partly Cloudy	23	Very Good
GSH2133	August 9, 2013	Partly Cloudy	23	Very Good
GSH2158	August 13, 2013	Cloudy	18	Good
GSH2236	September 3, 2013	Cloudy	20	Good
GSH2237	August 15, 2013	Sunny	20	Excellent
GSH2238	August 15, 2013	Sunny	20	Excellent
GSH2255	August 28, 2013	Cloudy	27	Good
GSH2381	September 9, 2013	Partly Cloudy	23	Very Good
GSH2411/2717/2956	July 30, 2013	Sunny	20	Excellent
	September 9, 2013	Partly Cloudy	23	Very Good
GSH2555	July 10, 2013	Partly Cloudy	26	Very Good
GSH2767	August 29, 2013	Sunny	23	Excellent
GSH2838	August 29, 2013	Sunny	23	Excellent
GSH3065	August 20 2013	Sunny	27	Excellent
GSH3068	July 30, 2013	Sunny	20	Excellent

Parcel	Assessment Date	Weather Conditions	Temperature (Max °C)	Lighting Conditions
	August 20, 2013	Sunny	27	Excellent
Grand Bend Line from GSH1528 to GSH1016	August 29, 2013	Sunny	23	Excellent
	September 3, 2013	Cloudy	20	Good
Babylon Line from GSH2058 to GSH2030	August 29, 2013	Sunny	23	Excellent
Blackbush Line from GSH1758 to GSH2252	August 28, 2013	Cloudy	27	Good
Mollard Line from GSH1559 to GSH1099	August 26, 2013	Cloudy	25	Good
Bronson Line at GSH1077	August 29, 2013	Sunny	23	Excellent
Huron Street at GSH1013	August 9, 2013	Partly Cloudy	23	Very Good

In the actively or recently cultivated parts of the study area, the property assessment was carried out using the pedestrian survey method. Section 2.1.1 of the *Standards and Guidelines for Consultant Archaeologists* provides clear requirements for the condition of such lands prior to the commencement of fieldwork: all fields must be recently ploughed; all soils must be well-weathered; and at least 80% of the ploughed ground surface must be visible (MTC 2011:30). Section 2.1.1 Guideline 2 also allows for pedestrian survey of planted fields at a reduced interval to achieve the minimum 80% visibility when crop conditions are appropriate (i.e., where weed growth between the rows has been prevented). These requirements were met during the pedestrian survey component of the Stage 2 assessment.

Following the standard strategy for pedestrian survey outlined in Section 2.1.1 of the *Standards and Guidelines for Consultant Archaeologists*, ARA crewmembers traversed the study area along parallel transects established at a maximum interval of 5 m, yielding at least 20 survey transects per hectare. If archaeological materials were encountered in the course of the pedestrian survey, the transect interval would be closed to 1 m and a close inspection of the ground would be conducted for 20 m in all directions (see SD Map 1). For sites with potential for further CHVI, all diagnostic artifacts and a representative sample of non-diagnostic artifacts would then be collected for analysis. For large Euro-Canadian sites a sufficient sample of refined ceramic sherds would be collected to form the basis for accurate dating. All remaining artifacts would be left *in situ* until a proper Stage 3 Controlled Surface Pickup could be carried out. For small sites with little to no potential for further CHVI (i.e., Location 64), the majority of the artifacts would be collected in order to fully document the deposit.

In those parts of the study area that physically could not be ploughed or where ploughing was not viable, the assessment was conducted using the test pit survey method (sometimes referred to as shovel-testing). In this method, ARA crewmembers hand-excavated small regular test pits with a minimum diameter of 30 cm at prescribed intervals across the study area. Section 2.1.2 of the *Standards and Guidelines for Consultant Archaeologists* stipulates that lands within 300 m of any feature of archaeological potential be examined at 5 m intervals, and any lands more than 300 m from such features be examined at 10 m intervals (MTC 2011:31–32). Given the presence of multiple indicators of archaeological potential in the vicinity of the study area (e.g., a variety of water sources and historically-surveyed roadways), a 5 m interval was adopted for the property assessment.

In accordance with Section 2.1.2 of the *Standards and Guidelines for Consultant Archaeologists*, each test pit was excavated into the first 5 cm of subsoil (MTC 2011:32). The resultant pits were then examined for stratigraphy, cultural features and/or evidence of fill. The soil from each test pit was screened through 6 mm mesh and examined for archaeological materials. If archaeological materials were encountered over the course of the test pitting survey, each Positive Test Pit would be documented and all artifacts would be collected according to their associated test pit. All test pits were backfilled upon completion, as per the property owners' instruction (MTC 2011:32).

In accordance with Section 2.1.8 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:38), a combination of property inspection and test pitting was used to confirm the extents of any disturbed areas identified during the test pit survey. These areas either initially appeared to have archaeological potential or were of indeterminate archaeological potential, and were therefore subjected to test pitting (i.e., shovel tested, found to be disturbed). Test pits were placed throughout these areas of unclear archaeological potential to confirm that these areas had been completely disturbed. In accordance with the requirements set out in Section 1.2 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:15–16), the visually inspected areas were examined systematically (at a 5 m interval) under ideal weather and lighting conditions with excellent ground surface visibility.

Artifacts that may indicate the presence of significant cultural deposits include bone, charcoal, lithics (stone tools and refuse generated by their production and use), ceramics, glass and metal. Archaeological features such as pits, foundations and other non-portable remains may also be detected during a Stage 2 property assessment. All archaeological materials with potential CHVI are documented, whether associated with Pre-Contact Aboriginal groups or Post-Contact First Nations, Métis and Euro-Canadian populations. Artifact locations are recorded on topographic maps, in field notes and on a variety of GPS handheld units. Specifically, ARA utilized a Topcon HiPer SR RTK GNSS Receiver and Field Controller capable of network-corrected measurements to 1 cm accuracy (using the UTM17 NAD83 coordinate system), a Topcon GRS-1 RTK GNSS Receiver and Field Controller capable of network-corrected measurements to 1 cm accuracy (using the UTM17 NAD83 coordinate system), and a Garmin eTrex Legend, WAAS-enabled, GPS handheld unit capable of +/- 2 m accuracy (using the UTM17 NAD83 coordinate system) on different occasions between May and September 2013.

All parts of the study area were assessed according to these methods, save for those that clearly did not have archaeological potential and did not require any test pitting to confirm disturbance. Section 2.1 of the *Standards and Guidelines for Consultant Archaeologists* states that only those areas that have steep slopes greater than 20°, are permanently wet or consist of exposed bedrock, or have been subjected to deep land alterations that have severely damaged the integrity of archaeological resources can be considered exempt from requiring Stage 2 assessment (MTC 2011:28). These areas were subject to a property inspection in accordance the requirements set out in Section 1.2 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:15–16). Specifically, the visually inspected areas were examined systematically (at a 5 m interval) under ideal weather and lighting conditions with excellent ground surface visibility.

ARA's on-site documentation resulted in the identification of numerous disturbed areas over the course of the Stage 2 assessment. Specifically, construction activities associated with the creation of paved roadways, embankments, drainage ditches and culverts have resulted in the removal of archaeological potential from many of the parcels. These areas were not subject to Stage 2 assessment, as they had no archaeological potential.

The results of the Stage 2 property assessment are summarized in Map 29–Map 107, and the specific field methods utilized at each parcel and the associated images are presented in Table 9. In fulfillment of the requirements set out in Section 7.8 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:137), the field methods utilized during the assessment as a whole are summarized in Table 10.

Table 9: Summary of Assessment Methods and Images by Parcel

Parcel	Assessment Method(s)	Image(s)	Area(s) of No Archaeological Potential	Image(s)
GSH1006	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 1–Image 2	Disturbed Lands	Image 3
GSH1007	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 4–Image 5	Disturbed Lands	Image 6
GSH1012	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 7–Image 8	Disturbed Lands	Image 9
GSH1013	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 10–Image 11	Disturbed Lands	Image 12
GSH1020	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 13	Disturbed Lands	Image 14
GSH1022/2176	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 15–Image 16	Disturbed Lands	Image 17
GSH1023	Test Pit Survey and Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 18–Image 21	Disturbed Lands	Image 22
GSH1033	Test Pit Survey and Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 23–Image 24	Disturbed Lands	Image 25
GSH1034	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 26–Image 27	Disturbed Lands	Image 28
GSH1035	Test Pit Survey and Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 29–Image 32; Image 34–Image 35	Disturbed Lands	Image 33; Image 35
GSH1038	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 37–Image 38	Disturbed Lands	Image 39
GSH1039	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 40	Disturbed Lands	Image 41
GSH1040	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 42–Image 43	Disturbed Lands	Image 44
GSH1043	Visual Inspection (East); Combination Test Pit and Visual Inspection to Confirm Disturbance (North)	Image 45–Image 46	Disturbed Lands	Image 47–Image 48
GSH1048	Visual Inspection	N/A	Disturbed Lands	Image 49
GSH1049	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 50	Disturbed Lands	Image 51
GSH1056	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 52–Image 53	None	Image 54

Parcel	Assessment Method(s)	Image(s)	Area(s) of No Archaeological Potential	Image(s)
GSH1061	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 55–Image 56	Disturbed Lands	Image 57
GSH1062	Test Pit Survey and Visual Inspection	Image 58–Image 59	Disturbed Lands	Image 60
GSH1067	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 61–Image 62	Disturbed Lands	Image 63
GSH1068	Pedestrian Survey (Additional Lands) Combination Test Pit and Visual Inspection to Confirm Disturbance (ROWs)	Image 64–Image 66; Image 68–Image 69	Disturbed Lands	Image 67; Image 70
GSH1072	Test Pit Survey, Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 71–Image 74	Disturbed Lands	Image 75
GSH1077 (East, Centre)	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 76–Image 77	Disturbed Lands	Image 78
GSH1077 (West)/1766 (North)	Test Pit Survey; Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 79–Image 80	Disturbed Lands	Image 81
GSH1095	Test Pit Survey; Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 82–Image 84	Disturbed Lands	Image 85
GSH1118	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 86–Image 87	Disturbed Lands	Image 70
GSH1360	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 89–Image 90; Image 92	Disturbed Lands	Image 91; Image 93
GSH1390	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 94–Image 95	Disturbed Lands	Image 96
GSH1461	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 97–Image 98	Disturbed Lands	Image 99
GSH1481	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 100–Image 101	Disturbed Lands	Image 102
GSH1493	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 103–Image 104	Disturbed Lands	Image 105
GSH1498/1659	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 106–Image 107	Disturbed Lands	Image 108
GSH1505/2252/1504	Combination Test Pit and Visual Inspection to Confirm Disturbance; Pedestrian Survey	Image 109–Image 112	Disturbed Lands	Image 113
GSH1507	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 114	None	Image 115
GSH1509	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 116–Image 117	Disturbed Lands	Image 118
GSH1526	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 119–Image 120	None	Image 121
GSH1528	Test Pit Survey; Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 122–Image 124	Disturbed Lands	Image 125
GSH1605	Test Pit Survey; Combination Test Pit and Visual Inspection to Confirm Disturbance; Pedestrian Survey	Image 126–Image 129; Image 131–Image 132	Disturbed Lands	Image 130; Image 133
GSH1617	Test Pit Survey; Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 134–Image 135	Disturbed Lands	Image 136
GSH1744/1765	Test Pit Survey; Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 137–Image 139	Disturbed Lands	Image 140

Parcel	Assessment Method(s)	Image(s)	Area(s) of No Archaeological Potential	Image(s)
GSH1757	Test Pit Survey; Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 141–Image 142	Disturbed Lands	Image 143
GSH1758	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 144–Image 145	Disturbed Lands	Image 146
GSH 1766 (South)	Visual Inspection	N/A	Disturbed Lands	Image 147
GSH1780	Test Pit Survey; Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 148–Image 149	Disturbed Lands	Image 150
GSH1949	Test Pit Survey; Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 151–Image 152	Disturbed Lands	Image 153
GSH2028	Visual Inspection	N/A	Disturbed Lands	Image 154
GSH2043	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 155–Image 156	Disturbed Lands	Image 157
GSH2046	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 158–Image 159	Disturbed Lands	Image 160
GSH2053	Visual Inspection	N/A	Disturbed Lands	Image 161–Image 162
GSH2056	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 163	Disturbed Lands	Image 164
GSH2099	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 165–Image 166	None	Image 167
GSH2108	Test Pit Survey; Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 168–Image 169	Disturbed Lands	Image 170
GSH2133	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 171	Disturbed Lands	Image 172
GSH2158	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 173	Disturbed Lands	Image 174
GSH2236	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 175–Image 176	Disturbed Lands	Image 177
GSH2237	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 178	Disturbed Lands	Image 179
GSH2238	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 180	Disturbed Lands	Image 181
GSH2255	Visual Inspection	N/A	Disturbed Lands	Image 182
GSH2381	Pedestrian Survey	Image 183–Image 184	None	N/A
GSH2411/2717/2956	Pedestrian Survey (Southwest and Northwest); Test Pit Survey (East)	Image 185–Image 190	None	N/A
GSH2555	Pedestrian Survey	Image 191–Image 192	None	N/A
GSH2767	Visual Inspection	N/A	Disturbed Lands	Image 193
GSH2838	Visual Inspection	N/A	Disturbed Lands	Image 194
GSH3065	Pedestrian Survey	Image 195–Image 196	None	N/A
GSH3068	Pedestrian Survey (West); Test Pit Survey (East)	Image 197–Image 200	None	N/A
Grand Bend Line from GSH1528 to GSH1016	Test Pit Survey; Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 201; Image 203	Disturbed Lands	Image 202; Image 204
Babylon Line from GSH2058 to GSH2030	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 205–Image 206; Image 208–Image 209	Disturbed Lands	Image 207; Image 210
Blackbush Line from GSH1758 to GSH2252	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 211–Image 212	None	Image 213
Mollard Line from GSH1559 to GSH1099	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 214–Image 215	Disturbed Lands	Image 216

Parcel	Assessment Method(s)	Image(s)	Area(s) of No Archaeological Potential	Image(s)
Bronson Line at GSH1077	Visual Inspection	N/A	Disturbed Lands	Image 217
Huron Street at GSH1013	Test Pit Survey; Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 218–Image 219	Disturbed Lands	Image 220

Table 10: Summary of Utilized Field Methods

Category	Study Area
Property assessed by test pit survey at a maximum interval of 5 m	2.52% (1.16 ha)
Property assessed by pedestrian survey at a maximum interval of 5 m	44.36% (20.40 ha)
Property assessed by test pit survey and visual inspection to confirm disturbance	12.81% (5.89 ha)
Property not assessed because of disturbed areas	40.30% (18.53 ha)
Property not assessed because of permanently wet areas	0.00% (0.00 ha)
Property not assessed because of sloped areas	0.00% (0.00 ha)
Property not assessed because of exposed bedrock	0.00% (0.00 ha)
Property assessed where standard survey intervals could not be maintained	0.00% (0.00 ha)
Total	**100% (45.97 ha)**

In keeping with the requirements set out in Section 2.1 Standard 4 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:29), GPS coordinates were recorded for fixed reference landmarks (e.g., Ontario Land Surveyor benchmarks, Hydro poles, standard iron bars, etc.) located in the vicinity of the study area. The GPS co-ordinates for the documented fixed reference landmarks appear in Table 11, and the locations of these landmarks are presented in Map 29–Map 107.

Table 11: GPS Co-ordinates for Fixed Reference Landmarks

Parcel	Fixed Reference Landmark ID	Label	UTM Zone	Easting (m)	Northing (m)
GSH1006	N/A	FRL 1	17	452,054	4,804,010
GSH 1007	N/A	FRL 2	17	449,692	4,805,771
GSH1012	(BRY4AE)	FRL 3	17	453,076	4,800,020
GSH1013	(C6LC6T)	FRL 4	17	452,140	4,797,817
GSH1020	N/A	FRL 5	17	438,954	4,790,113
GSH1022/2176	N/A	FRL 6	17	439,032	4,790,615
GSH1023	N/A	FRL 7	17	439,587	4,789,972
GSH1033	N/A	FRL 8	17	447,696	4,790,985
GSH1034	N/A	FRL 9	17	448,458	4,799,849
GSH1035	N/A	FRL 10	17	445,608	4,790,710
GSH1038	N/A	FRL 11	17	447,959	4,803,443
GSH1039	N/A	FRL 11	17	447,959	4,803,443
GSH1040	N/A	FRL 12	17	448,115	4,802,238
GSH1043	N/A	FRL 13	17	451,796	4,805,722

Parcel	Fixed Reference Landmark ID	Label	UTM Zone	Easting (m)	Northing (m)
	N/A	FRL 14	17	451,215	4,805,979
GSH1048	N/A	FRL 15	17	446,074	4,801,927
GSH1049	N/A	FRL 16	17	448,225	4,801,437
GSH1056	N/A	FRL 17	17	447,771	4,804,670
GSH1061	N/A	FRL 18	17	449,273	4,794,277
GSH1062	N/A	FRL 19	17	449,723	4,791,272
GSH1067	N/A	FRL 20	17	449,786	4,790,834
GSH1068	N/A	FRL 21	17	436,379	4,787,788
	N/A	FRL 22	17	438,864	4,789,231
GSH1072	N/A	FRL 23	17	449,758	4,791,279
GSH1077 (East, Centre)	N/A	FRL 24	17	448,129	4,793,122
GSH1077 (West)/1766 (North)	N/A	FRL 25	17	447,390	4,793,010
GSH1095	N/A	FRL 26	17	439,717	4,788,359
GSH1118	N/A	FRL 27	17	449,982	4,803,737
GSH1360	N/A	FRL 28	17	449,889	4,804,415
	N/A	FRL 27	17	449,982	4,803,737
GSH1390	N/A	FRL 29	17	451,901	4,804,830
GSH1461	(BRY48L)	FRL 30	17	453,234	4,800,042
GSH1481	(CA6THD)	FRL 31	17	455,685	4,793,243
GSH1493	(CAG25F)	FRL 32	17	455,433	4,795,039
GSH1498/1659	N/A	FRL 33	17	445,130	4,793,980
GSH1505/2252/1504	N/A	FRL 34	17	447,063	4,795,087
GSH1507	N/A	FRL 35	17	445,387	4,792,201
GSH1509	N/A	FRL 36	17	445,506	4,791,503
GSH1526	N/A	FRL 37	17	441,341	4,791,430
GSH1528	N/A	FRL 38	17	441,434	4,790,791
GSH1605	N/A	FRL 39	17	441,243	4,792,121
GSH1617	N/A	FRL 40	17	445,060	4,792,699
GSH1744/1765	N/A	FRL 41	17	447,316	4,793,528
GSH1757	N/A	FRL 42	17	446,901	4,796,283
GSH1758	N/A	FRL 43	17	447,002	4,795,584
GSH1766 (South)	N/A	FRL 25	17	447,390	4,793,010
GSH1780	N/A	FRL 8	17	447,696	4,790,985
GSH1949	N/A	FRL 44	17	447,557	4,791,806
GSH2028	N/A	FRL 45	17	453,910	4,791,210
GSH2043	(C6LFYY)	FRL 46	17	453,158	4,796,303
GSH2046	(C6LGRT)	FRL 47	17	453,337	4,795,089
GSH2053	N/A	FRL 48	17	454,463	4,794,018
GSH2056	N/A	FRL 49	17	453,692	4,792,767
GSH2099	(BRY3VB)	FRL 50	17	453,825	4,800,109
GSH2108	(C6LC3E)	FRL 51	17	451,907	4,797,789
GSH2133	(C6M8LK)	FRL 52	17	451,168	4,795,634
GSH2158	N/A	FRL 53	17	453,653	4,793,020

Parcel	Fixed Reference Landmark ID	Label	UTM Zone	Easting (m)	Northing (m)
GSH2236	N/A	FRL 34	17	447,063	4,795,087
GSH2237	N/A	FRL 54	17	444,836	4,796,015
GSH2238	N/A	FRL 55	17	444,775	4,796,416
GSH2255	N/A	FRL 56	17	454,992	4,794,074
GSH2381	N/A	FRL 57	17	465,755	4,795,587
GSH2411/2717/2956	(CAG25F)	FRL 32	17	455,433	4,795,039
GSH2555	N/A	FRL 60	17	461,541	4,795,881
GSH2767	N/A	FRL 58	17	471,810	4,796,436
GSH2838	N/A	FRL 59	17	469,761	4,796,175
GSH3065	N/A	FRL 58	17	471,810	4,796,436
GSH3068	N/A	FRL 58	17	471,810	4,796,436
Grand Bend Line from GSH1528 to GSH1016	N/A	FRL 38	17	441,434	4,790,791
Babylon Line from GSH2058 to GSH2030	N/A	FRL 45	17	453,910	4,791,210
Blackbush Line from GSH1758 to GSH2252	N/A	FRL 43	17	447,002	4,795,584
Mollard Line from GSH1559 to GSH1099	N/A	FRL 22	17	438,864	4,789,231
Bronson Line at GSH1077	N/A	FRL 18	17	449,273	4,794,277
Huron Street at GSH1013	(C6LC6T)	FRL 4	17	452,140	4,797,817

During the laboratory processing of the retained artifacts, ARA's Material Culturalist carried out detailed documentation and analyses of the archaeological materials in order to provide 1) a record of the artifacts and other materials from the site, 2) a basis for all recommendations and 3) enough basic information to help future researchers determine whether the site is relevant to their studies (MTC 2011:97). All of the artifacts were classified using ARA's devised typological system, which is an adaptation of the *Parks Canada Database Artifact Inventory Coding Guide* (Parks Canada 2002). In this system, chert types are determined in accordance with the *Cherts of Southern Ontario* (Eley and von Bitter 1989), and lithics are classified using the definitions set out in the *Field Manual for Avocational Archaeologists in Ontario* (Adams et al. 1995) and *Archaeological Laboratory Methods: An Introduction* (Sutton and Arkush 2002). Euro-Canadian artifacts are classified into groups, materials, object types and object names using a variety of reference aids (e.g., Adams et al. 1995; Kenyon and Kenyon 2008; Miller 2000; Lindsey 2013).

2.2 Summary of Results

The Stage 2 property assessment, completed under optimal conditions, resulted in the identification of one location of archaeological material: Location 64. The position of this site is presented in SD Map 1, and the associated GPS co-ordinates are presented in SD Table 1; these data reveal detailed site location information and therefore cannot be included in the main report.

In keeping with the requirements set out in Sections 7.8.2–7.8.4 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:137–139), the documentation of this archaeological

findspot appears in Section 2.3. This section comprises an overview of the assessment results, a comprehensive record of finds, a discussion of the artifactual analysis and conclusions, and the presentation of ARA's recommendation for the site.

The artifact collection from the Stage 2 assessment is housed in polyethylene bags that are stored in Archive Box A257. This box is a 10"(H) x 12"(W) x 15"(D) light duty, double bottom corrugated cardboard box, and is labelled accordingly. Archive box numbers are assigned in numerical order and all associated information is entered into an Archive Box Catalogue for accurate tracking. All catalogue and collection information is kept on a secure server. Upon project completion, the Archive boxes are transported to ARA's head office (located at 97 Gatewood Road, Kitchener) and are stored in numerical order on steel storage shelves.

2.3 Location 64

2.3.1 Record of Finds

2.3.1.1 Overview

Site Type: A 28 x 16 m Euro-Canadian artifact scatter with 1 Pre-Contact lithic; 16 of 17 artifacts collected
Location: Western part of parcel GSH1505
Property: Lot 15, Concession 15 in the Geographic Township of Stephen
GPS Co-ordinates: See Supplementary Documentation
Diagnostic Artifacts: 7
Material(s) Identified: Ferrous, Glass, Ceramic, Selkirk Chert

2.3.1.2 Description

Location 64 consists of a 28 x 16 m scatter of 16 Euro-Canadian artifacts and 1 Pre-Contact lithic tool identified during the pedestrian survey of parcel GSH1505 (see Map 108; SD Map 2). The discovery of artifacts within a previously assessed area (PIF #P218-038-2011 and #P366-017-2012) prompted ARA to re-assess these lands in order to fully document the scatter. Despite an intensified survey of all agricultural lands within 20 m of this site, no other archaeological materials were identified.

A total of 16 artifacts were collected for laboratory analysis during the assessment, and the remaining artifact was left in the field to assist in site re-location, if necessary. The 16 artifacts from Location 64 are fully documented in Appendix B, Records 1–13 (see Image 221). The full artifact analysis appears in Section 2.3.2.

The Location 64 artifact assemblage consisted primarily of fragmentary glass storage containers (50.00%), ceramic tableware (12.50%) and nails (12.50%). Only one artifact exhibited evidence of burning or heat alteration (6.25% of the total assemblage), which was a piece of melted glass. One potential artifact concentration was identified in the northeastern part of the scatter. No cultural features or structural elements were identified in the vicinity of Location 64 during the Stage 2 assessment.

The artifacts from Location 64 can be effectively classified into 'Aboriginal', 'architectural', 'ceramic food related', 'ceramic non-food related, 'glass food related', 'glass non-food related' and 'non-architectural metal' groups. A quantitative summary of artifacts by group appears in Table 12.

Table 12: Summary of Artifacts – Location 64

Group	Object Type	Object Name	Freq.	% of Assemblage	% of Group
Aboriginal	Informal Tool	Multi-Tool	1	6.25%	100.00%
		Informal Tool Total	1	6.25%	100.00%
	Aboriginal Total		**1**	**6.25%**	**100.00%**
Architectural	Hardware	Nail	2	12.50%	100.00%
		Hardware Total	2	12.50%	100.00%
	Architectural Total		**2**	**12.50%**	**100.00%**
Ceramic Food Related	Storage Container	Storage (Unidentifiable)	1	6.25%	50.00%
		Storage Container Total	1	6.25%	50.00%
	Tableware	Tableware (Unidentifiable)	1	6.25%	50.00%
		Tableware Total	1	6.25%	50.00%
	Ceramic Food Related Total		**2**	**12.50%**	**100.00%**
Ceramic Non-Food Related	Personal Care	Toiletry Jar	1	6.25%	100.00%
		Personal Care Total	1	6.25%	100.00%
	Ceramic Non-Food Related Total		**1**	**6.25%**	**100.00%**
Glass Food Related	Storage Container	Beer Bottle	1	6.25%	12.50%
		Bottle (Unidentifiable)	6	37.50%	75.00%
		Closure	1	6.25%	12.50%
		Storage Container Total	8	50.00%	100.00%
	Glass Food Related Total		**8**	**50.00%**	**100.00%**
Glass Non-Food Related	Miscellaneous	Melted	1	6.25%	100.00%
		Miscellaneous Total	1	6.25%	100.00%
	Glass Non-Food Related Total		**1**	**6.25%**	**100.00%**
Non-Architectural Metal	Miscellaneous	Scrap Metal	1	6.25%	100.00%
		Miscellaneous Total	1	6.25%	100.00%
	Non-Architectural Metal Total		**1**	**6.25%**	**100.00%**
Grand Total			**16**	**100.00%**	

2.3.1.3 Inventory of the Documentary Record

The inventory of the documentary record for the Stage 2 assessment is summarized in Table 13. This inventory includes a quantitative summary of the field notes, photographs and mapping materials involved in the assessment, all of which are stored at ARA's processing facility located at 154 Otonabee Drive, Kitchener, Ontario.

Table 13: Stage 2 Documentary Record

Field Documents	Total	Nature	Location
Photographs	671	Digital	On server at 154 Otonabee Drive, Kitchener; Folder P007-535-2013
Field Notes	21	Digital and hard copy	Filed and on server at 154 Otonabee Drive, Kitchener; P007-535-2013
Field Maps	95	Digital and hard copy	Filed and on server at 154 Otonabee Drive, Kitchener; P007-535-2013

2.3.2 Analysis and Conclusions

Of the 16 artifacts collected during the assessment of Location 64, a total of 7 (43.75% of the assemblage) can be dated based on the presence of recognizable diagnostic characteristics. The diagnostic artifacts are summarized in Table 14.

Table 14: Analysis of Diagnostic Artifacts – Location 64

Group	Material	Object Name	Datable Attribute	Freq.	% of Total Diagnostic	Date Range	Reference
Architectural	Ferrous	Nail	Cut	2	28.57%	ca.1830–1890	Adams 1995:105
Ceramic Food Related	Porcelaneous Ware	Tableware (Unidentifiable)	Plain	1	14.29%	ca. 1820–Present	TAMU 2013
	Stoneware (Fine)	Storage (Unidentifiable)	Plain	1	14.29%	ca. 1630–Present	Miller 2000:10; Lennox and Fitzgerald 1990:432–437; Collard 1967:139
Ceramic Non-Food Related	Porcelain	Toiletry Jar	Northrop & Lyman Company	1	14.29%	ca. 1854–1980	Sullivan 1983:1
Glass Food Related	Glass	Beer Bottle	Machine Made Bottle	1	14.29%	1899–Present	Miller 2000:8
		Bottle (Unidentifiable)	Enameled Label (Applied Coloured Label)	1	14.29%	1935–Present	Lindsey 2012; Miller 2000:8
Total				**7**	**100.00%**		

As Table 14 demonstrates, the diagnostics from Location 64 generally date between the mid–late 19th century and the present. Ferrous nails were the most common diagnostic artifact type (n=2; 28.57% of the diagnostic assemblage). Manufactured by slicing thin sheets of iron, cut nails are characterized by a rectangular cross-section (Nelson 1968). Cut nails began to replace wrought nails ca.1830, and were used throughout the remainder of the 19th century. The popularity of cut nails began to decline ca. 1890 (Adams 1995:105).

Often used in fine tablewares and tea sets, porcelaneous ware is characterized by its dense and entirely vitrified body, similar to that of English porcelain. Porcelaneous wares were first produced ca. 1820 and are still manufactured today (TAMU 2013).

Next to porcelain, stoneware comprises one of the least porous ceramics found on archaeological sites in Ontario. The fabric of this ceramic is extremely hard and durable, and generally presents as grey, buff or yellow-red in colour (Adams 1995:101). Because of its relative density, stoneware was used for primarily utilitarian purposes (i.e., storage, crockery, ink wells). A more poorly-made stoneware was being produced in England ca. 1630 and shipped to North America, but shortly before 1840 "Improved Stoneware" (stoneware with perfected glazes) became common place on the Canadian Market (Miller 2000:10; Collard 1984:139).

Northrop & Lyman Company vessels are commonly found on late 19th century Euro-Canadian sites. The company began as a retail drugstore and later became a large pharmaceutical firm producing various medicinal products. At one time, the company was one of the largest dealers in patent medicines in Canada. Northrop and Lyman Company was in business from ca. 1854–1980 (Sullivan 1983:1).

Also called 'applied colour labels', enamelled labels are produced by fusing heated, powdered glass to the surface of a vessel and then fired. Such labels are most commonly found on soda, milk and beer bottles produced from 1935 through to present day (Lindsey 2013; Miller 2000:8). The late 19th century saw a shift towards automating the bottle making process worldwide. In this process, machine-blown air is used to blow glass into moulds (Jones and Sullivan 1985:35). Miller suggests that the first semi-automated wide-mouth storage glass production occurred in 1893, and that narrow mouth bottles followed closely after in 1899 (Miller 2000:8).

Given that the assemblage from Location 64 consisted primarily of fragmentary glass storage containers (50.00%), ceramic tableware (12.50%) and nails (12.50%), it is possible that the deposit represents the remains of a small domestic midden locality. Based on the seven diagnostic artifacts, this potential midden appears to date primarily to the late 19th and 20th centuries. According to H. Belden & Co.'s *Illustrated Historical Atlas of the County of Huron, Ontario* (1879), T. Lamport owned this property ca. 1879. Given that the Lamport homestead is depicted in the northeastern part of the parcel (i.e., quite distant from Location 64), this deposit may have been associated with a later owner of the property (see Map 26). The isolated lithic multi-tool was of an undetermined Pre-Contact date.

According to the criteria set out in Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists*, a Post-Contact archaeological site requires further assessment when it consists of a minimum of 20 pre-1900 Euro-Canadian artifacts and/or a 20th century assemblage with possible CHVI (MTC 2011:41). Given that only two of the diagnostic artifacts (the cut nails) could be confidently dated to pre-1900, and that there is no other indication that the assemblage has CHVI, this site does not meet any of the criteria established by the MTCS for determining whether further assessment is required. Similarly, the isolated Pre-Contact lithic did not meet any of the MTCS's criteria for Pre-Contact sites.

Based on these findings, it is the considered opinion of ARA that Location 64 is of no further CHVI and does not warrant a Stage 3 site-specific assessment. Based on the evidence from the Stage 2 assessment, it is also clear that the site will not require Stage 4 mitigation of development impacts.

2.3.3 Recommendations

Location 64 did not meet any of the criteria defined in Section 7.12 of the *Standards and Guidelines for Consultant Archaeologists* for determining whether an archaeological site warrants a Site Record Form (MTC 2011:160–161). Accordingly, it has not been assigned a Borden number.

When compared against the criteria in Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:39–40), this archaeological site was found to be of no further CHVI. ARA accordingly recommends that no further archaeological assessment of Location 64 be required.

3.0 SYNTHESIS OF CONCLUSIONS AND RECOMMENDATIONS

The Stage 2 property assessment of the additional lands and ROWs was completed in September 2013. Legal permission to enter and conduct all necessary fieldwork activities on project lands was granted by the property owners. This assessment resulted in the discovery of one location of archaeological material: Location 64 on parcel GSH1505. Location 64 comprised a 28 x 16 m scatter of 16 Euro-Canadian artifacts and 1 Pre-Contact lithic tool, and 16 artifacts were collected for laboratory analysis. The diagnostic artifacts indicated that the deposit dated to the late 19th and 20th centuries, but only two of these artifacts definitively dated to pre-1900 due to long periods of production and use. The lithic multi-tool was of an undetermined Pre-Contact date. Location 64 was found to be of no further CHVI.

Based on these findings, ARA recommends that no further archaeological assessment of Location 64 be required, and that the remainder of the assessed lands also require no further archaeological assessment. Should the proposed project location change in this area, additional archaeological work may be required. A *Letter of Review and Acceptance into the Ontario Public Register of Archaeological Reports* is requested, as provided for in Section 65.1 of the *Ontario Heritage Act*.

4.0 ADVICE ON COMPLIANCE WITH LEGISLATION

Section 7.5.9 of the *Standards and Guidelines for Consultant Archaeologists* requires that the following information be provided for the benefit of the proponent and approval authority in the land use planning and development process (MTC 2011:126–127):

- This report is submitted to the Minister 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 archaeological fieldwork on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of 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, 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.

5.0 IMAGES

Image 1: View of Crewmember Test Pitting to Confirm Disturbance at GSH1006
(Photo Taken August 14, 2013; Facing South)

Image 2: View of Disturbed Test Pit at GSH1006
(Photo Taken August 14, 2013)

Image 3: Area of No Archaeological Potential – Disturbed Lands at GSH1006
(Photo Taken August 14, 2013; Facing East)

Image 4: View of Crewmember Test Pitting to Confirm Disturbance at GSH1007
(Photo Taken August 14, 2013; Facing North)

Image 5: View of Disturbed Test Pit at GSH1007
(Photo Taken August 14, 2013)

Image 6: Area of No Archaeological Potential – Disturbed Lands at GSH1007
(Photo Taken August 14, 2013; Facing West)

Image 7: View of Crewmember Test Pitting to Confirm Disturbance at GSH1012
(Photo Taken August 9, 2013; Facing Southeast)

Image 8: View of Disturbed Test Pit at GSH1012
(Photo Taken August 9, 2013)

Image 9: Area of No Archaeological Potential – Disturbed Lands at GSH1012
(Photo Taken August 9, 2013; Facing East)

Image 10: View of Crewmember Test Pitting to Confirm Disturbance at GSH1013
(Photo Taken August 9, 2013; Facing North)

Image 11: View of Disturbed Test Pit at GSH1013
(Photo Taken August 9, 2013)

Image 12: Area of No Archaeological Potential – Disturbed Lands at GSH1013
(Photo Taken August 9, 2013; Facing East)

Image 13: View of Crewmember Test Pitting to Confirm Disturbance at GSH1020
(Photo Taken August 12, 2013; Facing East)

Image 14: Area of No Archaeological Potential – Disturbed Lands at GSH1020
(Photo Taken August 12, 2013; Facing North)

Image 15: View of Crewmember Test Pitting to Confirm Disturbance at GSH1022/2176
(Photo Taken August 13, 2013; Facing East)

Image 16: View of Disturbed Test Pit at GSH1022/2176
(Photo Taken August 13, 2013)

Image 17: Area of No Archaeological Potential – Disturbed Lands at GSH1022/2176
(Photo Taken August 13, 2013; Facing South)

Image 18: View of Crewmembers Test Pitting to Confirm Disturbance at GSH1023
(Photo Taken August 13, 2013; Facing Southwest)

Image 19: View of Crewmember Screening Soil through 6 mm Mesh at GSH1023
(Photo Taken August 13, 2013; Facing North)

Image 20: View of Disturbed Test Pit at GSH1023
(Photo Taken August 13, 2013)

Image 21: View of Typical Test Pit Excavated 5 cm into Subsoil at GSH1023
(Photo Taken August 13, 2013)

Image 22: Area of No Archaeological Potential – Disturbed Lands at GSH1023
(Photo Taken August 13, 2013; Facing East)

Image 23: View of Crewmembers Test Pitting at a Maximum Interval of 5 m at GSH1033
(Photo Taken August 15, 2013; Facing Southeast)

Image 24: View of Disturbed Test Pit at GSH1033
(Photo Taken August 15, 2013)

Image 25: Area of No Archaeological Potential – Disturbed Lands at GSH1033
(Photo Taken August 15, 2013; Facing East)

Image 26: View of Crewmember Test Pitting to Confirm Disturbance at GSH1034
(Photo Taken August 15, 2013; Facing East)

Image 27: View of Disturbed Test Pit at GSH1034
(Photo Taken August 15, 2013)

Image 28: Area of No Archaeological Potential – Disturbed Lands at GSH1034
(Photo Taken August 15, 2013; Facing North)

Image 29: View of Crewmembers Test Pitting at a Maximum Interval of 5 m at GSH1035 (West)
(Photo Taken August 15, 2013; Facing North)

Image 30: View of Crewmember Screening Soil through 6 mm Mesh at GSH1035 (West)
(Photo Taken August 15, 2013; Facing Northwest)

Image 31: View of Disturbed Test Pit at GSH1035 (West)
(Photo Taken on August 15, 2013)

Image 32: View of Test Pit Excavated into 5 cm into Subsoil at GSH1035 (West)
(Photo Taken on August 15, 2013)

Image 33: Area of No Archaeological Potential – Disturbed Lands at GSH1035 (West)
(Photo Taken August 15, 2013; Facing East)

Image 34: View of Crewmember Test Pitting to Confirm Disturbance at GSH1035 (East)
(Photo Taken August 27, 2013; Facing South)

Image 35: View of Disturbed Test Pit at GSH1035 (East)
(Photo Taken August 27, 2013)

Image 36: Area of No Archaeological Potential – Disturbed Lands at GSH1035 (East)
(Photo Taken August 27, 2013; Facing West)

Image 37: View of Crewmember Test Pitting to Confirm Disturbance at GSH1038
(Photo Taken August 14, 2013; Facing North)

Image 38: View of Disturbed Test Pit at GSH1038
(Photo Taken August 14, 2013)

Image 39: Area of No Archaeological Potential – Disturbed Lands at GSH1038
(Photo Taken August 14, 2013; Facing West)

Image 40: View of Disturbed Test Pit at GSH1039
(Photo Taken August 14, 2013)

Image 41: Area of No Archaeological Potential – Disturbed Lands at GSH1039
(Photo Taken August 14, 2013; Facing East)

Image 42: View of Crewmember Test Pitting to Confirm Disturbance at GSH1040
(Photo Taken August 29, 2013; Facing West)

Image 43: View of Disturbed Test Pit at GSH1040
(Photo Taken August 29, 2013)

Image 44: Area of No Archaeological Potential – Disturbed Lands at GSH1040
(Photo Taken August 29, 2013; Facing South)

Image 45: View of Crewmember Test Pitting to Confirm Disturbance at GSH1043 (North)
(Photo Taken August 14, 2013; Facing South)

Image 46: View of Disturbed Test Pit at GSH1043 (North)
(Photo Taken on August 14, 2013)

Image 47: Area of No Archaeological Potential – Disturbed Lands at GSH1043 (North)
(Photo Taken August 14, 2013; Facing East)

Image 48: Area of No Archaeological Potential – Disturbed Lands at GSH1043 (East)
(Photo Taken August 29, 2013; Facing North)

Image 49: Area of No Archaeological Potential – Disturbed Lands at GSH1048
(Photo Taken August 15, 2013; Facing North)

Image 50: View of Disturbed Test Pit at GSH1049
(Photo Taken on August 15, 2013)

Image 51: Area of No Archaeological Potential – Disturbed Lands at GSH1049
(Photo Taken August 15, 2013; Facing East)

Image 52: View of Crewmember Test Pitting to Confirm Disturbance at GSH1056
(Photo Taken on August 15, 2013; Facing West)

Image 53: View of Disturbed Test Pit at GSH1056
(Photo Taken on August 15, 2013)

Image 54: Area of No Archaeological Potential – Disturbed Lands at GSH1056
(Photo Taken August 15, 2013; Facing South)

Image 55: View of Crewmember Test Pitting to Confirm Disturbance at GSH1061
(Photo Taken August 19, 2013; Facing East)

Image 56: View of Disturbed Test Pit at GSH1061
(Photo Taken on August 19, 2013)

Image 57: Area of No Archaeological Potential – Disturbed Lands at GSH1061
(Photo Taken August 19, 2013; Facing South)

Image 58: View of Crewmembers Test Pitting at a Maximum Interval of 5m at GSH1062
(Photo Taken August 15, 2013; Facing Southwest)

Image 59: View of Typical Test Pit Excavated 5 cm into Subsoil at GSH1062
(Photo Taken on August 15, 2013)

Image 60: Area of No Archaeological Potential – Disturbed Lands at GSH1062
(Photo Taken August 15, 2013; Facing West)

Image 61: View of Crewmembers Test Pitting to Confirm Disturbance at GSH1067
(Photo Taken August 14, 2013; Facing West)

Image 62: View of Disturbed Test Pit at GSH1067
(Photo Taken on August 14, 2013)

Image 63: Area of No Archaeological Potential – Disturbed Lands at GSH1067
(Photo Taken August 14, 2013; Facing North)

Image 64: View of Field Conditions during Pedestrian Survey at GSH1068
(Photo Taken May 27, 2013)

Image 65: View of Crewmembers Pedestrian Surveying at a Maximum Interval of 5 m at GSH1068 (Add Land)
(Photo Taken May 27, 2013; Facing West)

Image 66: View of Disturbed Test Pit at GSH1068 (East)
(Photo Taken August 12, 2013)

Image 67: Area of No Archaeological Potential – Disturbed Lands at GSH1068 (East)
(Photo Taken August 12, 2013; Facing East)

Image 68: View of Crewmembers Test Pitting to Confirm Disturbance at GSH1068 (West)
(Photo Taken August 12, 2013; Facing North)

Image 69: View of Disturbed Test Pit at GSH1068 (West)
(Photo Taken August 12, 2013)

Image 70: Area of No Archaeological Potential – Disturbed Lands at GSH1068 (West)
(Photo Taken August 12, 2013; Facing East)

Image 71: View of Crewmembers Test Pitting at a Maximum Interval of 5 m at GSH1072
(Photo Taken August 14, 2013; Facing South)

Image 72: View of Crewmembers Test Pitting at a Maximum Interval of 5 m at GSH1072
(Photo Taken August 14, 2013; Facing North)

Image 73: View of Disturbed Test Pit at GSH1072
(Photo Taken August 14, 2013)

Image 74: View of Typical Test Pit Excavated 5 cm into Subsoil at GSH1072
(Photo Taken August 14, 2013)

Image 75: Area of No Archaeological Potential – Disturbed Lands at GSH1072
(Photo Taken August 14, 2013; Facing West)

Image 76: View of Crewmember Test Pitting to Confirm Disturbance at GSH1077 (East, Centre)
(Photo Taken August 28, 2013; Facing South)

Image 77: View of Disturbed Test Pit at GSH1077 (East, Centre)
(Photo Taken August 28, 2013)

Image 78: Area of No Archaeological Potential – Disturbed Lands at GSH1077 (East, Centre)
(Photo Taken August 28, 2013; Facing East)

Image 79: View of Crewmember Test Pitting to Confirm Disturbance at GSH1077 (West)/1766 (North)
(Photo Taken August 28, 2013; Facing South)

Image 80: View of Disturbed Test Pit at GSH1077 (West)/1766 (North)
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Image 81: Area of No Archaeological Potential – Disturbed Lands at GSH1077 (West)/1766 (North)
(Photo Taken September 3, 2013; Facing North)

Image 82: View of Crewmembers Test Pitting to Confirm Disturbance at GSH1095
(Photo Taken August 14, 2013; Facing West)

Image 83: View of Disturbed Test Pit at GSH1095
(Photo Taken August 14, 2013)

Image 84: View of Typical Test Pit Excavated 5 cm into Subsoil at GSH1095
(Photo Taken August 14, 2013)

Image 85: Area of No Archaeological Potential – Disturbed Lands at GSH1095
(Photo Taken August 13, 2013; Facing Southwest)

Image 86: View of Crewmember Test Pitting to Confirm Disturbance at GSH1118
(Photo Taken August 14, 2013; Facing North)

Image 87: View of Disturbed Test Pit at GSH1118
(Photo Taken August 14, 2013)

Image 88: Area of No Archaeological Potential – Disturbed Lands at GSH1118
(Photo Taken August 14, 2013; Facing East)

Image 89: View of Crewmember Test Pitting to Confirm Disturbance at GSH1360 (South)
(Photo Taken August 14, 2013; Facing Southeast)

Image 90: View of Disturbed Test Pit at GSH1360 (South)
(Photo Taken August 14, 2013)

Image 91: Area of No Archaeological Potential – Disturbed Lands at GSH1360 (South)
(Photo Taken August 14, 2013; Facing North)

Image 92: View of Disturbed Test Pit at GSH1360 (North)
(Photo Taken August 14, 2013)

Image 93: Area of No Archaeological Potential – Disturbed Lands at GSH1360 (North)
(Photo Taken August 14, 2013; Facing South)

Image 94: View of Crewmember Test Pitting to Confirm Disturbance at GSH1390
(Photo Taken August 14, 2013; Facing West)

Image 95: View of Disturbed Test at GSH1390
(Photo Taken August 14, 2013)

Image 96: Area of No Archaeological Potential – Disturbed Lands at GSH1390
(Photo Taken August 14, 2013; Facing North)

Image 97: View of Crewmember Test Pitting to Confirm Disturbance at GSH1461
(Photo Taken August 9, 2013; Facing East)

Image 98: View of Disturbed Test Pit at GSH1461
(Photo Taken August 9, 2013)

Image 99: Area of No Archaeological Potential – Disturbed Lands at GSH1461
(Photo Taken August 9, 2013; Facing East)

Image 100: View of Crewmember Test Pitting to Confirm Disturbance at GSH1481
(Photo Taken August 9, 2013; Facing East)

Image 101: View of Disturbed Test Pit at GSH1481
(Photo Taken August 9, 2013)

Image 102: Area of No Archaeological Potential – Disturbed Lands at GSH1481
(Photo Taken August 9, 2013; Facing North)

Image 103: View of Crewmember Test Pitting to Confirm Disturbance at GSH1493
(Photo Taken August 9, 2013; Facing West)

Image 104: View of Disturbed Test Pit at GSH1493
(Photo Taken August 9, 2013)

Image 105: Area of No Archaeological Potential – Disturbed Lands at GSH1493
(Photo Taken August 9, 2013; Facing North)

Image 106: View of Crewmember Test Pitting to Confirm Disturbance at GSH1498/1659
(Photo Taken August 15, 2013; Facing South)

Image 107: View of Disturbed Test Pit at GSH1498/1659
(Photo Taken August 15, 2013)

Image 108: Area of No Archaeological Potential – Disturbed Lands at GSH1498/1659
(Photo Taken August 15, 2013; Facing North)

Image 109: View of Field Conditions during Pedestrian Survey at GSH1505/1504/2552 (Add Land)
(Photo Taken July 2, 2013)

Image 110: View of Crewmembers Pedestrian Surveying at a Maximum Interval of 5 m at GSH1505/1504/2552 (Add Land)
(Photo Taken July 2, 2013; Facing South)

Image 111: View of Crewmember Test Pitting to Confirm Disturbance at GSH1505/1504/2552
(Photo Taken August 20, 2013; Facing South)

Image 112: View of Disturbed Test Pit at GSH1505/1504/2552
(Photo Taken August 20, 2013)

Image 113: Area of No Archaeological Potential – Disturbed Lands at GSH1505/1504/2552
(Photo Taken August 20, 2013; Facing West)

Image 114: View of Crewmembers Test Pitting to Confirm Disturbance at GSH1507
(Photo Taken August 14, 2013; Facing West)

Image 115: Area of No Archaeological Potential – Disturbed Lands at GSH1507
(Photo Taken August 14, 2013; Facing South)

Image 116: View of Crewmembers Test Pitting to Confirm Disturbance at GSH1509
(Photo Taken August 15, 2013; Facing Northwest)

Image 117: View of Disturbed Test Pit at GSH1509
(Photo Taken August 15, 2013)

Image 118: Area of No Archaeological Potential – Disturbed Lands at GSH1509
(Photo Taken August 15, 2013; Facing Northwest)

Image 119: View of Crewmembers Test Pitting to Confirm Disturbance at GSH1526
(Photo Taken August 13, 2013; Facing Southwest)

Image 120: View of Disturbed Test Pit at GSH1526
(Photo Taken August 13, 2013)

Image 121: Area of No Archaeological Potential – Disturbed Lands at GSH1526
(Photo Taken August 13, 2013; Facing South)

Image 122: View of Crewmembers Test Pitting to Confirm Disturbance at GSH1528
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Image 123: View of Crewmember Screening Soil through 6 mm Mesh at GSH1528
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Image 124: View of Typical Test Pit Excavated 5 cm into Subsoil at GSH1528
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Image 125: Area of No Archaeological Potential – Disturbed Lands at GSH1528
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Image 126: View of Field Conditions during Pedestrian Survey at GSH1605 (Add Land)
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Image 127: View of Crewmembers Pedestrian Surveying at a Maximum Interval of 5 m at GSH1605 (Add Land)
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Image 128: View of Crewmember Test Pitting at a Maximum 5 m Interval at GSH1605 (East)
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Image 129: View of Test Pit Excavated 5 cm into Subsoil at GSH1605 (East)
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Image 130: Area of No Archaeological Potential – Disturbed Lands at GSH1605 (East)
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Image 131: View of Crewmembers Test Pitting at a Maximum Interval of 5 m at GSH1605 (West)
(Photo Taken August 13, 2013; Facing South)

Image 132: View of Typical Test Pit Excavated 5 cm into Subsoil at GSH1605 (West)
(Photo Taken August 13, 2013)

Image 133: Area of No Archaeological Potential – Disturbed Lands at GSH1605 (West)
(Photo Taken August 13, 2013; Facing West)

Image 134: View of Crewmembers Test Pitting to Confirm Disturbance at GSH1617
(Photo Taken August 15, 2013; Facing North)

Image 135: View of Disturbed Test Pit at GSH1617
(Photo Taken August 15, 2013)

Image 136: Area of No Archaeological Potential – Disturbed Lands at GSH1617
(Photo Taken August 15, 2013; Facing West)

Image 137: View of Crewmember Test Pitting to Confirm Disturbance at GSH1744/1765
(Photo Taken August 19, 2013; Facing East)

Image 138: View of Crewmember Test Pitting at a Maximum of 5 m at GSH1744/1765
(Photo Taken August 19, 2013; Facing East)

Image 139: View of Typical Test Pit Excavated into Subsoil at GSH1744/1765
(Photo Taken August 19, 2013)

Image 140: Area of No Archaeological Potential – Disturbed Lands at GSH1744/1765
(Photo Taken August 19, 2013; Facing North)

Image 141: View of Crewmember Test Pitting to Confirm Disturbance at GSH1757
(Photo Taken August 19, 2013; Facing East)

Image 142: View of Disturbed Test Pit at GSH1757
(Photo Taken on August 19, 2013)